SUPPLY CHAIN INTEGRATION WITH CORPORATE STRATEGY FOR SELECTED COMPANIES IN THE FAST MOVING CONSUMER GOODS INDUSTRY IN KWAZULU-NATAL, SOUTH AFRICA.

Submitted in fulfilment of the requirements of the degree of Doctor of Technology: Business Administration in the Faculty of Management Sciences at the Durban University of Technology

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APPROVED FOR FINAL SUBMISSION

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DR. Marie de Beer: M. Comm.; Ph. D. Date

DECLARATION

I, Alpha Mugari, hereby declare that this project is the result of my own work investigation and it has not been submitted in part or in full for any other qualification or to any other institution of higher learning. Where ideas of other people might have been used, they have been duly acknowledged.

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Signature

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Date

DEDICATION

To the amazing grace of the Almighty God

&

my dearest wife,

Aquiline

who provided me with the much needed

physical, moral and spiritual support

to complete this thesis.

ACKNOWLEDGEMENTS

In the process of writing a thesis of this kind, many people are involved and hence should have their name mentioned and their contribution emphasised. Though the list of these contributors would become long, far reaching and the risk of forgetting people impending; I therefore send out a great thanks to those who feel they are a part of the completion of this research. Thank you!

Still, there are a handful of people that have contributed to a greater extent and made this possible and therefore should be mentioned by name:

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My family for their unwavering support and understanding that the darkest hour is the one that is close to dawn.

I owe you.

Thank you!

ABSTRACT

Supply chain management, is the active management of supply chain activities to maximise customer value and achieve sustainable competitive advantage. It represents a conscious effort by the supply chain firms to develop and run supply chains in the most effective and efficient ways possible. Supply chain activities cover everything from product development, sourcing, production, and logistics, as well as the information systems needed to coordinate these activities. Currently, supply chain management has evolved into a complex system where there is a need for redesign and integration into the corporate strategy for strategic fit.

The study focuses on:

- establishing and analysing corporate strategies used by select FMCGs in KZN South Africa;
- examining the challenges impacting on achieving competitive advantage; and
- determining performance measures for ensuring consistency between customer satisfaction and the supply chain capabilities (strategic fit).

The study followed an exploratory case study design and employed a descriptive, evaluative quantitative analysis method.

The results showed that across supply chain companies, the ultimate goal of integration has still to be achieved. There is a lack of trust and companies operate in separate silos.

A major recommendation is that supply companies should revisit their supply chain designs to synchronise with intra-intercompany integration built on achieving competitiveness and sustainable profitability through incremental continuous improvement and customer satisfaction.

The study concluded that it is imperative that all the elements of McKinsey's 7- s resource capability model stay interconnected as a web to ensure the successful implementation of integration for strategic fit and superior business performance

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LIST OF ABBREVIATIONS

ASCA	Achieving sustainable competitive advantage
CEO	Chief Executive Office
DCCI	Durban Chamber of Commerce and Industry
DIFOTAI	Delivered in-full on-time and accurately invoiced
FMCG	Fast Moving Consumer Goods
FSC	Forward supply chain
KZN	KwaZulu Natal
P2P	Produce to pay
SCICS	Supply chain integration with company strategy
SCM	Supply chain management
SPSS	Statistical Package for the Social Sciences
RSC	Reverse supply chain
ROI	Return on investment
TOC	Total cost of ownership

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CHAPTER 1

SYNOPSIS

1.1 INTRODUCTION

Supply chain management (SCM) requires a paradigm shift to integration within the firm and across the network of firms that comprise it (Lambert 2008:1). This has been necessitated by the need to achieve sustainable, competitive advantage and increased stakeholder value. According to Vanpoucke, Boyer, and Vereecke, (2009:5); and Chaharsooghi and Heydari (2011:335), SCM has evolved into a complex system, where there is a need to redesign it and migrate to achieving supply chain integration, with corporate strategy (SCICS) and strategic fit. Masoumik, *et al.* (2014:5) maintains that SCICS is a tool that limits achieving sustainable, competitive advantage, when not integrated with corporate strategy. They also describe SCICS as an enabling tool for achieving sustainable competitive advantage, when integrated with corporate strategy.

The focus of this chapter is on the background of the study to SCM, while the supply chain environment, the impact of supply chain and its integrative role, will be evaluated. The statement of the research problem, objectives of the study, research design and the significance of the study will also be deliberated on. In addition, validity and reliability of the study, as well as delimitations and the chapters of the dissertation, will be outlined.

1.2 BACKGROUND OF THE STUDY

Many supply chain stages have reported major internal and external structural challenges in their attempt to design, implement and manage their core functions, in order to achieve sustainable, competitive advantage for SCICS and strategic fit (Shepard 2012:7 and Pradhan 2012:480). Ordinarily, supply chain stages are comprised of different processes and activities performed by firms, to produce goods in the form of products and services to

consumers, with the goal of maximising sustainable profitability (Pradhan 2012:480).

These processes and activities include key functions, such as marketing, finance, procurement, production on the one hand and on the other hand, producers of raw materials, manufacturers, distributors, retail outlets, consumers, recyclers and environmentalists.

Studies indicate that supply chain stages are experiencing challenges of how to integrate their core functions and act responsibly, in order to achieve sustainable, competitive advantage and increased shareholder value (Thangamuthu 2008:4; Chopra and Meindl 2010:39; and Bolstorff and Rosenbaum 2012:56). Other major challenges include sustainable customer satisfaction and establishing performance measures, with which to evaluate total cost of ownership as well as efficiently avoiding depleting resources and preventing pollution (Pradhan 2012:480).

Strategic fit signifies two dimensions; the first one is that both the supply chain strategy and the competitive organisation strategy have the same goal; the second one, is that there is consistency between the customer priorities the organisation wants to satisfy, and the supply chain capabilities it aims to build, essentially for sustainable competiveness (Thangamuthu 2008:4 and Pradhan 2012:480).

Supply chain arrangements globally are inherently directional, with their downstream and upstream partners interlinked by the exchange of different flows (Bolstorff and Rosenbaum 2012:10). However, there seems to be a lack of a common structure to timely integration of the activities and processes within the organisation and its network channel of partners in the value chain system. Chopra and Meindl (2010:62) state that the ultimate goal of SCM is to synthesise different functions within the organisation and its supply chain stages by any means, to work jointly and concurrently on a

common organisational purpose. Cordon, Hald and Seifert (2012:11) concur that striking a balance between supply chain and the competitive corporate strategy, ensures that the objective of responsiveness-efficiency between demand and supply is achieved. This is critical because the competitive corporate strategy defines the range of strategic plans being pursued; the nature of economic contribution; and the set of customer needs a firm seeks to satisfy through its products and services (Thompson, Strickland and Gamble 2007:4,133).

The discrete functions of supply chain stages cannot maximise their efficiency, when individual firms pursue their goals independently, without harnessing the philosophy of collaboration and cooperation for SCICS. Inadequate integration within and across supply chain stages results in some negative, unintended consequences (Chopra and Mendl 2007, as cited in Banihashemi 2011:7561).

Besides, lack of integration cannot be attributed to non-existence of corporate strategy in supply chains, as multidimensional corporate strategies are in place (Trkman and Groznik 2006: 41). In fact, every organisation has a strategy founded on its core values and the customer segments it intends to satisfy. However, the desired objective of coordinating the rate of supply with the rate of demand remains a mission to accomplish. This has to be done, in order to achieve sustainable competitiveness and become socially responsible, with an environmental stewardship and in an economically viable manner (Misra, Khan, and Singh 2010:106 and Sisco, Chorn and Pruzan-Jorgensen 2010:6). This is an indication of the need for an integrated framework to synthesise the impact of supply chain integration strategies for designing, implementing and management of supply chain networks.

Done (2011:7) and Anderson (2013:1) also find that many challenges surround the evolving role of supply chain, from both a South African and global perspective, including a severe lack of SCM skills, lack of expert

knowledge, and information to design an all-encompassing human centric supply chain framework, with enough decision-making powers to effectively implement, monitor and evaluate supply chain deviations. This is supported by Pradhan (2012:480), in finding it imperative that supply chain stages ought to design an integrated framework/s, as well as establish performance measures for ensuring that there is consistency between the customer priorities the firms wants to satisfy and the supply chain capabilities they aim to build.

On the subject of integration, Kachru (2009:6) states that, in the recent past, Supply chain stages performed independently as buyers and sellers. The current environment dictates that supply chain stages embark on a paradigm shift, from focusing on the direct influences of an enterprise, to focusing on the industry sector in which it operates and competes. This kind of approach is defined by Pitt and Koufopoulos (2012:60), as an extension of the organisation's processes across supply chain stages. Companies in general and Fast Moving Consumer Goods (FMCGs) in particular, have found themselves in uncertain situations. In such circumstances; FMCGs are either pulled or pushed to transform their core functions to a vital organisation process, in order to meet the ever changing demands of both the internal and external supply chain stage key stakeholders (customers, retailers, employees, distributors, manufacturers, wholesalers, and civil society at large).

1.3 THE SUPPLY CHAIN ENVIRONMENT

Conventionally, supply chains were directional, with their up-downstream exchanging three main flows; namely, the flow of goods from suppliers to consumers; the flow of information on orders, as well as the financial flows (Chopra and Meindl, 2010:62). Cordon, et *al.* (2012:04), agree and add three more flows integrated in the supply chain circular flow. These include, exchange of risks between customers and suppliers, exchange of ideas and innovation, and the personal relationships and perceptions of stage regarding

others in the supply chain. This environment is transforming into an all-encompassing integrated process, interfacing the forward supply chain with reverse supply chain (Figure 1.1) (Masoumik *et al.* 2014:5).

The evolving role of SCM

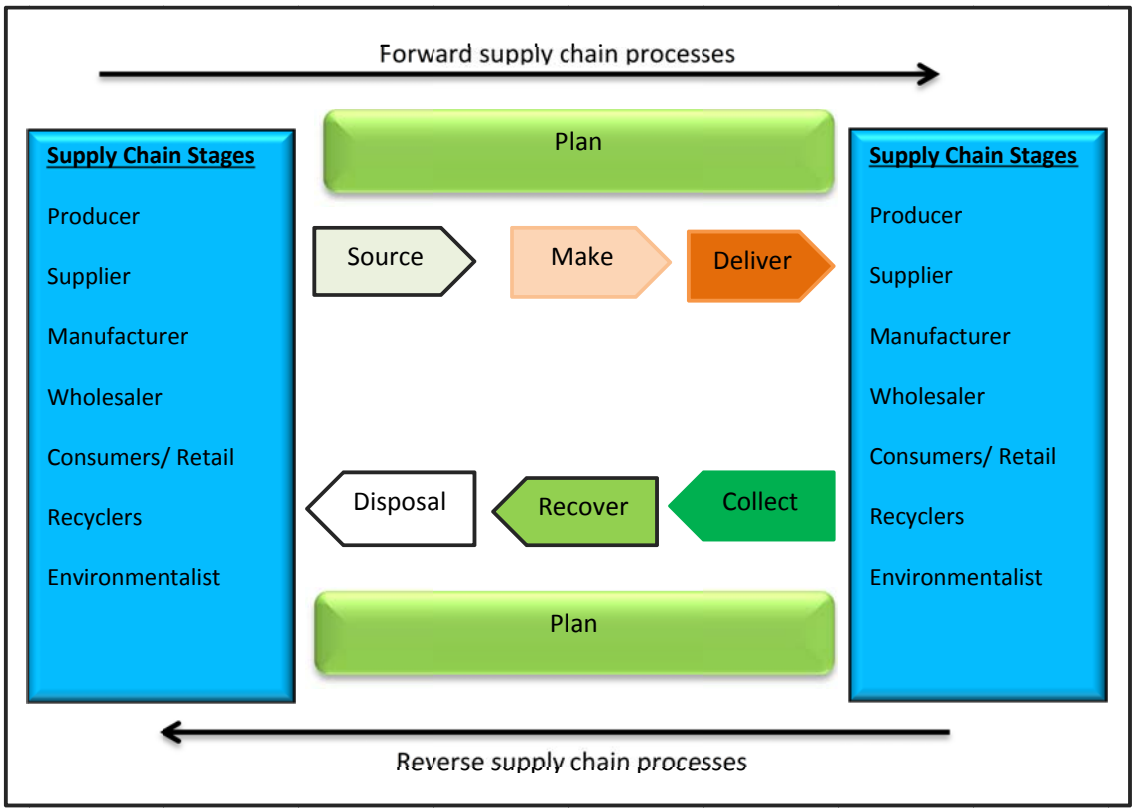


Figure1.1: Supply chain environment

Source: Adapted from Masoumik *et al.* (2014:5)

In the forward supply chain, raw materials are taken from suppliers and pass through the "make" process, undertaken by a manufacturer who is the producer (Cholette 2009:3 and Mathenge 2012:23). The final products produced in the forward supply chain are delivered to customers and end-users by a distributor. Later on, through the reverse supply chain, used products are collected by intermediaries and separated into recoverable or unusable units. Unusable products are carried to disposal sites and

recoverable products are transferred either to a recycler or to a re-processor, according to the processes required for their recovery. Recycled materials would be re-entered into the forward chain or sold to the market. Reprocessed products can also be sold in the used products market. The waste produced in the “make” process is also transferred to a collector in the RSC, where they would be transferred to a disposal site or passed to a re-processor or recycler, according to the content of the produced waste.

Therefore, it is clear that the supply chain environment is dynamic and evolving at various stages in the upstream-internal-downstream process, spanning across supply chain stages. These are interlinked with the different flows, moving in either direction to facilitate the building of collaborative relationships. Toke, Gupta and Dandekar (2012:373), state that the linkages are essential, to ensure that the entire sequence of events in the food chain, deliver value addition to the ultimate customer.

It is imperative that internal and external strategic solutions, for designing and implementing the integration of internal processes / systems with the suppliers, are sought.

1.4 SUPPLY CHAIN IMPACT AND INTEGRATION PERSPECTIVE

According to Mangan, *et al.* (2012:336), the need to integrate business functions within the organisation and its channel partners, in order to provide goods and services and fulfil customer demands, has been intensified by the globalisation phenomenon. Citenkaya, *et al.* 2011:12 (2011:29) concur that the philosophy of globalisation is synonymous with networking and requires that contemporary Supply chain stages revisit their entire value chain system.

In the 20th century, inefficiencies in production and SCM could be passed onto the customer in the form of increased prices (Kachru 2009:9). Supply chain stages continued to be profitable, since there was less competition, and were able to increase their shareholder values in that manner. The

current environment requires that companies compete on a “global” basis for resources, markets and talents (Cordon, *et al.* 2012:3-9).

Handfield, *et al.*, (2011:781) categorically state that companies no longer compete from manufacturer to manufacturer; the true competitive battle occurs between supply chains. This evolution has triggered a paradigm shift in the field of SCM, from a basic corporate function to an integrated vital organisation-industry wide process. In this study, SCM shall be known as the collaborative effort of multiple channel stage to design, implement and manage value-added processes to meet the real needs of stakeholders, in order to minimise system wide costs, while satisfying service level requirements (Savonia-ammattikorkeakoulu, *et al.* 2014:4)

Studies also show that SC firms can save large amounts of money in supply chain cost savings, when they are integrated as a network channel of partners (Smith, Goel, and Gulhane 2007:6). A study conducted by Burt, Petcavage and Pinkerton (2010:9) shows that companies with annual sales revenue of US$1 billion would add 45 percent to income if they reduce supply costs by five percent. On the other hand, increasing revenue by five percent would result in an additional five percent income. In addition, a one percent purchasing cost savings equates to a ten percent increase in sales.

Findings of Burt, Petcavage and Pinkerton. (2012) agree with a study conducted in Australia by Power (2005:253), where it was found that SCM has a positive impact on both the profit potential and competitive positioning of the organisation for strategic fit. Power (2005) indicates that, since supply chain expenditure represents about 80 percent of an organisation’s cost structure; a ten percent reduction in total cost of ownership can yield about 50 percent improvement in profits. Implying that any reduction in supply chain costs through integration has a significant impact on the competitiveness and profitability of the organisation, whereas this is not achieved by increasing sales with an equivalent percentage (Sukati, *et al.* 2012:3 and Ates 2013:47).

It can be seen that supply chain integration has an overwhelming impact on the organisation's sustainable competitive advantage, directly affecting sales and supply chain costs that drive profitability.

In addition, SCICS can facilitate achieving long-term, sustainable, competitive, corporate objectives. This can be achieved, by ensuring that the needs of stakeholders are satisfied through the integration of the different flows, as well as the intra-intercompany integration with the network channel of partners (Figure 1.2) (Otchere, Annan and Anin 2013:131).

The circular flow diagram

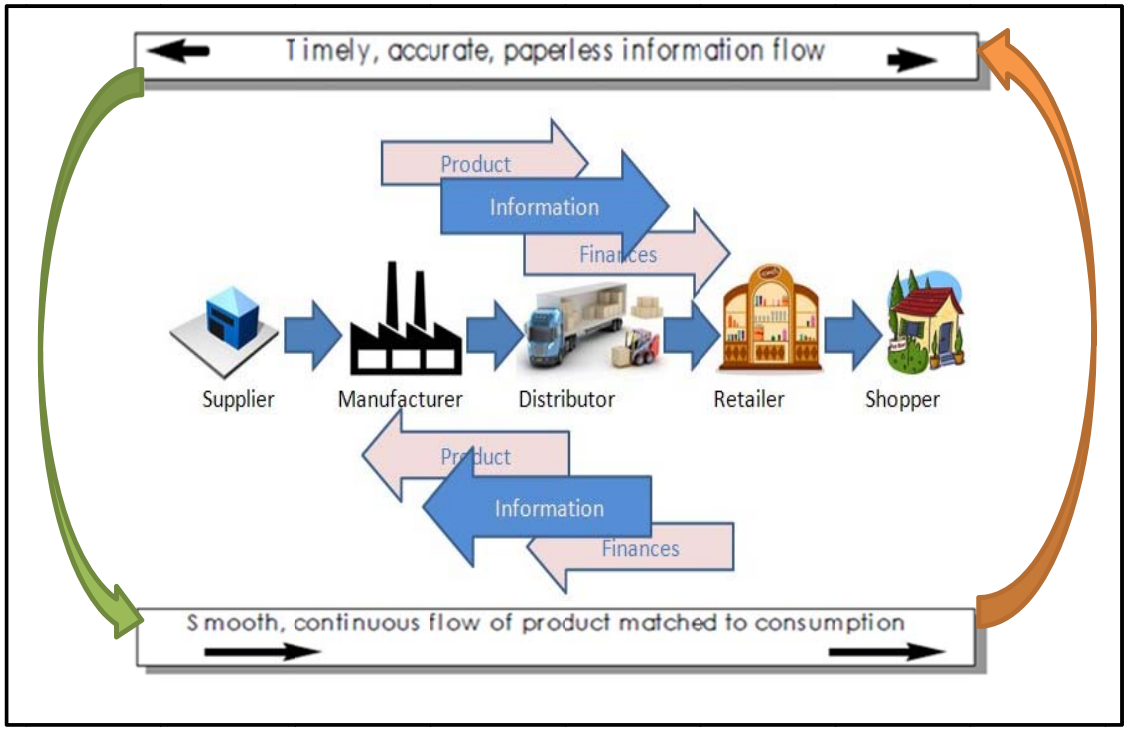


Figure 1.2: Supply Chain Integration
Source: Adapted from Otchere, *et al.* (2013:131).

In spite of all the major inroads made in the transformation of SCM, the required level of strategic fit consistent with lifecycle stages of the product

into a cohesive whole, is yet to be achieved (Thangamuthu 2008:4 and Banihashemi 2011:7560). Key decisions are made at each of the supply chain stages, consciously or unconsciously, but these decisions are independent and uncoordinated (Livieratos 2007:250).

Therefore, the variable to be established is how supply chain stages can design a network that integrates supply chain with corporate strategy, in order to achieve sustainable, competitive advantage for SCICS and strategic fit. An integrated strategy will enable channel partners to achieve the triple goal of; coordinating the smooth circulation of the different flows within and across channel stage; ensuring that customer and employee needs are satisfied; and are able to generate sustainable profits for themselves (Bolstorff and Rosenbaum, 2012:56).

1.5 STATEMENT OF THE RESEARCH PROBLEM

One of the most significant challenges in the paradigm of modern supply chain companies is that they no longer compete as solely autonomous entities (Lambert 2008; Fantazy, Kumar and Kumar 2010). They instead compete as networks of organisations that are involved through the upstream-downstream linkages exchanging the different flows of products and services, in order to gain synergies of intra-organisation and inter-organisation (Baharanchi 2009; and Otchere, *et al.* 2013:131). Yet consensus has not been reached as to which is the best framework. Supply chain stages ought to design their chains into a cohesive whole, in order to achieve sustainable, competitive advantage for strategic fit (Simchi-Levi Kaminsky, and Simchi-Levi 2008). Badenhorst-Weiss and Nel (2010:198) argue that designing an effective supply chain is an important core capability of an organisation because it enables or limits the organisation's competitiveness for strategic fit. SCICS shall explore the feasibility of adopting an end-to-end thinking (strategic fit), so that supply chains can capture synergies that are not accessible to those that only optimise within functional or regional silos; but achieve the sustainable, overarching goal, of

integrating the supply value with corporate strategy, as a cohesive whole (Capgemini. 2008:18).

In addition, Sisco, *et al.* (2010:5) also concur that sustainability is increasingly recognised as a key component of corporate responsibility, which has a bearing in achieving competitive advantage for strategic fit. However, this critical objective is challenged with many hurdles, including severe lack of supply chain skills, inadequate expert knowledge and an all-encompassing, customer-human centric supply chain design (Done 2011:11). That is, a supply chain framework capable of satisfying customer needs; producing and delivering goods or services for the foreseeable future without causing degradation; and with enough decision making powers to effectively manage supply chain deviations based on agreed standards (Gunasekaran *and Kobu* 2007:337; and Anderson 2013:1).

According to Pradhan (2012:480), reluctance by supply chain stage to establish performance measures to ensure sustainability and consistency between the customer priorities the organisation wants to satisfy and the supply chain capabilities it aims to build, is also another challenge. Streams of literature agree that, with the challenging economic climate and ever-heightened competitive pressures, companies have to constantly change their strategies (Citenkaya *et al.* 2011:7; Done, 2011:11; Cordon, *et al.* 2012:4). This study is therefore, another way of seeking other strategic options to fill some these of information gaps.

1.6 OBJECTIVE OF THE STUDY

1.6.1 Primary objective of the study

The study seeks to establish and analyse competitive corporate strategies implemented by companies, in terms of synthesising the challenges that impact on the design and implementation of SCICS. It further seeks to, by means of a framework; evaluate the impact of the resource capabilities of organisations in order to determine performance measures for achieving

sustainable competitive advantage for SCICS, and strategic fit for selected FMCGs in KZN.

1.6.2 Secondary objectives

To achieve the primary objective, the secondary objectives of this study are to:

- establish and analyse competitive corporate strategies that are being implemented;
- synthesise the challenges that impact on the design and implementation of SCICS;
- evaluate, by using a framework to establish the impact of the resource capabilities of supply chains to implement SCICS; and
- determine performance measures for achieving sustainable, competitive advantage for SCICS and strategic fit for selected FMCGs in KZN.

1.7 SIGNIFICANCE OF THE STUDY

Literature suggests that relying on just the individual or the single focal organisation for economic and industry competitiveness is unsustainable (Cordon, *et al.* 2012:6). The study proposes to recommend a paradigm shift from conventional, autonomous practices to the contemporary integrated network of supply chain partners. This would break both the intra-inter-organisational integration challenges and harness the management of SCICS. Designing an integrated structure and developing supply chain relationships are seen as critical to the survival for many firms, given the intensification of global competition and the demand for better customer service. (O'Sullivan 2012:2). Furthermore, SCM is transforming and evolving from operations to finance, to leadership, to innovation and to risk management (Kim 2006; Guide and Van Wassenhove 2009, and Kannan and Tan 2010). There is an overwhelming responsibility that SCICS can play in ensuring superior business performance and competitiveness of supply chains.

Although SCM has transformed over the years; it represents the most advanced state in the evolutionary development of supply chain activities. At the operational level, it has brought together functions that are as old as commerce itself, comprising of seeking, buying, storing and distributing goods. At the strategic level, it is a relatively new and rapidly expanding discipline that is transforming (Bolstorff and Rosenbaum 2012:231). The study is undertaken to narrow the operational and strategic gaps. In other words, to build on existing knowledge and usher in new ways of designing, and developing cross-functional network channel partners. This network is meant to drive the integration of business functions within and across chain stage, to realise a smooth flow of processes and activities to achieve SCICS. The study could create a platform to minimise or eliminate functional boundaries, overcome the drawbacks of specialisation and re-distribute the knowledge of all value adding activities (Gunasekaran *and Kobu* 2007:337; Utsav, 2012:85 and Anderson 2013:1). This will help in the formation of modern supply chains of partnerships, and strategic alliances with exclusive relationships amongst firms, with their upstream suppliers and downstream customers.

As a result, this will maximise the financial and operational performance of each channel member through reductions in total cost, inventories, as well as enhance sharing of information, (Ilyas, Banwet and Shankar 2007:63). It will also see a significant impact on both the enterprises' and supply chains' bottom line. Furthermore, research has shown that any reduction in sourcing costs significantly impacts on the bottom line, whereas, very little income is generated by increasing sales with an equivalent percentage (Smith, *et al,* 2007:6). Despite the aforementioned positive impact SCICS has in achieving sustainable competitive advantage and strategic fit, many organisations have reported major internal and external structural challenges (Citenkaya, *et al.* 2011:32). It will be attempted to mitigate the reported challenges of achieving

sustainable competitive advantage for strategic fit to supply chain network of channel stage responsibly, efficiently and profitably.

1.8 RESEARCH DESIGN

The research paradigm provides the conceptual framework within which the study is conducted (Creswell 2009:3). From the three major research paradigms of the quantitative, qualitative and mixed, the quantitative paradigm is applied (Borrego, Douglas and Amelink 2009:53). This paradigm is conducted in the form of an exploratory case study focusing on selected FMGC companies in KZN. Both primary and secondary data will be used in this study. To collect primary data, a questionnaire was developed, based on relevant literature reviewed and the objectives of the study. This instrument was distributed to a sample of stage belonging to the database of the Durban Chamber of Commerce and Industry (DCCI). Secondary sources of data are also used to gain insight into the research problem and to complement primary data.

1.9 VALIDITY AND RELIABILITY

Validity is the extent to which the research findings accurately represent what is really happening in the situation (Welman, *Kruger and Mitchell,* 2011:142). To ensure validity, the instrument was peer reviewed, and pilot tested. The services of a statistician consultant were also sought to ensure that the instrument was properly aligned and measures what it was intended to measure. Thus, both the pilot study and peer review assisted to adjust ambiguously formulated variables.

Reliability is tested to determine if there is any significant relationship between variables. Test statistics, including Chi-square goodness-of-fit-test are applied. Wilcoxon Signed Ranks test is also used to test whether the average value is significantly different from the central score to Likert scale variables. Cronbach's alpha is applied to estimate the proportion of variance that is systematic or consistent in a set of test scores. The acceptable value

for Cronbach's alpha is 0.75 (Sekaran and Bougie 2010:324) and (Sarode and Bhaskarwar 2011). Cronbach's alpha is preferred because it is a reliability coefficient that indicates how well the items in a set are positively correlated to one another.

1.10 DELIMITATIONS AND LIMITATIONS

The research is confined to selected FMCG companies of KZN, South Africa, comprising of suppliers, producers, manufacturers, distributors, and retailers/consumers. The study is not concerned with the purchasing functions and activities within an organisation; neither is it going to investigate SCM in government and non-profit making organisations, nor the implementation of regulatory mechanisms for controlling Supply chain stages.

Studying on a part time quite is challenge. Time was another limiting factor. In addition, funding was not adequate. Ethical considerations limit the flexibility of field work. However contingent measures are put in place to deal with these challenges as they arise. However, contingent measures are put in place to deal with these challenges as they arise.

1.11 THESIS CHAPTER OUTLINE

Chapter 1: Synopsis

The introduction section provides a synopsis of the study, setting out its aims and objectives. In addition, it provides a framework upon which the research is conducted and presented. The purpose of this chapter is to conceptualise and present a scientific and empirical overview of the dissertation cycle.

Chapter 2: Theory and practice of SCI

This section examines and reviews literature related to the sub-objectives of the study, by establishing and analysing the theory and practice of SCI strategies FMCG companies are implementing, in terms of synthesising the impact of the challenges to SCICS. The chapter capitulates with an

evaluation of the resource capabilities for selected companies in the FMCG sector in KZN.

Chapter 3: Contemporary SC perspective

Chapter three analyses the main objective of the study from a contemporary supply chain perspective. The impact of SCICS in achieving the organisation's main objectives is evaluated. This section concludes by reviewing literature surrounding supply chain performance measures for achieving strategic fit, in order to mitigate the reported challenges to sustainable competitive advantage within and across supply chain partners responsibly, efficiently and profitability.

Chapter 4: Research Design

The research design section will provide a detailed conceptual framework within which the research was conducted, critically examining procedures of inquiry (strategies), methods of data collection, analysis and interpretation. It defines the target population; sampling, describes interview methods, data collection and analysis techniques.

Chapter 5: Presentation of findings using descriptive statistics

In this chapter, results of the research findings will be presented using descriptive statistics, such as means and standard deviations. Summary tables and graphs are also presented. A detailed analysis and interpretation is discussed in chapter six of the study.

Chapter 6: Analysis and interpretation of findings

Statistical analysis, including Chi-square goodness of fit test will be applied, to test whether any of the response options are selected significantly more or less often that the others. Wilcoxon Signed Ranks test will be used to test whether the average value is significantly different from the central score, to Likert scale variables. Cronbach's alpha will be applied to estimate the proportion of variance that has been systematic or consistent in a set of test

scores. Findings of respondents to the research variables will be evaluated. This will be undertaken on the basis of each sub objective, main objective and the relevant literature. This section lays the foundation upon which conclusions are drawn.

Chapter 7: Conclusions and Recommendations

The focus of this chapter will be on the presentation of the conclusions drawn from the analysis and interpretation of research findings. This will be carried out in respect of how to design SCICS for achieving sustainable competitive advantage and increase shareholder value. Conclusions will be drawn on how to address the different challenges affecting SCICS and instituting performance measures to evaluate total cost of ownership and efficiently avoiding depleting resources and preventing pollution.

In addition, recommendations will be made on how to mitigate the reported challenges, for achieving sustainable competitive advantage for strategic fit to the Supply chain stages responsibly, efficiently and profitably. Potential areas for further studies will also be examined.

1.12 SUMMARY OF THE OVERVIEW

It can be concluded that FMCGs of KZN have found themselves in circumstances where they are either pulled or pushed to transform their supply chain functions to a vital organisation process, in order to meet the ever changing demands of internal and external supply chains' key stakeholders. With regards to the impact of the integrative role of supply chain, literature shows that supply chain integration impacts significantly on the corporation's growth, profitability, value creation and sustainable competitive advantage. The study endeavours to find answers on how and why SCICS must be achieved. Furthermore, the research methodology, validity and reliability of the study were also mirrored, while also giving an outline of all the subsequent sections of the thesis.

Chapter two will examine and review literature related to the sub-objectives of the study. The theory and practice of supply chain integration; issues surrounding the design and implementation of competitive strategies, will be analysed. This will be followed by some deliberations on the strategies FMCG companies are implementing, as well as synthesising the extent, impact and challenges to integration. The chapter concludes with an evaluation, using a framework to assess the impact of the resource capabilities of supply chain stages to implement SCICS.

CHAPTER 2

THEORY AND PRACTICE OF SUPPLY CHAIN INTEGRATION

2.1 INTRODUCTION

The previous chapter provided insight to the study, the supply chain environment, the impact of its integrative role, as well as the theory and practice of SCM. It has been seen that supply chain integration impacts significantly on the organisation's growth, profitability, value creation and sustainable, competitive advantage. It also reflected on the framework of the research design, validity and reliability. The chapter concluded with an outline of all the subsequent sections of the thesis.

Supply chain stages have found themselves in circumstances where they are pulled-pushed to radically transform their strategies for three main reasons. Firstly is the need to achieve the overarching goal for sustainably integrating the supply-value chain with corporate strategy as a cohesive whole, in light of the transformations of the supply chain environment and competitive pressures (Citenkaya *et al.* 2011:7). Secondly is the need to ensure that stakeholder requirements are satisfied (Shapiro 2007:311; and Done 2011:3). Thirdly, there is also the need to establish performance measures for achieving sustainable SCICS, so that the network channel of partners constituting the supply chain can mitigate the challenges to integration responsibly, efficiently and profitably (Otchere, *et al.* 2013:131).

This chapter will review relevant literature on the background information regarding supply chain stages and the theory and practice of SCM perspectives. Conceptualisation of competitive corporate strategies that supply chain organisations are implementing is also deliberated on. Strategic design and the migration to SCICS for strategic fit, including synthesising the impact of achieving SCICS, as well as the challenges that impact on

integration, are examined. In conclusion, an analysis is done of the resource capabilities, using a framework to evaluate Supply chains' readiness to implement SCICS and achieve strategic fit.

2.2 BACKGROUND

Descriptive information (background) of the population under study, in terms of the core function (the main economic activity) of FMCGs; position held in the organisation; gender; and highest qualification, are analysed. The frequency of staff development programmes administered to respondents is also examined.

2.2.1 Main economic activity of organisations in the supply chain

Chopra and Meindl (2006); Cordon, *et al.* (2012:4), and Livieratos (2007:246) classify supply chain organisations according to the variety of main activities (supply chain stages) performed by the organisation, inter alia retail outlets (consumers), wholesalers, distributors/transporters, manufacturers and producers of raw materials. These are inter-linked by the exchange of tangible and intangible flow of goods and information across the supply chain, including materials, cash, information, risks, knowledge, and personal relations managed by one of the supply chain stages (Chaharsooghi and Heydari 2011:334).

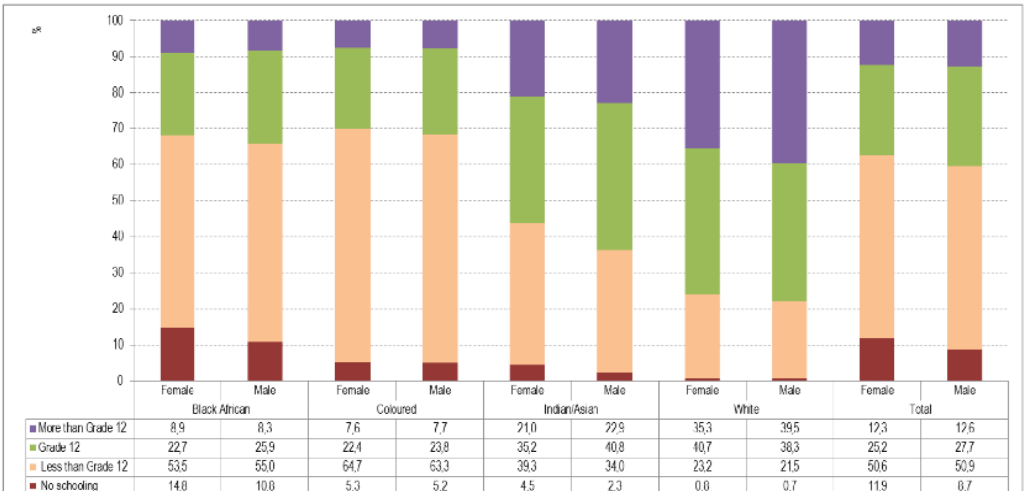
The main economic activity of a supply chain organisation is entrenched in its strategic vision, mission, goals and the activities performed to increase shareholder value responsibly, efficiently and economically (Kurien and Qureshi 2011:21; and Sukati *et al.* 2012:3; and O'Sullivan 2012:2). The fulfilment of this mandate, in ensuring that the needs of customers are satisfied through intra-intercompany integration of the flow of materials and flows, is more visible in the value conscious manufacturers, given their intermediary role in SCM (Burt, *et al.* 2012:10). They are involved in the upstream towards the market and downstream towards the suppliers of raw materials (Lambert, 2008:6). Frederick, (2000) also agrees that

manufacturers are instrumental in creating new opportunities to value conscious customers, regarding the exchange of information that provides the opportunity for channel members to integrate winning strategies.

2.2.2 Qualification, gender and position held in the organisation

Qualification and gender have a bearing on employability and the position held in the company (Figure 2.1; Figure 2) (Grobler, *et al.* 2011:115). They also maintain that the job specification and job description provide the basis on which the incumbent is employed, after demonstrating his/her abilities to perform. Other factors considered include competencies and gender (masculinity) (Globler *et al.* 2011). Occupation, qualification, and gender play a major role in determining the respondents' ability and authority to answer questions of a strategic nature. The background information is required to provide demographics of the study. It is also used to determine if there is any relationship between variables.

Educational achievement

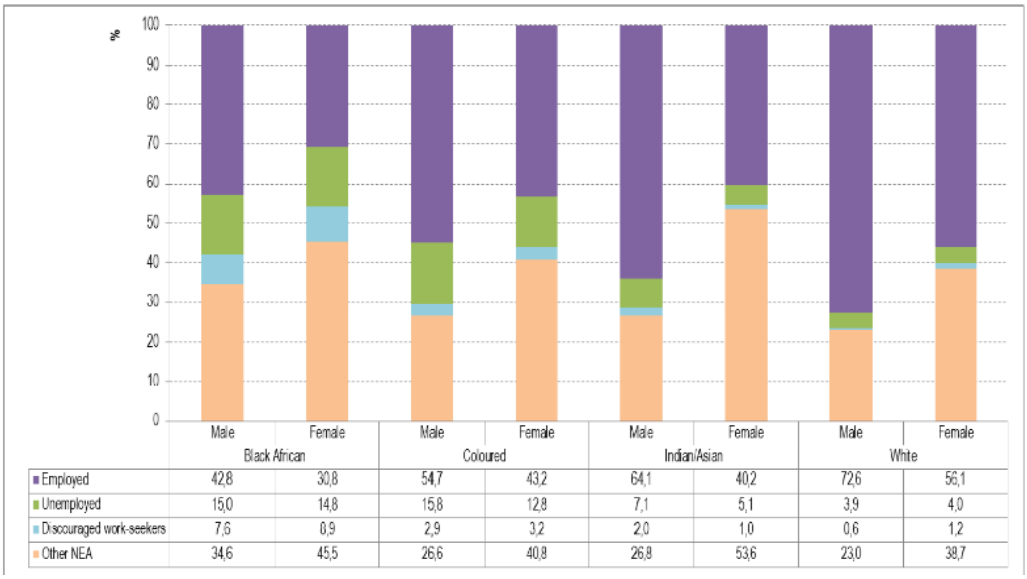


	Black African		Coloured		Indian/Asian		White		Total	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
More than Grade 12	8,9	8,3	7,6	7,7	21,0	22,9	35,3	39,5	12,3	12,6
Grade 12	22,7	25,9	22,4	23,8	35,2	40,8	40,7	38,3	25,2	27,7
Less than Grade 12	53,5	55,0	64,7	63,3	39,3	34,0	23,2	21,5	50,6	50,9
No schooling	14,8	10,8	5,3	5,2	4,5	2,3	0,8	0,7	11,9	8,7

Figure 2.1: Distribution of gender aged 25 years and above by highest qualification

Source: Department of Statistics South Africa (2011).

Employment status



	Black African		Coloured		Indian/Asian		White	
	Male	Female	Male	Female	Male	Female	Male	Female
Employed	42,8	30,8	54,7	43,2	64,1	40,2	72,6	56,1
Unemployed	15,0	14,8	15,8	12,8	7,1	5,1	3,9	4,0
Discouraged work-seekers	7,6	0,9	2,9	3,2	2,0	1,0	0,6	1,2
Other NEA	34,6	45,5	26,6	40,8	26,8	53,6	23,0	38,7

Figure2.1: Distribution of gender aged 15–64 years by work status.

Source: Department of Statistics South Africa (2011).

2.2.3 Staff development programmes

Staff development programmes are the most common way executives use to conscientise employees about their organisational strategy, shared values and build relationships with its human and social capital (Shepard 2012:3).

From a resource based view of SCSs, staff development programmes are one of the key elements that can be used to facilitate the integration of the entire set of relationships in the SC, to ascertain where value adding skills are critical in view of the severe skills gap facing FMCGs (Anderson 2013). Staff development programmes are a vehicle that can be used to indoctrinate new and current staff of the business's ethos, culture, beliefs and practices, as enshrined in its vision, mission and objectives (Hanafizadeh, and Ravasan, 2011:5). Therefore, it is imperative that background information be gathered to confirm or dismiss these claims.

2.3 COMPETITIVE CORPORATE STRATEGY PERSPECTIVES

Globally, companies are at cross roads as they sift through different competitive strategic options suggested by different academics (Learned, *et al.* 1965.; Derek 1980:17; Mintzberg, Ahlstrand, and Lampel 1998:26; Thompson and Strickland 1999: 23; Collis and Rukstad 2009; and O'Sullivan 2012). This situation has placed most Supply chain stages exposed to risks and uncertainties regarding the type of competitive corporate strategy they ought to implement and how it should be integrated with the SC strategy (Hanafizadeh and Ravasan 2011:24; Kurien and Qureshi 2011:29; Done 2011:11; and Cordon, *et al.* 2012:4). That is why it is imperative to contextualise the theoretical and practical perspective of sustainable, corporate, competitive advantage for SCICS.

2.3.1 Theoretical perspective of corporate strategy

Research shows that volatile market trends, including ongoing globalisation and the increasing intensity of competition, environmental protection and resource scarcity require reliable, flexible and cost-efficient business systems that are capable of supporting customer differentiation (Citenkaya *et al.* 2011:17). The word customer is used in its broadest sense to imply Supply chain stages and shareholders (Sisco, *et al.* 2010:34). Savonia-ammattikorkeakoulu *et al.* (2014:4) echo that fast, ongoing changes in the global business environment have introduced new kinds of challenges and opportunities in most SC companies around the world. It is assumed that the success of Supply chain stages in this volatile globalised environment is highly dependent on their efficiency and capabilities to provide a sustainable supply chain and value chain to customers.

The changes in the global business environment have made the corporate strategy of supply chains that seek individual competitive advantage redundant and do not provide meaningless value to customers. In essence, it is high time that supply chain stages realise that success in the new economy requires innovative, sustainable, competitive strategies that will

enable them to swiftly respond to opportunities and threats in the market place, in order to achieve strategic fit (Bredell and Walters 2005:1; Thangamuthu 2008:4 Sukati *et al.* 2012:3 and Otchere, *et al.* 2013:131). In fact, the impact of not achieving corporate objectives and not incorporating SC value systems could be severe, as markets tend to punish corporations who ruthlessly disregard customer values (Bratic, 2011:5). It is against the backdrop of the transforming supply chain environment, increased complexities of globalisation and competitive pressures, which triggered the need to revisit the configuration of selected FMCGs in KZN.

2.3.2 Conceptualisation of corporate strategy

The word “strategy” has been in use since Sun Tzu wrote The Art of War in the fourth century B.C. (Sun Tzu 1971). Sun Tzu wrote, of course, about military strategy. The literature on corporate strategy, which emerged in the 1950s and 1960s (Chandler 1962; Ansoff 1965; and Learned, *et al.* 1965) is vast and continues to grow at an astonishing rate. For example, a Google search for the definition of ‘organisation strategy’ yields 225 million responses (Collis and Rukstad 2009:1).

Many strategic management textbooks exist, each with a different definition of strategy. For instance, Mintzberg and Quinn (1996:3) define strategy as the pattern or plan that integrates an organisation’s major goals, policies, and action sequences into a cohesive whole. Implying that a well-formulated strategy helps to marshal and allocate an organisation’s resources into a unique and viable posture based on its relative internal competencies and shortcomings; anticipates changes in the environment and contingent moves by intelligent opponents. It was concluded that strategy consist of five P’s of plan, pattern, position, perspective, and ploy.

Thompson and Strickland (1999:23) maintain that strategy is a plan for a course of action into the future; a pattern or a set of behaviours over time; a position – selling particular products in particular markets. They also agree

on the perspective variable – an organisation's fundamental way of doing things, as well as on the ploy aspect – a specific manoeuvre intended to outwit a competitor. Therefore, basic principles of the five P's of plan, pattern, position, perspective, and ploy are still relevant and can serve as key aspects of a framework for analysing different schools of thought about strategy.

The above authors' explanations fall short of capturing the construct behind the key players, triangulating the different aspects of the five Ps, as well as the analysis of the resource requirements – distinctive competence to deliver value chain responsibly, efficiently and sustainably profitable, in order to achieve strategic fit. Abell's model, as cited in O'Sullivan (2012:2), of defining organisation strategy is adapted and proposed for FMCGs of KZN, since it fits very well with the volatility in the global business environment and could be used to avoid or even eliminate the backlash of the market conditions. Accordingly, strategy formation is noted in literature (Figure 2.1) (Derek 1980:17; Mintzberg *et al*., 1998:26).

Customer needs are examined and segmented, after which the organisation will deploy its distinctive competencies, as well as take competitive action to satisfy customers' needs. Hervani and Helms (2005:333) find that focusing on satisfying customer needs leads to the philosophy of providing customer value. Companies also align their strategy to the central values they operate under, such as ethical beliefs or customer service relationships (Stalk, Evans and Schulman 1992:70. Similar sentiments are echoed by O'Sullivan (2012:3), who states that the type of value the customer wants satisfied has a direct bearing on the strategy of the organisation. An organisation strategy defines customer groups; customer needs in terms of what is being satisfied, and how customer needs are being satisfied.

A customer might seek functional, psychological or transactional value. Derek (1980:65) affirms that the perceived value is determined by the factors of price, quality, summarised by the equation: Value = Quality (Q) divided by

Price (P). This implies that value can be increased by lowering price, while keeping quality the same, or increasing quality, while keeping price the same.

Definition of a sustainable competitive corporate strategy

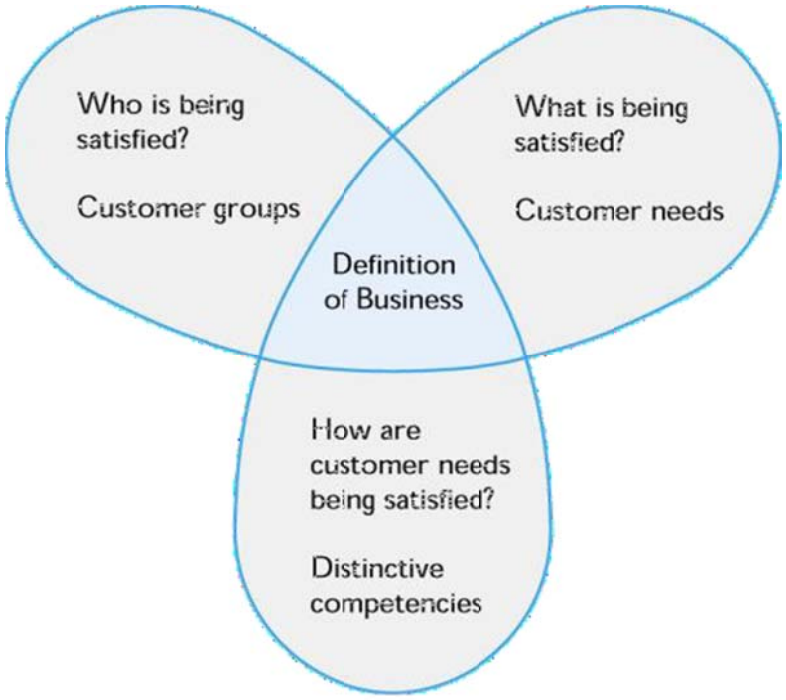


Figure 2.1: Organisation Strategy

Source: Adapted from Derek (1980:17), as cited in O'Sullivan (2012:2).

It is at this point, where strategic SCI comes in and harnesses the corporate strategy in realising this companion goal, of both increasing quality through value addition, and keeping price the same or devising methods to reduce cost price and maintain the same quality. Thereby fulfilling the philosophy of supply-value chain, interlinked with sustainable competitive advantage.

2.4 DESIGN AND MIGRATION TO SCICS

The ongoing globalisation and the increasing competition, environmental protection and resource scarcity, require cost-efficient business systems capable of infusing the supply-value chain with corporate strategy, in order to

achieve sustainable competitive advantage between supply and demand as a cohesive whole.

The subsequent paragraphs will focus on the evolution of SC and the migration to the overarching goal for integrating the supply-value chain and corporate strategy, and the evaluation of the impact of challenges to the survival, growth, sustainable competiveness and profitability for selected FMCGs in KZN.

2.4.1 The evolution of supply chain management

The evolution of purchasing to a strategic process is well noted in the literature (Farmer 1972; Farmer 1985; and Harland, Lamming and Cousins 1999). The way that people think about the management of supply has also become more strategic and more complex. SC thinking is changing, as cited by Cousins (1992:3) in Harland, *et al.* (1999).

In the early stages, academics and practitioners concentrated on the dyadic linkage. This thinking was extended in the late 1980s to a supply chain or pipeline (Farmer 1972; Farmer 1985). The current stage in the evolution of supply chain thinking involves viewing supply structure as a network (Chopra and Meindl 2010:22, and Mangan *et al.,* 2012) (Figure 2.2). In fact, firms compete as extended enterprises that are groups of collaborating firms competing with other networks.

The “new” approach involves examining the inter-relationships across the entire industry sector, where buyer and supplier roles are reversed several times throughout the network structures (a series of supply relationships). SCM is, by derivation, a networking approach to value chain optimisation.

The notion of a value chain can be extended beyond the firm, in order to capture the full set of activities performed, as raw materials are transformed to finished products. Burt *et al.* (2012:10) argue that firms can decompose

the entire set of relationships in the SC to ascertain where margins are earned and where value added skills are critical.

The evolving role of SCM

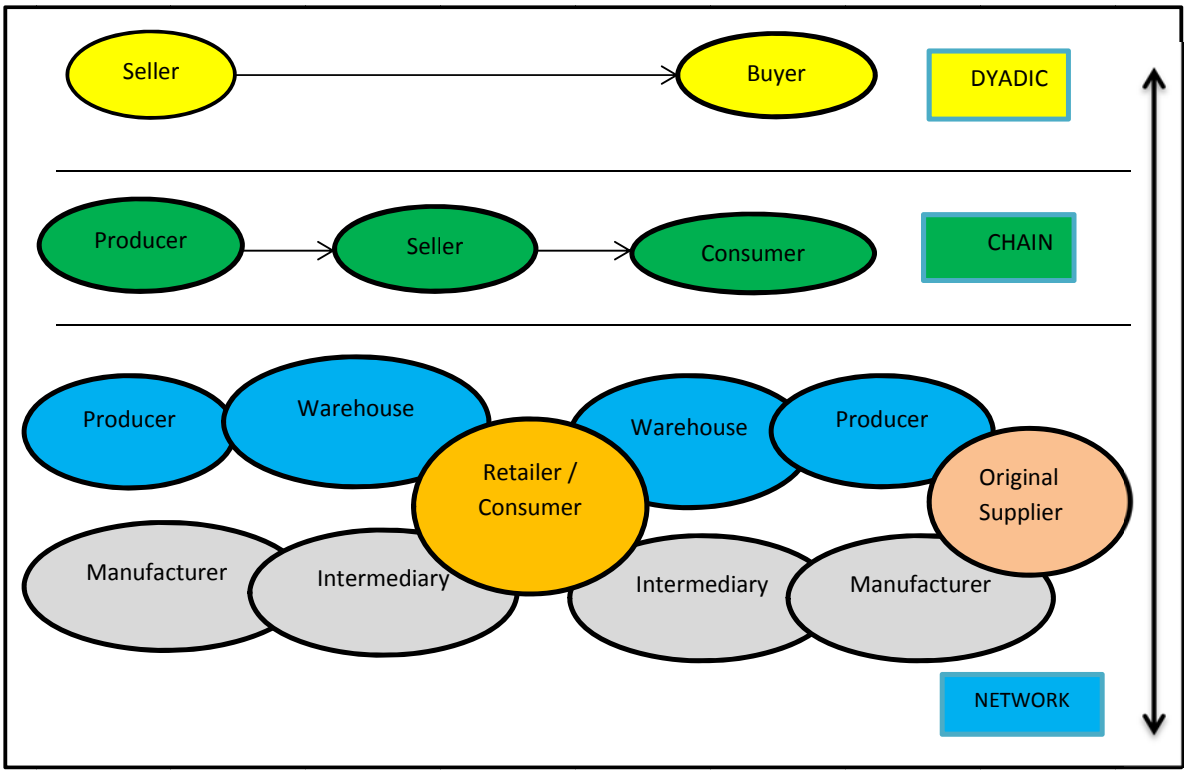


Figure 2.2: From purchasing to supply chain network/web (SCN/W)
Source: Adapted from Chopra and Meindl (2010:22)

2.4.2 Conventional supply chain environment

A SC is a sequenced network of facilities and activities that support the production and delivery of a good or service, as well as the relationships and perceptions of different processes that produce value in the hands of the ultimate consumer (Cholette 2009:1 and Cordon *et al.* 2012:4). Thus, a SC starts with basic suppliers and extends all the way to consumers via stages. As indicated, supply chains (SCs) are inherently directional with their downstream towards the end consumer, and upstream/backwards towards suppliers (Figure 2.3).

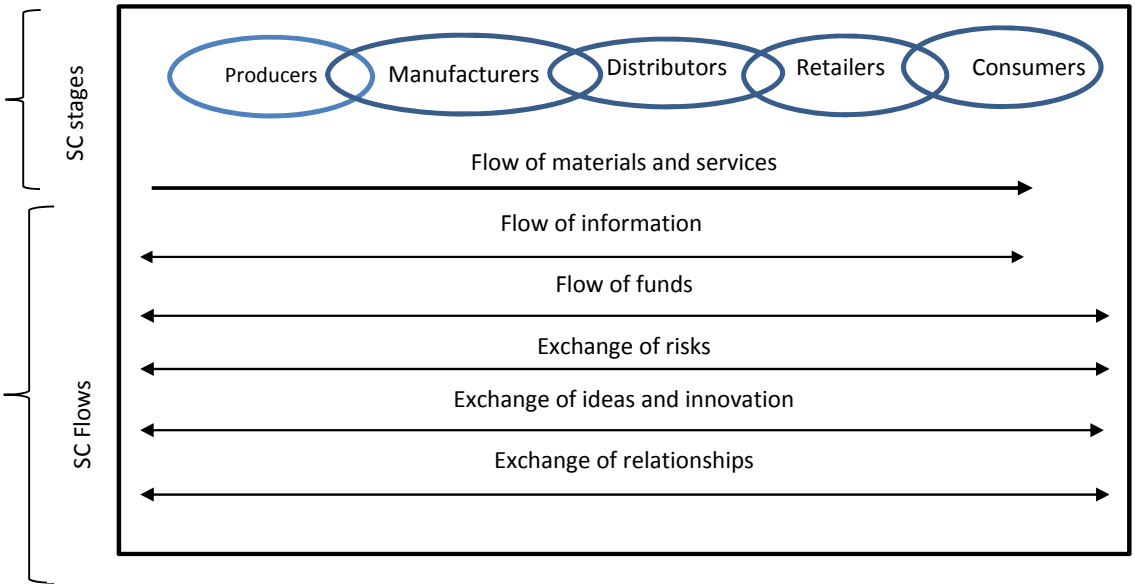


Figure 2.3: SC core functions and the different flows
Source: Adapted from Cordon, *et al.* (2012:4)

Ordinarily, the SC environment is made up of both the internal functional departments and external companies who make autonomous decisions regarding the exchange of different flows (Sisco, *et al.* 2010:46). The external perspective consists of all the organisations involved directly or indirectly, in fulfilling a customer requests; and within each organisation, includes all functional departments involved in receiving and fulfilling customer needs (Banihashemi 2011:7558). The primary purpose of their existence is to satisfy customer needs, whilst generating profits for its shareholders. Studies conducted in Africa and in Europe by Vanpoucke, *et al.* (2009); Kumar (2011) Banihashemi (2011), and Masoumik *et al.* (2014) found that this view is transforming to an integrated material and relationship exchange, as well as information across the different stages of making the supply chain.

Information sharing and collaboration with trading partners are seen as a top challenge according to a poll of Supply and Demand Chain Executive's readers (Supply & Demand Chain Executive, 2005). This is affirmed by academic researchers, who identify inter-firm information flows as an important factor in SCM (Carr and Kaynak, 2007). The important reason for this growing attention towards inter-firm information flows is the increasing amount of externalised activities across Supply chain stages (Figure 2.3).

Although there is merit in this design, considering supply chains and the flows that circulate as separate entities is misleading and does not provide or promote integration for achieving strategic fit through responsive-efficient customer satisfaction (Thompson *et al.* 2007:133 and Thangamuthu 2008:4). This is also echoed by Godsell, *et al.* (2006:47); and Carter and Rogers (2008:364) as cited in Masoumik *et al.* (2014:5), who show that there is a need for a paradigm shift in the designs (configurations) of supply chains to an all-encompassing framework. A framework that infuses the natural environment; long-term economic benefits, as well as competitive advantage for the firm (Figure 2.4).

Godsell *et al.* (2006:48), also argue that there is very little evidence of integration practices across Supply chain stages. Thus, revealing a visible lack of integration within the demand fulfilment process itself, and between the demand-fulfilment and creation process. Hence the need to explore the possibility of a synchronised SC model, involved through the upstream and downstream linkages in the different processes and activities that produce value, in the form of products and services in the hands of the ultimate consumer (Bolstorff and Rosenbaum 2012:10). This is also echoed by Cordon, *et al.* (2012:4) who state that the ideal perspective would include the different flows that circulate across Supply chain stages, as well as design models capable of producing and delivering goods or services for the foreseeable future, without causing degradation to the earth.

Sustainable SCICS for strategic fit

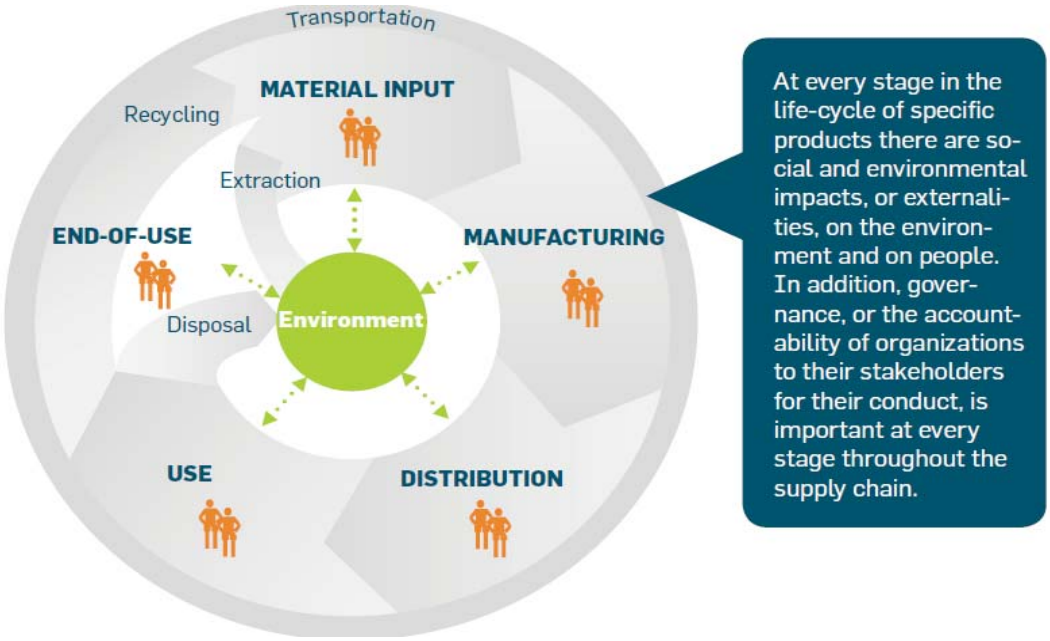


Figure 2.4: The sustainable SC environment
Source: Adapted from Sisco, *et al.* (2010:7).

Integrating core functions of supply chains with the key flows of the firm's processes beyond internal structures of the organisation, establishes the much needed SC network for sustainable competitive advantage. This is also supported by Lee (2012:9) who finds that, to achieve strategic fit, firms should start by creating integrated internal operations, with the overall corporate strategy informed by the guiding principles of the organisations constructing its channel network of partners for sustainability.

El Korchi and Millet (2014:2) maintain that the guiding principles (shared values) upon which networks are created, should uphold social responsibility, environmental stewardship and economic viability values. Sustainability also implies the ability to produce and deliver products profitably for the foreseeable future, without causing degradation in the lens of the triple

bottom line (3BL) pillars ('people', 'planet', 'profits) (Sisco, *et al.* 2010:7; and El Korchi and Millet 2014:2).

Traditionally, Supply chain stages were essentially connected through the flows of products, information and finances (Chopra and Meindl 2010:22). However, in the modern, globalised, complex environment, sustainable competitiveness requires a paradigm shift to a complete loop (Figure 2.5). A shift from a FSC perspective, to a network of SCs interlinked through the six flows of "products, information, funds; exchanging risks, ideas and innovation, and relationships processes that produce value in the hands of the ultimate consumer managed by each one of the channel stage" (Cholette 2009:7; Chopra and Meindl 2010:22 and Cordon *et al.* 2012:4). In addition, similar sentiments are also echoed by El Korchi and Millet (2014:1) in a study conducted in France, showing that the value created by FSC can no longer ensure the organisation's viability. Consequently, a new value creation called RSC is emerging, as shown in Figure 2.4. RSC refers to a series of activities required to plan, implement and control the efficient, effective, responsible and profitable inbound flow and storage of secondary goods and related information, for the purpose of recovering value or proper disposal. (Kumar and Chatterjee 2011:1).

It can be concluded that a modern view of supply chain ought to integrate all the SC stages and complete the loop with the RSC, consequently enabling the organisation to have a double value creation. Therefore, it is imperative that each of the supply chain stages in the web utilise its resource capabilities to achieve sustainability for SCICS, within and across the SC network. An appropriate supply design is essential to ensure that all the key stakeholders involved in supply chain stages take cognisance of the impact of their actions on the planet (Shepherd 2012:4).

Sustainable SCICS

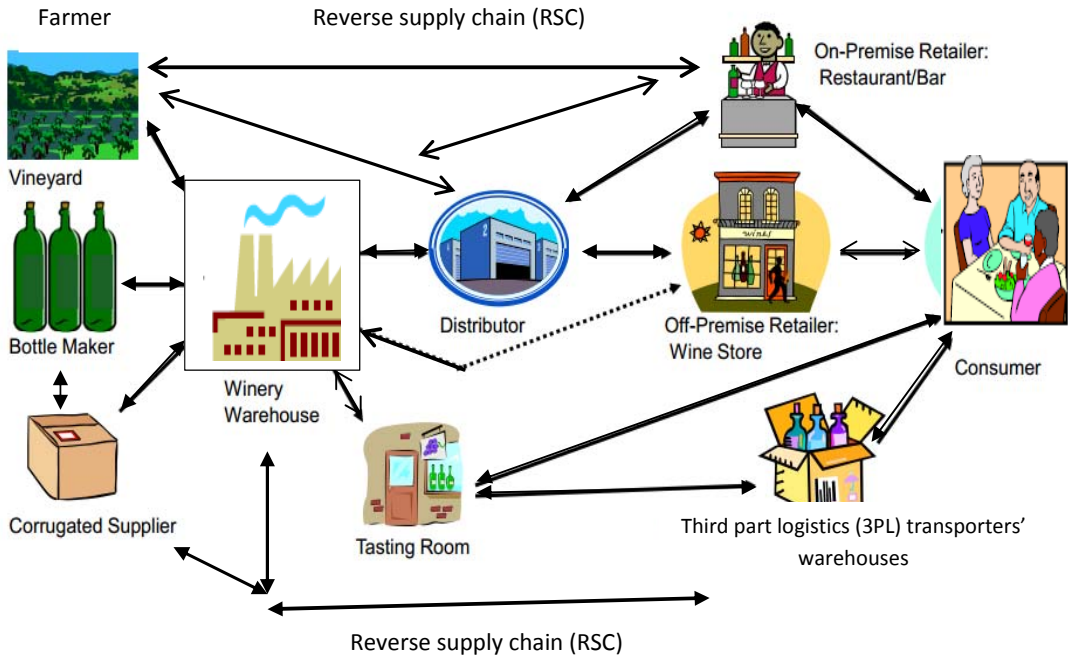


Figure 2.5: Supply chain network typical Winery Maker

Source: Adapted from Chopra and Meindl (2010:22) and Cholette (2009:7)

2.5 IMPACT OF SCICS

The feasibility for a paradigm shift to integration, examining the synergies, benefits, challenges and misconceptions of SCM, from the perspective of what is in both sides of continuums of integration, are explored.

2.5.1 Integration versus non-integration

Several authors within the field of SCM have proposed different forms of integration (Power 2005; Feller, Shunk, and Callarman 2006). SCICS shall be known as the extent to which the supply chain strategy is integrated with corporate strategy, to ensure that supply chain firms cooperate and collaborate with each other (Mangan *et al.* 2012:11; Savonia-ammattikorkeakoulu *et al.* 2014:46; and Otchere, *et al.* 2013:132). In addition, they also manage their intra-inter organisation processes in line with the 3BL, in order to achieve sustainable competitive advantage.

Consequently, the face of supply chain is transformed into a completely integrated structure, extending and connecting to the upstream suppliers and downstream customers, forming a closed loop, integration structure (Kim 2006; Guide and Van Wassenhove 2009, and Kannan and Tan 2010). In this manner, the basis of integration is characterised by cooperation, collaboration, information sharing, trust, partnerships, shared technology, and a fundamental shift away from managing individual functional processes, to managing integrated chains of processes (Vickery *et al.* 2003).

Disintegrated SCM practices are causing untold suffering and costing firms huge sums of money in missed, supply chain, cost saving opportunities, consequently eroding consumer's real purchasing power (Burt *et al.* 2010:13). SCICS provide many benefits; however, many organisations have reported major internal-external structural snags (Wei, Liang Wang, 2007:636). A dove-tailing approach, with the upstream-internal-downstream partners into a cohesive whole in order to achieve strategic fit, is proposed (Lee 2006:87; Kachru 2009:74; and Perumal, Arokiasamy and Zailani 2011:4).

When designing a corporate strategy, the process commences with an outside-in, bottom up approach, with the use of technologies to analyse the different information flows obtainable in the intra-inter-organisation functional structures and Supply chain stages, respectively (Figure 2.6).
This analysis will enable the organisation to build robust, efficient, responsive, responsible and profitable supply chains. The information will also provide much needed to gain insight to the development of corporate strategy based on a critical analysis of the organisation's resource capabilities. A corporate strategy that defines the range of strategic plans being pursued, the kind of economic and human organisation it intends to be, and the nature of economic contribution it intends to make for its stakeholders (Thompson *et al.* 2007:4). A corporate strategy where both the

competitive and the supply chain strategies have the same goal, so that there is consistency between customer priorities the organisation wants to satisfy and the supply chain capabilities it aims to build (Thangamuthu 2008:4).

SCICS for strategic fit

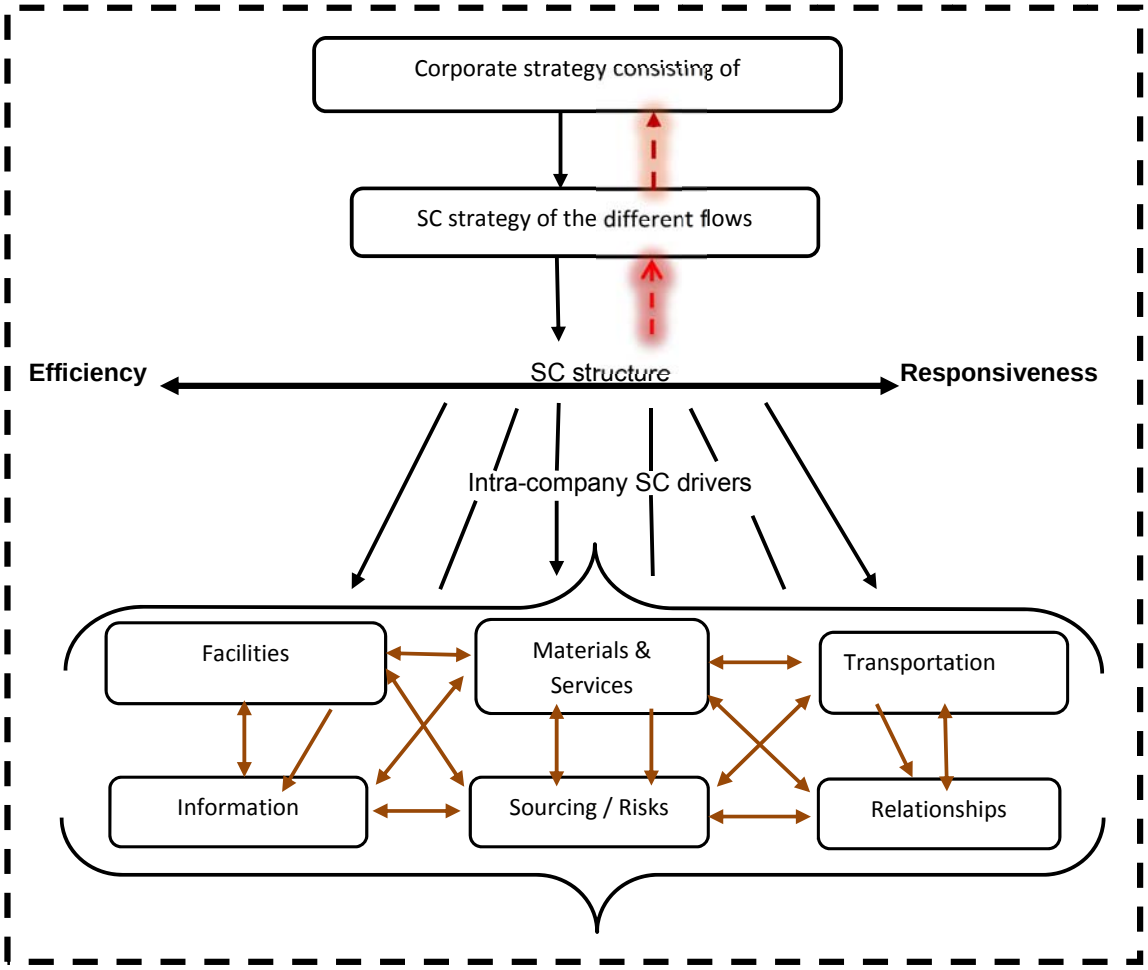


Figure 2.6: SC decision making framework
Source: adapted from Chopra and Meindl (2010:62)

Last but not least, Supply chain stages can design the structure with the right combination for its drivers of facilities, products, transportation, information, sourcing risks, pricing, as well as establish performance measures to evaluate their efficiency and responsiveness towards achieving strategic fit. It

can, therefore be concluded that, although the supply chain decision making framework is viewed from the top-down, studies of the structural drivers of integration indicate a paradigm shift where the bottom-up approach is becoming more popular. This is, given the integrative role of supply chain within the organisation and the need to close the gap between the organisation and its supply chain strategy, as shown by the dotted upward arrow (Cordon *et al.* 2012:13).

2.5.2 A paradigm shift to integration

According to Mangan *et al.* (2012:336), the recent economic challenges have led organisations to look at their entire value chain. In the 20th century, inefficiencies in production and management of supply could be passed onto the customers and consumers alike, in the form of increased prices (Kachru 2009:9). The current environment requires that companies compete on a "global" basis for resources, markets and talents (Cordon, *et al.* 2012:3-9). The ability to move production and sourcing around the globe is a key source of real competitive advantage for FMGC. Companies do not compete manufacturer to manufacturer; the true competitive battle occurs between supply chains (Handfield *et al.* 2011:781).

In addition, studies indicate that, by managing supply chains strategically, firms can save large amounts of money on supply chain cost (Smith, *et al.* 2007:6). In other words, a reduction in supply chain costs through integration has a significant impact on the bottom line, whereas this is not achieved by increasing sales with an equivalent percentage.

In another study, conducted in Ghana by Otchere, *et al.* (2013:134) it is found that firms, who adopt the resource-based view (RBV) of integration, can gain sustainable supply chain competitive advantages, by deploying valuable resources and capabilities that are inelastic in supply and application of the bundle of valuable resources at the firm's disposal. This is supported by Sisco, *et al.* (2010:7), who state that supply chain sustainability management

is critical to maintain integrity of the strategic fit brand. Ensuring business continuity and managing operational costs is done in line within the ten principles for best practices of the United Nations Global Compact.

In view of these submissions, it can be concluded that SCICS is an enabling tool for SC corporate sustainability - the management of environmental, social and economic impacts, and the encouragement of good governance practices, throughout the lifecycles of goods and services (Chorn and Pruzan-Jorgensen 2010:8). The authors further state that, by virtue of SCICS, Supply chain stages make direct economic impacts through payments to employees; suppliers; and governments. It also has an indirect economic impact through the flows that occur between intra-inter supply chains. Companies that make their supply chains more economically inclusive can support further economic development through job creation and increased incomes. Economic development has secondary impacts on socioeconomic development and the environment and is therefore a critically important aspect of sustainability strategic fit. This is also echoed by El Korchi and Millet (2014:2) in a study conducted in France, whereby the emergence of corporate sustainability and the life cycle management demands that every viable supply chain system should have, bearing in mind its economic, environmental and social dimensions. The double synergies and benefits of RSC, as well as the challenges of achieving SCICS are examined further.

2.5.3 Synergies of SCI

Cousins and Spekman (2000) suggest that firms are moving away from managing the flow of goods and services in the organisation, to the management of the supply process. The distinction is that the supply process permeates the entire organisation and takes responsibility for managing those resources that are held within the firm and those that are outsourced. In addition, the supply process has relevance for decisions guiding the firm's future competitive posture.

To achieve such objectives involves not only purchasing goods and services at competitive prices, but focusing on cost reduction techniques, improving cycle times and reducing time-to-market (Pradhan, 2012:485). Supply chain activities lead to the development of the supply base, to ensure that suppliers become world class and can leverage their skills and capabilities to bring value to the marketplace. As customers face pressures in their markets, they demand that their suppliers provide a set of value adding attributes and capabilities, which improve their quality of life and preserve the planet for future generations (Huff, *et al.* 2009:82).

2.5.4 Benefits of SCI

SCM has become a major concern in many industries as companies are realising the importance of creating an integrated relationship with their suppliers and customers (Misra, *et al.* 2010:102). Wrobleski, *et al.* (2007:7) upholds that the ability to sense and respond rapidly to demand signals across all supply chain partners, is a key characteristic of an agile enterprise. However, most companies are yet to create platforms, systems and processes, to tarp from the 'sardines strategy' and deal decisively with challenges of non-integration of supply chain with the organisation strategy. Misra, *et al.* (2010:103), affirm that many companies are grappling with how to create an integrated relationship of key organisation processes with end users and forge collaborative strategic alliances with SC stages, in order to add value to customers and the stakeholders at large.

Ilyas *et al.* (2007:62) concur that, when two organisations come together, three types of synergies could be created. These consist of: modular synergy, characterised by two standalone firms and business interdependency is limited, or sequential synergy, where the entities treat each other as partners, or reciprocal synergies, where businesses are mutually interdependent, resulting in integrated planning and joint decision making, as well as aligned performance measures and metrics. Therefore,

the trend across-the-board thinking in the world of academics is to consolidate these disparate functions into a comprehensive SCM suite, linking organisations together, and exchanging products and information (Misra *et al.* 2010:104).

2.5.5 SCICS - end-to-end thinking

Chahrarsooghi (2010:340) is of the view that consensus has not been reached on the best way to design supply chain integration for sustainable competitive advantage.

Traditionally oriented supply chain practices do not enable channel partners to achieve the triple goal of coordinating the smooth circulation of the different flows within and across channel stage; ensuring that customer and employee needs are satisfied and the generation of sustainable profits for Supply chain stages (Bolstorff and Rosenbaum, 2012:56). This means that every function and supply chain stage takes care of its own key performance indicators, while taking very little care of other key stakeholders. This approach is no longer feasible, because of two reasons:

Functional thinking and actions, in favour of organisational individualism, bring savings to one department/organisation, and costs to the other (Mangan, 2012:59). At the bottom line, this may be a substantial cost to the organisation. For example, on one hand procurement could be purchasing cheaper raw material, while on the other hand, this can result in reduced production efficiency, due to frequent stoppages. Adopting an end-to-end thinking (SCICS) ensures that the FMCGs in KZN can capture savings that are simply not accessible to those that only optimise within functional or regional silos. In addition, end-to-end business harmonises activities within the organisation and increases overall efficiency.

Secondly, functional thinking does not put the customer in the first place (Cordon *et al.* 2012:224). End-to-end process integration has the customer at

the "end" of the process flow. This is the only way of achieving customer centricity that will bring sufficient competitive advantage. Consequently, the satisfied customer will return with an increased level of loyalty and willingness to buy the organisation's product.

According to Cordon *et al.* (2012:220), to achieve this transformation the organisation must change its management's mind-set through cultural change. In order to succeed in these endeavours, firms must instil a persistent bottom-up-top-down approach, driven by the supply chain executive demonstrating change by action. For example, the Store watch ran an article in its Supermarket and Retail (2012:35-40) paper entitled "Revolutionising retail in KZN", where the supply chain Chief Executive Officer of Oxford Fresh markets displayed customer centric behaviour in many facets – among others, quality-safety products, variety stock control, price management and product promotions, urging his functional heads to cascade it internally, down and upstream.

Cordon *et al.* (2012:13) uphold that changes in business technology, process design and cultural background can bring full integration flow of product, information and finances. Non-integrated companies have disconnected flow of product and information, limited ability to react to customer requests, unpredictable product delivery rate, limited visibility on shipment information and performance based on functional activities (Cordon *et al.* 2012:13).

2.6 CHALLENGES IMPACTING ON THE DESIGN AND IMPLEMENTATION FOR SCICS

In the paradigm of modern Supply chain stages, organisations become global, companies no longer compete as organisation versus organisation but rather as supply chain versus supply chain (Bratic 2011:6) This is also maintained by Fantazy, *et al.* (2010) when they state that they compete as networks, exchanging the different flows of products and services, in order to gain synergies of intra-organisation and inter-organisation collaborative

relationships. Yet consensus has not been reached as to which is the best framework on which Supply chain stages ought to design their chains into a cohesive whole (Simchi-Levi *et al.* 2008).

2.6.1 Supply chain design

Supply chain stages are experiencing challenges of how to coordinate their functions and act responsibly, in order to achieve sustainable competitive advantage and increase shareholder value (Thangamuthu 2008:4; Chopra and Meindl 2010:39; and Bolstorff and Rosenbaum 2012:56). In addition, other major challenges include achieving sustainable customer satisfaction and establishing performance measures, in order to evaluate TCO, as well as efficiently avoiding depleting resources and preventing pollution (Pradhan 2012:480).

Besides, studies show that supply chain arrangements globally are inherently directional with their downstream and upstream partners interlinked by the exchange of different flows (Bolstorff and Rosenbaum 2012:10). However, there seems to be a lack of a common structure to timely coordinate the activities and processes within the organisation and its network channel of partners in the value chain system. Chopra and Meindl (2010:62) state that the ultimate goal of SCM is to synthesise different functions within the organisation and its supply chain stage by any means, to work jointly and concurrently on a common organisational purpose. Cordon, *et al.* (2012:11) concur that striking a balance between the supply chains with corporate strategy, ensures that the objective of the responsiveness-efficiency between demand and supply is achieved.

One of the most significant challenges in the paradigm of modern corporations is that SCs no longer compete as solely autonomous entities (Lambert 2008; Fantazy, *et al.* 2010). They instead, compete as networks of organisations that are involved through the upstream-downstream linkages, exchanging the different flows of products and services, in order to gain

synergies of intra-organisation and inter-organisation (Baharanchi 2009; Otchere, *et al.* 2013:131). Nonetheless, consensus has not been reached as to which is the best option supply chains ought to use to design their chains into a cohesive whole, in order to achieve a sustainable competitive advantage (Simchi-Levi *et al.* 2008). Badenhorst-Weiss and Nel (2010:198) argue that the ability to design an effective supply chain is an important core capability of an organisation because it enables or limits the organisation's competitiveness. SCICS will explore the feasibility of adopting an end-to-end strategic fit, so that Supply chain stages can capture synergies that are not accessible to those that only optimise within functional or regional silos; but achieve the sustainable overarching goal of integrating the value chain with corporate strategy as a cohesive whole (Capgemini. 2008:18).

2.6.2 Misconceptions about SCM

Although SCM evolved around the 20th century, persistent challenges are still hovering over this vital organisational process in the 21st century, whether it is utopia or reality (Lambert, Stock, and Ellram, cited in Hugos 2006:3; and Cohen and Young 2006:12).

Tanner, Wolfle and Guade (2008:7) assert that managers hold divergent views of the philosophy. Chaharsooghi and Heydari (2010:338) agree that the problem is compounded by the fact that different economic entities participate in activities, making it more complicated to manage than a single organisation, due to differences between the objective functions of different SC stages with different value systems. This is also acknowledged by Cordon, *et al.* (2012:10), who state that there is inherent resistance in the management leadership. In addition, they also state that resistance is found on their reluctance to embrace the strategic role of SCM as a value adding mechanism to gain competitiveness and maximise the organisation-industry sector's potential. This is also maintained by Tanner *et al.* (2008:7), who hold that managers perceive the impact of SCM differently leading to a wholesale

of misconceptions on whether it is an essential tool for competitiveness or not.

2.6.3 Logistics management versus SCM

At this stage, it is also appropriate to clarify the often confused, overlapping 'plethora of terminology' used to describe logistics and SCM.

The New Oxford English Dictionary defines logistics as the detailed coordination of a complex operation involving many people, facilities, or supplies. Originally, the term logistics was used to describe 'the movement and supplying of troops equipment', from French *logistique*, from, *loger,* to lodge, in the late 19th century. Mangan *et al.*, (2012:9) agree that logistics, is the process of planning, implementing, and controlling procedures for the efficient and effective movement and storage of goods and services, in conformity with all the customer requirements.

However, for some companies, getting their act together in the correct mix proves to be an overwhelming task. For instance, in both the retail and manufacturing sectors, suppliers are required to make deliveries to specific retail outlets, or production plants within specific time windows, with strict time limits. Transportation by an individual organisation results in strained relationships, due to a lack of linkages caused by traditional interorganisation boundaries, policies and misconceptions. (Crush and Frayne, 2011:5; and Burt, *et al.* 2010:13).

In view of the above submissions, it can be seen that SCM is an umbrella term, which incorporates logistics management (LM); where isolated strategies are used to meet customer requirements (Kachru 2009:491). Under LM, companies do not move together as one, resulting in unintended and negative consequences. Hence, the shortcomings often found in LM can be minimised or eliminated when and where companies implement the SCI - 'sardine strategy' (Bolstorff and Rosenbaum, 2012:2).

2.7 EVALUATION OF RESOURCE CAPABILITIES

According to Thompson *et al.* (2007:385), there is a broad agreement that resources could build capabilities that lead to competencies, which are difficult for competitors to copy. Pitt and Koufopoulos (2012:364) agree that McKinsey's 7-S model is a management tool designed to facilitate the process of corporate strategy implementation, within the context of organisational change. Performing a readiness assessment, by evaluating the resource capabilities (factors) influencing the success or failure of SCICS, is critical.

Ensuring that all parts of your organisation work in harmony is a mammoth task (Fleisher and Bensoussan 2007). Many models have been suggested by academics, with some models concentrating on the internal factors, while others look at external ones; some combine these perspectives, and others look for congruence between various aspects of the organisation being studied (Stalk, *et al.* 1992; and Porter 1996; Hanafizadeh and Ravasan 2011; O'Sullivan 2012). The issue comes down to which factors to study.

As models of organisational effectiveness go in and out of fashion, one that has persisted is the McKinsey 7-s framework. Developed in the early 1980s by Tom Peters and Robert Waterman, working at the McKinsey and Organisation consulting firm, and has since been used to analyse organisations. The model was created as a recognisable and easily remembered model in business. The seven variables, which the authors termed "levers" all beginning with the letter "S", include "structure", "strategy", "systems", "skills", "style", "staff", and "shared values/ superordinate goals" (Peters, Waterman 1982).

The premise of the model is that there are seven internal aspects of an organisation that need to be integrated, if the firm is to be successful. The 7-S model is adapted to the Supply chain stages, facilitating the design and

implementation for SCICS; integrating/aligning departments and supply chain processes; determining how best to implement SCICS for strategic fit and the much-needed, sustainable competitive advantage.

Kachru (2009:79) asserts that the need to achieve strategic fit is critical to the organisation's overall success and cannot be over-emphasised. This is also maintained by Cordon *et al.* (2012:170), who state that a lack of strategic fit between the competitive and SC strategy could result in Supply chain stages taking actions that may not be consistent with customer priorities, consequently leading to the failure of the organisation realising its stated objectives responsibly, efficiently and profitably. Management's challenge is how to configure a model that will integrate these key factors within the organisation and the SC network channel of stage, to work in unison.

An interconnected framework, proposed by Rao Rao, and Sivaramakrishna (2008:397); and Pitt and Koufopoulos 2012:364) (Figure 2.7) which is comprised of interconnected elements, so that altering one element impacts on other, connected elements. There is no implied hierarchy in the shape of the diagram, as all the elements are equally important (Thompson *et al.* 2007:42). A theoretical overview of the key drivers of strategy execution and how they can be tailor-made to achieve SCICS (strategic fit) is presented (Figure 2.7) (Trkman and Groznik, 2006:410).

2.7.1 Strategy

Mangan *et al.* (2012:61) maintain that strategy is a plan devised to maintain and build competitive advantage. Thompson *et al.* (2008:6-23) state that by conventionally, competitive organisational strategy is adversarial and rivalry; unlike the supply chain strategy which tarps from intra-intercompany collaborative relationships with the network channel of partners.. Hence, a dove-tail approach is advocated by Rao, *et al.* (2008:397). The authors reiterate that the supply chain acts as a catalyst, which interfaces cross-

functional open-ended management domains with external partners, in a holistic, integrated manner.

In support of this notion, Banihashemi (2011:7) supports that a good fit between supply chains within companies builds a wall of fire for competitiveness. Thus, Chopra and Meindl (2010:39) uphold that strategic fit is the consistency between customer priorities of competitive strategy and supply chain capabilities, specified by the supply chain strategy, where competitive and supply chain strategies have the same goal – shared values.

McKinsey's 7-s framework

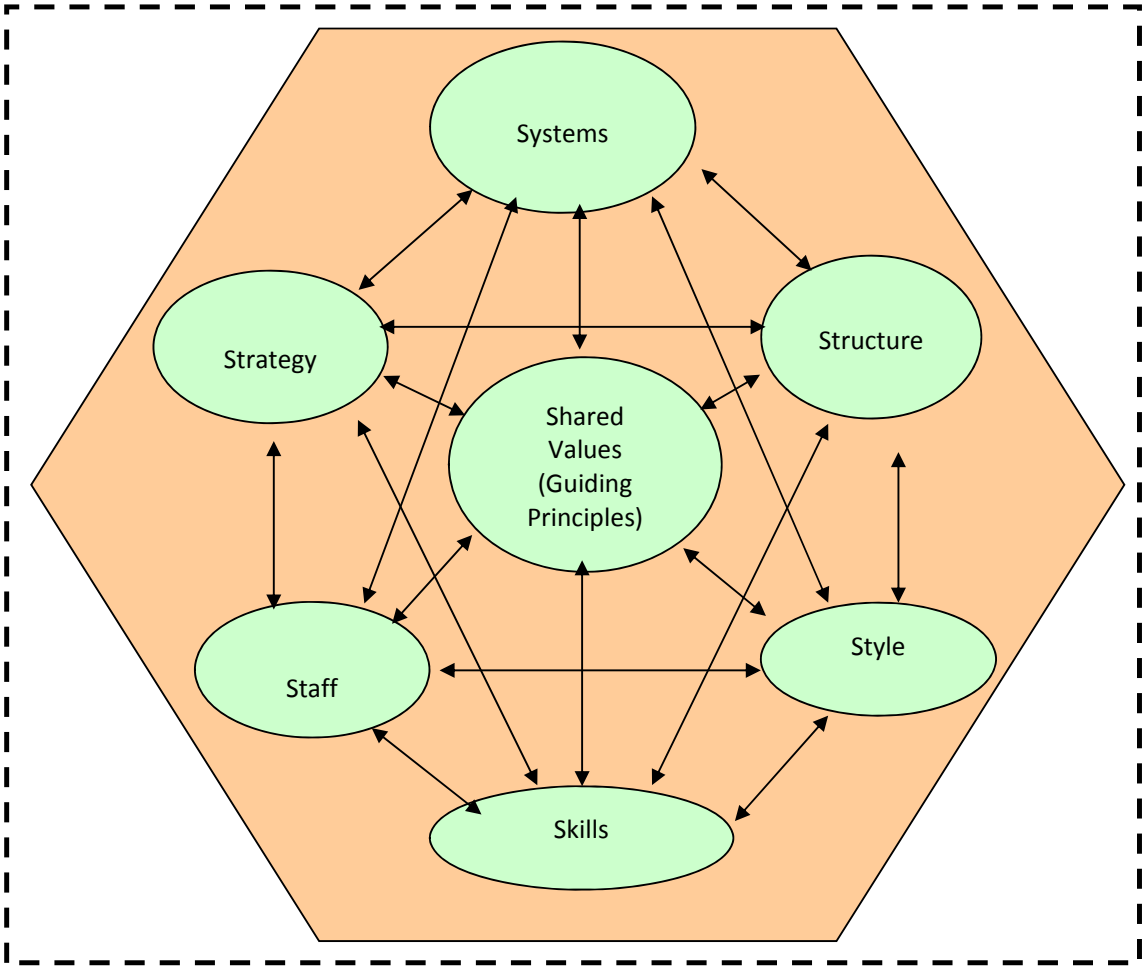


Figure 2.7: McKinsey's 7-s Resources Capability Model

Source: Adapted from Pitt and Koufopoulos (2012:364)

Therefore, the type of organisation strategy pursued should be informed by the organisation's guiding principles (shared values) of achieving strategic fit. Hence, SCICS is so relevant to providing the correct mix of the structural derivers required to achieve a strategic fit, in order to satisfy customer needs and contribute to industry-sector competitiveness.

2.7.2 Structure

Mangan *et al.* (2012) and Cordon *et al.* (2012:4) state "the ultimate goal of a SC strategy is to strike a balance between responsiveness and efficiency that fits with the organisation' competitive strategy of matching demand and supply". To achieve this goal, they added, an organisation must have the structure consisting of supply chain stages represented at each SC stage (Figure 2.8, in conjunction with Figure 2. 9). Successful collaboration and honest integration of the different flows produce improved efficiency and effectiveness at all supply stages.

Therefore, a robust structure will go a long way towards synchronisation and interlinking of all the key flows of organisation processes, beyond internal structures that form the supply chain into a cohesive whole. This is also found by Lee (2012:9), in showing that each SC Organisation must map /design its internal supply chain structures and operations, with the overall corporate strategy informed by the joint-several supply chain stages constructing supply chains.

2.7.3 Systems

At this point, the focus is on the inputs, processes, outputs and their impact on SCICS. An evaluation of the extent to which the supply chain systems of network eliminates the traditional bottle necks caused by organisation policies, procedures, red tape, mistrusts and adversarial attitudes, is also examined. The critical supply chain success factors, of upholding honesty, integrity, ethical behaviour prescribed by industry norms, standards,

regulatory requirements, deliverables, and how they are evaluated and monitored, are discussed in chapter three.

A typical supply chain network system consists of the organisation's partners, various suppliers, distributors and clients that produce products or services and deliver them from suppliers to customers (Figure 2.8) (Christopher 2005, Sillanpaa 2010, Slack and Lewis 2008). It is imperative that the systems interlink the organisation's facilities, activities, people, processes and relationships with its trading partners, to improve sustainable competitive advantage (Trkman and Groznik 2006:410). Leachman and Jula (2011:6) (upholds that strategic alignment of systems guarantees SC companies will excel at turning strategies into tactical change goals that drive results. The author places this responsibility squarely on the executives, to ensure that SC colleagues, from the shop floor to the most senior managers, clearly understand the supply chain strategy and aspirations.

A supply chain network system facilitates the movement of different flows within and beyond the boundaries of the organisation structure during the product's life cycle, minimising system-wide costs, while satisfying customer service level requirements (Figure 2.8) (Shapiro 2007:7; and Simchi-Levi *et al.* 2008). The significance of such a system is that value addition is embedded to ensure sustainable availability of the desired goods/services, networking and relationships with trading partners, as well as in the disposal of discarded materials in an environmentally friendly manner.

Therefore, when considering the systems of any organisation's leadership and processes, such as customisation, setting up of strategic objectives, and blending those systems into the organisational environment, these must be management's key priority when establishing a supply chain system. It is these elements of concern, associated with the systems of the organisation that McKinsey consultants have included into his framework.

2.7.4 Style

'Style' refers to the management style or the leadership style displayed by the superiors in an organisation, to carry out different activities in the organization (Jooste and Fourie, 2009). Besides, they affirm that style is the way the management behaves and collectively spends their time to achieve organisational goals. Different management and leadership styles are in use but the most popular ones are exploitive, characterised by oppressive inclinations; autocratically characterised by dictatorial preferences; benevolent (caring); and participative democratic.

SCICS collaborative system

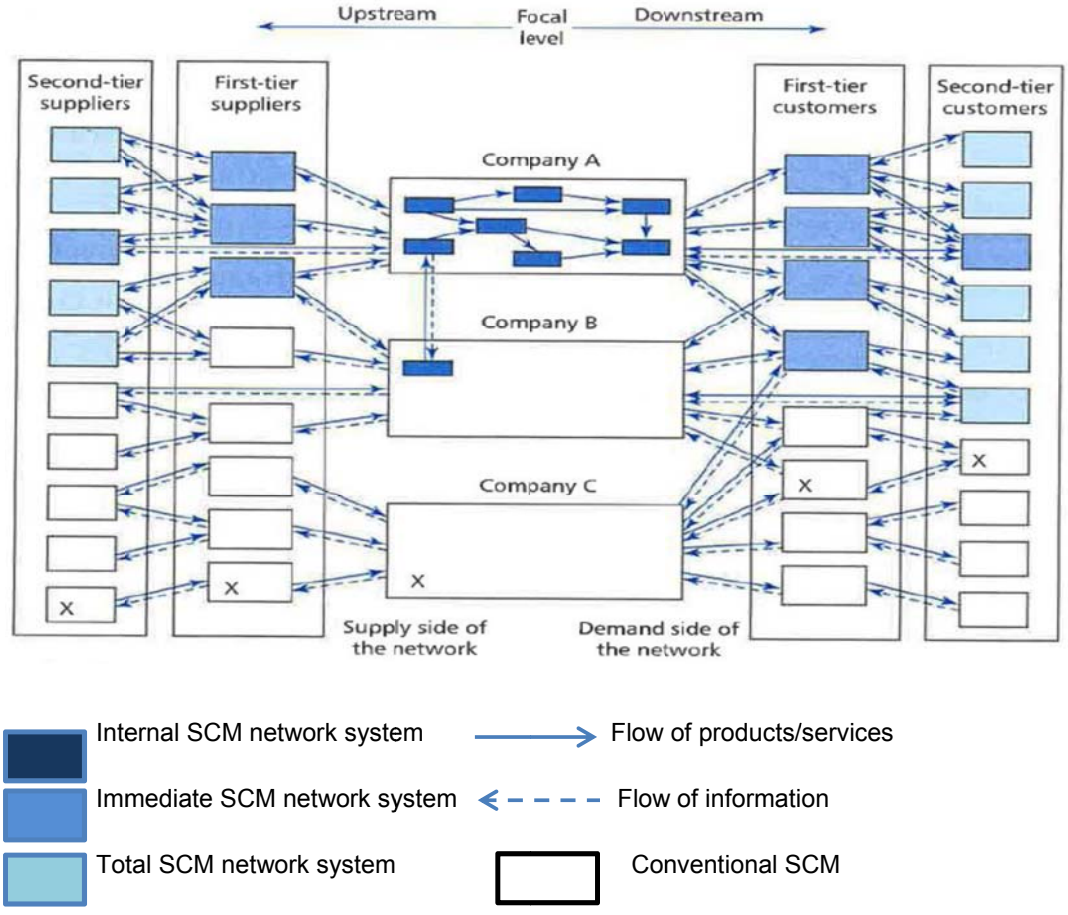


Figure 2.8: SCM network system

Source: Adapted from Savonia-ammattikorkeakoulu *et al.* (2014:5)

Therefore, participative democracy and determining a strategic direction for the organisation, is the strategic leadership action perceived to play the most important role in effective strategy implementation.

2.7.5 Staff

The term 'Staff' refers to the people in the organisation and their socialisation into the organisational culture (Thompson *et al.* 2007:385). Koufopoulos (2012:125) affirms that staffing involves the filling, and keeping positions filled in the organisational structure, through identifying work-force requirements, recruiting, selecting, placing, promoting, and appraising. It also includes planning their careers, compensating, training or otherwise developing current job holders, to accomplish their tasks effectively and efficiently. This also implies ensuring that employees blend into and accept the culture of the organisation.

2.7.6 Skills

Thompson *et al.* (2007:385) describe skills as the distinctive capabilities of an organisation**.** In the 7-S framework, 'skills' refer to the capabilities of the organisation as a whole. Many variables can assist to address skills challenges, among others the following areas can be investigated; the strongest skills represented within the organisation/team; skills gaps; the teams' strengths; an assessment of the team stage, ability to do the job and the manner in which skills are monitored and assessed, including knowledge sharing.

Sincere and honest answers to these and many other variables would therefore ensure that the skills and competencies of the employees, required to achieve strategic fitness of the organisation, are addressed (Chopra and Meindl 2010:37).

2.7.7 Shared Values

They represent the super ordinate goals of the organisation, consisting of values and aspirations beyond the traditional formal statements of corporate strategy, demonstrated in the corporate culture and the general work ethic (Fleisher and Bensoussan 2007). For example, in light of the complexities of the economic, global and competitive pressures, an organisation's shared values ought to be integrated with the 3BL goal of people, planet and profitability for ASCA (Cholette 2009:3; and Masoumik *et al.* (2014:5).

Placing shared values in the middle, is an indication that they are central to the development of all the other critical elements. The organisation's structure, strategy, systems, style, staff and skills, stem from why the organisation was originally established and what it stands for, taking into account that resources are non-renewable (Hanafizadeh and Ravasan 2011:25).

It is inevitable to regard shared values as the over-arching, super-ordinate goals of the enterprise. They are the guiding concepts and fundamental ideas around which an organisation is built. Successful organisations endeavour to achieve a fit between these seven elements and strategy implementation drivers (Chopra and Meindl 2010:37). So, if one element is changed, then all the other elements will be affected.

A change in Human Resources systems' internal career plans and management training will, for example, have an impact on management style and will thus affect structures, processes, and finally, characteristic competences of the organisation. Consequently, the integration of key organisation processes, from end user through original suppliers that provide products, services, and information that add value for customers and other stakeholders, will be affected (Trkman and Groznik 2006).

A cherished, shared value ought to entrench a proactive relationship between a buyer and supplier and the integration is across the whole SC, not just first-tier suppliers but a linked set of resources and processes within and across chains and SC stages, to deliver more satisfaction to its stage (Pitt and Koufopoulos 2012:375).

Lack of success and synergies to integrate the key elements might be negative, unintended consequences, resulting in a clash of cultures, values, and styles, which could make it difficult to establish effective common systems and structures (Narula 2008).

The essence of the 7-S Model, is that it serves as a valuable tool to initiate change processes and to give direction. It is a helpful mechanism for establishing the gap between the current organisational performances of each of the seven implementation elements and to compare the outcome with the desired performance levels. The outcome of this exercise can be used to develop action plans to achieve the desired competitive advantage and customer satisfaction results. For instance, if the outcome reveals a lack of integration, then the plan of action must ensure that the seven elements are aligned and mutually reinforced, in order to improve performance during the change process. The model is also useful in understanding how organisational elements are interrelated, to ensure that the wider impact of changes made in one area are taken into consideration in other elements.

The rewards of integration far outweigh what companies have to put into the initiatives. Integrated SC partners benefit more from a customer service focus. They also reduce waste and become faster and more flexible, while maintaining the highest of quality standards. Overall, they are gaining advantage versus competition, and keep implementing continuous improvements to stay in that position.

2.8 CHAPTER SUMMARY

In this chapter, the theory and practice of SCM was conceptualised. It was found that in the modern corporate strategies, customer needs are examined, segmented and then the organisation will deploy its distinctive competencies, as well as take competitive action to satisfy its customers' needs. Literature supports a dove-tailing approach to the integration of relationships with the upstream-internal-downstream partners into a cohesive whole, in order to achieve strategic fit (Perumal, *et al.* 2011:4). The McKinsey's 7-S framework is an essential mechanism for establishing the gap between the current organisation's resource capability of the firm and the desired capabilities, to ensure they are aligned for successful implementation of SCICS, as well as achieving the desired performance levels. Thus, the outcome of such an evaluation can be used to develop action plans, with which to build much needed capacity for achieving the desired, sustainable competitive advantage and customer satisfaction results responsibly, efficiently and profitably, in line with the goal of 3BL for sustainability.

Chapter three will focus on determining the performance measures for designing and achieving sustainable competitive advantage for strategic fit, in view of the contemporary issues in the field of SCM, from a practical perspective. This is undertaken, with the view to mitigate reported challenges to sustainable competitive advantage across supply chain partners in a responsible, efficient and profitable manner.

CHAPTER 3

CONTEMPORARY SUPPLY CHAIN PERSPECTIVES

3.1 INTRODUCTION

The previous chapter reviewed relevant literature on the background information regarding SCM, as well as the theory and practice of SCICS perspectives. Focusing on the conceptualisation of competitive strategies, Supply chain stages are implemented. Strategic design and the migration to SCICS for strategic fit, including synthesising the impact of achieving sustainable competitive advantage for SCICS and the challenges that impact on integration were examined. The chapter concluded with an analysis of the resource capabilities, using McKinsey's 7-S framework to evaluate the readiness of supply chain organisations to implement SCICS and strategic fit.

Chapter three deliberates on the design and implementation of various strategic options by supply chain stages and establishes the impact of SCICS and strategic fit. Relevant literature on performance measures and the impact of supply chain relationship management (SCRM) to achieving SCICS for strategic fit are reviewed. It is believed that this will mitigate the reported challenges to sustainable competitive advantage, within and across supply chain partners, responsibly, efficiently and profitability.

3.2 DESIGN AND IMPLEMENTATION OF STRATEGIC OPTIONS

In a study conducted by Njuguna (2009:32) in Kenya, it is revealed that, in the 21st century landscape, firms compete in a complex and challenging environment that is transforming due to many factors; from globalisation, to frequent uncertainties in the growing use of information technologies. Thus, achieving competitive advantage is a major pre-occupation of senior managers and a major concern for scholars and practitioners for the last decades, currently and in the future. The importance of competitive

advantage and distinctive competences, as determinants of a firm's success and growth, has increased tremendously in the last decade.

There has been debate over the past years regarding the ways in which companies seek to develop sustainable competitive advantage and that debate is still continuing (Porter 1979:137; Prahalad and Hamel 1990:79; and O'Sullivan 2012:1). Different schools of thought that have emerged in this debate and have an impact in achieving sustainable competitiveness, are critiqued below.

3.2.1 The positioning approach

Two approaches have emerged from this debate – the positioning approach and the resource-based approach. The positioning approach is associated with Michael Porter and was commissioned in the 1980s. Porter maintains that an organisation needs to understand the structure of the industry in which it operates, so that it can change its strategy to improve performance and outperform its competitors. This approach is dependent on the abilities of the organisation to exploit the underlying economic factors within the industry better than competitors and maintaining this over time, to achieve sustainable competitive advantage. The analysis-choice-implementation framework can be used to demonstrate how supply chain frameworks can be used to achieve corporate objectives (Figure 3.1). In the "outside-in" approach, the firm establishes a position to best meet the competitive forces within the industry. Porter argues that, if the organisation chooses a favourable position it can earn above average returns, even if general industry conditions are unfavourable.

This view is also shared by Otchere, *et al.* (2013:131) in their study conducted in Ghana. The study indicates that the most significant changes in the paradigm of modern business management is that individual businesses no longer compete as solely autonomous entities, but rather as Supply chain stages (Lambert, 2008; Fantazy, *et al.,* 2010; Baharanchi, 2009; Narasimhan,

1997). The implication is that Supply chain stages are not just a directional chain of businesses on one-to-one, business-to-business relationships, but a network of multiple business relationships, configured to gain synergies of intra-organisation and inter-organisation integration. This is in view of the fact that the environment is transforming to an all-encompassing, sustainable supply chain process, interfacing with the forward- supply chain (Masoumik *et al.* 2014:5).

Strategic positioning for ASCA

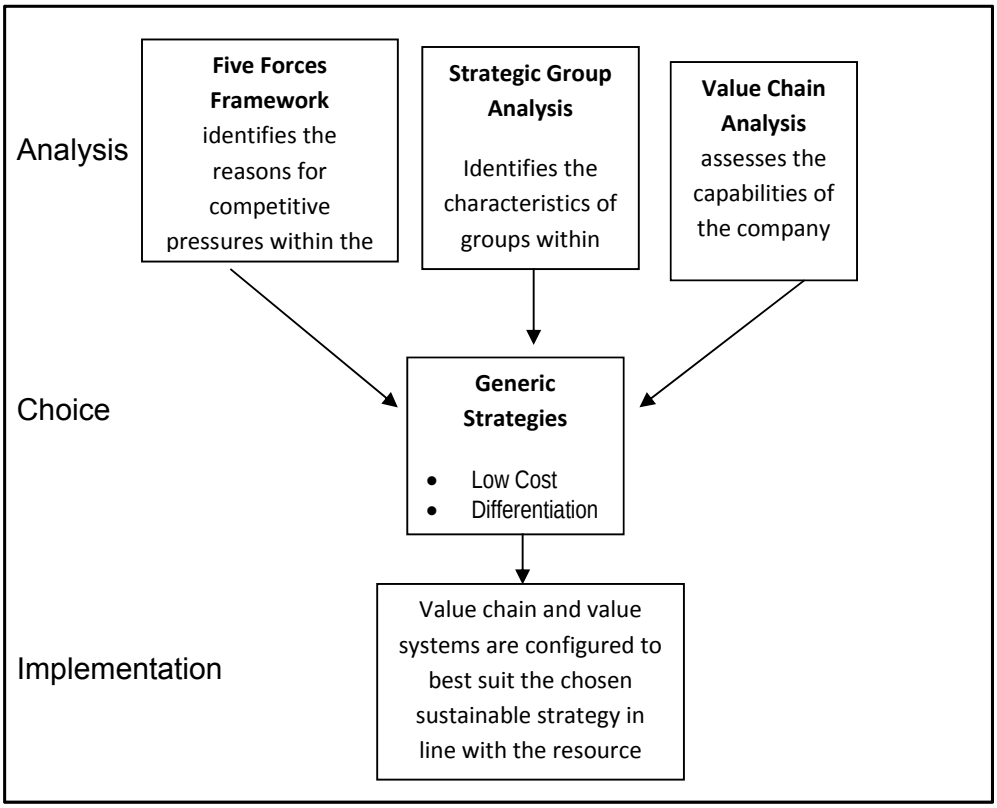


Figure 3.1: The analysis-choice-implementation framework
Source: Adapted from O'Sullivan (2012:3)

Consequently, integration processes along the SC are considered an important determinant to achieving sustainable competitive advantage Lambert 2008 and Pamela and Pietro 2011).

3.2.2 The resource-based approach

During the 1990s there were many critiques of the positioning approach, which led to the development of the resource-based approach. This approach is based on broadly similar views from a number of theorists, such as Prahalad and Hamel (1990); Stalk, *et al.* (1992); and Porter (1996).

In this school of thought, there is a broad agreement on how resources can build capabilities that lead to competences, which are difficult for competitors to copy. Under the resource-based approach, the starting point of competitive advantage resides within the organisation, rather than looking at the challenges posed by the external environment. This is often seen as an 'inside-out' approach, premised on Porter's Generic Strategies (low cost, differentiation, best cost and focused strategy) (Porter 1988).

He argues that a firm's strengths mean that firms ultimately make a choice between one of two headings, that is, cost advantage or differentiation. By applying these strengths in segments of the industry, four generic strategies emerge (Figure 3.2). They are called generic strategies because they are not firm or industry dependent (Ates 2013:46).

Low-cost

The competitive strategy of an organisation includes its target customers (retail outlets) and their specific needs. This model is also supported by Porter (1979:137) in his generic competitive strategies model, where he categorically states that, if a customer is price-sensitive then an organisation would target a broad industry market and will implement a cost leadership strategy. In cost leadership, the organisation sets out to become the lowest cost producer. Mangan *et al.*. (2012:65) assert that such an organisation would implement supply chain solutions like economies of scale, preferential access to raw materials, economical distribution channels and proprietary technology.

Competitive Strategies

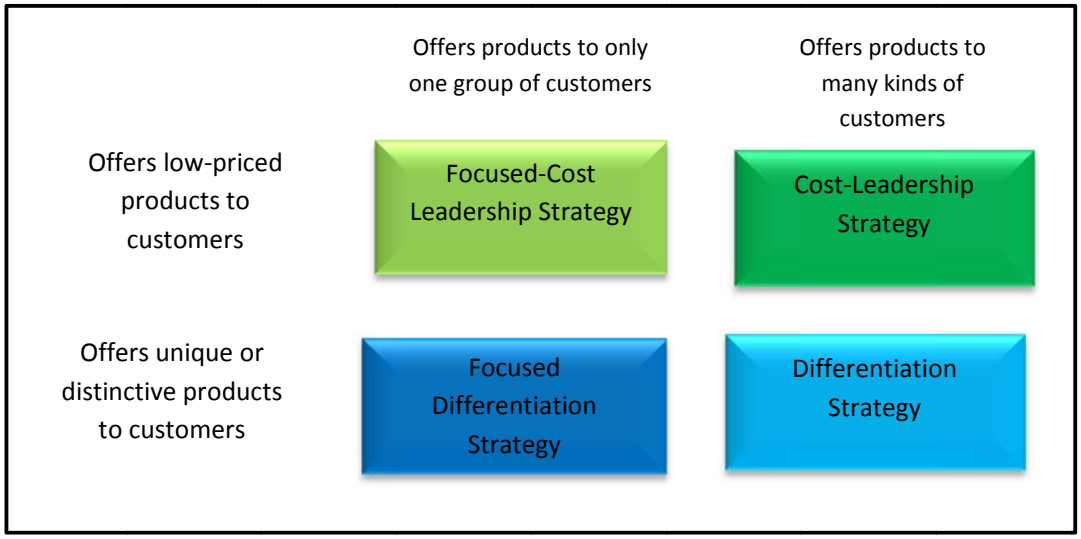


Figure 3.2: Porter's Generic Strategies

Source: Adapted from Porter (1985) as cited in O'Sullivan (2012:4)

An organisation implementing this strategy drives prices downwards and looks for high volume to counteract low margins. Over time, these organisations look to become a powerful force in the marketplace. Walmart, Shoprite Checkers, Cambridge Foods, Jwayelani and many others in the retail sector, are examples of companies taking this position. The drawback of this kind of strategy is that it can be copied by other firms, quality may be compromised and it is difficult for small firms to enter the market. In addition, the quality of work life of employees is compromised through exploitation to please shareholders, overshadowing firms' social responsibility efforts (Alliance 2011:3, 16).

Broad-differentiation

If the organisation targets a broad industry market, customers expect products with unique characteristics, in a way that will appeal to a broad spectrum of buyers. O'Sullivan (2012:4) finds that differentiation involves

offering a product that is perceived throughout the industry to be unique. The aim is thus to offer customers high perceived-value and either increase their price for higher margins or keep prices lower for increased market share. Branding is an important element with differentiation strategies, as the organisation wants its name to be synonymous with quality. Unilever, Woolworths and Kellogg are examples of companies taking this position.

Best-cost provider

FMCGs adopt this type of strategy, with the motive of giving customers more value for their money, by incorporating good-to-excellent product attributes at a lower cost than their rivals. This approach combines a strategic emphasis on low-cost, with a strategic emphasis on differentiation. The aim is to make an upscale product at a lower cost that gives customers more value for their money. Success depends on having the skills and capabilities to provide attractive performance and features, at a lower cost than rivals. A best-cost producer can often out-compete both a low-cost provider and a differentiator, when standardised attributes would not meet the diverse needs of buyers, since many buyers are price and value sensitive. While this strategy is a compromise, a best-cost provider may end up being attacked by the strategies of firms using both low-cost and differentiation strategies. Low-cost leaders may be able to siphon customers away with a lower price, while high-end differentiators may be able to steal customers away with better product attributes.

Focused strategy

When an organisation competes in a focused market segment with a narrow scope, it can tap from both differentiation and cost leadership strategies in the targeted segment. In contrast, Kachru (2009:53) argues that for a firm to successfully compete in a market where there is escalating competition, it has to seek partners who are willing to exchange the different flows that circulate across the upstream-internal-downstream of the supply chain. A number of factors influence the success of any competitive corporate

strategy: the flows that circulate across the supply stages and the associated supply chain drivers (Mangan *et al.* 2012:61). In addition, an organisation pursuing a focused differentiation strategy aims to offer higher perceived value at a substantial price premium. Consumers buy in this category based on the perceived value alone. Makro, and Clicks pharmaceuticals are examples of companies pursuing this strategy and they are satisfying the psychological value their customers seek.

Moreover, following a review of several models of organisational strategy, Miles (1978) as cited in Sullivan (1993:15), Porter (1979:137), Prahalad and Hamel (1990:79), Miles and Snow (2007) and O'Sullivan (2012), state that some organisations implement one of the following strategic type categories; defenders, prospectors, analysers, and reactors. An account of each of these strategic approaches is well noted in literature (Agarwal, Shankar and Tiwari 2006:211, Hugos, 2006:133, Chaharsooghi and Heydari 2010:332). These strategies are not so appropriate, given the heightened uncertainty of the complexities of the economic climate, ecological environment and competitive pressures, where Supply chain stages have to harness the synergies of integration (Done 2011:11). Capgemini (2008:18) also argues that these approaches do not support the 'sardine strategy', neither do they support the overarching goal of integrating both the supply chain and the value chain strategy as a cohesive whole, but act as a sequence of separated silos.

Since conventional competitive corporate strategies are naturally adversarial, rival and do not support the 'sardines strategy', the study proposes the adoption of a dove-tailing, positioning-resource based approach because it perfectly aligns with the philosophy of sustainable SCICS. A philosophy that tarps from 'wisdom of the ants' strategy of intra-inter-organisational integration of end-to-end thinking, involving the assessment of own firm's resource capabilities and forging of collaborative interrelationships with the network channel-member partners, to achieve sustainable SCICS. An

important reason for this paradigm shift, towards intra-inter-firm information flows, is the increasing amount of externalised SC activities. Thus, the wisdom of the ants' states; "Go to the ant, thou sluggard; consider her ways, and be wise; which having no guide overseer, or ruler, provided her meat in the summer…." (The Holy Bible) as cited in Proverbs 6:6-8.

Ants are very small insects, but because of the spirit of collectivism, collaboration and the inherent bearing of each other's burdens, make it possible for them to have sustainable food in times of need - which is a notable missing link in most corporate strategies.

The essence of SCICS is therefore that it is intended to act as a catalyst for sustainable, superior business performance, regardless of volatile market trends, capable of infusing the supply-value chain with corporate strategy, in order to achieve strategic fit. (Thangamuthu 2008:4, Cordon *et al.* 2012:4, and Sisco, *et al.* 2010:5). It is believed that SCICs should ensure consistency between corporate and supply chain strategies. Supply chain stages can, however, enter into intra and inter-organisational, integrative and collaborative relationships, through the supply chain process, in order to secure higher performance through linkages that would not have been possible, if the organisation was operating in isolation. The level of integration linkages across functional process-based perspectives will be analysed, to determine what and why organisations should focus on their strategies.

3.3 THE IMPACT OF SCI IN ASCA OF THE ORGANISATION

The impact of SCICS is set out, showing the achievement of the organisation's sustainable overarching goal for integrating the supply-value chain with corporate strategy, as a cohesive whole. This is conducted in light of achieving competitive advantage, bottom line (profitability) and ROI, TCO, RSC and sustainable SCICS. The need to establish performance measures for achieving sustainable SCICS, so that supply chain channel partners can

mitigate the challenges to SCI responsibly, efficiently and profitably, is also evaluated.

3.2.1 Impact of SCI in achieving the firm's competitive advantage

Competitive advantage refers to the extent to which companies are able to create a defensible position over their competitors (Bratic 2011:4). In today's global competitive environment of rapid technology progress and high customer expectations, companies' ability to win the competition only depends on the firm's own resource capabilities and the configuration of integration (Su, Shi and Lai 2008). That is why the establishment of SC partnership among companies and the coordination of the partners, are highly valued (Carter and Rogers 2008:364, as cited in Masoumik *et al.* 2014:5).

According to the Economics and Management of Competitive Strategy journal (2011: 232), on Competitive Advantage and Value Creation, it is stated that, "to obtain a competitive advantage, the organisation must create greater total value than its competitors and capture the incremental value that it brings to the market through its supply chains". This is supported by Njuguna (2009:12), who holds that the competitive advantage of a firm equals the difference between the overall value created by the industry, when the firm is in the market, and the overall value that would be created by the industry, when the firm is not in the market. Thus, competitive advantage is the extra value created by the firm.

The fact that output capacity in the FMCGs in KZN exceeds demand, requires value creation to achieve competitive advantage. This is seen when an organisation with a competitive advantage consistently outperforms competitors, i.e., it earns greater economic profits. To achieve competitive advantage, companies seek the best match between organisational abilities and market opportunities. Few, if any, competitive advantages can be sustained indefinitely, so the organisation must continually seek opportunities

to create the most value based on either of the three generic strategies (cost, differentiation or focused) (Ates 2013:46). A typical competitive advantage is illustrated.

One can consider a market with two suppliers, one customer, and two firms, (A) and (B): each offering a pair of jeans. Each supplier provides the fabric to make one pair of jeans and has a cost of R100. Each firm has costs of R200 to make the fabric into jeans, including the opportunity costs of its designers and tailors. The customer will only buy one pair of jeans. The customer has a willingness to pay R1 200 for firm (A)'s product and a willingness to pay R1 700 for firm (B)'s product. The customer will transact with firm (B) and firm (B) will transact with one of the suppliers. The total pie is R1700 − R100 − R200 = R1400. Without the second firm, firm "A" would have a pie of R1200 − R100 − R200 = R900. So, firm (B)'s competitive advantage is R1400 − R900 = R500, which is just the additional amount the customer is willing to pay for that firm's product. (Daniel 2009:232).

The most significant inevitable changes in the paradigm of modern business management is that individual businesses no longer compete as solely autonomous entities, but rather as SCs (Otchere, *et al.* 2013:132). A supply chain is not just a chain of business on one-to-one, business-to-business relationships, but a network of multiple business relationships, in order to gain synergies of intra-organisation and inter-organisation integration and management. Subsequently, SCI coordinates processes along the supply chain to maintain a competitive advantage over competitors (Lambert 2008; and Pamela and Pietro 2011).

Experts in the SCM mainstream concur that the more integrated a SC, the higher the performance will be (van der Vaart and van Donk 2008; Singh and Power 2009; and Ou, *et al.*, 2010). In addition, SCI has a positive impact in the enhancement of channel stage' competitive performance, by closely integrating the internal cross-functions within an organisation, and effectively

linking them with the external operations of suppliers, customers, and other channel stages. This ensures that supply chain partners' maximise their overall value generated, rather than profit generation. Although the importance of supply chain relations is widely acknowledged, seamless coordination is rarely achieved in practice (Hussain and Mohammad 2010:80).

The essence of SCI is therefore to act as a catalyst to facilitate the collaborative effort of multiple channel stage to design implementation and manage value-added processes, to meet the real needs of the end customer. Ensuring that the merchandise is produced and accordingly and consistently minimise system wide costs, while satisfying service level requirements, has an overwhelming impact on the firm's competitive advantage and profitability (Savonia-ammattikorkeakoulu *et al.* 2014:4, and Burt *et al.* 2012:3). This view is also upheld by Smith, *et al.* (2007:6), with findings that show any reduction in sourcing costs and total capital invested in the organisation, significantly push sales upward and increase the bottom line, whereas, very little income is generated by increasing sales with an equivalent percentage.

3.2.2 Bottom-line and ROI

Academics suggest that relying on the individual or single focal organisation for economic and industry competitiveness, is unsustainable (Hamel and Breen 2007:63; Chopra and Meindl 2010:483). Adopting a strategic approach to developing supply chain relationships is critical to the survival of many firms (Miles and Snow, 2007:459). For instance, in an attempt to cut travelling and telephone costs, many companies in the FMCG sector allow consumers to source, purchase and pay for goods and services through internet, cell phone or intermediaries.

Chopra (2010:71) declares that important techniques, such as just-in time (JIT), total quality management (TQM), lean production, computer generated enterprise resource planning scheduling (ERP) and Kaizen, have been

embraced by most companies. However, very little progress has been made to achieve SCICS as an enabling tool for gaining competitiveness, ROI and sustainable profitability through customer satisfaction. Burt *et al.* (2012:3) affirm that in any typical organisation, the supply chain is responsible for spending over 50 percent of every rand the organisation receives as income from sales, on procurement of materials and services. It is for these reasons that management of firms adopt integration practices with their upstream-internal-downstream in order to enhance shareholder value, customer satisfaction and sustainable competitive advantage.

The impact of SCICS on the firm's sales, cost reduction, profitability, increased customer-shareholder value and sustainable competitive advantage can be replicated across channel stage (Figure 3.3). This paradigm has been necessitated by the evolving role of SCM 'from a functionality and provider of the right components at the right time and lowest costs, to that of managing the supply base responsible for the generation of competitive advantages for the organisation; so does the buyer-supplier relationships change (Burt *et al.* 2012:73). Similar sentiments are shared by Brau, Fawcett and Morgan (2007:66), who state that for a single firm to successfully compete in a market where there is increasing demand from customers and escalating competition, it has to form collaborative relationships and strategic alliances on a reciprocal basis, with partners who are willing to share the risks and rewards.

Therefore, the impact of SCICS in achieving the firm's competitive advantage is also supported by Brau, *et al.* (2007:56), in their survey results of 570 United States managers. Results indicate that integration can lead to significant improvements in asset utilisation, revenue generation, and competitive performance, regardless of firm size.

Impact of SCI on the organisation

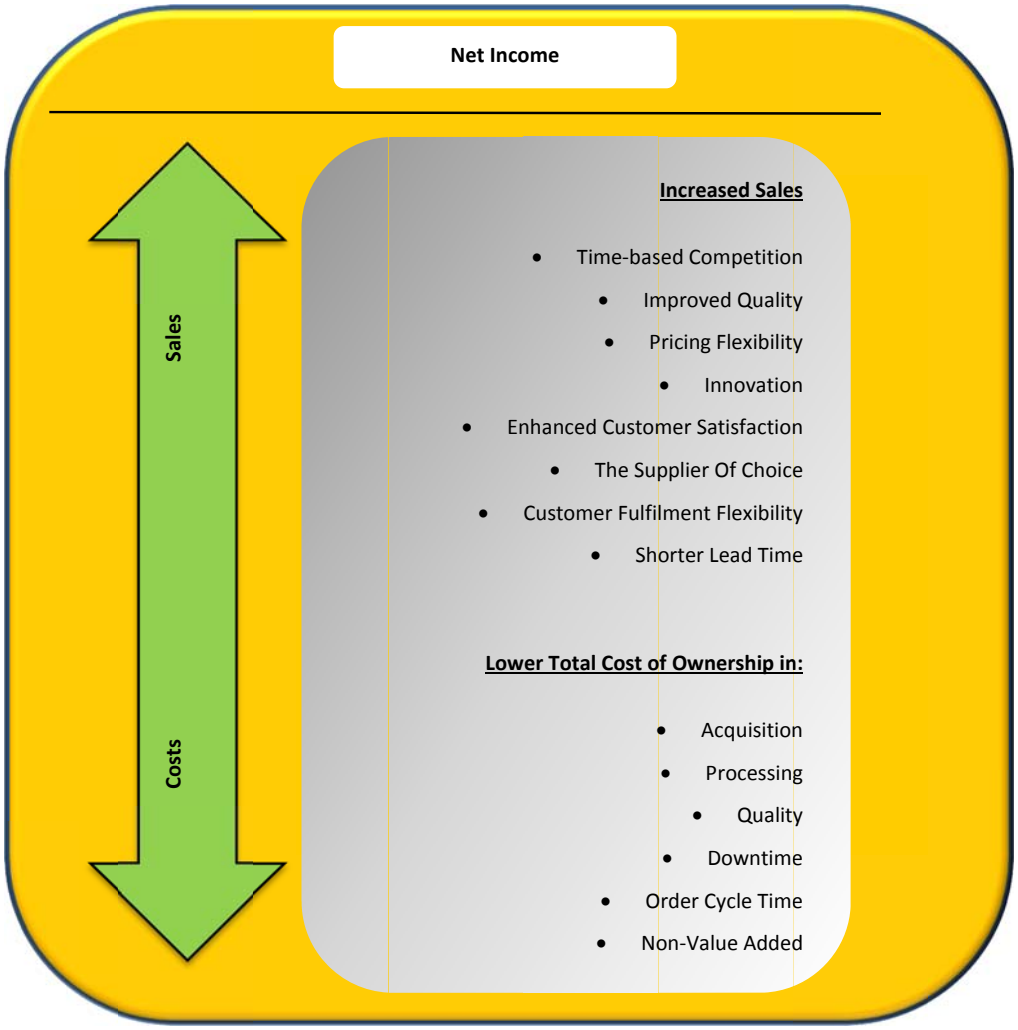


Figure 3.3: SCM's impact on profitability

Source: Burt *et al.* (2012:3). Proactive Purchasing in the SCM

It is evident that no individual firm can drive the TCO variables and achieve increased sales and net revenues. It instead, requires an adoption of strategic fit – typical of a sardine strategy - to ensure SCICS is achieved and that supply chains work together in harmony, in order to enjoy the synergies of incremental cost reduction, bottom-line and ROI.

Therefore, the impact of SCICS, in achieving the firm's competitive advantage is also supported by Brau, *et al.* (2007:56), in their survey results of 570 United States managers. Results indicate that integration can lead to significant improvements in asset utilization, revenue generation, and competitive performance, regardless of firm size. And so, no individual firm can drive the TCO variables and achieve increased sales and net revenues. But it requires an adoption of strategic fit – typical of a sardine strategy to ensure that both the firm's strategy and the supply chain strategy have the same goal (SCICS) and that supply chains work together in harmony in order to enjoy the synergies of incremental cost reduction, bottom-line and ROI.

TCO and reverse SCM

Studies show that companies in the FMCG Industries, including chemicals, pharmaceuticals; food and beverage; oil and gas; pulp and paper; and health and beauty, must redesign SC strategies to cope with rising supply chain challenges (Heaney and Anand 2010:15 and Kumar and Chatterjee 2011:2). To avoid the skyrocketing supply chain costs, adequate integration is essential to counteract market backlashes, since markets tend to punish companies that ruthlessly disregard customer values (Juttner, Christopher, and Godsell 2010 and Savonia-ammattikorkeakoulu *et al.* 2014:4). It is recommended that a SCM transformation roadmap has the capacity to reduce or keep TCO constant.

Burt *et al.* (2012: 453), state that TCO refers to all costs related to SC including, procurement, use of the product and costs in disposing of the item after its use. Mangan *et al.* (2012:339) concurs that SCM is not only concerned with product availability and consumption but aims to achieve ethical economic growth for the current generation, without depleting resources for future generations. This is achieved by increasing the amount of materials recovered from the firms' waste stream, through RSC management processes. It can be concluded that an integrated SCM is

characterised by both FSC and RSC being the equivalent of TCO (Kumar and Chatterjee 2011:2).

El Korchi and Millet (2014:1), in a study conducted in France, maintain that RSC offers the possibility to transform the constraints of environmental concerns on product recovery, into an opportunity for value creation, yet only a few companies have managed to set up their RSC. The study also concluded that the value created by the FSC can no longer ensure the firm's viability. Mangan *et al.* (2012:339) also echoed that impact of TOC from the point of consumption to the point of origin and the recreation of value by accepting previously shipped products from the point of consumption for recycling, reuse, or disposal has become a topical issue in sustainable development and life cycle management.

In support of RSC, Kumar (2011:3) argues that companies implement RSC for the following reasons. The first one is profitability through RSC; secondly, producers and manufacturers' cannot afford to ignore public concern about sustainable development, and thirdly there are vast opportunities for companies to project themselves as 'green'. The other reasons include recovery options/reuse, in which the recovered product is used again for the purpose to which it was originally designed through remanufacturing and recycling (Figure 3.4).

This perspective of RSC is yet to be realised across the FMCGs in KZN, South Africa, where the implementation of RSC is voluntary and is done at small scale; unlike in Europe (Mangan *et al.* 2012:340). RSC is an area worth further investigation, in light of the global warming and going green phenomena. Since it is attracting more attention from environmentally conscious institutions and is also in line with world class SC and ethical best practices, which proactive SC organisations need to embrace (SCICSo, Chorn and Pruzan-Jorgensen 2010:33; and Chaharsooghi and Heydari 2010:334).

This is supported by Heaney and Anand's research (2010) that shows implementing RSC across supply chain partners has a great impact in reducing TCO, because TCO is linked to reduced acquisition and purchase price, taxes, risks, energy costs, reduced over-specification, reduced consumption and reduced social and environmental compliance costs. Hanfield *et al.* (2011:462) echoes that other costs can consist of categorised warrant costs, product liability costs, customer dissatisfaction costs and opportunity costs.

The reverse supply chain process (RSCP)

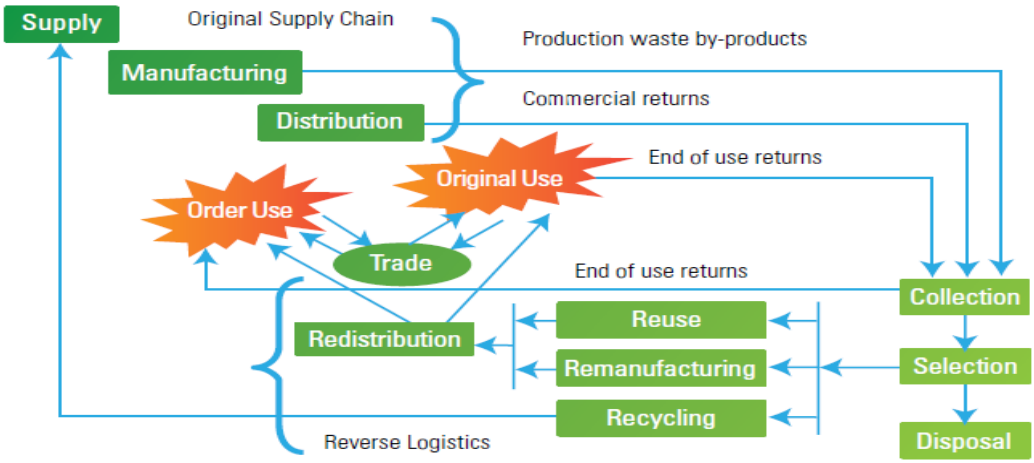


Figure 3.4: Reverse supply chain
Source: Kumar and Chatterjee (2011:2)

For example, a Manager of XYZ (Pty) Ltd, required to purchase a machine, was evaluating two alternatives. Machine A was priced at R100 000,00 and B was priced at R125 000,00. The delivery lead time for machine A was 90 days and machine B was 30 days. When determining usage costs for A, it was important to add the lost revenue that would have been generated during the 60 days (90 – 30) had machine B been installed. By including the cost of lost revenue, B became the better alternative, even though it was priced higher; ceteris paribus (holding all other factors constant).

TCO has become a topical issue in contemporary SCM, because the world population is growing at an alarming rate, yet the mineral resources are non-renewable and some of the human actions are depleting the planet's capacity to cater for current and future generations (Bratic 2011:3).

It can therefore be seen that SCICS will compliment but not replace the value chain initiated by FSC; instead RSC should be considered as an innovation that enables the firm to have a double chain of value (El Korchi and Millet 2014:1). It is thus envisaged that implementation of SCICS will facilitate the creation of strategic SC partnerships, to leverage the strategic and operational capabilities of individual participating companies, and to help them achieve significant sustainable benefits, taking cognisance of the different categories of TCO.

3.2.3 The importance of achieving SCICS and strategic fit

According to Cholette (2009:3), a sustainable firm is one which is able to produce and deliver goods or services for the foreseeable future, without causing degradation. Sisco, *et al.* (2010:7) concur that SSC is the management of environmental, social and economic impacts, and the encouragement of good governance practices, throughout the lifecycles of goods and services.

This definition is inspired by FSC and RSC as well as the environmental economic theory, that the rate of usage of a resource should not exceed the rate of replenishment, and that externalities, costs not directly incurred by a firm for its activities, should be considered in decision making.

Therefore, successful implementation of sustainable supply chain would ensure that supply chain firms will be able to create, protect and grow long-term environmental, social and economic value for all stakeholders involved in bringing products and services to market. Through sustainable supply

chain, the long-term viability of their business can be assured, while securing a social license to operate.

3.3 PERFORMANCE MEASURES FOR ACHIEVING STRATEGIC FIT

Performance measures essential for achieving SCICS is described under the following sub-headings; SC demand planning, sourcing, make or buy decisions, storage and SC relationship management. This section is submitted with a detailed discussion on the different dimensions of delivered in-full, on-time and accurately invoiced, in order to enhance competitive advantage through customer satisfaction.

According to Gunasekaran *and Kobu* (2007:340), many firms look forward to continuous improvement as a tool to enhance their core competitiveness using SCM. They have further noted that many FMCG companies have not succeeded in maximising their supply chain's potential because they lack a performance measurement standard or criteria to fully integrate their supply chain effectively and efficiently. Lee and Billington (1992:62) observe that the discrete stage in a supply chain does not maximise efficiency if individual firms pursue their goals independently, without harnessing 'the wisdom of the ants' to achieve SCICS.

Moreover, the authors affirm that performance measurement improvement should be developed. The performance measurement standards should be those that truly capture the essence of supply chain organisational performance. For effective performance measurement improvement, measurement goals must represent organisational goals and the criteria selected should reflect a balance between financial and non-financial measures, which could either be related to strategic, tactical or operational levels of decision making control.

In this study, the performance measurement framework of Gunasekaran *and Kobu* (2007:337) will be adapted, to determine the SCICS within the FMCGs.

The measures and metrics will be presented in the context of SC decisions/processes, comprise of planning, sourcing, making/assembling, and delivery in-full and on-time to consumers (retail organisations). Van Hoek, Harrison, and Christopher (2001:15-29) argue that measuring customer service without considering customer contentment, means the supply chain strategy cannot be deemed integrated with the business strategy. Pradhan (2012:480) echoes the findings, stating that the essence for assessing supply chain performance criteria could be based on numerous key dimensions and associated deliverables (Figure 3.5).

3.3.1 Supply chain sourcing planning

According to Handfield *et al.* (2011:46), integrative supply chain sourcing entails several aspects, among others: spend analysis, which is the process of collecting historical data by commodity relative to demand from the lines of current business of the firm. The data is processed into unit level detail required for commodity management, while the output of spend analysis is used to drive demand, commodity and risk management strategies.

Demand management and specification are identified as the process of using unit and rate consumption levels to forecast and estimate consumption. It also includes providing guidance and inputs on how to optimise usage and educate the user on the trade-offs (costs-benefits) Pradhan (2012:481).

Supplier evaluation determines with whom to place an order, which rests with the cross-functional teams responsible for evaluating and selecting suppliers. Integrative sourcing strongly recommends that team stage reaches a consensus in selecting suppliers.

Other sourcing strategies include collaboration and accuracy of forecasting, capacity planning, and order cycle time (supply lead time, contract management, cost management, supplier relationship management and managing procure to pay (P2P) systems). A P2P system involves automation

of all transactional activities associated with the thread of events that occur, from the time of buying goods or services, through the release mechanism to the point of issuing payment. It is thus associated with establishing controls to minimise the need to monitor the back end and drive efficiencies, thereby freeing valuable resources to work on strategic initiatives

3.3.2 Order planning

This variable focuses on SC's agility to give information on how fast the supply chain responds to demand/supply market changes. Chopra and Meindl (2010:227) describe order (demand) planning, as a process by which an organisation determines ideal levels of capacity, output, inventory, and pricing over a specified time horizon. Metrics for order planning takes into account order entry method, order lead-time and customer order path.

Pradhan (2012:371) reaffirms that demand planning play an important role in determining whether the net requirements are used to trigger production or are consumed using existing customer requirements. The different types of demand, how to manage and measure demand planning, as well as inventory classification models have been researched by Kachru (2009:218) and Mangan *et al.* (2012:231).

Progress is yet to be made in respect of what and why to measure in order to reveal the essence of order planning. Specific measurable variables in this category include, collaboration and accuracy of forecasting, capacity planning, order cycle time, and many others, as outlined above.

This information is essential to avoid and possibly eliminate disruptions to customer's delivered in-full; on-time; and accurately invoiced (DIFOTAI) (Langley and Capgemini 2010:9). The high-volume, low-margin, fast-moving consumer goods manufacturer must become more demand-driven to serve less loyal, more cautious, post-recession shoppers, whenever and wherever they are motivated to buy.

Performance measures for strategic fit

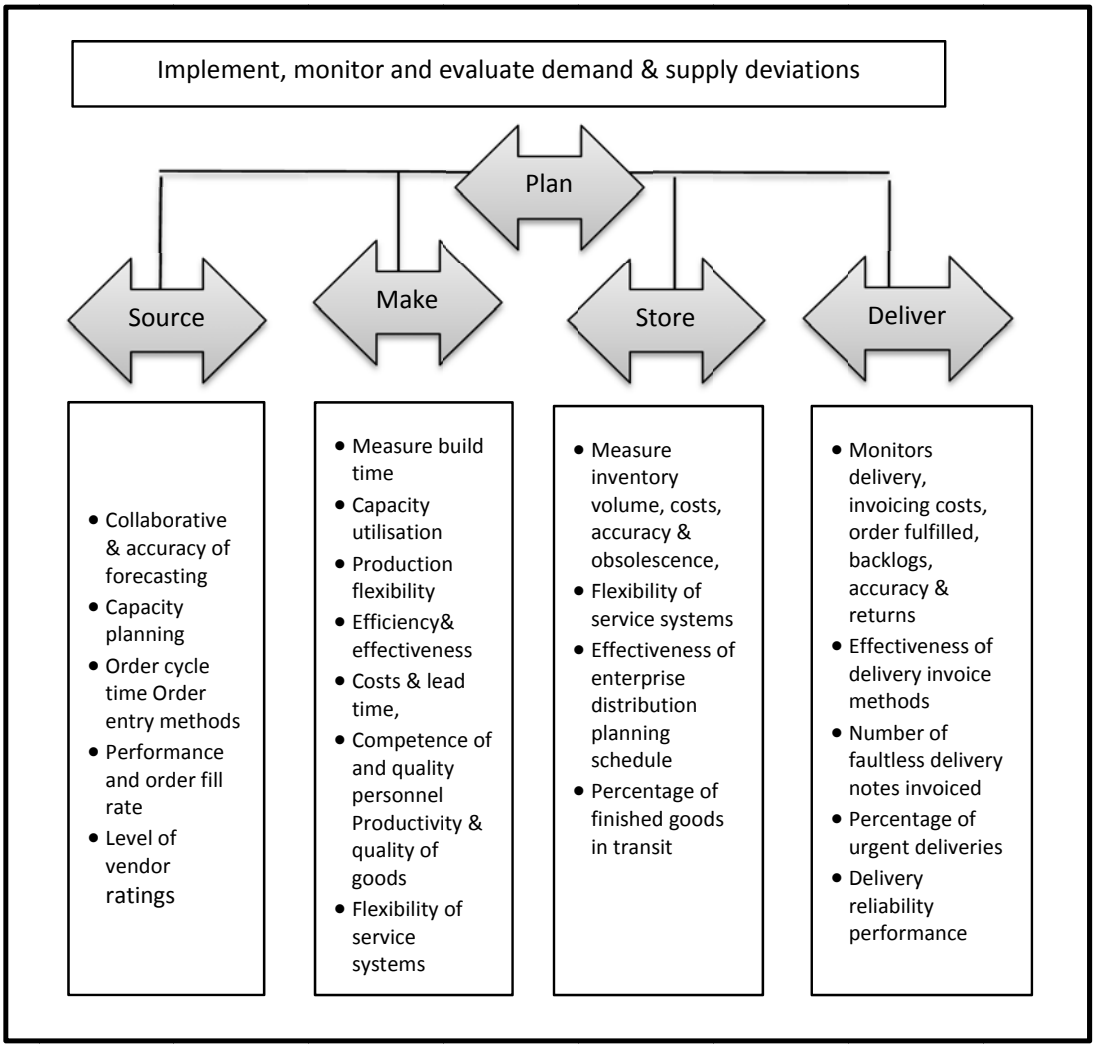


Figure 3.5: Performance measures for SCICS

Source: Adapted from Pradhan (2012:481)

3.3.3 Make or buy decisions

Evaluating strategic decisions of whether to manufacture products or to outsource, is informed by many factors, These include the amount of information available relating to supplier's delivery performance against

industry norm, supplier pricing against market standards, quality level against the market, and efficiency of cash-flow method and customer satisfaction (Kurien and Qureshi 2011:25). Despite the priority placed on reducing logistics costs and the close alignment on how fast-moving consumer goods distributors' help to reduce logistics costs, implementation of cost-reduction strategies, more often than one strategy, might be expected. Hence, decisions are motivated by cost-savings benefits.

3.3.4 Supply information at storage

Supply chain responsiveness measures the storage information linkages at strategic level relating to finances; these attributes provide information about the speed at which a supply chain provides its product to the customer. A number of aspects, such as the percentage of defects, capacity utilisation, effectiveness of scheduling techniques, range of products and services, utilisation of economic order quantity, as well as measures for delivery performance evaluation, are considered (Pradhan 2012:362).

Studies indicate that distribution occurs between every pair of stages in SC (Cordon *et al.* 2012: 10). Researchers, such as Heaney and Anand (2010); and Hadfield (2010), assert that the supply information link at the strategic level, in respect of performance of a distribution network, needs to be evaluated on the basis of customer needs versus the cost of meeting the identified customer's needs. Burt *et al.* (2012:83-87) confirm that evaluation of the linkages (upstream-internal-downstream) in a supply chain, directly impact customers' satisfaction. In addition, the authors state that the evaluation of suppliers in the context of the supply chain efficiency, flow, integration, responsiveness and customer satisfaction, involves measures important to the achievement of strategic, operational and tactical goals.

Measures at storage level focus on a number of deliverables, including capacity utilisation, assessing the significance on percentage of defects, effectiveness of scheduling techniques, utilisation of economic order quantity

and measures for delivery performance evaluation (Langley and Capgemini 2010:9).

The essence, of assessing these measures at production/storage level, is to inform decision makers on the impact of the SC cross-functional drivers' efficiency-responsiveness on the seven key elements of SCICS's performance in achieving integration within and across SC, as well as achieving sustainable SCICS (Simchi-Levi *et al.* 2008 and Thangamuthu 2008:4). This is also maintained by Kazemkhanlou and Ahadi (2014:80), in finding that the establishment of the desired supply chain performance measures is of great importance, since it serves as a yardstick to evaluate the extent and level of SCICS for strategic fit.

3.4 SUPPLY CHAIN RELATIONSHIP MANAGEMENT

The establishment of inter-organisational ties, on the basis of a mutual belief, exchanging human capital, information, technology; as well as sharing both the risks and rewards of their relationship, are also a key component for SCI (Kachru 2009:6; and Juttner, *et al.* 2010:108). These relationships can also be used as the basis of measurement, to determine the extent and scope of integration. Hence, collaboration, information exchange and response time were seen as the fundamentals of customer orientation within the supply chain.

Vanpoucke, *et al.* (2009:4); and Cant, *et al.* (2009:427), identify the factors that influence supply chain relationships (SCRs) within and amongst SCs. These include the quality of delivered goods, flexibility of service systems, effectiveness of enterprise distribution planning schedules, delivery invoice methods, faultless delivery notes, summarised as DIFOTAI.

Supply Chain Relationship Management (SCRM) is a key component in SCI as it facilitates the operations and implementation SCICS by eliciting the cooperation of other firms (Burt *et al.* 2012:31). Similar sentiments are shared

by Handfield *et al.* (2011: 118), following a study of senior executives in the United States and Europe, where it was concluded that the most critical skill required for supply management managers, is relationship management (the ability to act ethically, listen effectively, communicate, and use creative problem solving).

Thus, the ability to drive relationships is universal. It is not exceptional to companies in the US and Europe, but is also critical to FMCG companies in KZN, who seek to build strong integration with internal business functions, as well as with external suppliers. The underlying challenge is that of trust, especially as trust is susceptible to breakdown (Kachru 2009:61).

Although on a small scale, some Supply chain stages are forging credit financing and SC is building strategic alliances with consumers (Mbhele 2013:141). In such arrangements, customers are given the opportunity to possess and enjoy the goods or services without paying for them immediately. Payment becomes due at the lapse of a stipulated time, ranging between 30 and 90 days from the invoice date at times, after recouping proceeds from the sale of the product. Such relationships prevail between petroleum and logistics companies. Bus operators also allow credit holders to use their clothing and other credit cards to purchase bus tickets and only repay in small instalments debited to their credit accounts over a period of time (Greyhound Flyer, 2012). The significance of these relationships is that it allows chain stage to compensate for their individual weaknesses or resource constraints. Burt *et al.* (2012: 74) uphold that the emerging relational view recognises that a firm's competitiveness evolves from the relationships between customers and suppliers at three levels (Figure 3.6).

3.4.1 Transactional relationships

Transactional relationships describe an arms' length relationship, wherein neither party is concerned with the wellbeing of the other and moves from

one contract to another without developing any real long-term relationship. The related characteristics for each domain are summarised (Figure 3.6).

The semantic approach to business alliances, value networks and service chains, is to automate interaction processes between heterogeneous businesses for ontology-based SCM. This approach entrenches electronic systems for information sharing in the FMCG industry, while the buyer's service efforts enhance and increase customer attraction, retention and reputation (Jung, 2011, as cited in Mbhele 2013:145). Transactional SC management does not provide a complete service package with distinct customer service level satisfaction. Thus, the risks and uncertainties associated with transactional relationships reduce the investments in research, staff training and development, equipment and the customer firms' needs.

3.4.2 Collaborative relationships and supply chain alliances

Another way of achieving SCICS is for Supply chain stages to forge collaborative relationships based on the awareness of interdependence and necessity of cooperation (Burt *et al.* 2012:76). In a supply chain collaborative relationship approach, organisations perform a series of value adding activities together, recognising the need to provide benefits to both parties. Supply chain collaboration is the application of SCICS, involving the transitioning from a traditional adversarial posture between companies, to a cooperative relationship built on developing synergies beneficial to all partners (Shepard, 2012:1); whereas, supply alliances imply that relationships are established based on institutional trust, interdependence, and commitment amongst SC partners (Kachru 2009:59).

Continuum of customer-supplier relationship

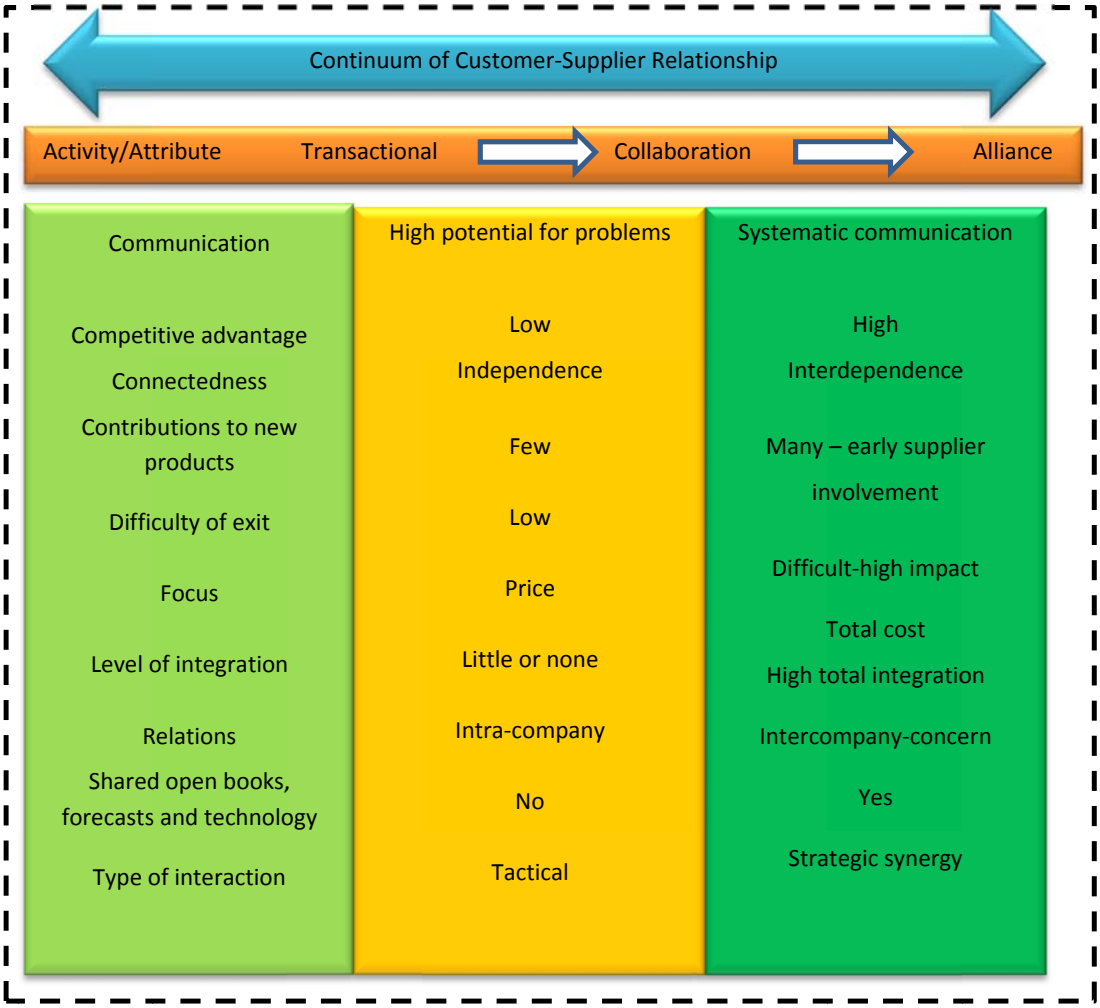


Figure 3.6: Three types of buyer-supplier relationships

Source: Adapted from Kachru (2009:60) and Burt *et al.* (2012:74).

Therefore, the impact of performance measurement standards are that they can be used as criteria upon which the SC stage could gauge its effectiveness and efficiencies in achieving strategic based goals on the levels of collaboration and alliance partnerships.

The evolution of SCR strategies

Period	Stage	Relationship Strategies.	Communications
Late 1980s	Supplier management	Suppliers were managed developed by customers on quality delivery	Command control
Early 1990s	Supply Chain	One to one approach where a customer - supplier would focus on business improvement activities	Discussion
Millennium	Business to Business (B2B)	B2B the dot-com removed geographical limiting factors.	Dialogue
Noughties	Networks	Technological infrastructure supported chains networks resulting in collaboration joint ventures & alliances	'Open'
Current	a) Social Networking	Organisational boundaries completely removed in terms of discussions feedback across supply chain partners	Electronic professional networking
	b) The extended SC	Fully integrated business processes expanding Sales & operations Planning to increase visibility throughout the value chain	Collaboration, open & electronic networking
Strategic alliances	Sustainable supply integration to achieve the 3BL	Social responsibility, environmental stewardship and economic viability. Known 'people', 'planet', 'profits,	Transparent communication, integrity and SSC in managing TOC in line with the principles best practices

Table 3.1: SC relationship strategies

Source: Adapted from Sisco, *et al.* (2010:7); Mangan *et al.* (2012:185); El Korchi and Millet (2014:2).

It can be concluded that both collaborative supply chain alliances and SSC, result in cooperative relationships built on developing synergies within and across organisation boundaries, beneficial to all supply chain partners willing

to share risks and rewards for SCICS. Consequently, the essence of institutionalising supply chain integration ensures that the supply chain stage will gain sustainable competitive advantage, through linkages that would not have been possible to create if internal structures and firms were operating separately and independently. The evolution of supply chain relationship strategies is outlined (Table 3.1).

It is, essentially, paramount that supply chain collaborative strategy be based on trust and honesty, and results in a win-win situation, equivalent to shared benefits. There is correlation between collaborative relationships and the various degrees of strategic fit achievable at each level (Figure 3.5) (Shepard 2012:16). The advantages of collaboration are that it is easier to implement continuous improvement and manage relationships because the parties would recognise the need for interdependency and cooperation, consequently resulting in reduction of total costs. The extended learning curve allows collaborative and alliance suppliers to reduce their costs and share these savings with customers. Notwithstanding that, it takes time and energy, and managerial expertise to make sound, collaborative relationships (Kachru, 2009:58).

3.4.3 SC strategic alliances

The fundamental difference, between collaborative relationships and strategic supply chain alliances, is the presence of institutional trust in alliances in respect of the flows across the supply chain stages (Burt *et al.*, 2012:78). It also eliminates the shortcomings of transactional and collaboration relationships. The essences of alliances it that it interlinks SCICS with the different flows in the up-internal-downstream network of channel stage, thereby creating an enabling platform for SUPPLY CHAIN STAGES to move together as one, referred to as the ‘sardine strategy’ (Bolstorff and Rosenbaum 2012).

SCRM and Strategic fit

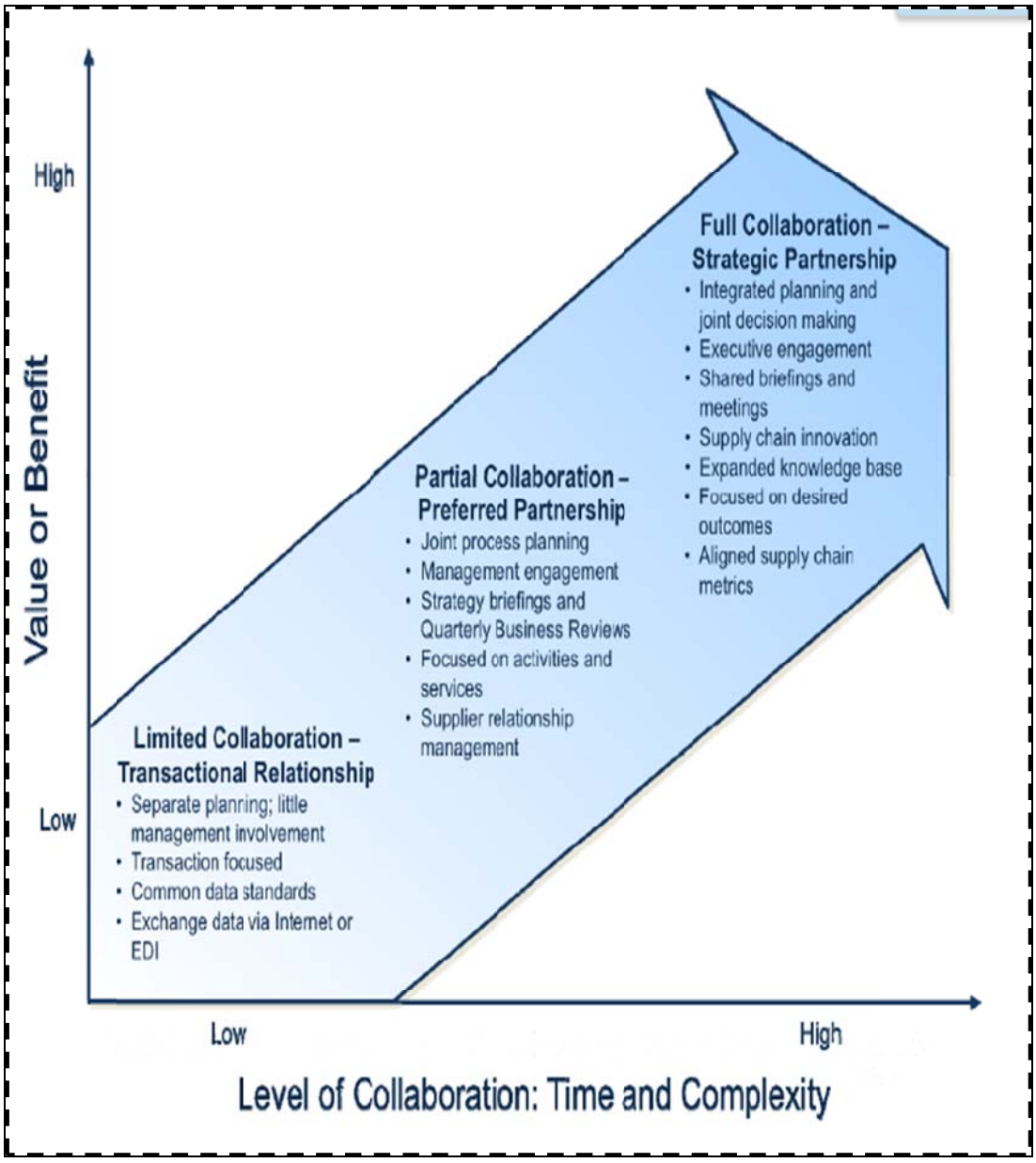


Figure 3.7*:* Collaboration Relationship and Strategic Fit

Source: Adapted from Shepard (2012:16)

Thus, in alliance relationships, Supply chain stages will not engage in activities that will hurt each other, even during bad times, because transparent communication, integrity and sustainable supply chain, in

managing TCO in line with the best practice principles. Supply chain stages will thus help each other during times of need. Consequently, organisations that recognise this will be better placed to meet future requirements, by building sustainable, profitable enterprises in a competitive, globalised environment.

3.4.4 Delivered in-full on-time and accurately invoiced

Apart from the planning, sourcing, make-buy decisions and supply chain relationship management analysed earlier on, “ensuring product-excellence is not enough; excellent product needs to be accompanied with excellent service, according to Shepard (2012:1-2). It is imperative that customers receive ordered quantity of the product, as per scheduled delivery time, accurately invoiced (DIFOTAI). In other words, where the product is not available or delivery is late and the invoice needs to be corrected, then customers could be eager to choose another supplier, should these problems continuously resurface. Therefore, SCICS excellence is essentially instrumental in obtaining and protecting competitive advantage in a turbulent market environment. Handfield *et al.* (2011:350) argue that, without an effective supplier measurement system to evaluate performances, the extent to which suppliers are meeting their contractual obligations will not be known.

The service levels ought not to be just an expression that serves to show good-will of the supplier. Measurement must be transparent with enough relevant data that can provide clear tracking of service level. DIFOTAI refers to delivered service to the customer based on the order placed, where;

- IF denotes in full - quantity fill rate (percent of delivered vs. requested)
- OT implies on time - percent of orders (shipments) delivered on time
- AI refers to accurately invoiced - percent of correct invoices

A thorough analytic and relevant tracking of the DIFOTAI variables, and the other performance standards discussed, can reveal the gaps and highlight potential solutions for the achievement of a sustainable supply chain.

DIFOTAI can be used to complement the measurement of total fulfillment. Therefore, the essence of DIFOTAI on SCICS is that it can be used to reveal the effectiveness of proper execution of decisions or processes, within and across Supply chain stages. It is imperative that supply efforts are integrated, since errors created internally can cause chain reactions amongst the base supply chain stage. The impact on the market is obvious; a high rate DIFOTAI will provide good supply of sales outlets, uninterrupted sales, customer satisfaction and will build the image of the organisation to achieve customer satisfaction and sustainable competitive advantage.

3.5 CHAPTER SUMMARY

It can be concluded that SCICS has an overwhelming impact on the firm's sustainable competitive advantage and TCO affecting the sales and costs that drive the bottom line (Burt *et al.*, 2012:3). The goal of SCICS is incomplete without determining the required performance standards to implement, monitor and evaluate demand and supply deviations, which will serve as the criteria for evaluating the level of integration. Two broad categories have been evaluated, consisting of the supply chain dimensions of demand planning, sourcing, make or buy decisions, storage; and the supply chain relationship management.

The next chapter will focus on the research design within which the study is conducted. It will critically examine procedures of inquiry, methods of data collection, analysis and interpretation. Sampling, interview methods, data collection and analysis techniques will be evaluated.

CHAPTER 4

RESEARCH DESIGN

4.1 INTRODUCTION

The previous chapter established that SCICS has an overwhelming impact on the firm's sustainable competitive advantage and TCO affecting the sales and costs that drive the bottom line. Determining the required performance standards to implement, monitor and evaluate demand and supply deviations is an essential criterion for evaluating the level of integration. To achieve this objective, two broad categories have been evaluated, consisting of the SC dimensions and the supply chain relationship management.

This chapter will focus on the research design within which the study is conducted. It will critically examine methods of data collection, procedures of inquiry, analysis and interpretation. Sampling, interview methods, data collection and analysis techniques will be evaluated.

4.2 RESEARCH DESIGN

There are three major research paradigms of philosophical position that state what works is what is important or "valid", in the social and behavioural sciences (Johnson, Onwuegbuzie and Turner 2007:112; Borrego, *et al*. 2009:53). The three major research paradigms are quantitative, qualitative and mixed.

The quantitative paradigm is applied. This method is preferred because it reduces measurements into numbers, enables the researcher to collect objective, quantitative data based on precise measurements and validated data collection instruments, identify statistical relationships, tests hypothesis and theory with data as well as compile statistical reports. This viewpoint is supported by the studies of Borrego, *et al.* (2009:54) that finds a quantitative

study enables the researcher to project the findings onto the larger population. Thus, data collected through surveys administered to a sample (subset of the entire population), such as the FMCG industry, can be generalised.

The paradigm is in the form of an exploratory case study. It is considered to be a case study because of the nature and scope of the study, which is confined to selected FMCGs in KZN, South Africa.

Consequently, both the ontology; the branch of philosophy dealing with the nature of reality and truth and epistemology; the branch of philosophy dealing with the knowledge and its justification, are applied (Borrego *et al.* 2009:53). The application of these sciences systematically puts under the microscope a purposeful investigation to explain and find answers for what is perceived in the field of SCM, with a view to instituting appropriate solutions to resolve SCICS challenges and create new knowledge that is generally applicable to Supply chain stages.

4.3 DATA COLLECTION PROCEDURES

Two approaches are used, that is both the primary and secondary, to gather information, in an attempt to find answers to the research problem (Kumar 2011:139).

4.3.1 Primary data

Primary data refers to the data collected by the researcher through observation, and personal or questionnaire interviewing of respondents. Weijun (2008:16) asserts that primary data has many advantages, among these is that it is original and relevant to the topic of the research study, allows the researcher to conduct the survey across the population and this gives each member an equal opportunity to participate in the research. Data is collected form a large population and a wide geographical coverage. Moreover, primary data is current and it gives a better realistic view to the

researcher of the topic under consideration. Primary data is very reliable because the data is collected by the concerned party.

To collect primary data, a questionnaire was developed and distributed personally by the investigator, with the help of field workers, to a random sample of systematically selected companies, from the Durban Chamber of Commerce and Industry (DCCI) database. To gain insight into the research problem, secondary sources of data were used to complement the primary data.

4.3.2 Secondary data

Secondary data refers to the use of relevant, second hand, "current" information, already available in the public domain, such as government departments, organisation records, books, and journals and published research (Kumar 2009:52).

Secondary data is preferred because it is cheaper and faster to access, provides access to the work of the best scholars all over the world. It helps to reinforce the research arguments and provides direction to follow in order to conduct a credible ontological and epistemological study. Secondary data saves time, effort and money and adds value to study. Secondary data enables the researcher to answer his research variables, in order to meet the objectives of the study. Both primary and secondary sources of data are applied.

4.3.3 Questionnaire design

To achieve a balance between the required precision and the available resources, the draft questionnaire was designed, based on the aim and sub-objectives of the study.

The questionnaire was pilot tested through structured, personal and telephonic interactions to ten purposely selected companies in the FMCG

industry for reviewing, completeness, evaluation and comments. These companies do not belong to the Durban Chamber of Commerce and Industry (DCCI) database and did not form part of the main sample. Face-to-face interviews and telephone calls were made to elicit information and opinions from the pilot test group. Their responses are not included in the main research. However, their main area of dissention was the length of variables, which were considered to be too long and some variables were not properly worded to collect reliable data. The instrument was appropriately modified by incorporating inputs from the pilot study, Language Editor and the Statistician.

4.3.4 Recruitment of research respondents

The Durban University of Technology's requires that ethical issues be identified and addressed in the most appropriate manner before finalising and submitting a research proposal as well as commencement of any field work.

The DCCI Chairperson and his Deputy gave permission to interview their stage for the purpose of conducting the study. The questionnaire was sent to them to assess the instrument's suitability and compatibility with their shared values and their responses were positive. Prior consent was obtained from the interviewees and their DCCI Chair representative to ascertaining risks or discomforts to the respondent, prior to conducting the research.

A pre-consent letter was accepted by the DCCI's chairperson on behalf of the membership, who gave permission to conduct research with companies on the DCCI's database, towards this study. Permission was granted and it was also agreed that the thesis would be published on the DCCI website, in compliance with the institution's regulations. A similar letter was attached to the questionnaire for consent before responding to the questions.

4.3.5 Sampling Method

Sampling provides a means of gaining information about the population without the need of examining the entire population (Langham 2010:15 and Wegner 2007:54). Two types of sampling applicable to this study are probability and non-probability sampling methods. Systematic sampling was used.

The procedure for systematic sampling was conducted as follows; only the first unit was selected at random, while the rest were selected according to a predetermined pattern (Langham 2010:12, and Ahmed 2009:42).

A sample of 350 units was chosen, with a target population of 2 100 companies who are members of the DCCI database. The database is made up of companies manly in Ladysmith, Pietermaritzburg, Stanger and Durban. Studies indicate that a minimum sample size, larger than 30 and less than 500, is appropriate to achieve a 0.95 confidence level (Sekaran and Bougie 2010:296).

Systematic sampling was preferred because it provided a better random distribution than simple random sampling. It ensured that every member of the population had an equal chance of selection (Bhattacharyya 2009:86).

This method suffers from periodicity - cyclic variation and linear trend (Hopkins 2009:47). The following measures were put in place to remedy the negative impact of these shortcomings (Langham 2010:12). The end of the list was connected to the beginning of the list, making the list circular of a complete loop.

4.3.6 Interview method

Ten research assistants (field workers) were used. They were offered some public relations, communication, work based training before commencing the data collection exercise. Each field worker was assigned 35 pre-coded

measurement instruments, from which they were going to solicit answers from respondents. Appointments were scheduled and itineraries for data collection and capture were drawn. Each one had to maintain his or her own register of the companies he/she was scheduled to visit. Field workers were interviewing the respondents using the instrument provided, completed it and then submit the competed instrument for data capturing. The process took three months to complete. Some of the challenges encountered in this exercise were, the postponement of appointment and inappropriate responses on incomplete questionnaires, due to the busy schedules of senior managers, but overall the response was acceptable.

4.4 EVALUATION OF RESEARCH INSTRUMENT

This section examines the measurement instrument, in light of the overall objective of the study, which seeks to establish and analyse strategies that are being implemented; challenges that impact the implementation of SCICS and the resource capabilities for achieving sustainable competitive advantage, as well as to determine performance measures for SCICS.

In an attempt to support the aims of the study and facilitate data collection, key variables were formulated. These are derived from the literature and the objectives of the study.

The instrument is divided into four sub categories, namely:

Section A: B*ackground information aimed at ascertaining the profiling of respondents;*

Section B: *Focuses on strategies that companies are implementing and the challenges that impact the design, and implementation for SCICS;*

Section C: *Centres on the impact of the resource capability for implementing SCICS using a framework;*

Section D: *Concentrates on the impact of both SCICS and performance measures for achieving and strategic fit for selected.*

Related variables in each sub-category are evaluated in their respective domains.

SECTION A: BACKGROUND INFORMATION

4.4.1 Core business function

What is your core business function in the Fast Moving Consumer Goods (FMCG) of KZN, South Africa? (Select ONE option only) (Q1)

Six forms of business were provided, for respondents to identify an option, which reflects the main economic activity of the organisation in the SC. These include consumers (retail outlets), wholesaler, distributor/transporters, manufacturers, and producers, such as farmer. Supply chain stages are involved in the upstream towards the market and downstream towards the suppliers of raw materials (Lambert, 2008:6, and Burt, *et al.* 2012:10).

This information was valuable for the purpose of ascertaining the type of core business function popular in the FMCG industry. It also assists in establishing whether the respondent belonged to the correct and relevant respondent group. It is anticipated that respondents will affirm their core business functions, which provides the opportunity for channel stage to enjoy shared benefits across supply chain stages. It is expected that a large number of FMCG firms, particularly in the retail and manufacturing sectors, will constitute a big percentage of respondents.

4.4.2 Position held in the organisation

Indicate your position in the organisation (Q2)

The purpose of this variable was to establish the designated position of respondents within the organisation. Options provided were Chief Executive Officer; Director; Manager; Operational staff. Designations are the

determining factors to both the shareholders and the outside world that the incumbent's description is to stand as figureheads on behalf of employers in all matters (Grobler, *et al.* 2011). Data collected from this variable would provide a much needed confirmatory impetus for the study (Winter 2000:7). The data obtained will be used for statistical analysis in cross tabulation with other variables.

Respondents would state the position they occupy within the organisation. A large number of responses are likely to come from middle to senior positions, with a few responses coming from the executives, in light of busy daily schedules.

4.4.3 Gender

Indicate your gender (Q3)

The objective was to establish the proportion of gender representation across the supply chain stages. This variable captures the gender of respondents in relation to the position they hold in the company, as a result of their qualifications or level of literacy. Cross tabulations will be performed to establish whether there is a relationship between the gender and position in the organisation; as well as between gender and qualification of respondents.

Gender information will be used to assess the pre-dominant gender representative group in the FMCG sector, with a large proportion of respondents expected to be males, given the historical background where the boy child was a privileged member in the black African communities (Department of Statistics South Africa 2011).

4.4.4 Highest qualification

Kindly indicate your highest qualification relevant to your position in the organisation (Q4)

This variable was aimed at establishing the level of educational achievements of respondents. Qualifications identified include, National Senior (Equivalent) Certificate; Diploma; First Degree; Honours, Masters; or Doctorate degree.

The essence of this variable was to ascertain the level of education for every respondent, as specified in a job description and to establish if there was any relationship between qualification and designation (Grobler *et al.* 2011:117). It was expected that a large number of respondents answering the questionnaire would be dominated by diploma or degree holders, with a lesser percentage being holders of higher than degrees.

4.4.5 Staff development programmes

Indicate the number of staff development programmes / programmes you have attended in the last 12 months that were aimed at improving business competitive advantage. (Select only ONE option) (Q5)

This was meant to establish the frequency of management's deliberate and conscious efforts, put in place to create corporate strategy awareness on its human capital, over the past 12 months, so employees could move towards a common objective. They were to select only one option from the following options, none; one; two; three or more.

Staff development programmes are not only an essential feature in the modern business, but also associated with the philosophy of continuous professional development. At such forums, industry experts are invited or selected staff from a company is sent out to sharpen their skills on a particular subject matter and create networks, critical to the competitiveness of the organisation and its key stakeholders. It is expected that most respondents will affirm that they attended many training programmes over the past 12 months, in view of the fast changing nature of the industry.

SECTION B: STRATEGIES IMPLEMENTED BY SELECTED COMPANIES

4.4.6 Competitive strategy (Q6)

Indicate which ONE of the following types of business strategy most closely describes the strategy that your organisation is implementing. (Select only ONE option) (Q6)

The purpose of this variable was to establish the corporate strategy that Supply chain stages are implementing. Respondents were to select only one from the following ten options namely, low-cost provider; broad differentiation; best cost provider; focused differentiation; defender; prospector; analyser; reactor; Resource-based or the "value" disciplines.

This variable was intended to give participating supply chain companies in the FMCG sector in KZN the opportunity to indicate the competitive corporate strategy each organisation has crafted, as manifested in its vision-mission statements and implemented through its strategic objectives, tactics, procedures and processes, in order to satisfy the customer segment the organisation is servicing. Respondents had to identify one principal strategy that is representative of the organisation's shared values, from the options provided, being executed by their organisation.

It was expected that a large number of respondents, particularly producers, retail outlets and wholesale firms would select low cost, or focused, with supplier and manufacturers taking pole position in the differentiation, resource based and value disciplines strategies. FMCGs adopt such strategies for the simple reason that they deal with frequently purchased essential and non-essential goods, such as food, toiletries, soft drinks, disposable diapers, merchandise or other items of common or daily use, ordinarily bought by individuals or households, for private consumption.

4.4.7 Supply chain integration with corporate strategy (SCICS)

Indicate the extent to which supply chain strategy is integrated with the organisation strategy. (Select only ONE option) (Q7)

The purpose of this variable was to synthesise the challenges that impact on the design and implementation for SCICS. Respondents were required to select only one ordinal option from a Likert scale of not integrated at all; partially integrated; completely integrated or not sure of the level of integration in the organisation.

4.4.8 The impact of SCICS

Indicate the type of impact that you believe the supply chain integration have on the following areas: (Q8)

This variable evaluated the different critical performance areas that are affected by SCICS, which limits or enables the achievement of sustainable competitiveness and strategic fit. Ten areas where identified for respondents to evaluate the impact of each area on 5-point rating scale, ranging from 1 (large negative impact) to 5 (large positive impact). The focus areas include growth, sales, revenue, profitability through aggregate planning, competitive advantage, cost reduction, customer satisfaction, as well as value creation to shareholders, value addition to customers and continuous-sustainable improvement.

It was anticipated that a large number of respondents will agree that the identified areas have a large, positive impact on integration. This finding will reinforce the argument and the need to move towards a common purpose, where the corporate strategy and SCI both have common goals, consequently ensuring that the firm enjoys continuous, sustainable competitiveness.

4.4.9 Challenges impacting on SCICS. (Q9)

Indicate the impact that the following perceived challenges at your workplace have on effective SCICS (Q9).

This variable was aimed at establishing and evaluating the difficulties encountered by firms in their endeavours to implement SCICS. Sixteen focus areas are identified. For each problematic area, respondents were required to indicate their rating on a 5-point scale, ranging from 1 (no impact) to 5 (very large impact).

Generally, a large number of respondents are expected to give a high score to moderate, large impact or very large impact, to each one of the 16 areas, in concurrence with many authors.

SECTION C: MCKINSEY'S 7-S RESOURCES CAPABILITY

4.4.10 Impact of Supply chain stages' resource capabilities

There is a broad agreement on how resources can build capabilities that lead to competencies, which are difficult for competitors to copy (Jooste and Fourie, 2009 and Peters 2011). They state that McKinsey's 7-S model can be used to help improve performance of an organisation, integrate departments with processes and determine how best to implement strategy.

Using the specified rating scales from 1 to 7, rate the impact that the following items have in your organisation, in achieving strategic fit between supply and demand (Q10)

The objective of this variable was to evaluate the impact of the resource capabilities for selected companies and the level of their preparedness to implement SCICS. Respondents were required to indicate on a 7-point Likert scale, ranging from 1 (large negative impact/impact) to 7 (large positive impact/impact). These were meant to serve as yardsticks to evaluate the

firms' readiness to implement SCICS, on the basis of McKinsey's 7-S model, using confirmatory factors to uncover the current situation of the FMCG organisations and help to determine and recommend necessary changes prior to SCICS implementation.

It was expected that most informants will answer favourably, because McKinsey's 7-S framework, in concurrence with literature reviewed, states that it is an indicative implementation model that combines rational and "hard" (strategy, structures, systems and shared values) elements with "soft" (staff, skills and style) emotional elements, which are interconnected and interrelated. In other words, a high score (large positive impact) is expected across all the 7 dimensions, from a large number of respondents.

SECTION D: PERFORMANCE MEASURES FOR SCICS

4.4.11 Dimensions of performance measures (Q11)

Indicate how important you perceive the following dimensions of performance measures to be for the integration of supply chain with business strategy (Q11)

This variable was to determine performance measures essential for SCICS implementation. Thirty measurement areas were identified. These were grouped into four focus areas/dimensions, comprised of order planning of goods and or services (products); planning and valuation of supply information link at strategic level; measures at production level relating to make-buy decisions, as well as storage and delivery relationship management skills. Respondents were to indicate their ratings accordingly. They were required to indicate their rating on a 5-point ordinal scale, ranging from 1 (extremely important) to 5 (not at all important) attributes they perceive essential to the achieving and successful implementation of SCICS.

A large number of respondents are likely score high – selecting option 1, indicating that the identified measurement criteria is extremely important in all the four focus areas to the SCICS, to realise a strategic fit between demand and supply.

4.5 DATA COLLECTION AND ANALYSIS TECHNIQUES

The analysis is broken into sections, which are exploratory and inferential. Exploratory, statistical and inferential (z) test statistic, factor analysis and Cronbach's test will be undertaken, using SPSS or Excel. Data processing involves a number of closely related operations to be performed, with the purpose of summarising data collected and organising it in a manner that will answer the research variables and objectives (Welman *et al.* 2011:211-213). Statistical analysis to be used in this study includes descriptive statistics, such as means and standard deviations. Frequencies will be represented in tables or graphs. Chi-square goodness-of-fit-test (a univariate test, used on a categorical variable to test whether any of the response options were selected significantly more or less often that the others), is used.

4.5.1 Validity

Coolican (as cited in Welman, *et al.* 2011:142) defines validity as the extent to which the research findings accurately represent what is really happening in the situation. Brown and Suter (2010: 257) concur that validity refers to the correctness of the measurement instrument. To ensure validity, a peer review and justification of the research questionnaire was undertaken as a pilot study. Therefore, both the pilot study and peer review assisted the researcher to adjust ambiguously formulated variables. This allowed an opportunity to identify variables that could cause discomfort or embarrassment in the wording of the instrument.

4.5.2 Reliability

According to Toke, *et al.* (2012:374) reliability is defined as the extent to which the measurement procedure produces the same results on repeated

trials. To achieve reliability, identically coded questionnaire was administered through personal interviews, with the research respondents. The results were tallied according to pre-determined codes, to ensure the stability or consistency of scores across ratings (Carmines and Zeller 1979).

To determine reliability, Raimond (as cited in Welman, *et al.* 2011:145), advises that a key variable to be established, is: Does the instrument consistently give the same results, with the same group of people, under the same condition, in respect of accuracy, dependability, consistency, credibility and stability? To prevent any inconsistency, all variables were pre-coded. Furthermore, identical variables were used for all respondents. A pilot test was also conducted to establish the reliability of the instrument.

Cronbach's alpha is preferred because it is a reliability coefficient that indicates how well the items in a set are positively correlated to one another (Sekaran and Bougie, 2010: 324).

4.6 CHAPTER SUMMARY

The purpose of this chapter was to provide the conceptual framework within which the study was conducted. In this study the quantitative paradigm was applied. Both primary and secondary data collection procedures were used to gather information, in an attempt to find answers to the research problem. The questionnaire was designed based on the primary and sub-objectives of the study. The measuring instrument was administered, with the assistance of field workers, to a sample 350 respondents, who were systematically selected from the DCCI database. Interview methods were also analysed. In conclusion, the research objectives, the questionnaire, data collection and analysis techniques, as well as the validity and reliability of the instrument were reflected on. Chapter five will focus on the presentation of research findings using descriptive statistical measurement of central tendency. Results will be presented in tables, graphs and pie charts.

CHAPTER 5

PRESENTATION OF RESEARCH FINDINGS

5.1 INTRODUCTION

The previous chapter provided the conceptual framework within which the study was conducted. The research objectives and the measurement instrument were also evaluated.

Four sections (A, B, C, and D) are set aside for presentation of the research findings. These are presented using descriptive statistics (Borrego, *et al.* 2009). Descriptive statistics provide the opportunity to transform raw data in a way that describes the basic characteristics, such as central tendency, distribution and variability (Wagner 2007; and Bluman, 2009). Results are presented in the form of summary tables, pie charts and graphs.

Background information regarding the core functions, job titles, gender, highest qualification, and staff development is presented. Corporate strategies that are being implemented, challenges impacting on the design and implementation of SCICS, as well as the evaluation of resource capabilities and performance measured for SCICS will be presented. Statistical analytical techniques, such as Chi square, Wilcoxon Signed Ranks test, Cronbach's alpha (factor analysis) and cross tabulations, will be undertaken in Chapter 6.

5.2 SECTION A: BACKGROUND (Q1, Q2, 3, Q4, 5).

This section aims to collect background information to ascertain the profiling of respondents. A total of 350 members of the DCCI participated in the study, of which two thirds (68.6 percent) submitted fully completed questionnaires (Sekaran and Bougie 2010:296). A balance of about one-third (31.4 percent) were either partially completed or not answered properly. For instance, where

the respondent was required to choose only one option, some respondents selected two options; therefore, results from such questionnaires were discarded.

5.2.1 Core function (Q1)

This variable aimed to establish the main economic activity for selected companies in the FMCG sector in KZN. It was found that more than a third (33.3 percent) of the respondents were manufacturers, whilst wholesalers and producer organisations constituted less than a quarter (15.4 percent and (15.8 percent) of the respondents, respectively (Table 5.1; Figure 5.1). Consumers constituted one fifth (20 percent). Therefore 240 respondents participated in this study.

Table 5.1: Distribution of core functions

Core Function	Frequency	Percent
Distributor/Supplier	35	14.6
Producer	37	15.4
Wholesaler	38	15.8
Consumers	50	20.8
Manufacturer	80	33.3
Total	**240**	**100.0**

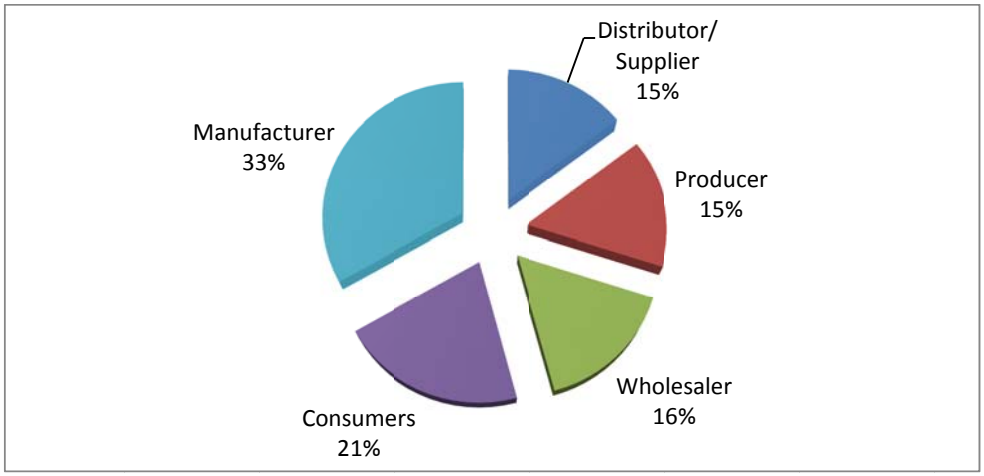


Figure 5.1: Distribution of core functions

5.2.2 Position held in the organisation (Q2)

Results indicated that nearly half (47.9 percent) of the respondents were managers and about one in every 20 (five percent) were Chief Executive Officers (Table 5.2; Figure 5.2).

Table 5.2: Distribution of designations

Position	Frequency	Percent
Other	6	2.5
CEO	12	5
Operational staff	32	13.3
Director	75	31.3
Manager	115	47.9
Total	**240**	**100.0**

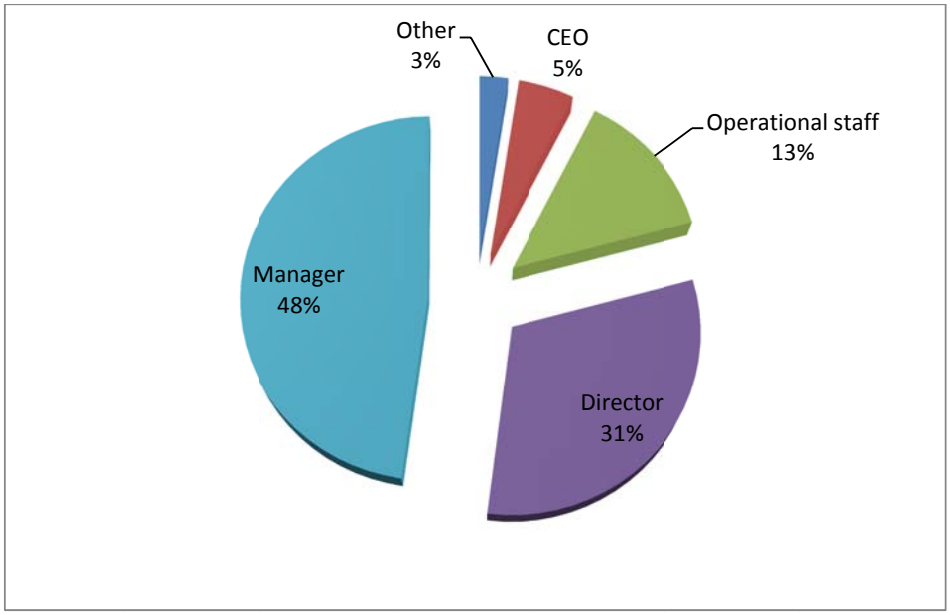


Figure 5.2: Distribution of designations

5.2.3 Gender of respondents (Q3)

The principle behind this question was to capture the gender distribution of respondents in the FMCG sector in KZN, South Africa. Results shows that

about two-thirds (65.8 percent) of respondents are males, with females constituting about a third (34 percent) (Table 5.3).

The gender variable shall be cross-tabulated with the qualification variable, and position held in the company variable, to determine if any relationship exists between these variables.

Table 5.3: Distribution gender

Gender	Frequency	Percent
Female	82	34.2
Male	158	65.8
Total	**240**	**100.0**

5.2.4 Highest qualification (Q4)

According to Grobler *et al.* (2012:117), "there is a relationship between educational achievements and position held in the organisation". It was found that, of the 240 respondents, more than a third (35 percent) has a first degree and more than a quarter (28.3 percent) a second degree (honours qualification). Respondents with national senior certificate numbered only a few (3.3 percent) (Table 5.4; Figure 5.4).

Table 5.4: Distribution of qualification

Options	Frequency	Percent
NSC/Matric	8	3.3
Masters	18	7.5
Diploma	62	25.8
Honours	68	28.3
Degree	84	35.0
Total	**240**	**100.0**

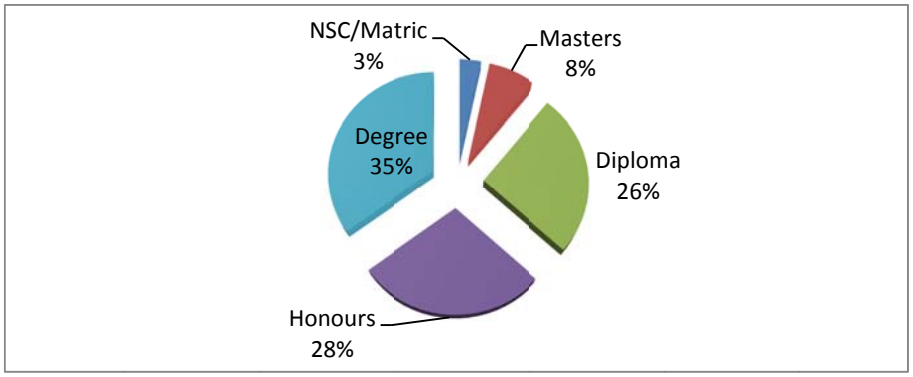


Figure 5.4: Distribution of qualification

5.2.5 Staff development programmes (Q5)

Staff development programmes are the most common way executives use to motivate and inform employees about organisational strategy, shared values and build relationships with its human and social capital (Shepard 2012:3).

The purpose of this variable was to establish the frequency of management's deliberate and conscious efforts, put in place to create corporate strategy awareness upon its human capital, in order to move together with its employees towards a common goal.

In respect of staff development programmes aimed at improving business competitiveness, it was found that about two-thirds (60.4 percent) had attended staff development programmes within the preceding 12 months. Whereas only one in every 30 (3.8 percent) said they had not attended any staff development programmes (Table 5.5; Figure 5.5).

Although, staff development programmes are a common feature in modern businesses, associated with the philosophy of continuous professional development, most employees had attended fewer than two such staff development programmes.

Table 5.5: Distribution of staff development programmes

Options	Frequency	Percent
None	9	3.8
One	28	11.7
Three or more	58	24.2
Two	145	60.4
Total	**240**	**100.0**

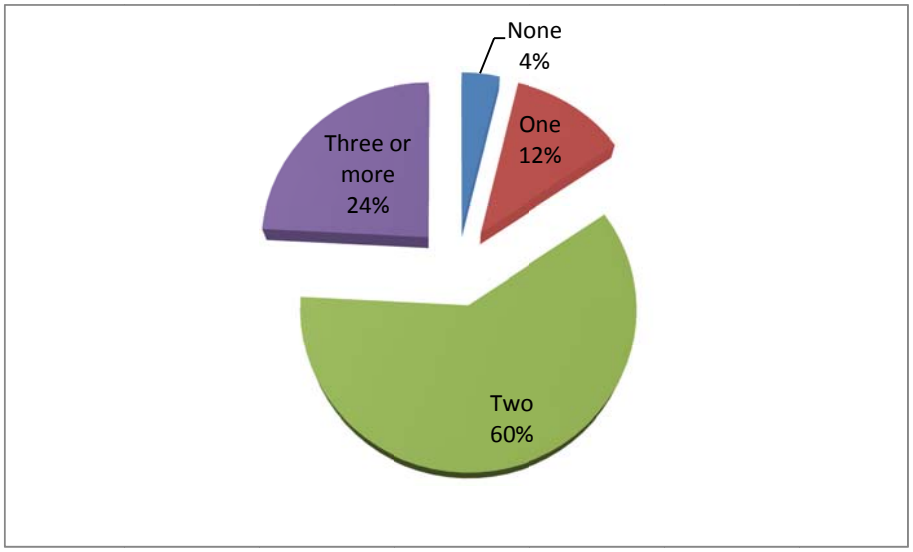


Figure 5.5: Distribution of staff development programmes

5.3 SECTION B: CORPORATE STRATEGIES (Q6)

The first objective of the study was to:

> *Establish and analyse competitive corporate strategies that are being implemented*

The findings at this point focus on strategies companies are implementing and the challenges that impact the design, and implementation for SCICS.

5.3.1 Corporate strategies (Q6)

It was meant to provide an opportunity for respondents to identify the corporate strategy each organisation is implementing through its strategic

objectives, tactics, procedures and processes, in order to satisfy the customer segment the organisation is servicing (Pitt and Koufopoulos 2012:364) (Table 5.6; Figure 5.6).

Results indicate that almost a quarter (24.46 percent) implemented broad or focused differentiation, whereas defenders, prospectors and analysers were the least preferred type of strategy, accounting for less than one percent.

Table 5.6: Distribution of corporate strategies

Strategy	Frequency	Percent
Defenders	1	0.4
Prospectors	1	0.4
Analysers	2	0.8
Resource-based	17	7.1
Best cost provider	27	11.3
Value disciplines	30	12.5
Low cost provider	44	18.3
Broad differentiation	59	24.6
Focused differentiation	59	24.6
Total	**240**	**100.0**

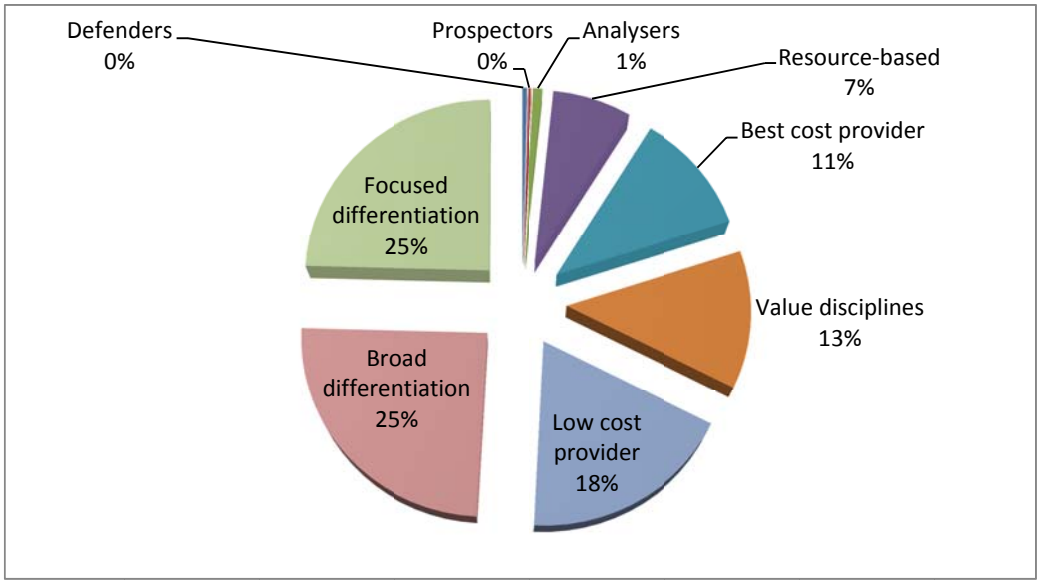


Figure 5.6 Distribution of corporate strategies

5.4 CHALLENGES IMPACTING ON THE DESIGN AND IMPLEMENTATION OF SCICS (Q7-10)

The second sub objective of the study was to:

Synthesise the challenges that impact on the design and implementation of SCICS

5.4.1 Extent of the design for SCICS implementation (Q7)

This variable was aimed at ascertaining the extent to which companies were designed to implement SCICS. Results showed that more than three-quarters (77.9 percent) of FMCG companies in KZN practiced a partially integrated approach, whereas a far less number (17 percent) were implementing a fully integrated approach (Table 5.7; Figure 5.7).

Table 5.7: Extent of design for SCICS implementation

Description	Frequency	Percent
Not sure	5	2.1
Not at all	7	2.9
Completely	41	17.1
Partially	187	77.9
Total	**240**	**100.0**

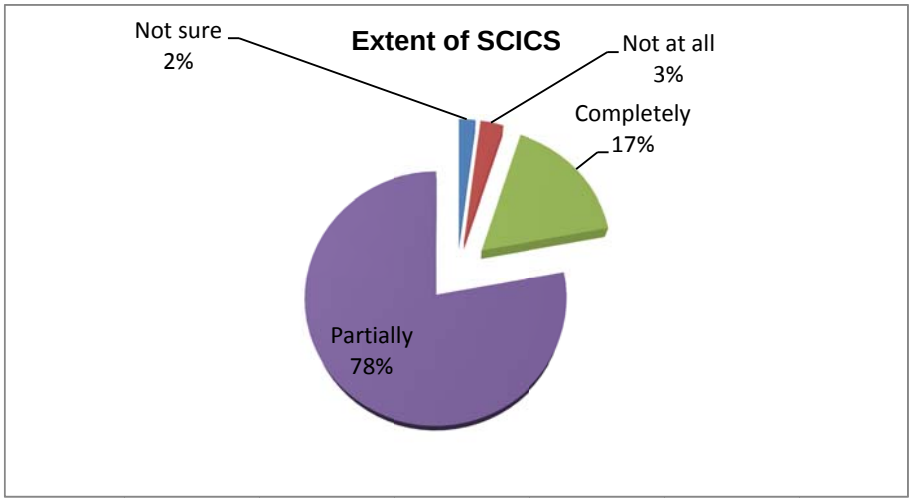


Figure 5.7: Extent of design for SCICS implementation

Supply chain stages in KZN fall short in their involvement through upstream and downstream linkages, missing out on vast opportunities, benefits and configured synergies of multiple business relationships, inherent in intra-organisation and inter-organisation integration (Misra *et al.* 2010:104; and Handfield *et al.* 2011:118).

5.4.2 Impact of achieving sustainable competitive advantage for SCICS and strategic fit (Q8)

The literature suggests that supply chain integration impacts the organisation's profitability, directly affecting the sales and costs that drive the bottom line (Burt *et al.* 2012:3) It is also believed that any reduction in sourcing costs and total capital invested in the organisation, significantly push sales upward, and increase the bottom line, whereas, very little income is generated by increasing sales with an equivalent percentage.

A variable was posed to obtain answers from ten business performance areas, where SC is perceived to have a critical impact/influence. For each of the focus areas, the average impact scores and the associated standard deviations were calculated and graphed, to determine the degree of impact. Results indicated that SCI have a significant positive impact in each case, on all the focus areas included in this variable (Table 5.8; Figure 5.8).

Table 5.8: Impact of SCI

Description option	N	Mean	Std. Deviation
Cost reduction	240	4.8	0.585
Value addition to customers	240	4.53	0.633
Continuous-sustainable improvement	240	4.48	0.633
Competitive advantage	240	4.72	0.635
Customer satisfaction	240	4.60	0.638
Value creation for shareholders	240	4.60	0.64
Profitability through aggregate planning	240	4.73	0.646
Revenue	240	4.72	0.667
Sales	240	4.55	0.736
Growth	240	4.48	0.76

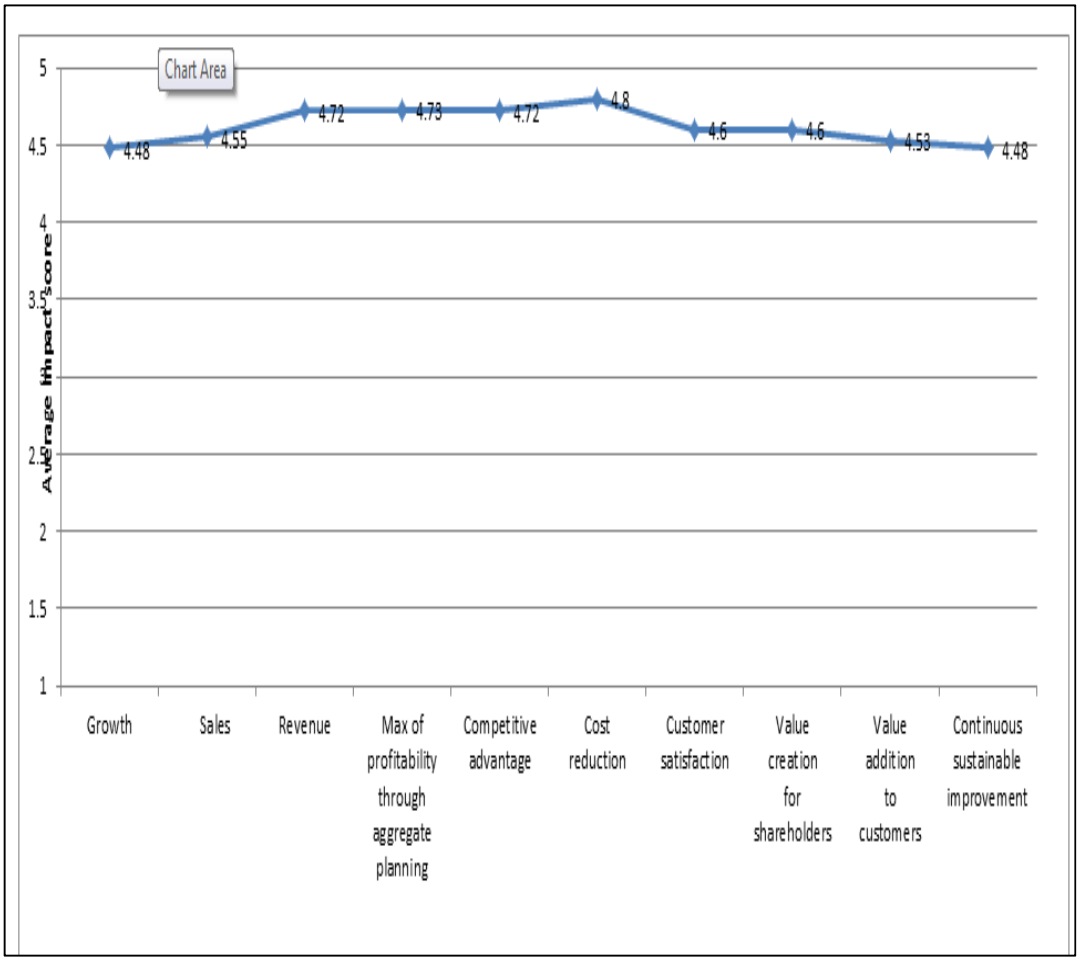


Figure 5.8: Impact of SCI

5.4.3 Challenges impacting design and implementation of SCICS (Q9)

Respondents were asked to establish and evaluate the difficulties encountered by FMCG firms in their endeavours to implement SCICS. Sixteen areas posing a threat to SCICS were identified. Respondents were required to indicate their rating on a 5-point scale, ranging from 1 (no impact) to 5 (very large impact). For each of the 16 challenges (focus areas), results indicated that all the 16 challenges were responded to as having a large to very large impact on SCICS (Figure 5.9).

Ineffective communication of the firms' strategy (Q9.1)

Results showed that ineffective communication of an organisation's strategy have a large impact on SCICS. More than half of respondents (55.4 percent) affirm that notion. Also, a third (33.8 percent) of respondents agrees that the same variable is perceived as having a very large impact in the implementation of SCICS. Only about one percent was of the opinion that ineffective communication of the firm's strategy has small or no impact on achieving sustainable competitive advantage for SCICS and strategic fit (Figure 5.9).

Non-integration of SCICS (Q9.2)

Findings of the study show that non-integration of supply chain with the organisational strategy, reveals that more than half (56 percent) of the total respondents, indicate that non-integration of supply chains with the organisation strategy, has a large impact. Less than one percent was of the view that non-integration has a small or no impact in the achievement of SCICS (Figure 5.9).

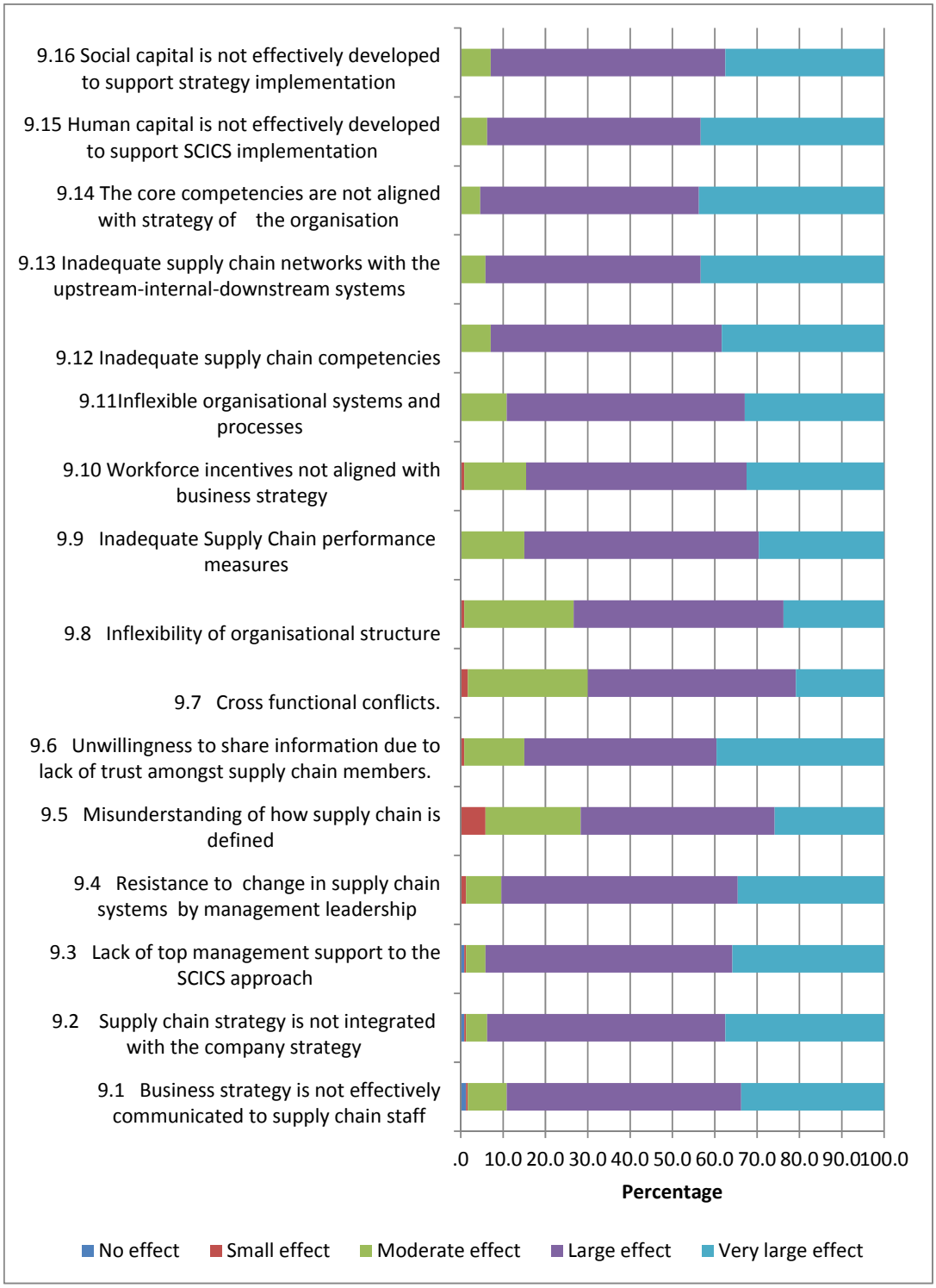


Figure 5.9: Impact/impact of challenges on SCICS

Lack of top management support to SCICS (Q9.3)

Findings of the study reveal that more than 58.3 percent of respondents perceive lack of top management support as having a large impact on the execution of SCICS, with more than a third (35.8 percent) saying that this challenge has a very large impact on the success of SCICS (Figure 5.9).

Resistance to change in supply chain systems by management leadership (Q9.4)

On the subject of resistance to change in SC systems by management leadership, results showed that about a two-thirds (55.8 percent) of respondents said that resistance to change by management leadership, has a large impact, whereas one in every 10 (8.3 percent) of respondents show that this variable has a moderate to small impact on SCICS implementation (Figure 5.9).

Misunderstanding of how supply chain should be defined (Q9.5)

Concerning misunderstanding of how supply chain should be defined. Nearly half of respondents (45.8%) of respondents affirm that a misunderstanding of how supply chain is defined, is perceived as having a large impact on the SCICS, while one in every five (5.8 percent) of respondents indicates that it has a small impact (Figure 5.9).

Unwillingness to share information (Q9.6)

Results indicate that the unwillingness to share information, due to a lack of trust amongst supply chain stages, has a large impact (45.4 percent), with less than one percent of respondents saying that this variable has a small impact on the success of strategic fit (Figure 5.9).

Cross functional conflicts (Q9.7)

Findings of the study reveal nearly half (49.2 percent) of respondents indicate that cross-functional conflicts have a large impact on the implementation of SCICS. A fifth (20 percent) shows that this variable has a very large effect on the success of SCICS; with just about one and a half (1.7 percent) of respondents showing that it has a small impact on SCICS implementation (Figure 5.9).

Inflexibility of organisational structure (Q9.8)

Results show that inflexibility of organisational structure has a large impact, with about half (49.6 percent) of respondents indicating this and a smaller number reveals that this variable has a small impact (Annexure 4a; Table 5.16).

Inadequate SC performance measures (Q9.9)

In respect of inadequate SC performance measures, more than half (55.4 percent) of respondents indicate that this challenge has a large impact on integration, whereas a smaller number (15 percent) indicated that inadequate supply chain performance measures have a moderate impact on the success of SCICS (Figure 5.9).

Workforce incentives not aligned with business strategy (Q9.10)

From a total of 240, more than half (52.1 percent) of respondents indicated that workforce incentives were not aligned with business strategy; this variable has a large impact on SCICS. Less than one percent indicated that workforce incentives had a small impact on supply chain integration (Figure 5.9).

Inflexible organisational systems and processes (Q9.11)

Results indicate that more than half (56.3 percent) said that this challenge has a large impact on SCI, whereas less (10.8 percent) of respondents were of the view that inflexible organisational systems and processes have a moderate impact on the design and implementation of SCICS (Figure 5.9).

Inadequate supply chain competencies (Q9.12)

In respect of inadequate supply chain competencies, more than half (54.6 percent) of respondents indicate inadequate supply chain competencies have a large impact on the implementation of SCICS, and far less of a percentage (7.1 percent) of respondents were of the opinion that the variable has a moderate impact (Figure 5.9).

Inadequate supply chain networks with the upstream-internal-downstream (Q9.13)

On the subject of inadequate supply chain networks with the upstream-internal-downstream, more than half (50.8 percent) of respondents and more than a third (43.3 percent) of respondents show that this challenge has a large impact and a very large impact, on the success of SCICS implementation (Figure 5.9).

The core competencies are not aligned with strategy of the organisation (Q9.14)

Results indicate that most firms' core competencies are not aligned with the strategy of the organisation. This accounted for more than half (51.7 percent), whereas a marginal number, of about one in every 20 (4.6 percent) of the respondents, indicates that this area had a moderate impact (Figure 5.9).

Human Capital is not effectively developed to support SCICS Implementation (Q9.15)

As regards to human capital (skills and experiences possessed by staff), findings of the study illustrate that half (50.4 percent) of the respondents perceive that human capital is not effectively developed to support SCICS implementation. A much lesser percentage (6.3 percent) of respondents indicates that it has a moderate impact on the design and implementation of SCICS (Figure 5.9).

Social capital is not effectively developed to support strategy implementation (Q9.16)

In respect of social capital (collaborative relationships across stages), more than half (55.4 percent) indicated that social capital was not effectively developed to support implementation of SCICS and more than a third (37.5 percent) affirmed that this variable has a very large impact, whereas a marginal percentage (7.1 percent) of respondents indicate collaborative relationships across stages have a moderate impact (Annexure 4a; Table 5.24).

5.5 SECTION C: EVALUATION OF RESOURCE CAPABILITIES FOR SCICS IMPLEMENTATION (Q10)

The third objective of the study was to:

> *Evaluate using a framework to establish the impact of the resource capabilities of supply chains to implement SCICS*

Variables were posed to evaluate the impact of the resource capabilities for selected companies in the FMCG sector in KwaZulu Natal, using McKinsey's 7-s framework. The variables provided a framework on which the construct of

SCICS effectiveness is based. Each of the seven dimensions (key drivers) of the 7-S framework had specific sub-variables. Respondents were required to indicate on a 7-point Likert scale, ranging from one (large negative impact/impact) to seven (large positive impact/impact). The dimensions were designed on the basis of McKinsey's 7-S model, to evaluate the firm's readiness to implement SCICS.

In each of the seven main variables, (strategy, structure, systems, skills, style, staff, and shared values) the individual mean impact scores and the associated standard deviations were calculated. Results indicate that overall, all the dimensions have a significant positive impact/influence on all the focus areas included in this variable.

Confirmatory factors will be used to examine and analyse the FMCG organisations and also help to determine and recommend necessary changes prior to SCICS implementation.

5.6 SECTION D: PERFORMANCE MEASURES (Q11)

The fourth objective of the study was to:

> *Determine performance measures for achieving sustainable competitive advantage for SCICS and strategic fit for selected FMCGs in KZN*

Successful supply chains use integrated measurement systems, as a vehicle to achieve their organisational goals (Kurien and Qureshi 2011:20). A comparative analysis of some widely cited performance measurement systems are undertaken. The objective was to determine performance measurement for achieving sustainable competitive advantage for SCICS and strategic fit, to understand current practices, identify gaps and suggest future research agendas.

Thirty measurement areas were identified. These were divided into four focus areas, comprised of order planning of material and or services; planning and valuation of supply information link at strategic level; make or buy decisions, as well as storage and delivery relationship management skills. Respondents were required to indicate their rating on a 5 point-ordinal scale, ranging from one (extremely important) to 5 (not at all important) as to how essential these attributes are perceived to the achievement and success of SCICS.

In each of the four main variables, findings of the study indicate that all the variables included are perceived to be important to the achievement and success of SCICS (Table 6.6 - 6.9; Figure 6.9 - 12). The results are presented in chapter 6, where test statistics are performed.

5.7 CHAPTER SUMMARY

In this chapter, descriptive results of the research findings were presented. They indicate that overall, all the dimensions have a significant positive impact/influence on all the focus areas included in this variable, affirming that the framework is a reliable tool to evaluate the organisation's resource capabilities for SCICS. With regards to the performance measures for SCICS, research findings indicated that overall, all the dimensions of the performance measures have a significant, positive impact/influence, in each case, on all the focus areas included in this variable. Wilcoxon Signed Ranks test; chi square and Cronbach's alpha will be used to undertake further statistical analysis in chapter 6.

CHAPTER 6

STATISTICAL PRESENTATION ANALYSIS AND INTEPRETATION OF RESEARCH FINDINGS

6.1 INTRODUCTION

In the previous chapter, presentation of research findings was undertaken, using descriptive statistics to determine the measurement of central tendency, distribution and variability. Findings were presented in summary tables, pie charts and graphs.

The deliberation of this chapter is on statistical presentations, analysis and interpretations of research findings, using Chi-square goodness-of-fit-test, which is applied to categorical variables. Wilcoxon Signed Ranks test is applied to Likert scale variables. Cronbach's alpha is applied to estimate the proportion of variance that has been systematic or consistent in a set of test scores.

These statistical presentations, analysis and interpretations are applied to background, competitive strategies that are being implemented, and the challenges that impact the design and implementation of SCICS. The impact of the resource capabilities for implementing SCICS is analysed. Cross-tabulation is used to determine if any significant relationship exists between variables. In conclusion, performance measures for integration, in order to achieve sustainable competitive advantage for SCICS and strategic fit, are analysed. The presentations, analysis and interpretations are carried out in light of respondents' results; relevant literature reviewed; and the associated objectives of the study.

6.2 BACKGROUND INFORMATION (Q1, Q2, Q3, Q4, Q5)

The analysis and interpretation of the respondents' results are undertaken in terms of core functions of FMCGs, position held in the organisation (designation), gender, highest qualification, as well as staff development programmes.

6.2.1 Core function (Q1)

Results of the study indicate that a third (33.3 percent) of respondents is manufacturers, whilst wholesalers, producers and distributors constituted less than a fifth (15.8; 15.4; 14.6 percent respectively) (Table 5.1; Figure 5.1).

It was also revealed that the core function of supply chain stages is concentrated in the upstream and the downstream, and is largely dominated by consumers (retail outlets) (20.8 percent) and manufacturers (33.3 percent). The respondents' main economic activities are skewed in the upstream towards the consumer markets and the value chain addition stages in the supply chain of the FMCGs (Lambert 2008:6, and Burt, *et al.* 2012:10).

These findings signify that the main economic activities (core functions) dominating the FMCG industry are consumerism and manufacturing. The other reason why consumer and manufacturer organisations are dominating in this industry could be that they are incentivised by the quick returns on investments inherent in the proximity to market, and value addition in the manufacturing of finished products (Burt, *et al.* 2012:10; and Pitt and Koufopoulos 2012:364). In addition, manufacturers, wholesalers and retail outlets use their own means of transport to convey raw material or finished products to the relevant locations, thereby reducing the number of independent distributors.

6.2.2 Position held in the company (Q2)

It was found that nearly half of the respondents occupy management positions (47.9 percent) and about one in every 20 (five percent) occupy Chief Executive Officers positions (Table 5.2; Figure 5.2).

The position held within the company (designation) is a determining factor to shareholders and the outside world that the incumbent is authorised to act as a company representative, on behalf of the employer in his or her capacity as a manager or any other specified designation (Grobler, *et al.* 2011:115). This is also maintained by Winter (2000:7) who states that answering variables of a strategic nature requires authority, experience and competence, inherent in the management hierarchy ranging from middle to senior managers.

6.2.3 Gender of respondents (Q3)

The distribution of gender of respondents in the FMCG sector in KZN, South is skewed, with two-thirds (65.8 percent) of respondents being males, while the proportion of females is a third (34 percent).

This is attributed to the fact that the proportion of women with tertiary education, who are employed, is almost 10 percentage points lower than that of men with the same level of education (Department of Statistics South Africa 2011).

It is established that there is gender disparity in the sector and measures should be put in place to address this disparity.

6.2.4 Highest qualification (Q4)

Findings of the study indicate that more than a third (35 percent) of respondents have degrees and more than a quarter (28.3 percent) has honours qualifications. Respondents with a national senior certificate were few (3.3 percent) (Table 5.4; Figure 5.4). These findings reveal that the educational qualifications of respondents in the FMCGs follow a normal

distribution pattern, dominated with first degree holders. This implies that the distribution of the qualification variable is symmetrical and bell-shaped (Bowling, *et al.* 2009: 122).

Other qualifications range from National Senior Certificate/Matric to Master's degree, lying on either side of the tail end. Findings of this variable are further analysed and interpreted with another variable under cross tabulations.

6.2.5 Staff development programmes (Q5)

Findings of the study indicate that almost two-thirds (60.4 percent) of the respondents have attended programmes within the preceding year. One fifth (24.2 percent) of the respondents have attended more than three staff development programmes. On the other hand, three percent said they have not attended these programmes (Table 5.5; Figure 5.5).

It is indicated that staff development programmes are commonly used to create awareness on employees, regarding the competitive corporate strategy, implementation of change in the organisation, its human and social capital (Shepard 2012:3). However, it is held that supply chain companies fall short, signifying that there are not enough programmes aimed at improving competitiveness, in terms of designing and created integrated networks critical for achieving strategic fit (Shapiro 2007:7). In essence, two staff development programmes are not adequate in view of the complexities of the social, ecological and competitive pressures (Done 2011:11; Cordon, *et al.* 2012:4). It is also viewed that businesses are required to conduct their businesses ethically in terms of fair compensation; ecologically in terms of performing their functions taking the future generation into account and at the same time generating profits for their shareholders.

It is commonly felt that staff development programmes conducted were not adequate to create awareness on how to improve business performance and enhance competitive advantage and profitability, and should be addressed.

6.3 COMPETITIVE CORPORATE STRATEGY (Q6)

The first objective of the study was to:

> *Establish and analyse competitive corporate strategies that are being implemented.*

Out of the 10 competitive corporate strategies that are being implemented in the FMCGs of KZN, about a quarter (24.6 percent) of the respondents implements either broad or focused differentiation corporate strategies, followed by low cost providers (18.3 percent). The defenders, prospectors and analysers are the least preferred type of corporate strategy that is being implemented, with a combined number of fewer (1.6 percent) respondents (Table 5.6; Figure 5.6).

There are a range of competitive corporate strategies chosen/formulated by supply chain organisations, being implemented through their strategic vision, mission, objectives, and processes, in order to satisfy the customer segment the organisation is servicing (Pitt and Koufopoulos 2012:364).

It is established that implementing of a well-formulated focused or broad differentiation strategy, which is preferred by about a quarter (24.6 percent) of respondents. More than a third (40.9 percent) of respondents implements either cost provider (29.6 percent) or value discipline (11.1 percent) strategies. These types of strategic options ensure that the firm can utilise its resources economically and achieve the desired level of competitive advantage and profitability (O'Sullivan 2012:2; and Pitt and Koufopoulos 2012:364). It is also held that the design and implementation of such strategic options are essential to harness the goal of integration, by increasing quality through value addition inherent in differentiation and supply chain cost savings, while maintaining the same quality (Sisco, *et al.*2010:5).

On the contrary, the balance, about two in every 100 (1.6 percent) of respondents implement strategies, ranging from defenders to analysers retraining the philosophy of supply-value chain, to interlink sustainable competitive advantage for SCICS.

It is imperative that strategic options being implemented are conducive for SCICS implementation, to ensure that customer needs are satisfied and a paradigm shift should be seriously considered in the analysers, prospectors and defenders.

6.4 CHALLENGES IMPACTING ON THE DESIGN AND IMPLEMENTATION OF SCICS (Q7-9)

The second objective of the study was to:

Synthesise the challenges that impact the design and implementation of SCICS

This subsection focuses on the statistical analysis, and interpretation of results on the extent of the design, impact and challenges of achieving sustainable competitive advantage for SCICS implementation and strategic fit.

6.4.1 Extent and design for SCICS implementation (Q7)

Descriptive statistics indicate that more than three-quarters of respondents are partially integrated, whereas less than one fifth are fully integrated (Table 5.7; Figure 5.7).

Results from a chi-square goodness of fit test show that a substantial majority of respondents indicates that supply chain companies are partially integrated with the corporate strategy ($p<.0005$) (Table 6.3a; 6.3b). It was also found that supply chain stages in KZN have a long way to go if they are to achieve sustainable competitive advantage because more than three

quarters (78 percent) are partially integrated and less than one fifth (17 percent) are completely integrated.

This signifies (SCICS) that the realisation of ensuring that all parts of an organisation work in harmony and move together as one, is still an overwhelming task across supply chain stages (Burt, *et al.* 2012:11). It is also held that this is attributed to, among others, a lack of trust and synergies for achieving strategic fit. Many organisations are still pursuing their objectives independently and traditional practices of perceiving each other as rivals are still persisting.

It is held that this kind of behaviour has outlived its age and has no place in the modern business environment (Chopra and Meindl 2010:22). It should be replaced with end-to-end relationships, built on the foundation of integration, where businesses regard each other as a network channel of partners, interlinked with the flow of materials, information and knowledge transfer.

6.4.2 Impact of supply chain integration (Q8)

In essence, this finding synthesised ten different areas of business performance, affected supply chain integration and where supply integration impacts (Table 5.8; Figure 5.8).

The impact of each of these areas, in achieving sustainable competitive advantage for SCICS and strategic fit, was tested individually, against a central score of 'three' using a t-test, to establish whether the mean score is considerably different. Outcomes revealed that the average score was greater than (mean >3) in all ten cases included in this variable, signifying a positive impact (Table 5.8; Figure 5.8) on the achievement of competitive advantage and profitability.

In addition, results of a Wilcoxon Signed Ranks test reveal that supply chain integration have a substantial positive ($p<.0005$ in each case) impact on all

the ten areas included in this variable, reaffirming the position of many authors on the current trends that SCM have influence in achieving superior business performance of the company (Chopra and Meindl 2010:483).

A paradigm shift to supply chain integration is seen as critical to the survival of many firms (Miles and Snow, 2007:459). It is imperative that corporate strategies are synchronised with supply chain strategy to ensure increased sales, reduce TCO, and provide value for money, sustainable competiveness and profitability. Mangan *et al.* (2012:339) concur that integration practices are not only concerned with product availability and consumption but aim to achieve ethical-economic growth for the current generation, without depleting resources for future generations by increasing the amount of product materials recovered from the firm's waste stream through RSC.

Findings of the study provide for a significantly visible impact for supply chain stages to better manage their supply chains and ensure that all parts of member organisations work in harmony and move together as one, towards a common goal of industry competitiveness and sustainable profitability. This can be achieved through incremental, continuous improvement and customer satisfaction.

It is held by Bolstorff and Rosenbaum (2012:01) that supply chain integration involves working together in unison, as a way of sustenance and competitiveness for supply chains. This is also maintained by Burt *et al.* (2012:2-7), who agree that supply have overwhelming impact on the firm's bottom line and ROI and requires that firms accelerate their migration to SCICS.

It is imperative that organisational goals are synchronised with supply chain goals, if supply chain stages are to increase sales, reduce TCO, provide customers with real value for their money and at the same time, remain competitive from increased net income and retain sustainable profitability.

Subsequently, supply chain efforts directly affect the two forces that drive profitability, namely that of sales and costs. It is important that management recognises the fact that more resources are channeled towards supply and demand management, as well as the implementation of “outside-in” strategic options and be continuously reviewed (Otchere, *et al.* 2013:131).

6.4.3 Challenges impacting on implementation of SCICS (Q9)

In respect of the challenges impacting the design and implementation of SCICS, 16 areas/cases were examined under this variable (Figure 5.9).

The research findings discovered that all the 16 areas have a large impact in SCICS with the majority of respondents and many respondents also selected the option of very large impact ($p<.0005$) in each of the cases.

Outcomes of challenges impacting the implementation of SCICS coincide with literature on competitiveness and globalisation (Done 2011:11 and Citenkaya *et al.* 2011:12). It is held that competitiveness and globalisation have not only created major opportunities for enterprises around the world, but have also introduced more challenges, given the increased complexities of coordinating the firm’s economic activities and competitive pressures.

Remedying these challenges to the degree necessary, would ensure that critical focus areas of supply chain integration would effectively minimise system wide costs, while enhancing customer service satisfaction levels. The satisfied customer will return with an increased level of loyalty and willingness to buy the firm's products and the ripple effects will be felt across supply chain networks (Sisco, *et al.* 2010:5).

Ineffective communication of the firms' strategy (Q9.1)

According to a chi-square goodness of fit test performed on the findings, respondents agree that ineffective communication of the organisation's strategy have a considerably large impact on SCICS ($p<.0005$).

It is believed that communication of the firms' strategy by superiors, in order to have subordinates embrace the strategy management have crafted to deliver its management, is a critical success factor of strategy implementation (Pitt and Koufopoulos 2012:364). Thompson *et al.* (2007:385), agree that key supply chain stakeholders require reliable, accurate and current information to make informed decisions and to establish trust throughout the supply chain cycle.

It can be concluded that effective communication of the organisation's competitive strategy cascades within, up and downstream. Results of the study establish that about two in every 100 staff in the stage, holding a position of responsibility, were not sure about the extent of integration within the organisation; this is a serious threat to the implementation and achievement of strategic objectives.

Non-integration of supply chain with the organisation's strategy (Q9.2)

A chi-square goodness of fit test performed on the findings, show that respondents agree that non-integration has a substantially large impact, ($p<.0005$) in achieving SCICI and strategic fit. An outcome of this sub-variable indicates that there is a very strong need for a paradigm shift in management's perception of SCICIs, in view of its impact on achieving sustainable competitive advantage for strategic fit.

Lack of top management support to SCICS implementation (Q9.3)

According to a chi-square goodness of fit test performed on the findings, respondents agree that lack of top management support to SCICS has a considerably large impact ($p<.0005$). In fact, about three quarters (77.9 percent) of the respondents indicate that they are partially integrated.

This suggests that there is lack of top management to support the implementation of supply chain integration. As much as the philosophy of integration is a noble one, given its impact on achieving strategies, lack of political will is restraining the implementation of SCICS and should be addressed (Kurien and Qureshi 2011:2)

Resistance to change supply chain systems by management leadership (Q9.4)

A chi-square goodness of fit test was performed on the findings of the respondents, indicating that resistance to change in supply chain systems by management leadership has a meaningfully large impact ($p<.0005$).

It is also acknowledged that this resistance is also found on their reluctance to embrace the strategic role of SCM as a value adding mechanism which can be used to gain competitiveness and maximise the potential profitability of the firm (Cordon, *et al.* 2012:10). This requires urgent attention and a paradigm shift in the way management perceives supply chain systems.

Misunderstanding of how supply chains are defined (Q9.5)

Research findings of a chi-square goodness of fit test performed, indicates that misunderstanding the nature and scope of supply chains has an extensively large impact ($p<.0005$). It was established that the manner, in

which the roles and responsibilities of supply chains are defined, has a great bearing on the manner in which each member would embrace the organisational risks and share the benefits, arising from supply chain synergies.

Unwillingness to share information (Q9.6)

On the aspect of unwillingness to share information amongst supply chain stages; outcomes of the chi-square goodness of fit test performed on the findings, indicate that unwillingness to share information has a large impact p<.0005) on SCICS.

It can be construed that unwillingness to share information stems from mistrust, rivalry and the conventional approaches, where supply chain stages prosper on the basis of destroying small and upcoming firms (Thompson *et al.* 2007:6-23). On the contrary, world class, renowned FMCGs are prospering because they have 'removed' traditional rivalry and hierarchical disintegrations and are moving towards organic structures, through relationship management, collaboration and networking (Vanpoucke, *et al.* 2009:4; and Cant *et al.* 2009:427).

Cross functional conflicts (Q9.7)

Regarding cross-functional conflicts, it was found in the study that about half (49.2 percent) of respondents indicate that this variable has a large impact in SCICS. According to a chi-square goodness of fit test performed on the findings, it is indicated that cross-functional conflicts have a large impact (p<.0005) on SCICS.

It is believed that if one supply chain member withholds information or deliberately misinforms another member, the aggrieved member will take revenge and this may degenerate into resentments and a complete

breakdown in relationships and lack of cooperation (Cordon *et al.* 2012:222). Also, if supply chain stage activities are synchronised, challenges of this nature are at a very early stage.

It can be concluded that it is important to ensure that there is integration and cross-functional conflicts are curbed.

Inflexibility of organisational structure (Q9.8)

In respect of the inflexibility of organisational structure, about half (49.6 percent) of respondents pointed out that inflexibility of organisational structure has a large impact in achieving SCICS and strategic fit. About a quarter (23.8 percent) of respondents indicated that some variables, such as inflexibility of the company's structure, have a very large impact on SCICS. Further analysis of the chi-square goodness of fit test performed, showed that this variable has a large impact, ($p<.0005$) and should be addressed.

Inadequate supply chain performance measures (Q9.9)

It was found that more than half (55.4 percent) of respondents indicated that this variable has a large impact on achieving SCICS. According to a chi-square goodness of fit test performed on the findings, inadequate supply chain performance measures are shown to have a considerably large impact ($p<.0005$) on SCICS.

This is also maintained by Kazemkhanloua and Ahadi (2014:80) and Pradhan (2012:481), who concurs that lack of consensus on common criteria for assessing strategic fit amongst supply chain stages, is counterproductive to achieving competitive advantage and collaborative relationships.

It can be established that, since performance measures have a large impact on integration, they can be used as the bases upon which the SCICS service level can be evaluated.

Workforce incentives are not aligned with the organisation's strategy (Q9.10)

A chi-square goodness of fit test was performed to find out whether workforce incentives were not aligned with organisational strategy. Outcomes revealed that workforce incentives are not aligned with the organisation's strategy. This variable was also confirmed as having a large impact/impact ($p<.0005$) on SCICS.

This outcome signifies that FMGC companies need to pay particular attention to situations where workforce incentives are not aligned with the organisation's strategy, before this aspect becomes a source of discontent.

Inflexible organisational systems and processes (Q9.11)

A chi-square goodness of fit test was performed to find out if inflexible organisational systems and processes have any impact on SCICS. According to a chi-square goodness of fit test, it was found that inflexible organisational systems and processes have a large impact ($p<.0005$). Findings of this nature are clear indications of challenges inherent in traditional hierarchical structure of supply chain organisations upon which systems are premised, and should be revisited.

Inadequate supply chain competencies (Q9.12)

A chi-square goodness of fit test was performed to establish if inadequate supply chain competencies have any impact in achieving a strategic fit (SCICS). It was found that inadequate supply chain competencies have a considerably large impact ($p<.0005$) and should be reconsidered.

Inadequate supply chain networks with the upstream-internal-downstream (Q9.13)

Research findings show that, according to a chi-square goodness of fit test performed, inadequate supply chain networks with the upstream-internal-downstream have an extremely large impact ($p<.0005$) on SCICS. The importance of networking cannot be overemphasised. This is a serious threat to exchange of the different flows that circulate (materials, cash, information, ideas) for speedy and agile communication amongst supply chain networks and should be resolved.

Core competencies are not aligned with strategy (Q9.14)

A chi-square goodness of fit test was performed to establish the impact of not aligning core competencies with the organisational strategy. According to a chi-square goodness of fit test, it was found that core competencies have a considerably large impact ($p<.0005$) on SCICS and requires urgent attention.

Human capital is not effectively developed to support SCICS implementation (Q9.15)

With regards to this variable, response from chi-square goodness of fit test results revealed that human capital is not effectively developed to support SCICS implementation and has a substantially large impact, ($p<.0005$) on SCICS.

It is held that human capital is a distinctive capability of any organisation for achieving its objectives (Thompson *et al.* 2007:385). Ineffectively developed human capital is counterproductive to SCICS implementation, given those

competencies of the firms' workforce critical to the achievement of the corporate strategy (Chopra and Meindl 2010:37).

Social capital was not effectively developed to support SCICS implementation (Q9.16)

It is established that social capital (network of relationships among people employed in the supply chain industry enabling them to function effectively) is effectively developed to support the integration. According to the chi-square goodness of fit test performed on the findings, indications are that social capital was not effectively developed to support SCICS strategy implementation. The outcomes show that this variable has a significantly large impact ($p<.0005$) on SCICS implementation and should be addressed.

It can be established that if FMCGs in KZN are to make any meaningful progress towards achieving sustainable SCICS and strategies, every firm must address these challenges to the degree necessary, since they all have an extremely large impact on SCICS.

6.5 EVALUATION OF RESOURCE CAPABILITIES (Q10)

The third sub objective of the study was to:

> *Evaluate using a framework to establish the impact of the resource capabilities of supply chains to implement SCICS*

McKinsey's 7-S framework/model is an essential tool for determining how best to implement change strategies, facilitate intra-inter organisation integration and how to achieve sustainable competitive advantage and profitability (Thompson *et al.* 2007:385). The framework is based on the interconnectedness of the resources capabilities of the company. It is believed that the combined elements of the framework can build capabilities

leading to competencies that are difficult for competitors to copy (Pitt and Koufopoulos 2012:364).

However, identifying the parts which must work together in harmony and ensuring that those parts do not work in isolation, is a mammoth task (Fleisher and Bensoussan 2007). Many models have been suggested by academics (Stalk, *et al.* 1992; and Porter 1996; Hanafizadeh and Ravasan 2011; O'Sullivan 2012) and models of organisational effectiveness come in and out of fashion. One that has persisted is the McKinsey 7-S framework. This model consists of seven variables, all of which begin with the letter "S" including "structure", "strategy", "systems", "skills", "style", "staff", and "shared values/ superordinate goals" (Peters Waterman 1982).

For each of the seven variables of McKinsey's 7-s framework, a graph of the average score for the variable is presented and an analysis done, using the Wilcoxon signed ranks test as to whether the average score is considerably different from a central score of four (Figure 6.1to Figure 6.7). Where the outcome of the mean score is greater than four (mean>a); it is interpreted as having a substantial positive impact on SCICS. But if the mean score is less than the mean score of four (mean<4); it signifies that the said resource capability has no impact in achieving sustainable SCICS and strategic fit.

Results of the study reveal that the 7-s elements of the firms' resource capabilities have a substantial positive impact/influence, in each case, on all the seven domains included in this segment ($p<.0005$). The significance of this outcome is that altering one element would impact on other connected elements of the model, thereby adversely affecting the achievement of sustainable competitive advantage and implementation of SCICS and strategic fit. Individual outcomes of each element are analysed and interpreted.

It is imperative that the 7-s elements, comprising of the resource capabilities of supply chain firms, be tailor-made to ensure successful implementation of sustainable competitive advantage for SCICS and strategic fit.

6.5.1 Strategy Variable (Q10.1)

Outcomes of the research findings performed using a Wilcoxon Signed Ranks Test revealed that strategy has a significant ($p<.0005$ in each case) positive impact in all areas included in this variable. Comparative graphs of the impact of each of the 10 specific areas are presented (Figure 6.1).

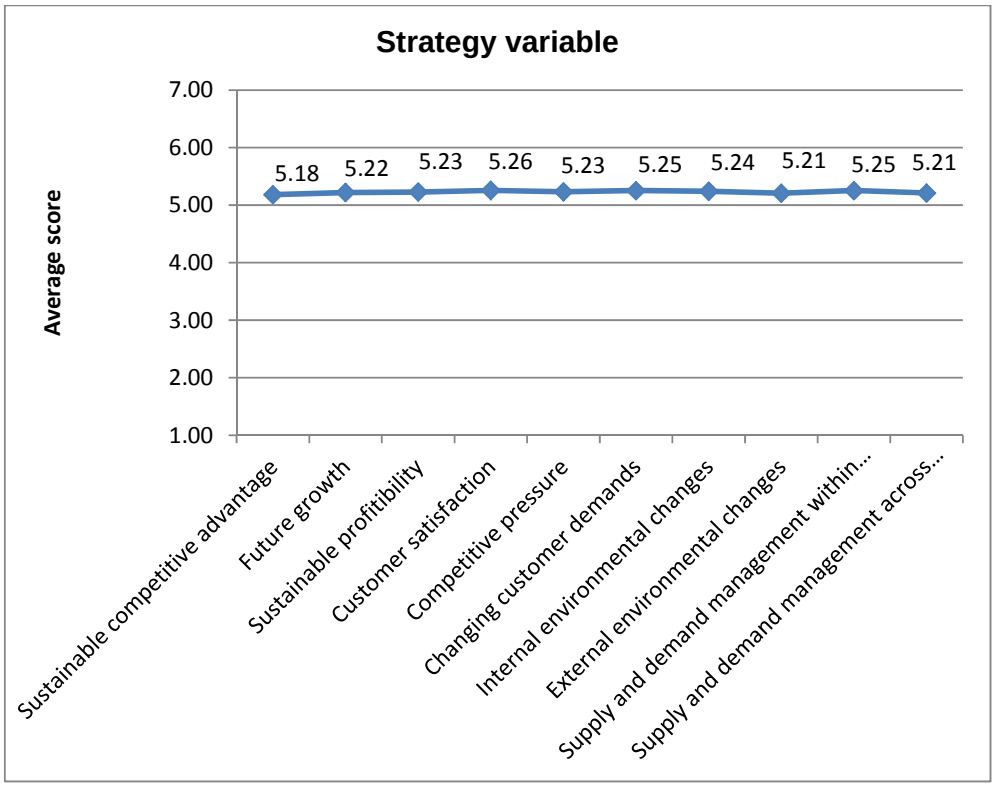


Figure 6.1: Effectiveness of the organisation's strategy variable

It can be concluded that failure to achieve SCICS stems from the fact that firms miss out on supply chain synergies because their supply chain strategies are not integrated with formulated and implemented corporate

strategy. This kind of approach does not allow the infusion of the ten strategy variables for SCICS.

It is imperative that supply chain firms incorporate all 10 the variables in this category, since they are found to have a large positive impact on achieving strategic fit.

6.5.2 Systems Variable (Q10.2)

The systems variable is aimed at assessing the effectiveness of supply chain stage' formal and informal procedures meant to support the strategy, structure and management of the company.

Results of a Wilcoxon Signed Ranks Test performed on the findings reveal that the systems variable has a major positive ($p<.0005$ in each case) impact on all areas included in this variable (Figure 6.2).

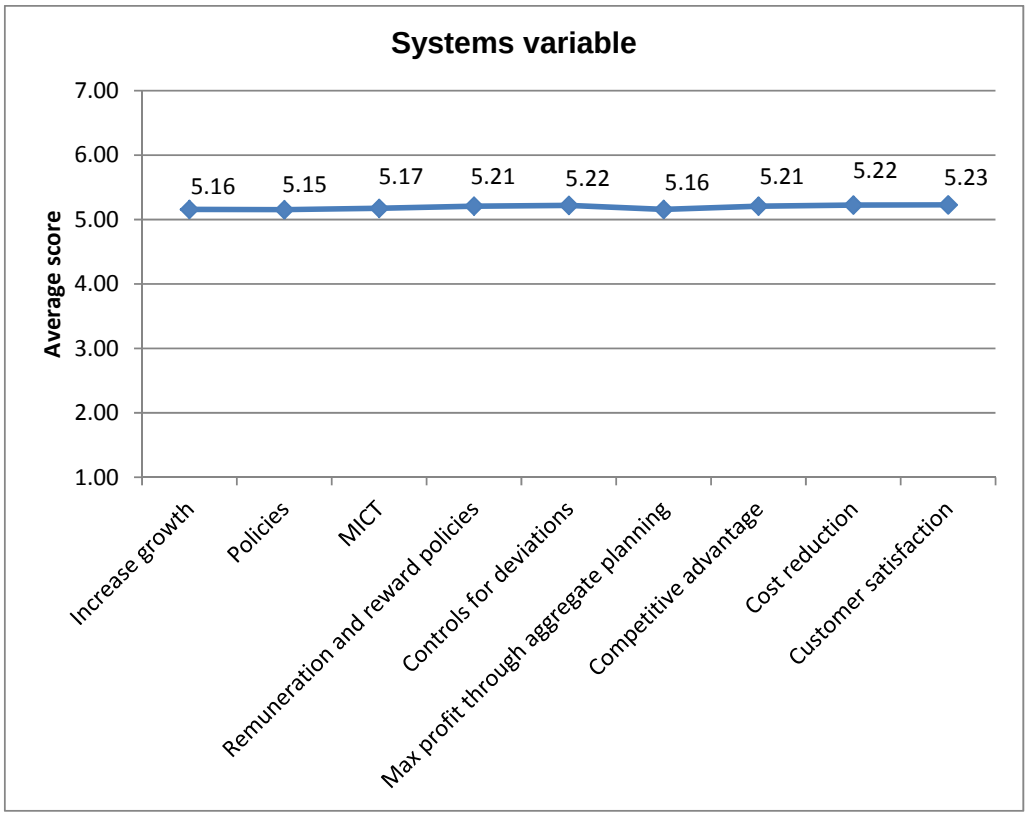


Figure 6.2: Effectiveness of the organisation's systems variable

It can be concluded that the systems variables play a major role in driving the implementation of SCICS and strategic fit within and across chain stage/s and the competitive strategy the organisation is executing.

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6.5.3 Structure variable (Q10.3)

On the subject of the structure variable, a Wilcoxon Signed Ranks test performed indicates that structure has a major positive ($p<.0005$ in each case) impact on all areas included in this variable (figure 6.3).

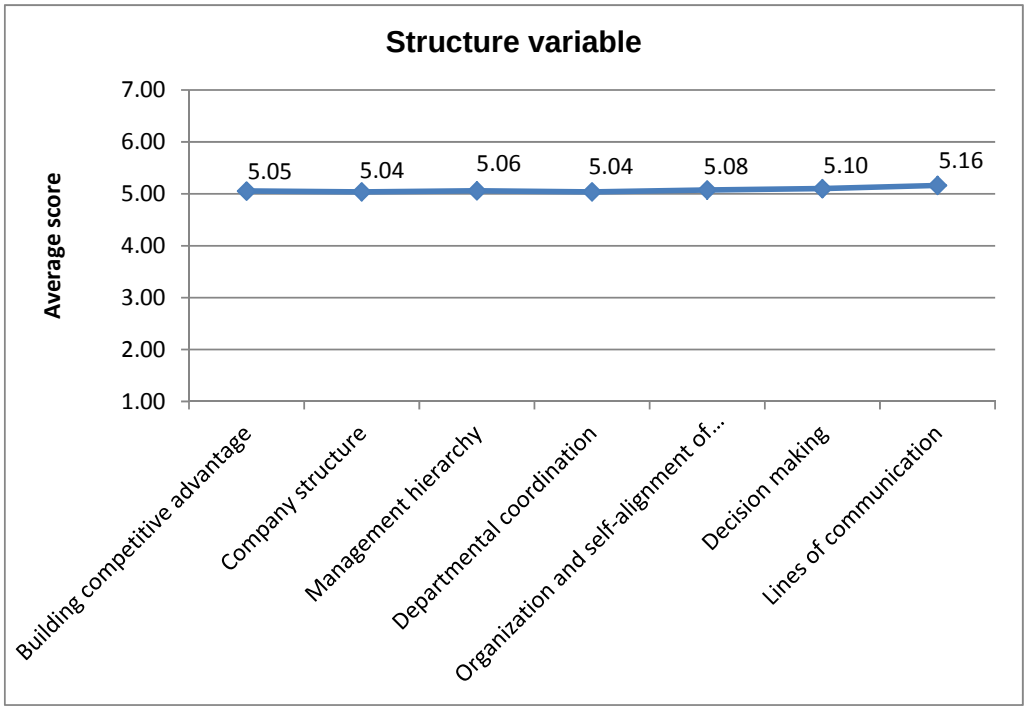

Figure 6.3: Effectiveness of the organisation's structure variable

Studies show that conventional, hierarchical structures and directional supply chains are the basis of specialisation and co-ordination, influenced primarily by strategy, size, and diversity of the organisations (Miles and Snow, 2007:459). These structures and supply chains seem to work well in a stable

environment achieving efficiency and reliability. However, as the organisation's environment becomes turbulent and the economy grows faster, the traditional structure struggles to adjust to match the ever changing environment. Relying on the traditional structure to deal with the complexity and multiple customer demands to handle decision-making in a totally rational way, is not enough (Handfield *et al.* 2011:118 and Kotter 2013). An organic type of structure, typical of the network channel of supply chain partners, is required.

Therefore, in essence, supply chain stages ought to be aware of the structural requirements, in order to build effective capabilities of achieving competitive advantage, through flexible, responsive structures.

6.5.4 Style (Q10.4)

The purpose of this variable was to determine the impact of the leadership style for selected FMCs in KZN. Analysis, using the Wilcoxon Signed Ranks Test was conducted, to test whether the average score is significantly different from a central score of four (Figure 6.4). Results indicate that leadership style has a significant ($p<.0005$ in each case) positive impact on all areas included in this variable.

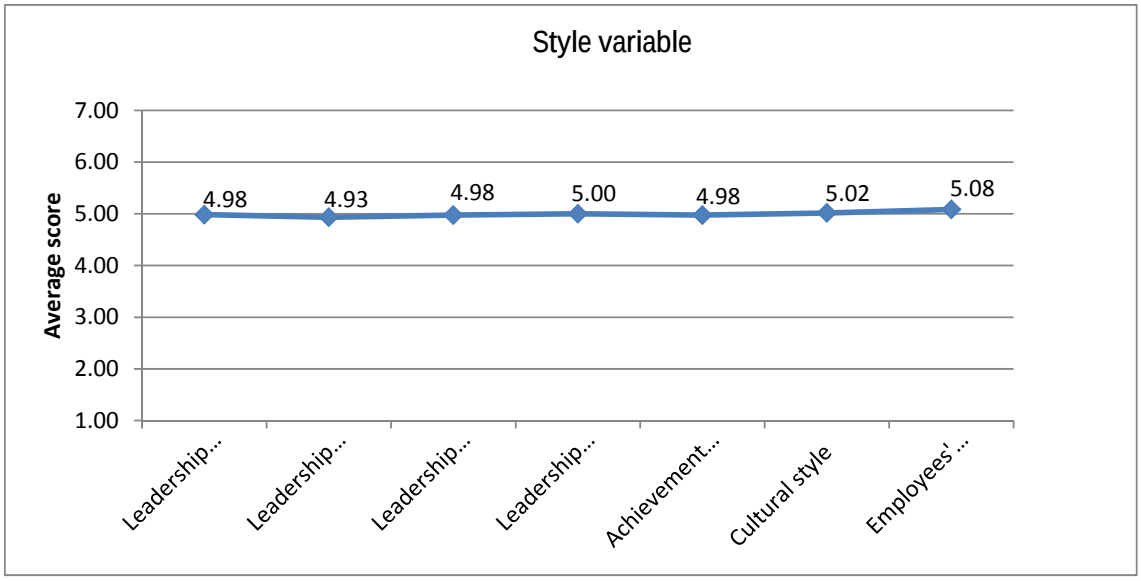

Figure 6.4: Effectiveness of the respondents' leadership style

The positive response is a clear indication that management leadership is an important factor affecting SCICS, and is concurrent with research findings that inadequate leadership styles affect the SCICS implementation process (Al-Mudimigh 2007; Häkkinen and Hilmola, 2008; and Ke and Wei, 2008).

It is necessary to have an adequate communication platform in place at all supply stages, where FMGC leadership stages could meet and forge financing and other strategic alliances across SC stages. The significance of these relationships is that it would allow any stage to compensate for their individual weaknesses or resource constraints and harness the emerging relational view, which recognises that a firm's competitiveness evolves from the relationships between buyers and suppliers, driven by a strong leadership (Shepard 2012:2).

Leadership styles are critical to the establishment of linkages that would not have been possible to create, had internal structures and firms been operating separately and independently (Chopra and Meindl 2010:62; Sukati *et al.* 2012:3.

6.5.5 Staff (Q10.5)

The objective of this variable was to assess the impact of the people/human resource of supply chain organisations based on a number of variables, ranging from the adequacy of the number of personnel, to their abilities to adapt to changes taking place in the FMCG industry (Fig 6.5).

Concerning the effectiveness of the staff variable, using Wilcoxon Signed Ranks Test indicates that the staff variable has a large positive ($p<.0005$ in each case) impact on all areas included in this variable.

It was established that the staff variable has a great impact in the SCICS implementation.

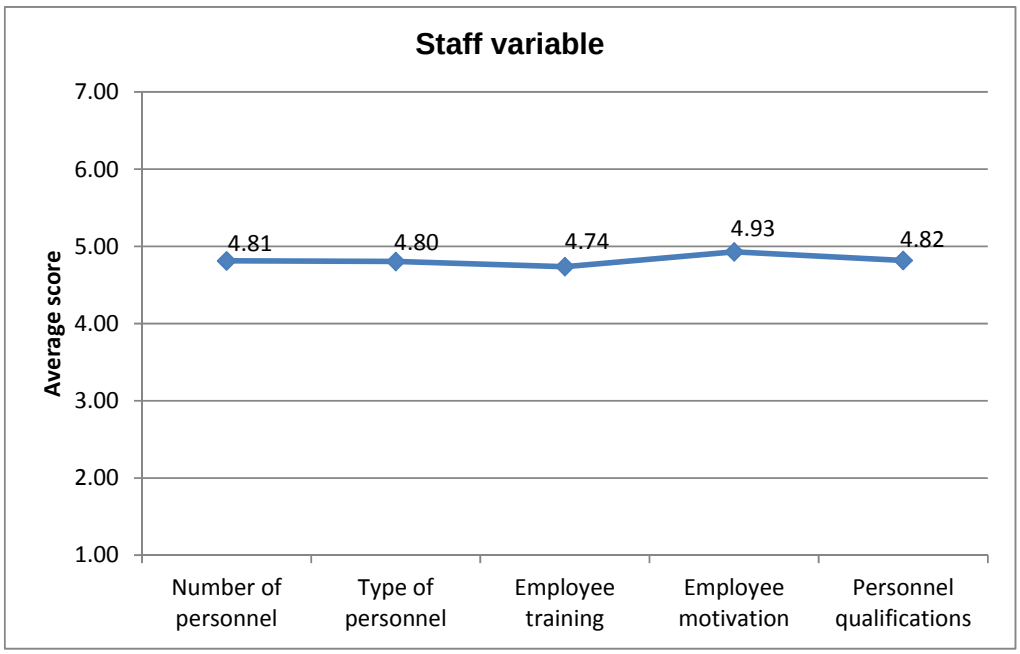

Figure 6.5: Effectiveness of respondents' staff variable

6.5.6 Effectiveness of the skills variable (Q10.6)

Findings of the Wilcoxon Signed Ranks test performed indicate that the skills variable has an important positive ($p<.0005$ in each case) impact on all areas included in this variable, except on the aspect of skills gap.

Done (2011:7; and Anderson 2013:1) find that South African employees lack the expert knowledge and information to design an all-encompassing human centric supply chain framework, with enough decision making powers to effectively implement, monitor and evaluate deviations.

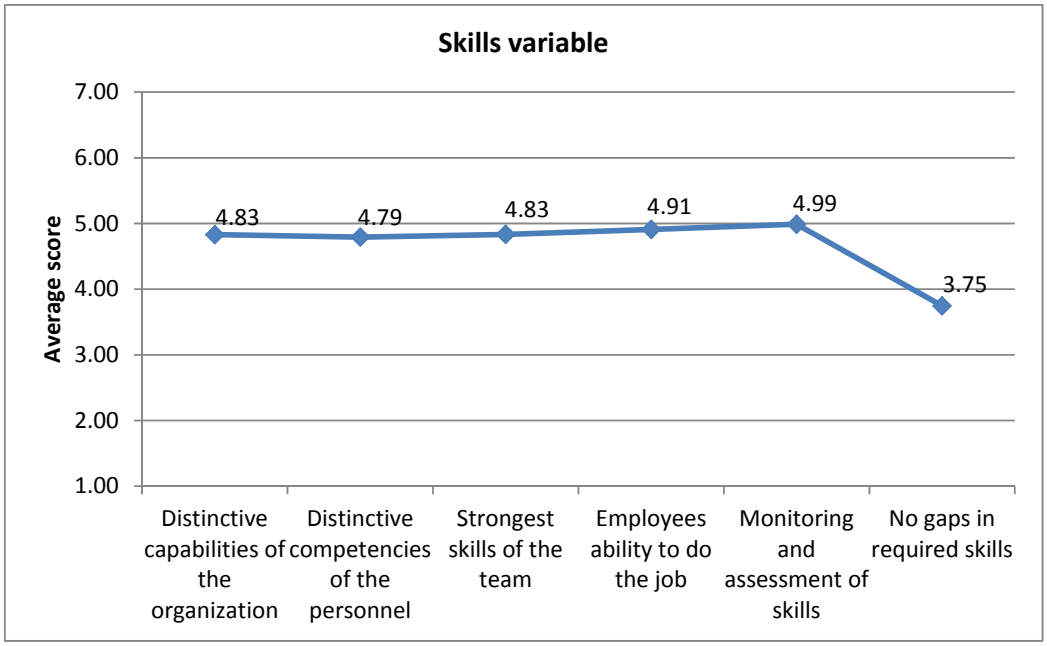

Figure 6.6: Effectiveness of the respondents' skills

It is established that both the staffing and skills variables need to be addressed.

6.5.7 Shared Values variable (Q10.7)

The purpose of this variable was to evaluate the impact of the guiding concepts, fundamental ideas around which supply chain organisations were built. As a resource capability, shared values have great meaning inside the organisation, even though outsiders may not see or understand them. The philosophy was to inculcate a paradigm shift from an individual firm's perspective, to an industry-wide 'sardine strategy'.

Regarding the impact of shared values (guiding principles of the organisation), it was found that shared values have a substantial ($p<.0005$ in each case) positive impact on all dimensions included in this variable, implying agreement that shared values have a significant impact in helping to achieve SCICS.

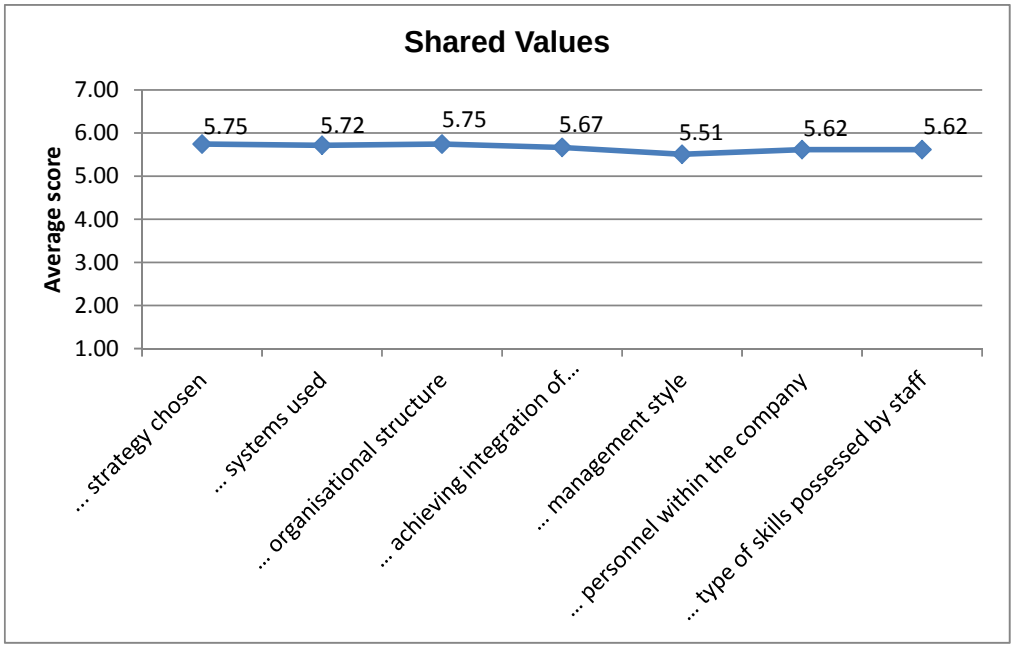

Figure 6.7: Effectives of the respondents' shared values

The essence of shared values is that they allow for integration of internal and external linkages of supply chain stages and the development of close relationships amongst the chain stage. To facilitate integration with other internal functions and the external chain stage, numerous interfaces are involved between supply chains (Masoumik *et al.* 2014:5). Supply chain performance operations measures have to be developed, with specific focus on chain stage' quality assurance, finance and accounting, marketing and sales, engineering and media communication, and information technology linkages through direct personnel contacts within the organisation. (Bolstorff and Rosenbaum 2012:10).

Supply chain stages value also represents the external face of the organisation, which serves as the primary vehicle for integrating external suppliers and other entities into the organisation. These entities include supply chain stages, government departments, local communities and the firm's value chains' primary and support relationship activities, which can lead to competitive advantage when aligned properly (Fig 6.7).

6.5.8 Factor analysis of McKinsey's 7-s framework

For each of the 7-S variables, the variables were combined and tested to establish whether, collectively, they were a reliable measure for the construct. This was done using Cronbach's alpha. An acceptable value of Cronbach's alpha would be greater than 0.75, signifying the reliability of the measuring instrument. Results showed that all the measures were extremely reliable, as the alpha values were all above 0.8 and some were above 0.9.

Further analysis was performed using Wilcoxon Signed Ranks tests, to test whether the average scores were significantly different from a neutral score of four. Results of the test indicate that shared values have a major positive ($p<.0005$ in each case) impact on all areas included in this variable (strategy, systems, structure, style and shared values). This implies that all the elements of the 7-s framework have significant impact in the implementation of SCICS for strategic fit.

Average scores McKinsey's 7-Ss

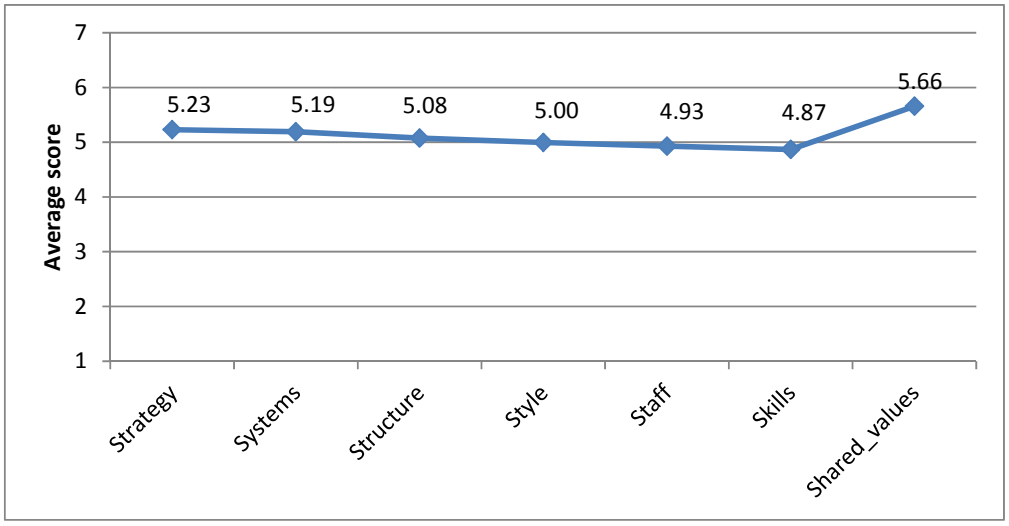

Table 6.8: Wilcoxon Signed Ranks test of McKinsey's 7-Ss: Comparative graph

These findings concur with Rao *et al.*'s assertion (2008:397); and Pitt and Koufopoulos' (2012:364) that customizing McKinsey's 7-S elements would ensure that the implementation of a change strategy, such as SCICS and strategic fit, are realised.

6.6 CROSS TABULATIONS

Cross tabulations were performed to establish whether there is a relationship between core business functions (main economic activity) and competitive corporate strategy; gender and position held in the company; highest qualification and core function.

It is held that, in a chi-square goodness of fit test, two variables are said to be independent if there is no relationship between them, or they are said to be dependent if there is a relationship between them (Berkson 2006:527). The decision criteria is that if the p-value is less ($p<.0005$), we accept the outcome because the two variables are dependent and conclude that there is a strong relationship between them. However if the p-value is greater ($p>.0005$) we reject the outcome because the two variables are independent and conclude that there is no relationship between them.

6.6.1 Gender and position held in the company (Q3xQ2)

Findings of the study reveal that, in the executive managerial designations, males dominate positions (Table 6.6.1). In the Chief Executive Officers' (CEOs) category, of the total respondents, there were more males (seven percent) occupying CEO positions, with females accounting for a fewer number (1.2 percent). Directorship positions both genders accounts for a third (30.4 percent) being males and a third (32.9 percent) of the total of respondents being females. Of the almost half (47.9 percent) of the total respondents, half (50.6 percent) occupy male manager position. A higher number, about a fifth (22 percent) of females, dominated operational positions.

It can be established there are gender disparities in the distribution of positions, with males dominating in managerial positions, while females constitute a higher number (22 percent) in operational positions in the FMCG sector of KZN (Gender Statistics South Africa 2011).

Table 6.6.1a: Cross tabulation of gender and position held in the company

Gender (Q3)	Position (Q2)					Total
	CEO	Director	Manager	Operational staff	Other	
Male	11	48	80	14	5	158
	7.0%	30.4%	50.6%	8.9%	3.2%	100.0%
Female	1	27	35	18	1	82
	1.2%	32.9%	42.7%	22.0%	1.2%	100.0%
Total	12	75	115	32	6	240
	5.0%	31.3%	47.9%	13.3%	2.5%	100.0%

Table 6.6.1b: Chi-Square of gender and position held in the company

	Value	Exact Sig. (2-sided)
Fisher's Exact Test	11.574	.017

Chi-Square tests performed on the findings show that the relationship between gender and position held in the company revealed that significantly more than expected males are CEO's and females are found mostly in operational staff [(Fisher's exact (N=240) = 11.574, p=.017)] and the situation should be revisited.

6.6.2 Core function and corporate strategies (Q1xQ6)

Results from cross tabulation revealed that there is a strong relationship between the core function (main economic activity) of the organisation and the corporate strategy being implemented. Organisations implementing low cost strategy constitute less than a fifth (18.3 percent) of the total of respondents. More than half (54 percent) are retail consumer organisations. Organisations adopting a broad differentiation strategy constitute almost a quarter (24.6 percent) of the total of respondents, with more than half (55.3 percent) of respondents being wholesalers. Best cost providers constitute 14 percent, which are predominantly consumers. Firms that practice focused differentiation account for almost a quarter (24.6 percent) of the respondents, of which 62.2 percent are producers (Table 6.6.2).

A chi-square test was also performed to determine the relationship between the organisation's main economic activity and the competitive corporate strategy the supply chain organisation is implementing. Results of the chi-square goodness of fit test revealed there is a strong relationship between these two variables ($p<.0005$).

The significance of this is that each supply chain organisation must avail itself, pool its resource capabilities and ethically participate in the completion

of the end to end paradigm shift to intra-intercompany integration for strategic fit (Chopra and Meindl 2010:22).

Analysis was carried out to determine whether any one or more of the strategies was selected significantly more or less often than others. Findings of the chi-square goodness of fit test show that certain competitive strategies are strongly preferred more often than others ($p<.0005$) and should be given priority when strategic choices are being made.

It is evident that popular FMCG strategies in order of popularity are a low cost provider strategy (54 percent) preferred by consumers/retailers; a broad differentiation strategy (55.3 percent) is preferred by wholesalers; as well as focused differentiation strategies (30 percent), implemented largely by manufacturers. Resource based (22.9 percent) and value discipline strategies (22.9 percent) are preferred by distributors.

It appears that Retail outlets (54 percent) and wholesale firms (55.3 percent) are implementing low cost, or broad differentiation strategies. This can be attributed to the fact that supply chain companies in the down-stream, trade in homogeneous products.

Table 6.6.2: Core function & competitive corporate strategy cross tabulation

Core Function (Q1)	Corporate Strategy (Q6)									Total
	Low cost provider	Broad differentiation	Best cost provider	Focused differentiation	Defenders	Prospectors	Analysers	Resource-based	Value disciplines	
Consumers (Retailers)	27	14	7	2	0	0	0	0	0	50
	54.0%	28.0%	14.0%	4.0%	.0%	.0%	.0%	.0%	.0%	100.0%
Wholesaler	7	21	3	3	0	1	1	1	1	38
	18.4%	55.3%	7.9%	7.9%	.0%	2.6%	2.6%	2.6%	2.6%	100.0%
Distributor/ Supplier	2	7	3	7	0	0	0	8	8	35
	5.7%	20.0%	8.6%	20.0%	.0%	.0%	.0%	22.9%	22.9%	100.0%
Manufacturer	7	15	11	24	1	0	1	8	13	80
	8.8%	18.8%	13.8%	30.0%	1.3%	.0%	1.3%	10.0%	16.3%	100.0%
Producer	1	2	3	23	0	0	0	0	8	37
	2.7%	5.4%	8.1%	62.2%	.0%	.0%	.0%	.0%	21.6%	100.0%
Total	44	59	27	59	1	1	2	17	30	240
	18.3%	24.6%	11.3%	24.6%	.4%	.4%	.8%	7.1%	12.5%	100.0%

The main source of competitive advantage is to pursue the low cost of focused strategies, given the slow economic growth, unemployment and consumer inflation. However, such strategies are unsustainable, since big companies can retaliate with huge price cuts, which will eventually force new entrants and small players out of business (Cordon, *et al.* 2012:6).

Producers (62 percent) and manufacturers (30 percent) dominate in the focused differentiation strategies, characterised by the huge resource based and value addition investments in plant and equipment, as well as collaborative relationship building. It is believed that execution of such strategies is based on the awareness of interdependence and necessity of cooperation, considered to be the most important determinant factor for sustainable competitive advantage (Pamela and Pietro 2011 and Burt, *et al.* 2012:76). Strategies of this nature would ensure SCICS, in order to achieve

sustainable competitive advantage and strategic fit, bearing in mind that the actions of supply chain partners would result in unintended consequences.

6.6.3 Highest qualification and core function (Q4xQ1)

With regards to highest qualification and core organisational function, it was found that a strong relationship exists between these two variables ($p<.0005$) (Table 6.6.3). Specifically, more respondents with matric/ national senior certificate constitute the bulk of staff in consumer/retail organisations (62.5 percent). In addition, more Diploma holders, about a third, were reported in Consumers (35.5 percent) or Producers' organisations (27.4 percent). About a third (32.1 percent) of respondents and about half (47 percent) of respondents with Honours degrees, were found in manufacturing organisations. A larger percentage (83.3 percent) of respondents with post-graduate degrees (Masters) are employed in manufacturing.

Table 6.6.3: Highest qualification and core functions cross-tabulation

Highest Qualification (Q4)	**Core function (Q1)**					Total
	Consumers	Wholesaler	Distributor /Supplier	Manufacturer	Producer	
NSC/Matric	5	1	0	0	2	8
	62.5%	12.5%	0.0%	0.0%	25.0%	100.0%
Diploma	22	11	6	6	17	62
	35.5%	17.7%	9.7%	9.7%	27.4%	100.0%
Degree	14	15	16	27	12	84
	16.7%	17.9%	19.0%	32.1%	14.3%	100.0%
Honours	9	9	12	32	6	68
	13.2%	13.2%	17.6%	47.1%	8.8%	100.0%
Masters	0	2	1	15	0	18
	0.0%	11.1%	5.6%	83.3%	0.0%	100.0%
Total	50	38	35	80	37	240
	20.8%	15.8%	14.6%	33.3%	15.4%	100.0%

It is established that highly qualified people are employed in the manufacturing organisations. Findings of the study also reveal that less qualified people are employed by producers, distributors and suppliers, due to the fact that such organisations do not require people with high educational achievements. This is an indication that value adding activities amongst producers, distributors and suppliers should be undertaken, in order to increase shareholder values. Value adding activities will require employers in these sectors to improve the skills and earnings of their staff, thereby improving their standards of living, in line with the principles for best practices of sustainability, social responsibility and economic viability (Sisco, *et al.* 2010:5).

6.7 PERFORMANCE MEASURES FOR SCICS (Q11)

The fourth objective of the study was to:

> *Determine performance measures for achieving sustainable competitive advantage for SCICS and strategic fit for selected FMCGs in KZN.*

To determine the extent of SCICS and strategic fit within the FMCGs in KZN, four main supply chain decision/process areas were examined. They comprise planning, sourcing, making/assembling, and delivered in-full on-time and accurately invoiced. These were used to determine performance measures, essential to be implemented in order to achieve sustainable competitive advantage for SCICS and strategic fit for selected FMCGs in KZN.

Illyas *et al.* (2007:61) are of the opinion that there should be common criteria implemented across supply chains. Performance measures evaluated include order planning of material or services; planning and valuation of supply information links at strategic level; make-buy decisions; and storage, along with delivery relationship management skills.

Calculation of average score was undertaken for each of the aspects, to determine the level of their importance to the achievement of sustainable competitive advantage for SCICS and strategic fit. Average scores are graphed and then tested individually against a central score of 'three' using a chi-square goodness of fit test to establish whether the mean score was considerably different from three. Where it is found to be considerably different, it is interpreted either as important or extremely important (mean <3); or not really important or not important (mean>3), to be considered as a performance measure to the success of achieving SCICS implementation and strategic fit.

6.7.1 Performance measures for order planning

Findings of the study indicate that each of the nine aspects of order planning of materials and services are extremely important (Table 6.7; Figure 6.9).

Performance measures for order planning

Criteria for order planning	N	Mean	Std. Deviation
Collaborative forecasting (Q11.1)	240	1.35	.477
Accuracy of forecasting (Q11.2)	240	1.34	.483
Capacity planning (Q11.3)	240	1.33	.480
Order cycle time (Q11.4)	240	1.33	.469
Order entry methods (Q11.5)	240	2.04	.881
Human resource productivity (Q11.6)	240	1.58	.551
Skill fullness of staff (Q11.7)	240	1.58	.536
Management style (Q11.8)	240	1.58	.535
Competency of staff (Q11.9)	240	1.57	.529

Mean scores of performance measures for order planning

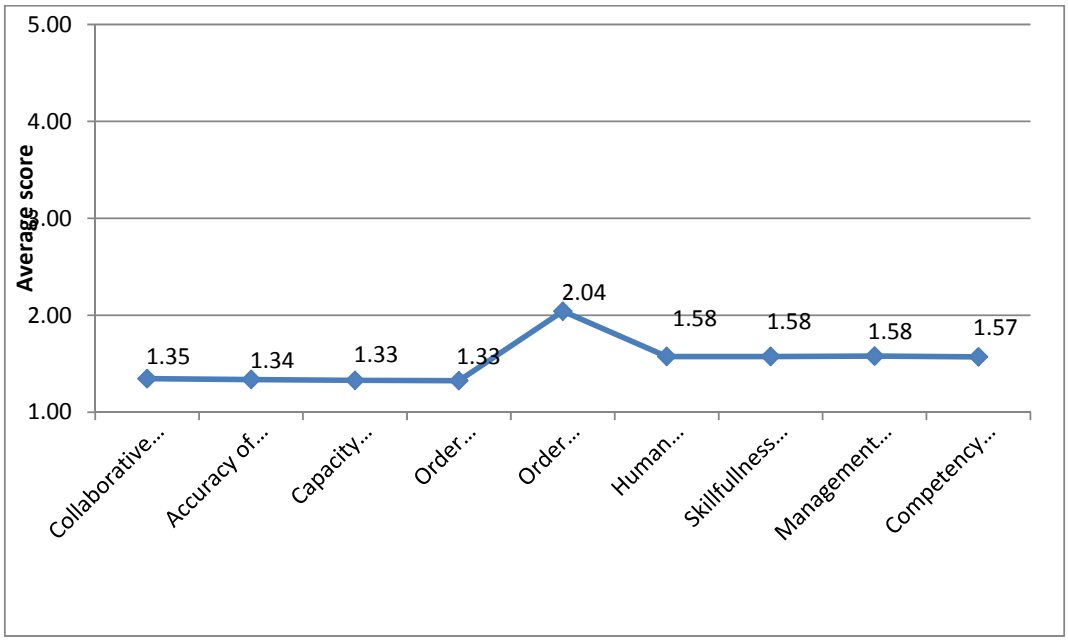

Figure 6.9: Factors influencing order planning: comparative graph

Furthermore, according to a chi-square goodness of fit test performed on the findings, collaborative forecasting is an extremely important ($p<.0005$) measurement impacting SCICS in all the cases included in this variable.

Respondents indicated that these aspects have an extremely important impact in the performance measurement for SCICS and strategic fit and must be seriously considered by supply chain organisations, when determining performance measures for SCICS and strategic fit.

This is also maintained by Chopra and Meindl (2010:227), who state that order planning is an important aspect in the company because it determines the desired levels of capacity, output, inventory, and pricing over a specified time horizon. Pradhan (2012:371) reaffirms that order planning also

determines the company's net needs required, used for triggering production or what is to be consumed, such that, if it is not properly undertaken, can result in loss of capital tied up in stock.

The importance of accurate and reliable exchange of essential information at the order planning stage eliminates disruptions to production runs and enhances customer satisfaction (Langley and Capgemini 2010:9). This will also ensure that FMCGs will become more demand-driven to serve less loyal, more cautious, post-recession shoppers, whenever and wherever they are motivated to buy (Cordon *et al.* 2012: 10).

6.7.2 Planning and evaluation of information links at strategic level

Regarding planning and evaluation, respondents indicated that each of the seven variables in this category is important (mean <3) (Table 6.7; Figure 6.10).

Table 6.7: Performance measures for evaluation for SCICS

Criteria for planning & evaluation	N	Mean	Std. Deviation
Supplier delivery performance	240	1.95	.531
Supplier lead-time against industry norm	240	1.88	.487
Supplier pricing against market	240	1.87	.488
Quality level against the market	240	1.86	.472
Efficiency of cash-flow method	239	1.88	.474
Supplier booking-in procedures	240	1.90	.511
Customer satisfaction	240	1.85	.472

A chi- square goodness of fit test, to determine the importance of planning and evaluation of supply chain information, was done. According to a chi-square goodness of fit test, the aspect of supplier delivery performance has an important impact, ($p<.0005$) to be used as performance measure for successful monitoring and evaluation of SCICS implementation.

Mean score of planning and evaluation

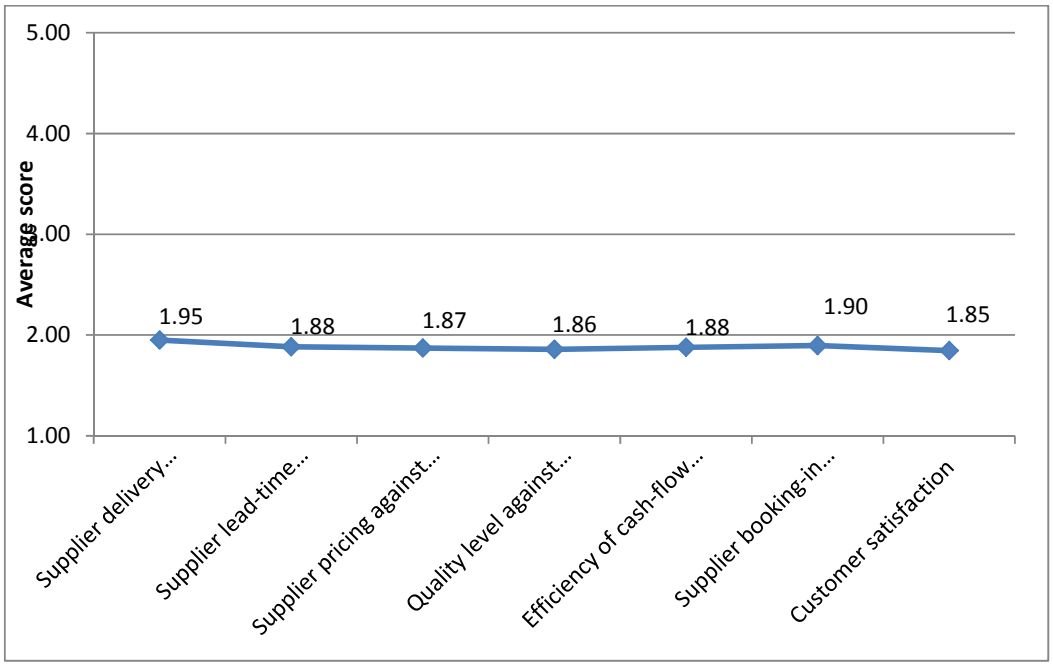

Figure 6.10: Planning & evaluation: comparative graph

The significance of this variable is that companies need to maximise their capacity utilisation through scheduling techniques and take advantage of all forms of media, to effectively market demands (Pradhan 2012:362).

6.7.3 Performance measures relating to make-buy decisions

Respondents show that each of the six sub-variables in this category is important (Table 6.8; Figure 6.11).

A chi- square goodness of fit test was carried out to determine the importance of measure at production level, relating to make-buy decisions. According to a chi-square goodness of fit test, variables in this category have an important impact, with p value (p<.0005).

Table 6.8: Performance measures relating to production decisions

Criteria for make-buy decisions	N	Mean	Std. Deviation
Percentage of defects	240	2.31	.677
Capacity utilisation	240	2.19	.649
Effectiveness of scheduling techniques	240	2.20	.635
Range of products and services	240	2.15	.633
Utilisation of economic order quantity	240	2.01	.672
Measures for delivery performance evaluation	240	2.05	.648

Performance measures relating to production decisions

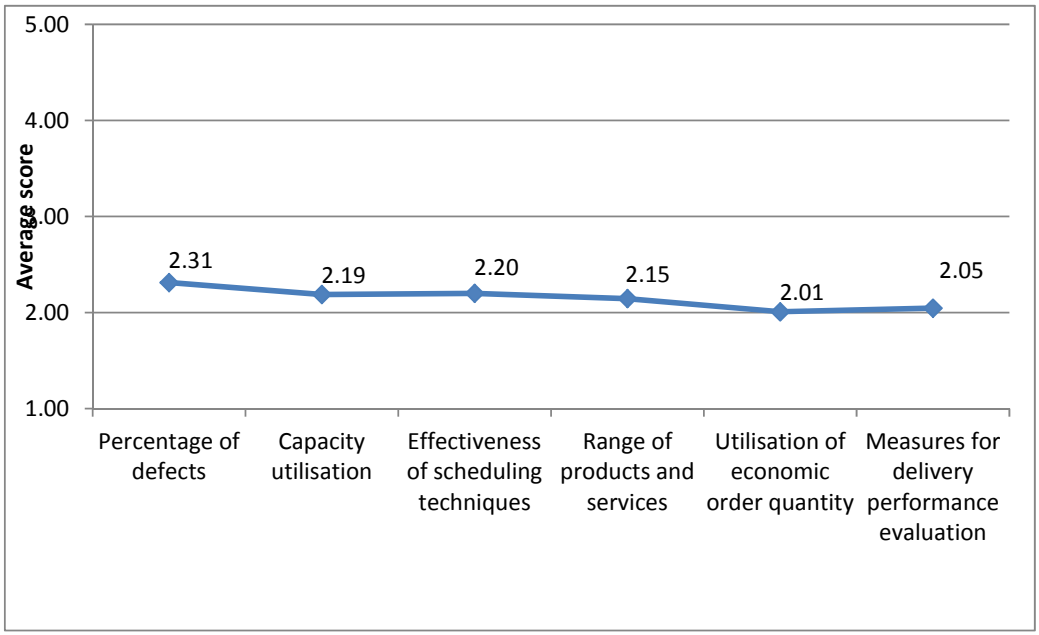

Figure 6.11: Comparative graph of measures relating to production decisions

6.7.4 Storage and delivery relationships

The importance of storage and delivery relationships, as indicated by respondents, shows that each of the eight sub variables in this category is extremely important (Table 6.9; Figure 6.12).

Table: 6.9: Performance measures at storage and delivery

Criteria for evaluating storage & delivery	N	Mean	Std. Deviation
Quality of delivered goods	240	1.34	.516
Flexibility of service systems	240	1.39	.567
Effectiveness of enterprise distribution planning schedule	240	1.46	.683
Effectiveness of delivery invoice methods	240	1.79	.980
Number of faultless delivery notes invoiced	240	1.85	.881
Percentage of urgent deliveries	240	1.85	.833
Percentage of finished goods in transit	240	1.85	.837
Delivery reliability performance	240	1.60	.764

Performance measures at storage and delivery

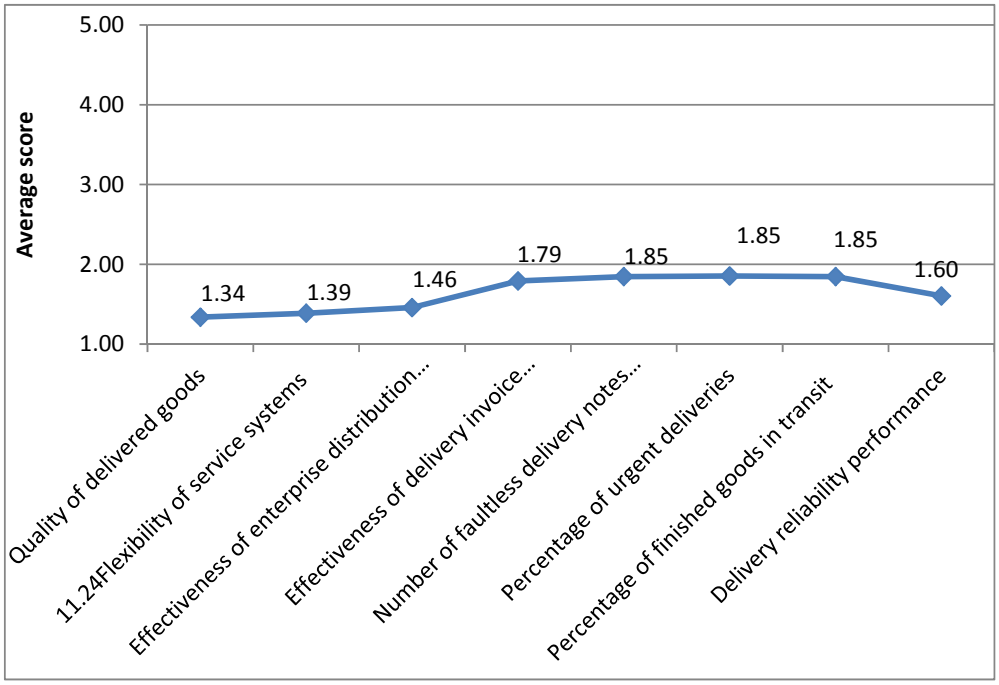

Figure 6.12: Measures at storage and delivery: comparative graph

A chi- square goodness of fit test was carried out to determine the importance of the dimensions of storage and delivery on SCICS. According

to a chi-square goodness of fit test, variables in this category (quality of delivered goods; flexibility of service systems; effectiveness of the organisation's distribution systems right through to delivery, reliability and performance) have an extremely important impact, with p value (p<.0005).

The essences of these results are that chain stage could use these measurement criteria to evaluate each other's level of cooperation, as SC stages move together as one, in an attempt to achieve strategic fit among chain stage. (Sisco, *et al.* 2010:7; El Korchi and Millet 2014:2).

6.8 CONCLUSIONS ARRIVED ONTHE FINDINGS OF THE STUDY

6.8.1 Demographics aspects

Descriptive statistics of demographics

The main findings concerning demographics of the study conclude that:

- The main economic activities of organisations are skewed towards the consumer markets and the value chain addition stages of the FMCGs.
- The position held in the company (designation) is an indication that the incumbent can act or cannot as a company representative of the employer based on his or her designation in the management hierarchy.
- The proportion of women with a tertiary education, who are employed, is less than that of men with the same level of education, signifying gender disparity in the sector.
- It is also established that supply chain companies are lagging behind in staff development programmes, signifying that programmes aimed at creating awareness on the need for integrated networks for achieving strategic fit, are inadequate.

It appears that consumer markets are the main players in the FMCGs. It is noted that the designation of staff should be considered serious enough to address the gender disparity in favour of males.

Cross tabulations of demographics

Outcomes of cross tabulation performed on the findings of the study establish that

- Males are dominating in managerial positions, while females occupy operational positions.
- There is a strong relationship between the organisation's main economic activity and the competitive corporate strategy being implemented.
- It is also held that popular competitive strategies, in order of popularity, are: broad differentiation strategy (55.3 percent) preferred by wholesalers; low cost provider strategy (54 percent) preferred by consumer/retailers; as well as focused differentiation strategies (30 percent) implemented largely by manufacturers (Table 6.6.2). These strategies should be given priority when strategic choices are being made.
- There is also a strong relationship between the highest qualification and core organisational function that highly qualified people are employed for in the manufacturing organisations, while less qualified people are employed by producers, distributors and suppliers because such organisations do not require highly qualified people, given the nature of jobs in these sectors, dominated by labourers and drivers.

It is held that supply chain organisations need to undertake value adding processes and improve the skills and earnings of their employees to uplift their standards of living, alongside the principles of sustainability, social responsibility and economic viability.

6.8.2 Competitive strategies, challenges and synergies of SCICS

Main findings regarding competitive strategies conclude that implementation of focused differentiation; broad differentiation; cost leadership or a value discipline strategy is encouraged. This is done because any one of these ensures that supply chain organisations can utilise their resources

economically and achieve the desired level of competitiveness and economic viability. They are also an essential aspect to the acceleration of SCICS inherent in supply chain cost savings, while maintaining the same quality.

In addition, it is established that SCICS implementation ensures that all parts of an organisation can work collectively to the achievement of a common goal. However, this goal is yet to be achieved by supply chain organisations in the FMCG sector for KZN. Findings reveal that the problems are based in a lack of trust across supply chain firms and that their strategies do not support the overarching goal of integration but rather act as a sequence of separate silos.

Outcomes of the study uncover several reasons why supply chain firms should revisit their designs. This includes ensuring that there is intra-intercompany integration built on achieving competitiveness and sustainable profitability, through incremental, continuous improvement and customer satisfaction.

It is believed that remedying these challenges would ensure that satisfied customers will return with an increased level of loyalty and willingness to buy the firm's products. The ripple effects of the paradigm shift will be felt across the network of supply chain partners.

6.8.3 Evaluation of resource capabilities using a model

The evaluation of the resource capabilities of supply chain firms, using McKinsey's 7-s framework/model, indicates that the model facilitates intra-intercompany integration and ensures that sustainable competitive advantage and profitability is achieved. It is held that the 7-s elements of the firms' resource capabilities (strategy; systems; structure; style; staff; and shared values) have a significant positive influence in all the seven domains included in this segment. The ssignificance is that not any one element of the

resource capability can be altered, without affecting the other connected elements.

It can be concluded that synthesising the resource capabilities of supply chains can ensure successful implementation of sustainable competitive advantage for SCICS and strategic fit.

Furthermore, outcomes of factor analysis performed on the seven resource capabilities (McKinsey's 7-s framework), show that all the measures were extremely reliable, as the Cronbach's alpha values were all above 0.8. Similar outcomes were revealed by Wilcoxon Signed Ranks tests. McKinsey's 7-Ss elements are perceived to have a major positive impact on all areas (strategy, systems, structure, style and shared values) to the successful implementation of SCICS and strategic fit.

In addition, conclusions drawn on the performance measures are that four main supply chain decision/process areas (planning; evaluation of supply information link at strategic level; make-buy; and delivered in-full on-time and accurately invoiced), to determine performance measures for achieving SCICS and strategic fit for selected FMCGs, were examined. It is concluded that all of the nine order planning activities of materials and services variables are extremely important (mean<3) to the achievement of sustainable competitive advantage for SCICS and strategic fit for selected FMCGs in KZN. Furthermore, outcomes of a chi-square goodness of fit test reveals that the variables were an extremely important ($p<.0005$) measurement impacting SCICS in all the cases included in this variable. Similar conclusions are also drawn regarding the rest of the three remaining performance measures (evaluation of supply information links at strategic level; make-buy; and delivered in-full on-time and accurately invoiced).

6.9 CHAPTER SUMMARY

Deliberation on statistical presentations, analysis and interpretations of research findings were undertaken using Chi-square goodness-of-fit-test. This was applied to categorical data on the perceived impact of SCICS in achieving strategic objectives; challenges impacting SCICS and the evaluation of the resource capabilities of FMCGs to implement SCICS. Chi-square goodness-of-fit-test and Wilcoxon Signed Ranks tests were used to establish if any of the response options were selected significantly more or less often than others. Results indicated that the identified variable has a positive ($p<.0005$) impact in all the cases. Findings of the study, formulated using Cronbach's alpha, revealed that all the measures were extremely reliable, as the alpha values were above 0.8 and some were above 0.9.

Cross tabulations undertaken showed that a significant relationship exists between gender and designation; main economic activity and the organisational strategy; as well as between educational qualification and core function of the organisation ($p<.0005$). In respect of performance measures, findings of the study indicate that all the variables included in all the focus areas are perceived to be important to the achievement and success of SCICS monitoring and evaluation.

The next chapter focuses on drawing conclusions and making recommendations to the study. Potential areas for further studies will also be reflected on.

CHAPTER 7

CONCLUSIONS AND RECOMMENDATIONS

7.1 INTRODUCTION

The presentation, analysis and interpretation of research findings in the light of relevant literature were the focus of the previous chapter; this included the primary objective and sub-objectives of the study.

This chapter focuses on the summation of the research objectives; key findings; recommendations; and constraints of the study. New knowledge contributed to the discipline of supply chain management is reflected on, while recommendations for future, potential areas of study are examined.

7.2 RESEARCH OBJECTIVES REVISITED

The primary objective of the study was to establish whether and what type of competitive corporate strategies are being implemented by selected FMCGs, in order to determine performance measures for achieving sustainable competitive advantage for SCICS and strategic fit.

The supporting objectives were to analyse the competitive corporate strategies that are being implemented; and to synthesise the challenges that impact the design and implementation for SCICS. It also aims to, by using a

framework, evaluate the impact of the resource capabilities of supply chains to implement SCICS; and finally to determine performance measures for achieving sustainable competitive advantage for SCICS and strategic fit for selected FMCGs in KZN.

These objectives have been achieved.

7.3 KEY RESEARCH FINDINGS

7.3.1 Competitive corporate FMCGS are implementing

Findings of the study indicate that implementing a preferred competitive strategy, other than the one below, 20 percent ensures that the organisation can utilise its resources economically and achieve the desired levels of competitive advantage and profitability.

The outcomes of cross tabulations however, reveal that certain strategies are significantly selected more often than others. Those implementing low cost strategies constitute more than half (54 percent) of respondents in retailers, whereas implementing broad differentiation constitutes more than half (55 percent) in wholesalers. About two thirds (62.2%) of respondents are from producers organisations executing focused differentiation (Figure 6.6.2).

This finding signifies that there is a significant relationship between the main economic activity of the organisation and the corporate strategy it is implementing in the FMCGs of KZN.

It is held that the nature of a supply chain company's main economic activity determines the strategic option the company is implementing, in order to integrate its strategic goals and customer satisfaction. It appears that implementing any one of these popular strategies is a positive move towards achieving sustainable advantage for SCICS and strategic fit.

7.3.2 The Impact of SCICS on the competitiveness of FMCGs

The results show that a substantial majority of respondents indicate that supply chain companies are partially integrated with the corporate strategy (Table 6.3a; 6.3b). It was also found that supply chain stages in KZN have yet to achieve sustainable competitive advantage because there is partial integration.

This is attributed to, among others, lack of trust and knowledge of synergies that arise from achieving strategic fit. It was also found that many organisations are still pursuing their objectives independently, following traditional practices of perceiving persisting rivalries.

7.3.3 Challenges impacting on the implementation of SCICS

Outcomes of the study show that the following variables have a significantly large impact on SCICS implementation and should be addressed.

These are:

- *Extent and design for SCICS implementation*
- *Ineffective communication of the firms' strategy*
- *Non-integration of supply chain with the organisation strategy*
- *Lack of top management support to SCICS implementation*
- *Resistance to change supply chain systems by management leadership*
- *Misunderstanding of how supply chains are defined*
- *Unwillingness to share information*
- *Cross functional conflicts*
- *Inflexibility of organisational structure*
- *Inadequate supply chain performance measures*
- *Workforce incentives not aligned with the organisation's strategy*
- *Inflexible organisational systems and processes*
- *Inadequate supply chain competencies*
- *Inadequate supply chain networks across supply chains*

- *Core competencies are not aligned with strategy*
- *Human capital is not effectively developed to support SCICS implementation*
- *Social capital was not effectively developed to support SCICS implementation*

Remedying these challenges to the degree necessary, would ensure that critical focus areas for the establishment of SCICS and strategies are achieved.

7.3.4 Evaluation of resource capabilities using McKinsey's 7-S model

Findings of the study indicate that, overall, all the dimensions have a significant positive influence on all the focus areas included in this variable (Table 5.25 - 5.31).

It is held that the key elements that make up the resource capabilities of supply chain stages, have a significant positive influence, in each case, in all the seven areas included in this variable.

These are:

- *Strategy*
- *Systems*
- *Structure*
- *Staff*
- *Skills*
- *Shared values*

Resource capabilities of a company are extremely important for improving superior performance, integrating departments with processes and determining how best to achieve SCICS. The significance that it is imperative for all the elements of the 7s framework to stay connected, as a framework of a web, to ensure the successful implementation of sustainable competitive

advantage for SCICS and strategic fit. The resource capabilities that make up these key elements of strategy execution, should be customised for SCICS and achieve strategic fit.

7.3.5 Performance measures for achieving SCICS and strategic fit

Findings on the performance measures show are that all variables in this category (order planning; valuation of supply information link at strategic level; make-buy decisions; as well as storage and delivery relationship management skills) are extremely important to the achievement of SCICS.

These should be adopted as performance measures across supply organisations, to determine the level of SCICS.

7.4 RECOMMENDATIONS

7.4.1 Competitive corporate FMCGs are implementing

The study recommends that when strategic choice decisions are made, companies should give priority to strategies that are relative to the nature of the organisation's main, economic activity.

7.4.2 The impact of SCICS on the competitiveness of FMCGs

This enormous impact of perceived challenges requires the creation of a regulated environment/platform, constituted by a network channel of partners who are committed to establish inter intra-intercompany integration for strategic fit (Figure 7.1). Thereby positively influencing growth; sales; profitability, and competitive advantage, through the implementation of TCO and the 3BL philosophy (Table 5.8; Figure 5.8).

7.4.3 Challenges impacting on the implementation of SCICS

A recommendation is that FMCGs should endeavour to achieve intra-intercompany integration across supply chain stages into a cohesive whole, since the findings of the study revealed all the challenges were perceived to

have a significantly large impact on SCICS implementation and should be addressed.

It is believed that addressing these challenges to the degree necessary, may ensure that critical focus areas for the establishment of SCICS and strategic fit are achieved.

A network (web) supply chain partners

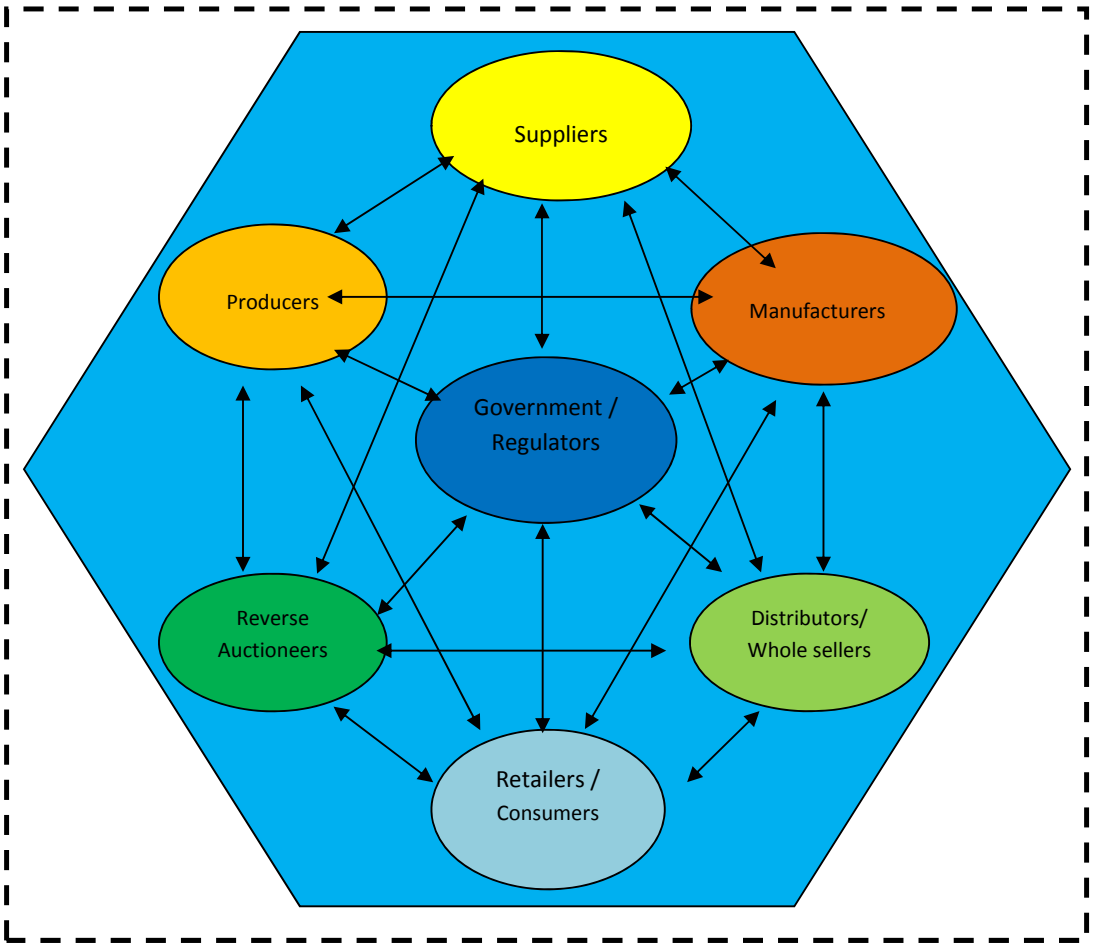

Figure 7.1: Supply network (web)

7.4.4 Evaluation of resource capabilities for SCICS

It is recommended that FMCGs should put in place all the elements of the McKinsey's 7-s framework of resource capabilities to the degree necessary if they are to succeed in implementing SCICS.

It is imperative that supply chain organisations performs an evaluation of their individual resource capabilities (strategy, structure, systems, style, skills, staff, shared values) to ascertain their readiness to execute the chosen competitive strategy. Since the dimensions all the elements of the framework are interconnected and that they all have a significant positive influence in achieving SCICS serious feasibility studies must be undertaken before altering one element any element. Because altering one element of these key drivers would affect other elements of the organisation.

Therefore FMCGs should ensure that all the elements of the 7s framework stay connected as a framework in the form of a web. Because altering one element will affect other connected elements

7.4.5 Performance measures for achieving SCICS and strategic fit

The performance measure comprising of comprise of planning, sourcing, making/assembling, and collaborative relationships should be used as a criteria for determining the level SCICS. (Table 6.7- Table 6.7).

Also results of the chi-square goodness of fit test performed on the findings also reveals that the variables were an extremely important ($p<.0005$) measurement impacting of SCICS in all the cases included in this variable.

7.5 NEW KNOWLEDGE

Based on synthesising relevant literature, object of the study, research findings as well as analysis and interpretation a framework for achieving SCICS and strategic fit is proposed.

Sustainable competitive advantage through SCICS and strategic fit

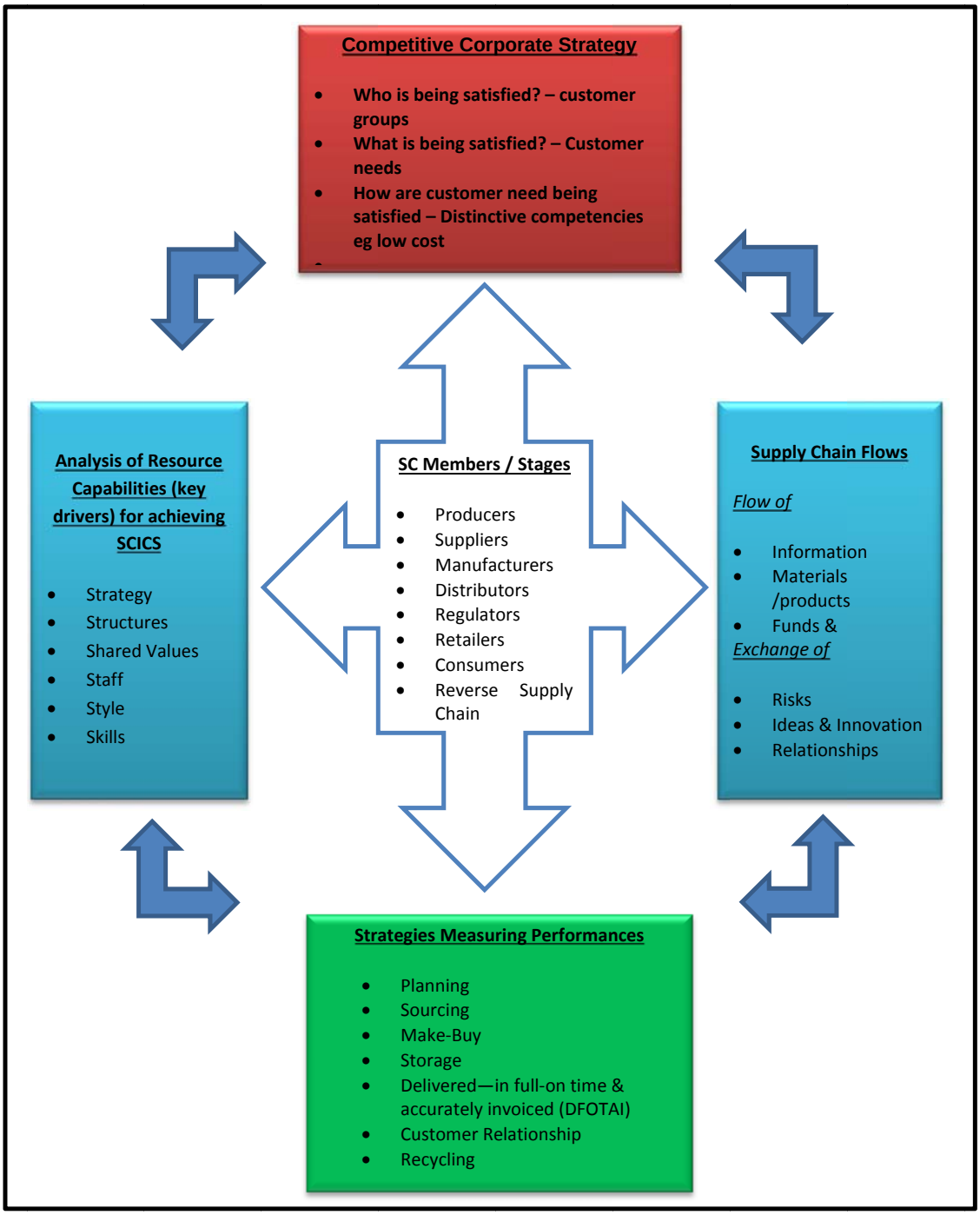

Figure 7.2: A framework for achieving SCICS

The study recommends a paradigm shift of organisations' relationships to intra-intercompany integration across supply chain stages built on a network of partners constituting a supply chain which is monitored and evaluated on the basis of the agreed performance standards. Where supply chain stages integrating the following key focus areas

- competitive corporate strategy
- their resource capabilities
- the different supply chain flows that circulate in view of the
- industry performance measures undertaken in the light of the triple bottom line philosophy for growth; profitability as well competitive advantage through the implementation of TCO.

It is held that SCICS design and implementation is essentially important to achieve competitive advantage, profitability as well as addressing the uncertainties inherent in the supply chain stages (Figure 7.2). Integrating the needs of customers and suppliers into a single integrated network supply chain system permits each of the firms to leverage and compensate for their individual resource constraints. Implying that the benefits of integration is enjoyed by all supply chain companies who are willing to invest time and energy required to exchange information, improve communication and share responsibility in the supply chain.

It is further believed that, achieving SCICS and strategic fit would ensure that goals of the supply chain strategy are consistent with the corporate strategy, which is critical to achieving sustainable, social responsibility, environmental stewardship and economic viability.

7.6 RECOMMENDATIONS FOR FURTHER RESEARCH

This thesis would provide information for companies in the FMCG sector in KwaZulu Natal that, relying on just an individual or a single focal supply chain member for economic and industry competitiveness is unsustainable. The field of supply is evolving and adopting SCICS is seen as critical to the survival for many supply chain stage in a volatile FMCG environment. Therefore, more ideas and innovative ways need to be explored in the following areas:

- A study needs to be conducted to establish the impact of hiring people with or without relevant supply chain qualifications, in the supply chain field.
- Further studies should be carried out to explore the feasibility of including the government / regulatory body/s into the supply chain to enforce the pillars of 3BL; social responsibility, environmental stewardship and economic viability – “People, Planet and Profits”.
- It is also recommended that another player be included (collectors) in the supply chain, to assume the role of RSC and complete the loop. This also needs to be explored.

Therefore, SCM is transforming and evolving from operations to finance, to leadership, to innovation, to risk management and to greening. There is an overwhelming responsibility that SCM can manage, in the excellence and competitiveness of companies in general and the FMCG sector in particular.

7.7 CONCLUSION

The essence of this segment is to provide a dove-tailing approach to the thesis. Background of the study and the problem statement are integrated with the conclusions drawn from the study by synthesising literature review, research findings and recommendations.

The need to achieve sustainable competitive advantage and increased stakeholder value in the field of SCM is driven by the phenomena of

integration within the company and across the networks of companies that constitute a supply chain (Lambert 2010:1). In addition, SCM is evolving into a complex system and have reached a stage where it requires a paradigm shift to achieving SCICS and strategic fit (Boyer, and Vereecke, (2009:5); and Chaharsooghi and Heydari (2011:335). Hence the problem statement was to establish the type of competitive corporate strategies that are being implemented by selected FMCGs, in order to determine performance measures for achieving sustainable competitive advantage for SCICS and strategic fit. Key findings and recommendations have been deliberated on. New knowledge, contributing to the field of SCM is highlighted. Recommendations for future potential research areas are made.

To achieve a significant level of 0.95; 350 respondents form the target population of 2 100 companies, from the DCCI were chosen, using systematic sampling procedures. Descriptive and statistical analytical techniques, such as Chi square; Wilcoxon Signed Ranks test; Cronbach's alpha and cross-tabulations were performed to analyse data.

It is established that implementation of focused differentiation; broad differentiation; cost leadership or a value discipline strategy is encouraged. Implementing any one of these competitive strategies ensures that supply chain organisations can utilise their resources economically and achieve the desired level of competitiveness and economic viability. Such strategies have a significant positive affect, in impacting the acceleration of a paradigm shift to sustainable SCICS and strategic fit.

Across supply chain stages in the FMCG sector for KZN, the goal of SCICS is yet to be achieved. There is lack of trust across supply chain firms and strategies crafted/designed do not support the overarching goal of integration, but is rather acting as a sequence of separate and independent silos. Revisiting of supply chain designs is imperative, ensuring that there is intra-intercompany integration built on achieving competitiveness and

sustainable profitability, through incremental continuous improvement and customer satisfaction.

To facilitate the migration to SCICS, the resource capabilities of FMCGs were evaluated using McKinsey's 7-S model. It is held that, the key elements making up the resource capabilities of supply chain stages, have a significant positive influence in determining how best to achieve SCICS. The significance is that it is imperative that all the elements of the 7-s framework be synchronised and stay connected as a web, to ensure the successful implementation of sustainable competitive advantage for SCICS and strategic fit becomes a reality.

Performance measures comprised of order planning; valuation of supply information link at strategic level; make-buy decisions; as well as storage and delivery relationship management, are extremely important measurement criteria for evaluating success or failure for SCICS and strategic fit. These dimensions are essential performance measures across supply organisations, to determine the level of SCICS.

Therefore it is concluded that successfully redesigning and implementing supply chain integration enables supply chain organisations to produce and deliver products profitably in the foreseeable future, without causing degradation in the lens of the triple bottom line (3BL) pillars, comprising of 'people', 'planet', and 'profits. Evidence indicates that SCICS is a tool that limits achieving sustainable competitive advantage, if not integrated with corporate strategy or is an enabling tool for achieving sustainable competitive advantage, if integrated with corporate strategy.

APPENDICES

Appendix I: List of references

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Appendix II: Glossary key concepts

Outlined below are some of the key terminologies and concepts, explained in the context in which they are used in this thesis.

Corporate strategy is the pattern of decisions in an organisation that determines its objectives and purpose. It produces the principal policies and plans for achieving those goals, and defines the range of strategic plans being pursued, the kind of economic and human organisation it intends to be, and the nature of economic and non-economic contributions it intends to make to its shareholders, employees, customers, and communities (Thompson *et al.* 2007:4).

Competitive strategy is defined as the set of customer needs that an organisation seeks to satisfy through its products and services (Thompson *et al.* 2007:133).

Fast Moving Consumer Goods denotes frequently purchased essential or non-essential goods such as food, toiletries, soft drinks, disposable diapers,

merchandise or other items of common or daily use, ordinarily bought by individuals or households for private consumption (Mbhele 2013: 141).

Integration is the process of bringing together different groups, functions or organisations, either formally or informally, physically or by information technology, to work jointly and often concurrently, on a common business purpose (Cordon, Hald and Seifert 2012:11).

Logistics is the process of planning, implementing, and controlling procedures for the efficient and effective transportation and storage of goods, including services and related information from the point of origin to the point of consumption, for the purpose of conforming to customer requirements (Mangan *et al.* 2012:9).

Strategic fit signifies that both the competitive and the supply chain strategies have the same goal so that there is consistency between the customer priorities the organisation wants to satisfy and the supply chain capabilities it aims to build (Thangamuthu 2008:4).

Supply chain is a network of organisations that are involved, through upstream-within-downstream linkages, exchanging the flows of;

- goods from the supplier to the manufacturer, as well as reverse flows related to repairs and material recovery,
- information, ranging from order placement and forecast to capacity and expected delivery dates,
- the financial flows, including trade credit arrangements,
- the exchange of risks between customers and suppliers,
- the exchange of ideas and innovation, and
- the relationships and perceptions of different processes that produce value in the hands of the ultimate consumer (Cordon *et al.* 2012:4).

Supply chain integration is the degree to which an organisation strategically collaborates - interlinks - with its partners and manages intra- and inter-organisational processes, in order to achieve efficient and effective flows of products, services, information, money and decisions, of the companies that form the supply chain into a cohesive whole (Chopra and Meindl 2010:370, Mangan *et al.* 2012:11, and Savonia-ammattikorkeakoulu *et al.* 2014:46)

Supply chain profitability is the total profit to be shared across all supply chain stages (Mangan *et al.* 2012: 336 and Cordon *et al.* 2012:3).

Supply chain management is the collaborative effort of multiple channel stages to design, implement and manage value-added processes, to meet the real needs of the end-customer, so that merchandise is produced and distributed at the right quantities, to the right locations, and at the right time, in order to minimise system wide costs, while satisfying service level requirements (Savonia-ammattikorkeakoulu *et al.* 2014:4).

Supply chain stage / partners refers to major players, such as employees, customers, retailers, wholesalers, transporters, manufacturers, intermediaries, regulators and civil society (Cordon *et al.* 2012:222).

Supply chain sustainability signifies the management of environmental, social and economic impacts, and the encouragement of good governance practices, throughout the lifecycles of goods and services. (Sisco, Chorn and Pruzan-Jorgensen 2010:5).

Appendix III: Research questionnaire

SUPPLY CHAIN INTEGRATION WITH COMPANY STRATEGY (SCICS) FOR SELECTED COMPANIES IN FAST MOVING CONSUMER GOODS IN KWAZULU-NATAL, SOUTH AFRICA.

It will take approximately 20 minutes to answer these questions. The information provided will only be used for research purposes and will be aggregated with other responses and only the overall or average information will be used. Your identity and individual answers will be kept totally anonymous. Participants are kindly required to answer objectively the following questions.

SECTION A: BACKGROUND INFORMATION

1. **What is your core business function in the Fast Moving Consumer Goods (FMCG) of KZN, South Africa?**

   (Select ONE option only)

Core Business Function	Tick (✓)
Consumers (Retail Outlets)	
Wholesaler	
Distributor/Supplier	
Manufacturer	
Producer (e.g. farmer)	
Other: Specify	

2. **Indicate your position in the Supply Chain function of the company**

Job Title	Tick (✓)
Chief Executive Officer	
Director	
Manager	
Operational staff	

Other: Specify	

3. **Indicate your gender**

Gender	Tick (✓)
Male	
Female	

4. **Kindly indicate your highest qualification relevant to your position in the company.**

Qualification	Tick (✓)
National Senior Certificate/Matric	
Diploma	
Degree	
Honours	
Masters	
Doctors Degree	

5. **Indicate the number of staff development workshops/programmes you have attended in the last 12 months that were aimed at improving business competitive advantage. (Select only ONE option)**

	Tick (✓)
None	
One	
Two	
Three or more	

SECTION B: STRATEGIES SELECTED FMCG COMPANIES IN KWAZULU-NATAL, SOUTH AFRICA ARE IMPLEMENTING.

6. **Indicate which ONE of the following types of business strategy most closely describes the strategy that your company is implementing. (Select only ONE option)**

Strategies	Tick (✓)
Low-cost provider: strategy where the company seeks to be the lowest cost provider to most customer segments.	
Broad differentiation: strategy where the company seeks to develop products that offer unique attributes that are valued by customers.	
Best cost provider: strategy where emphasis is on differentiation with the aim of making an upscale product at a lower cost that gives customers more value for their money.	
Focused differentiation: a strategy which concentrates on one or two segments of the market using either a cost or differentiation focus.	
Defender: organisation that has narrow product-market domains and devotes their attention to improving efficiency of their existing operations.	
Prospector: organisation that continually search for market opportunities and respond to emerging environmental trends.	
Analyser: organisation that operate in two types of product-market domains. In their stable areas, they operate routinely and efficiently. In their more turbulent areas, top managers watch their competitors closely for new ideas, and then they rapidly adopt those that appear to be the most promising.	

Reactor: organizations in which top managers frequently perceive change and uncertainty occurring in their organizational environments but are unable to respond effectively because their organization lacks a consistent strategy/structure relationship	
Resource-based: organisation where the source of competitive advantage resides within the company. These capabilities lead to competencies which are difficult for competitors to copy.	
The "value disciplines": organisation that creates customer value and provide a competitive advantage based on operational excellence, product leadership, and customer intimacy.	

7. **Indicate the extent to which supply chain strategy is integrated with the company strategy. (<u>Select only ONE option</u>)**

	Tick (✓)
Not integrated at all	
Partially integrated	
Completely Integrated	
Not sure	

8 **Indicate the type of impact that you believe the Supply Chain Integration have on the following areas**

	Large negative impact	**Small negative impact**	**No impact**	**Small positive impact**	**Large positive impact**
8.1 Growth					
8.2 Sales					
8.3 Revenue					
8.4 Maximisation of profitability through aggregate planning					
8.5 Competitive advantage					
8.6 Cost reduction					
8.7 Customer satisfaction					
8.8 Value creation for shareholders					
8.9 Value addition to customers					

8.10 Continuous-sustainable improvement					

9 **Indicate the effect that the following perceived challenges at your workplace have on effective Supply Chain integration with the Company (SCICS).**

Perceived challenges	No effect	Small effect	Moderate effect	Large effect	Very Large effect
9.1 Business strategy is not effectively communicated to supply chain staff					
9.2 Supply chain strategy is not integrated with the company strategy					
9.3 Lack of top management support to the SCICS approach					
9.4 Resistance to change in supply chain systems by management leadership					
9.5 Misunderstanding of how supply chain is defined					
9.6 Unwillingness to share information due to lack of trust amongst supply chain members.					
9.7 Cross functional conflicts.					
9.8 Inflexibility of organisational structure					
9.9 Inadequate Supply Chain performance measures					
9.10 Workforce incentives not aligned with business strategy					
9.11 Inflexible organisational systems and processes					
9.12 Inadequate supply chain competencies					
9.13 Inadequate supply chain networks with the upstream-internal-downstream systems					
9.14 The core competencies are not aligned with strategy of the organisation					
9.15 Human capital is not effectively developed to support SCICS implementation					
9.16 Social capital is not effectively developed to support strategy implementation					

SECTION C: MCKINSEY'S 7S RESOURCES CAPABILITY MODEL

10 **There is a broad agreement on how resources can build capabilities that lead to competencies which are difficult for competitors to copy (Jooste & Fourie, 2009) and (Peters 2011). They state that McKinsey's 7S model can be used to help improve performance of a company, integrate departments with processes and determine how best to implement strategy.**

<u>Using the specified rating scales</u> from 1 to 7, rate the impact/effect that the following items have in your company in achieving strategic fit between supply and demand.

10.1 **Strategy**

RATE …		1	2	3	4	5	6	7	
10.1.1 The effectiveness of the route the company has chosen for gaining a sustainable competitive advantage	Large negative impact/effect								Large positive impact/effect
10.1.2 The effectiveness of the route the	Large								Large positive

	company has chosen for future growth	negative impact/effect								impact/effect
10.1.3	The effectiveness of the company strategy in achieving sustainable profitability	Large negative impact/effect								Large positive impact/effect
10.1.4	The effectiveness of the company strategy in achieving customer satisfaction	Large negative impact/effect								Large positive impact/effect
10.1.5	The effectiveness of the company strategy in dealing with competitive pressure	Large negative impact/effect								Large positive impact/effect
10.1.6	The effectiveness of the company strategy in dealing with changing customer demands	Large negative impact/effect								Large positive impact/effect
10.1.7	The effectiveness of the company strategy in responding to internal environmental changes	Large negative impact/effect								Large positive impact/effect
10.1.8	The effectiveness of the company strategy in responding to external environmental changes	Large negative impact/effect								Large positive impact/effect
10.1.9	The effectiveness of the strategy used to integrate supply and demand management within the company	Large negative impact/effect								Large positive impact/effect
10.1.10	The effectiveness of the strategy used to integrate supply and demand management across companies.	Large negative impact/effect								Large positive impact/effect

10.2 **Systems**

RATE …			**1**	**2**	**3**	**4**	**5**	**6**	**7**	
10.2.1	The effectiveness of the company systems to increase growth	Large negative impact								Large positive impact
10.2.2	The effectiveness of the company's policies	Large negative impact								Large positive impact
10.2.3	The effectiveness of the company's media, information and communication technologies (MICT)	Large negative impact								Large positive impact
10.2.4	The effectiveness of the company's remuneration and reward policies	Large negative impact								Large positive impact
10.2.5	The effectiveness of the controls put in place in revealing any deviations	Large negative impact								Large positive impact
10.2.6	The effectiveness of the company systems to maximise profitability through aggregate planning	Large negative impact								Large positive impact
10.2.7	The effectiveness of the company systems to gain competitive advantage	Large negative impact								Large positive impact
10.2.8	The effectiveness of the company systems in cost reduction	Large negative impact								Large positive impact
10.2.9	The effectiveness of the company systems in customer satisfaction	Large negative impact								Large positive impact

10.3 **Structure**

RATE …		**1**	**2**	**3**	**4**	**5**	**6**	**7**	

10.3.1	The effectiveness of the supply chain strategic plan in building competitive advantage.	Large negative impact								Large positive impact
10.3.2	The effectiveness of the structure of the company	Large negative impact								Large positive impact
10.3.3	The effectiveness of your management hierarchy	Large negative impact								Large positive impact
10.3.4	The effectiveness, in general, of various departments in coordinating activities	Large negative impact								Large positive impact
10.3.5	The effectiveness, in general, of team members in organizing and aligning themselves.	Large negative impact								Large positive impact
10.3.6	The effectiveness of the decision making/controlling structure	Large negative impact								Large positive impact
10.3.7	The effectiveness of the lines of communication used.	Large negative impact								Large positive impact

10.4 **Style**

RATE …			**1**	**2**	**3**	**4**	**5**	**6**	**7**	
10.4.1	The effectiveness of the leadership approach of top management towards employees	Large negative impact								Large positive impact
10.4.2	The effectiveness of the leadership approach of top management to the outside world	Large negative impact								Large positive impact
10.4.3	The effectiveness of the leadership approach of top management towards suppliers	Large negative impact								Large positive impact
10.4.4	The effectiveness of the leadership approach of top management towards customers	Large negative impact								Large positive impact
10.4.5	The effectiveness of teams/groups in achieving goals in the organization.	Large negative impact								Large positive impact
10.4.6	The strength of the cultural style of the organization (strong culture is one which promotes transparency, integrity etc.)	Large negative impact								Large positive impact
10.4.7	The influence of the company on employees' basic ethics (values)	Large negative impact								Large positive impact

10.5 **Staff**

RATE …			**1**	**2**	**3**	**4**	**5**	**6**	**7**	
10.5.1	The adequacy of the number of personnel in the company	Not at all adequate								Extremely adequate
10.5.2	The adequacy of the type of personnel in the company	Not at all adequate								Extremely adequate
10.5.3	The adequacy of employee training	Not at all								Extremely

		adequate								adequate
10.5.4	The adequacy of employee motivation	Not at all adequate								Extremely adequate
10.5.5	The adequacy of qualifications of the personnel	Not at all adequate								Extremely adequate
10.5.6	Your agreement that there are no gaps in required competencies"	Strongly disagree								Strongly agree
10.5.7	Your agreement that the staff, in general, have a good work ethic	Strongly disagree								Strongly agree
10.5.8	Your agreement that the staff, in general, are able to adapt to changes in the fast moving consumer goods sector	Strongly disagree								Strongly agree

10.6 **Skills**

RATE …			**1**	**2**	**3**	**4**	**5**	**6**	**7**	
10.6.1	The adequacy of the distinctive capabilities of the organization as a whole	Not at all adequate								Extremely adequate
10.6.2	The adequacy of the distinctive competencies of the company's personnel	Not at all adequate								Extremely adequate
10.6.3	The adequacy of the strongest skills represented within a team	Not at all adequate								Extremely adequate
10.6.4	The adequacy of the current employees' ability to do the job	Not at all adequate								Extremely adequate
10.6.5	The adequacy of the monitoring and assessment of skills within the company	Not at all adequate								Extremely adequate
10.6.6	Your agreement that there are no gaps in required skills	Strongly disagree								Strongly agree

10.7 **Shared values**

RATE the impact/effect that the guiding principles of the organisation (i.e. the shared beliefs & goals, aspirations and values) have on …			**1**	**2**	**3**	**4**	**5**	**6**	**7**	
10.7.1	... strategy chosen	Large negative impact/effect								Large positive impact/effect
10.7.2	… systems used	Large negative								Large positive

	impact/effect								impact/effect
10.7.3 … organisational structure	Large negative impact/effect								Large positive impact/effect
10.7.4 … achieving integration of supply chains with strategy implementation processes	Large negative impact/effect								Large positive impact/effect
10.7.5 … management style	Large negative impact/effect								Large positive impact/effect
10.7.6 … personnel within the company	Large negative impact/effect								Large positive impact/effect
10.7.7 … type of skills possessed by members of staff	Large negative impact/effect								Large positive impact/effect

SECTION D: PERFORMANCE MEASURES TO FOR INTEGRATING OF SUPPLY CHAIN WITH BUSINESS STRATEGY

11 **Indicate how important you perceive the following dimensions of performance measures to be for the integration of supply chain with business strategy**

Supply chain performance measures	Extremely Important	Important	Slightly Important	Not really Important	Not at all Important
Item	**1**	**2**	**3**	**4**	**5**
Order planning of material & or services					
11.1 Collaborative forecasting					
11.2 Accuracy of forecasting					
11.3 Capacity planning					
11.4 The time in between the receipt of customer order until the delivery of finished goods to the customer. (Order cycle time)					
11.5 Order entry methods					
11.6 Human resource productivity					
11.7 Skill fullness of staff					
11.8 Management style					
11.9 Competency of staff					
Planning & Evaluation of supply information link at strategic level					
11.10 Supplier delivery performance					
11.11 Supplier lead-time against industry norm					
11.12 Supplier pricing against market					
11.13 Quality level against the market					
11.14 Efficiency of cash-flow method					
11.15 Supplier booking-in procedures					
11.16 Customer satisfaction					
Measures at production level relating to finances (Make-Buy Decisions)					
11.17 Percentage of defects					
11.18 Capacity utilisation					

11.19	Effectiveness of scheduling techniques					
11.20	Range of products and services					
11.21	Utilisation of economic order quantity					
11.22	Measures for delivery performance evaluation					
Storage & Delivery Relationships						
11.23	Quality of delivered goods					
11.24	Flexibility of service systems					
11.25	Effectiveness of enterprise distribution planning schedule					
11.26	Effectiveness of delivery invoice methods					
11.27	Number of faultless delivery notes invoiced					
11.28	Percentage of urgent deliveries					
11.29	Percentage of finished goods in transit					
11.30	Delivery reliability performance					

Appendix IV: Analysis of results

Demographics

Core function/Main economic activity E (Q1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Consumers	50	20.8	20.8	20.8
	Wholesaler	38	15.8	15.8	36.7
	Distributor/Supplier	35	14.6	14.6	51.3
	Manufacturer	80	33.3	33.3	84.6
	Producer	37	15.4	15.4	100.0
	Total	240	100.0	100.0	

Position/Designation (Q2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	CEO	12	5.0	5.0	5.0
	Director	75	31.3	31.3	36.3
	Manager	115	47.9	47.9	84.2
	Operational staff	32	13.3	13.3	97.5
	Other	6	2.5	2.5	100.0
	Total	240	100.0	100.0	

Gender (Q3)

	Frequency	Percent	Valid Percent	Cumulative Percent

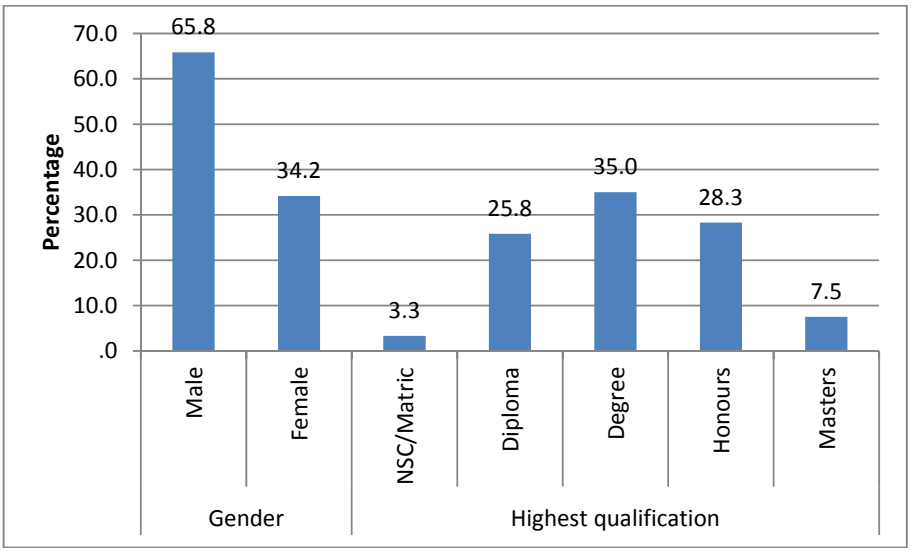
Valid	Male	158	65.8	65.8	65.8
	Female	82	34.2	34.2	100.0
	Total	240	100.0	100.0	

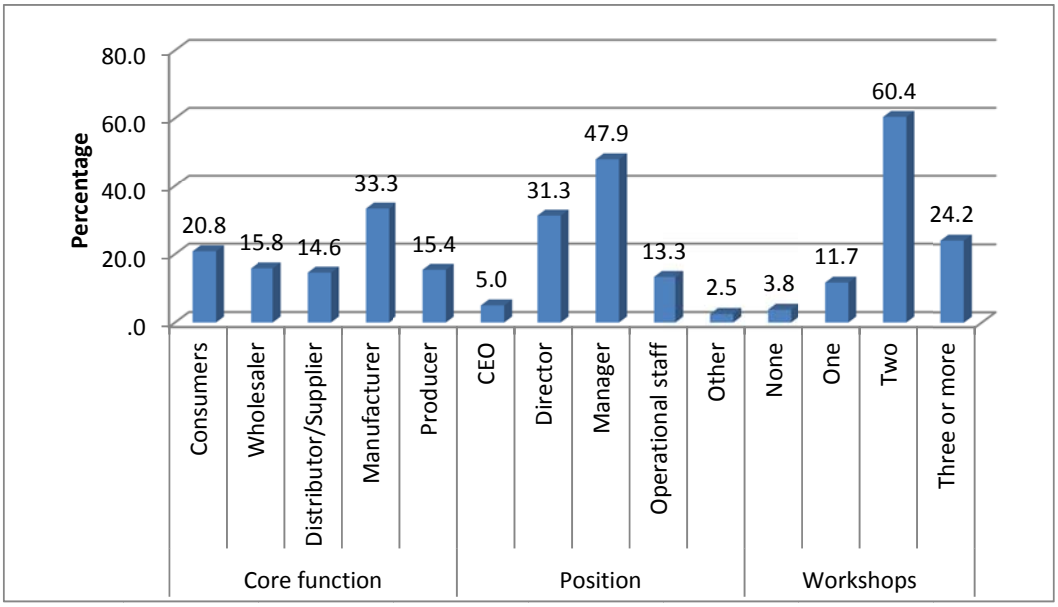
Highest qualification (Q4)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NSC/Matric	8	3.3	3.3	3.3
	Diploma	62	25.8	25.8	29.2
	Degree	84	35.0	35.0	64.2
	Honours	68	28.3	28.3	92.5
	Masters	18	7.5	7.5	100.0
	Total	240	100.0	100.0	

Workshops/Training programmes (Q5)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	None	9	3.8	3.8	3.8
	One	28	11.7	11.7	15.4
	Two	145	60.4	60.4	75.8
	Three or more	58	24.2	24.2	100.0
	Total	240	100.0	100.0	

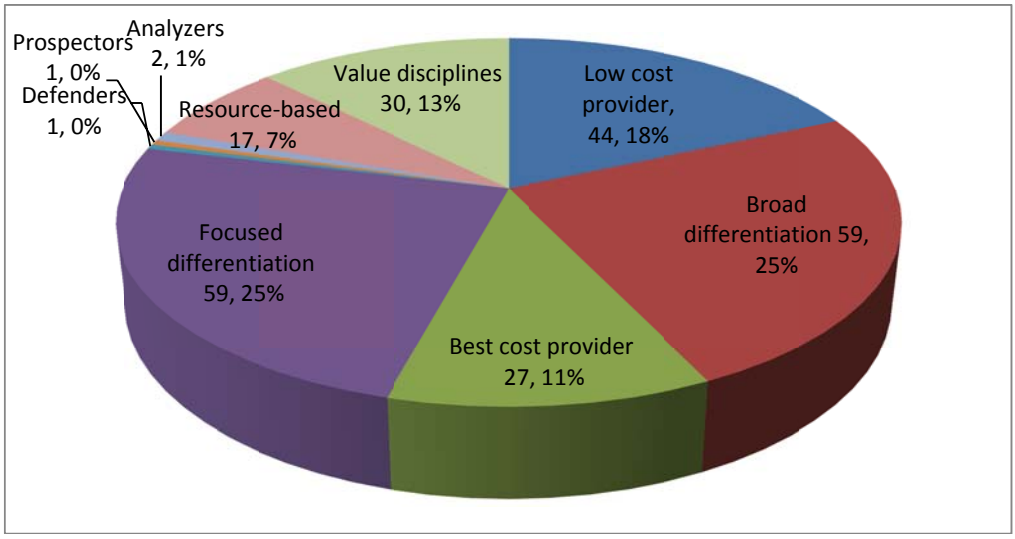




Research Objective 1

Business Strategy (Q6)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low cost provider	44	18.3	18.3	18.3
	Broad differentiation	59	24.6	24.6	42.9
	Best cost provider	27	11.3	11.3	54.2
	Focused differentiation	59	24.6	24.6	78.8
	Defenders	1	.4	.4	79.2
	Prospectors	1	.4	.4	79.6
	Analysers	2	.8	.8	80.4
	Resource-based	17	7.1	7.1	87.5
	Value disciplines	30	12.5	12.5	100.0
	Total	240	100.0	100.0	



Business Strategy (Q6)

	Observed N	Expected N	Residual
Low cost provider	44	26.7	17.3
Broad differentiation	59	26.7	32.3
Best cost provider	27	26.7	.3
Focused differentiation	59	26.7	32.3
Defenders	1	26.7	-25.7
Prospectors	1	26.7	-25.7
Analysers	2	26.7	-24.7
Resource-based	17	26.7	-9.7
Value disciplines	30	26.7	3.3
Total	240		

Test Statistics

	6 Business Strategy
Chi-Square	165.825[a]
df	8
Asymp. Sig.	.000

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 26.7.

Research Objective 2

Extent

Extent of integration (Q7)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all	7	2.9	2.9	2.9
	Partially	187	77.9	77.9	80.8

	Completely	41	17.1	17.1	97.9
	Not sure	5	2.1	2.1	100.0
	Total	240	100.0	100.0	

Test –chi-square goodness of fit test.

7. Extent of integration

	Observed N	Expected N	Residual
Not at all	7	60.0	-53.0
Partially	187	60.0	127.0
Completely	41	60.0	-19.0
Not sure	5	60.0	-55.0
Total	240		

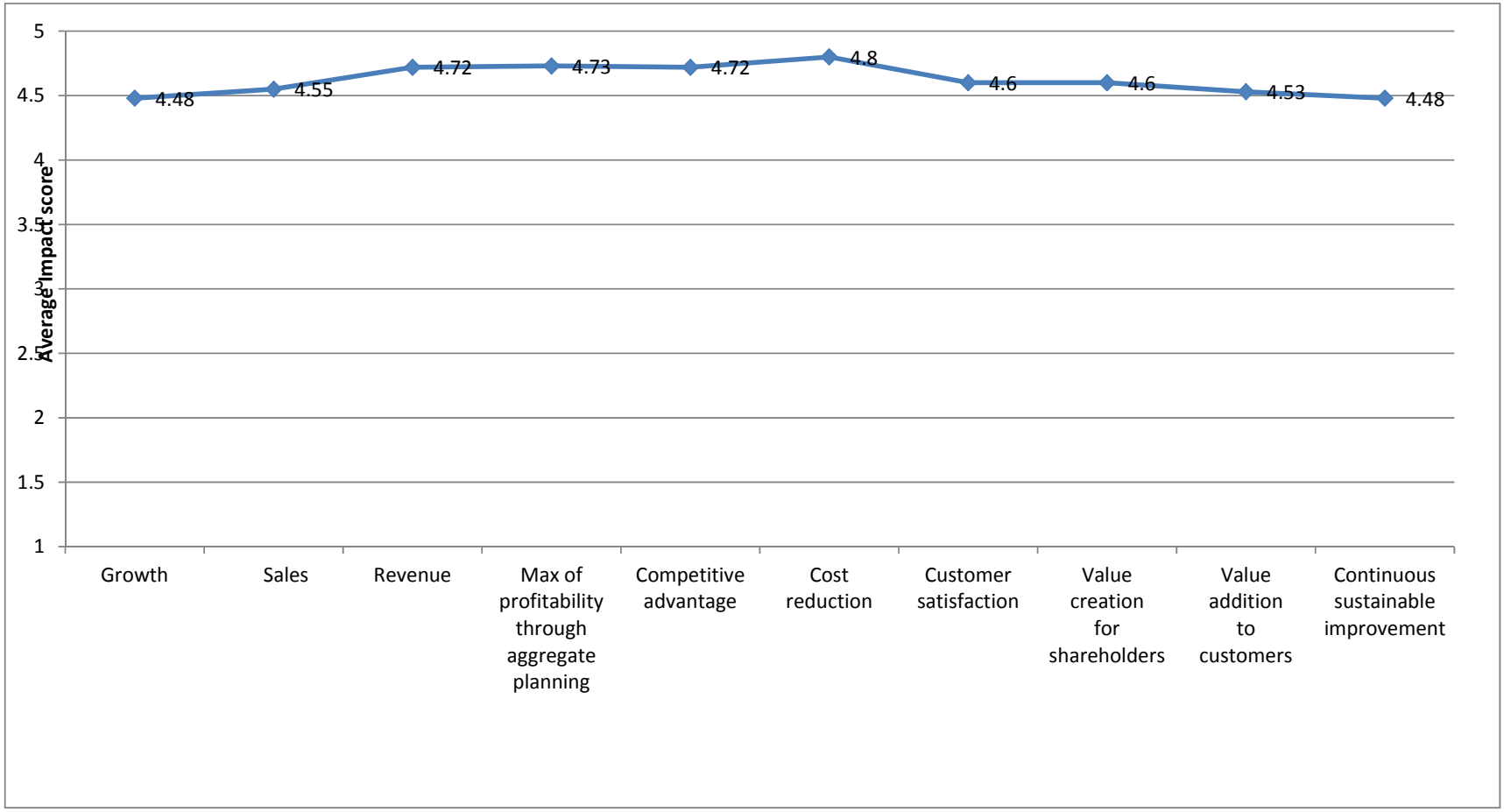
Test Statistics

	7. Extent of integration
Chi-Square	372.067[a]
df	3
Asymp. Sig.	.000

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 60.0.

Impact (Q8)

	Mean
Growth	4.48
Sales	4.55
Revenue	4.72
Maximisation of profitability	4.73
Competitive advantage	4.72
Cost reduction	4.80
Customer satisfaction	4.60
Value creation for shareholders	4.60
Value addition to customers	4.53
Continuous improvement	4.48


5
4.5
4
3.5
3
2.5
2
1.5
1
Average Impact score
4.48
4.55
4.72
4.73
4.72
4.8
4.6
4.6
4.53
4.48
Growth
Sales
Revenue
Max of profitability through aggregate planning
Competitive advantage
Cost reduction
Customer satisfaction
Value creation for shareholders
Value addition to customers
Continuous sustainable improvement

Ranks

		N	Mean Rank	Sum of Ranks
threes - 8.1 Growth	Negative Ranks	228[a]	120.24	27415.50
	Positive Ranks	9[b]	87.50	787.50
	Ties	3[c]		
	Total	240		
threes - 8.2 Sales	Negative Ranks	228[d]	118.85	27097.50
	Positive Ranks	7[e]	90.36	632.50
	Ties	5[f]		
	Total	240		
threes - 8.3 Revenue	Negative Ranks	232[g]	120.46	27946.00
	Positive Ranks	6[h]	82.50	495.00
	Ties	2[i]		
	Total	240		
threes - 8.4 Maximisation of profitability through aggregate planning	Negative Ranks	232[j]	120.96	28062.00
	Positive Ranks	6[k]	63.17	379.00
	Ties	2[l]		
	Total	240		
threes - 8.5 Competitive advantage	Negative Ranks	232[m]	120.03	27846.00
	Positive Ranks	5[n]	71.40	357.00
	Ties	3[o]		
	Total	240		
threes - 8.6 Cost reduction	Negative Ranks	234[p]	121.20	28361.00
	Positive Ranks	5[q]	63.80	319.00
	Ties	1[r]		
	Total	240		
threes - 8.7 Customer satisfaction	Negative Ranks	230[s]	119.74	27540.00
	Positive Ranks	5[t]	38.00	190.00
	Ties	5[u]		
	Total	240		
threes - 8.8 Value creation for shareholders	Negative Ranks	230[v]	119.72	27535.00
	Positive Ranks	5[w]	39.00	195.00
	Ties	5[x]		
	Total	240		
threes - 8.9 Value addition to customers	Negative Ranks	230[y]	118.73	27307.00
	Positive Ranks	4[z]	47.00	188.00
	Ties	6[aa]		
	Total	240		
threes - 8.10 Continuous-sustainable improvement	Negative Ranks	230[ab]	118.61	27281.00
	Positive Ranks	4[ac]	53.50	214.00
	Ties	6[ad]		
	Total	240		

Test Statistics[b]

	threes - 8.1 Growth	threes - 8.2 Sales	threes - 8.3 Revenue	threes - 8.4 Maximisation of profitability through aggregate planning	threes - 8.5 Competitive advantage	threes - 8.6 Cost reduction	threes - 8.7 Customer satisfaction	threes - 8.8 Value creation for shareholders	threes - 8.9 Value addition to customers	threes - 8.10 Continuous-sustainable improvement
Z	-13.063[a]	-13.239[a]	-13.873[a]	-13.975[a]	-13.946[a]	-14.335[a]	-13.714[a]	-13.692[a]	-13.563[a]	-13.492[a]
Asymp. Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

a. Based on positive ranks.

b. Wilcoxon Signed Ranks Test

Perceived challenges (Q9)

Table 5.9:

9.1 Business strategy is not effectively communicated to supply chain staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No effect	3	1.3	1.3	1.3
	Small effect	1	.4	.4	1.7
	Moderate effect	22	9.2	9.2	10.8
	Large effect	133	55.4	55.4	66.3
	Very large effect	81	33.8	33.8	100.0
	Total	240	100.0	100.0	

Table 5.10:

9.2 Supply chain strategy is not integrated with the company strategy

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No effect	2	.8	.8	.8
	Small effect	1	.4	.4	1.3
	Moderate effect	12	5.0	5.0	6.3
	Large effect	135	56.3	56.3	62.5
	Very large effect	90	37.5	37.5	100.0
	Total	240	100.0	100.0	

Table 5.11:

9.3 Lack of top management support to the SCICS approach

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No effect	2	.8	.8	.8
	Small effect	1	.4	.4	1.3
	Moderate effect	11	4.6	4.6	5.8
	Large effect	140	58.3	58.3	64.2
	Very large effect	86	35.8	35.8	100.0
	Total	240	100.0	100.0	

Table 5.12:

Resistance to change in supply chain systems by management leadership

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Small effect	3	1.3	1.3	1.3
	Moderate effect	20	8.3	8.3	9.6
	Large effect	134	55.8	55.8	65.4
	Very large effect	83	34.6	34.6	100.0
	Total	240	100.0	100.0	

Table 5.13:

9.5 Misunderstanding of how supply chain is defined

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Small effect	14	5.8	5.8	5.8
	Moderate effect	54	22.5	22.5	28.3
	Large effect	110	45.8	45.8	74.2
	Very large effect	62	25.8	25.8	100.0
	Total	240	100.0	100.0	

Table 5.14

9.6 Unwillingness to share information due to lack of trust amongst supply chain members.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Small effect	2	.8	.8	.8
	Moderate effect	34	14.2	14.2	15.0
	Large effect	109	45.4	45.4	60.4
	Very large effect	95	39.6	39.6	100.0
	Total	240	100.0	100.0	

Table 5.15

9.7 Cross functional conflicts.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Small effect	4	1.7	1.7	1.7
	Moderate effect	68	28.3	28.3	30.0
	Large effect	118	49.2	49.2	79.2
	Very large effect	50	20.8	20.8	100.0
	Total	240	100.0	100.0	

Table 5.16

9.8 Inflexibility of organisational structure

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Small effect	2	.8	.8	.8
	Moderate effect	62	25.8	25.8	26.7
	Large effect	119	49.6	49.6	76.3
	Very large effect	57	23.8	23.8	100.0
	Total	240	100.0	100.0	

Table 5.17

9.9 Inadequate Supply Chain performance measures

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Moderate effect	36	15.0	15.0	15.0
	Large effect	133	55.4	55.4	70.4
	Very large effect	71	29.6	29.6	100.0
	Total	240	100.0	100.0	

Table 5.18

9.10 Workforce incentives not aligned with business strategy

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Small effect	2	.8	.8	.8
	Moderate effect	35	14.6	14.6	15.4
	Large effect	125	52.1	52.1	67.5
	Very large effect	78	32.5	32.5	100.0
	Total	240	100.0	100.0	

Table 5.19

9.11Inflexible organisational systems and processes

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Moderate effect	26	10.8	10.8	10.8
	Large effect	135	56.3	56.3	67.1
	Very large effect	79	32.9	32.9	100.0
	Total	240	100.0	100.0	

Table 5.20

9.12 Inadequate supply chain competencies

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Moderate effect	17	7.1	7.1	7.1
	Large effect	131	54.6	54.6	61.7
	Very large effect	92	38.3	38.3	100.0
	Total	240	100.0	100.0	

Table 5.21

9.13 Inadequate supply chain networks with the upstream-internal-downstream systems

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Moderate effect	14	5.8	5.8	5.8
	Large effect	122	50.8	50.8	56.7
	Very large effect	104	43.3	43.3	100.0
	Total	240	100.0	100.0	

Table 5.22

9.14 The core competencies are not aligned with strategy of the organisation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Moderate effect	11	4.6	4.6	4.6
	Large effect	124	51.7	51.7	56.3
	Very large effect	105	43.8	43.8	100.0
	Total	240	100.0	100.0	

Table 5.23

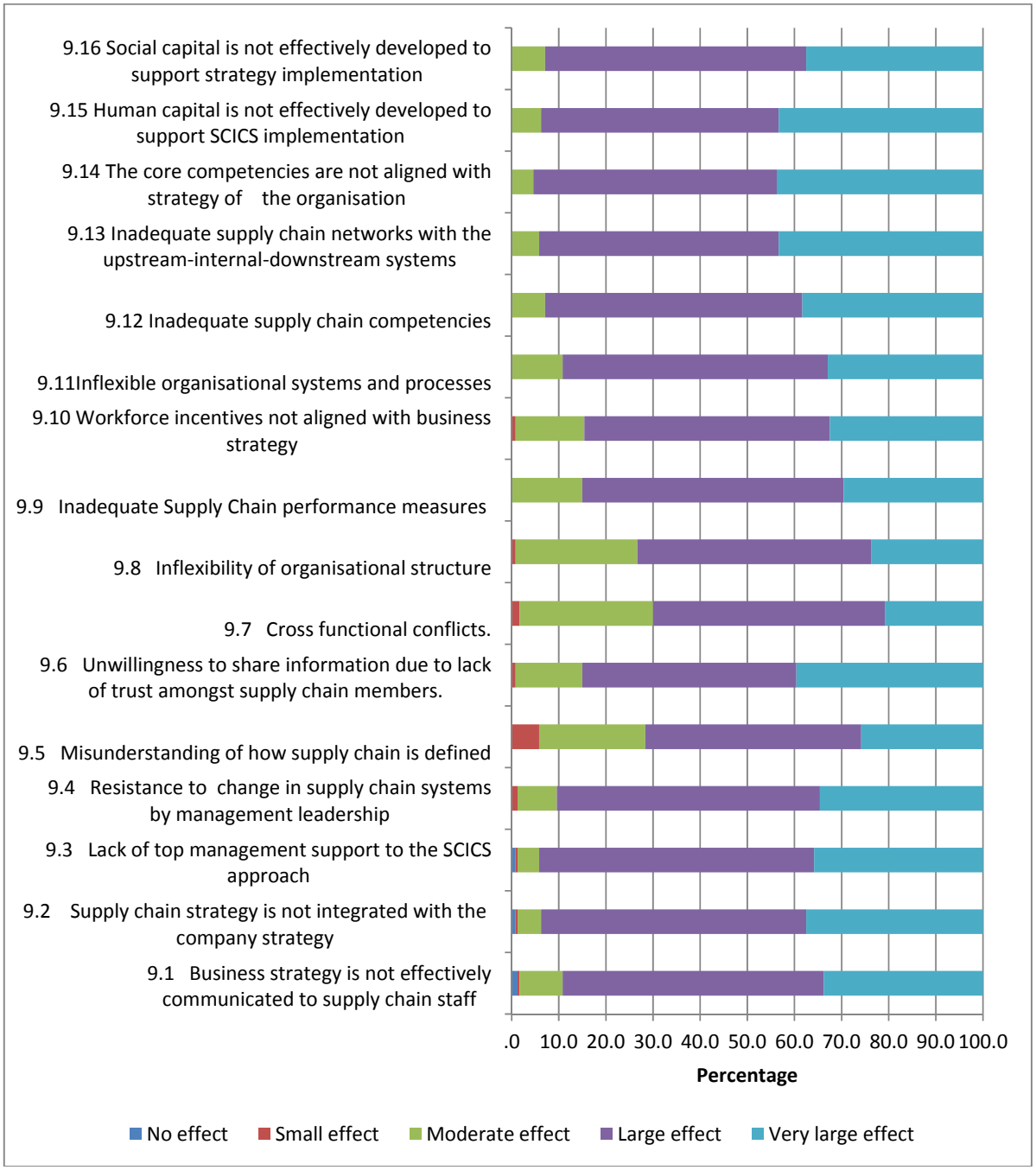
9.15 Human capital is not effectively developed to support SCICS implementation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Moderate effect	15	6.3	6.3	6.3
	Large effect	121	50.4	50.4	56.7
	Very large effect	104	43.3	43.3	100.0
	Total	240	100.0	100.0	

Table 5.24

9.16 Social capital is not effectively developed to support strategy implementation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Moderate effect	17	7.1	7.1	7.1
	Large effect	133	55.4	55.4	62.5
	Very large effect	90	37.5	37.5	100.0
	Total	240	100.0	100.0	


9.16 Social capital is not effectively developed to support strategy implementation
9.15 Human capital is not effectively developed to support SCICS implementation
9.14 The core competencies are not aligned with strategy of the organisation
9.13 Inadequate supply chain networks with the upstream-internal-downstream systems
9.12 Inadequate supply chain competencies
9.11Inflexible organisational systems and processes
9.10 Workforce incentives not aligned with business strategy
9.9 Inadequate Supply Chain performance measures
9.8 Inflexibility of organisational structure
9.7 Cross functional conflicts.
9.6 Unwillingness to share information due to lack of trust amongst supply chain members.
9.5 Misunderstanding of how supply chain is defined
9.4 Resistance to change in supply chain systems by management leadership
9.3 Lack of top management support to the SCICS approach
9.2 Supply chain strategy is not integrated with the company strategy
9.1 Business strategy is not effectively communicated to supply chain staff
.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0 80.0 90.0 100.0
Percentage
No effect
Small effect
Moderate effect
Large effect
Very large effect

Frequencies

	9.1 Business strategy is not effectively communicated to supply chain staff				9.2 Supply chain strategy is not integrated with the company strategy				9.3 Lack of top management support to the SCICS approach				9.4 Resistance to change in supply chain systems by management leadership			
	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual
1	No effect	3	48.0	-45.0	No effect	2	48.0	-46.0	No effect	2	48.0	-46.0		0	48.0	-48.0
2	Small effect	1	48.0	-47.0	Small effect	1	48.0	-47.0	Small effect	1	48.0	-47.0	Small effect	3	48.0	-45.0
3	Moderate effect	22	48.0	-26.0	Moderate effect	12	48.0	-36.0	Moderate effect	11	48.0	-37.0	Moderate effect	20	48.0	-28.0
4	Large effect	133	48.0	85.0	Large effect	135	48.0	87.0	Large effect	140	48.0	92.0	Large effect	134	48.0	86.0
5	Very large effect	81	48.0	33.0	Very large effect	90	48.0	42.0	Very large effect	86	48.0	38.0	Very large effect	83	48.0	35.0
Total		240				240				240				240		

Test Statistics

	9.1 Business strategy is not effectively communicated to supply chain staff	9.2 Supply chain strategy is not integrated with the company strategy	9.3 Lack of top management support to the SCICS approach	9.4 Resistance to change in supply chain systems by management leadership
Chi-Square	275.500[a]	311.542[a]	325.042[a]	286.125[a]
df	4	4	4	4
Asymp. Sig.	.000	.000	.000	.000

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 48.0.

Frequencies

	9.5 Misunderstanding of how supply chain is defined				9.6 Unwillingness to share information due to lack of trust amongst supply chain members.				9.7 Cross functional conflicts.				9.8 Inflexibility of organisational structure			
	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual
1		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0
2	Small effect	14	48.0	-34.0	Small effect	2	48.0	-46.0	Small effect	4	48.0	-44.0	Small effect	2	48.0	-46.0
3	Moderate effect	54	48.0	6.0	Moderate effect	34	48.0	-14.0	Moderate effect	68	48.0	20.0	Moderate effect	62	48.0	14.0
4	Large effect	110	48.0	62.0	Large effect	109	48.0	61.0	Large effect	118	48.0	70.0	Large effect	119	48.0	71.0
5	Very large effect	62	48.0	14.0	Very large effect	95	48.0	47.0	Very large effect	50	48.0	2.0	Very large effect	57	48.0	9.0
Total		240				240				240				240		

Test Statistics

	9.5 Misunderstanding of how supply chain is defined	9.6 Unwillingness to share information due to lack of trust amongst supply chain members.	9.7 Cross functional conflicts.	9.8 Inflexibility of organisational structure
Chi-Square	157.000[a]	219.708[a]	198.833[a]	202.875[a]
df	4	4	4	4
Asymp. Sig.	.000	.000	.000	.000

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected c
b. ell frequency is 48.0.

Frequencies

	9.9 Inadequate Supply Chain performance measures				9.10 Workforce incentives not aligned with business strategy				9.11Inflexible organisational systems and processes				9.12 Inadequate supply chain competencies			
	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual
1		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0
2		0	48.0	-48.0	Small effect	2	48.0	-46.0		0	48.0	-48.0		0	48.0	-48.0
3	Moderate effect	36	48.0	-12.0	Moderate effect	35	48.0	-13.0	Moderate effect	26	48.0	-22.0	Moderate effect	17	48.0	-31.0
4	Large effect	133	48.0	85.0	Large effect	125	48.0	77.0	Large effect	135	48.0	87.0	Large effect	131	48.0	83.0
5	Very large effect	71	48.0	23.0	Very large effect	78	48.0	30.0	Very large effect	79	48.0	31.0	Very large effect	92	48.0	44.0
Total		240				240				240				240		

Test Statistics

	9.9 Inadequate Supply Chain performance measures	9.10 Workforce incentives not aligned with business strategy	9.11Inflexible organisational systems and processes	9.12 Inadequate supply chain competencies
Chi-Square	260.542[a]	237.875[a]	283.792[a]	299.875[a]
df	4	4	4	4
Asymp. Sig.	.000	.000	.000	.000

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 48.0.

Frequencies

	9.13 Inadequate supply chain networks with the upstream-internal-downstream systems				9.14 The core competencies are not aligned with strategy of the organisation				9.15 Human capital is not effectively developed to support SCICS implementation				9.16 Social capital is not effectively developed to support strategy implementation			
	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual
1		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0
2		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0
3	Moderate effect	14	48.0	-34.0	Moderate effect	11	48.0	-37.0	Moderate effect	15	48.0	-33.0	Moderate effect	17	48.0	-31.0
4	Large effect	122	48.0	74.0	Large effect	124	48.0	76.0	Large effect	121	48.0	73.0	Large effect	133	48.0	85.0
5	Very large effect	104	48.0	56.0	Very large effect	105	48.0	57.0	Very large effect	104	48.0	56.0	Very large effect	90	48.0	42.0
Total		240				240				240				240		

Test Statistics

	9.13 Inadequate supply chain networks with the upstream-internal-downstream systems	9.14 The core competencies are not aligned with strategy of the organisation	9.15 Human capital is not effectively developed to support SCICS implementation	9.16 Social capital is not effectively developed to support strategy implementation
Chi-Square	299.500[a]	312.542[a]	295.042[a]	303.292[a]
df	4	4	4	4
Asymp. Sig.	.000	.000	.000	.000

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 48.0.

Research Objective 3

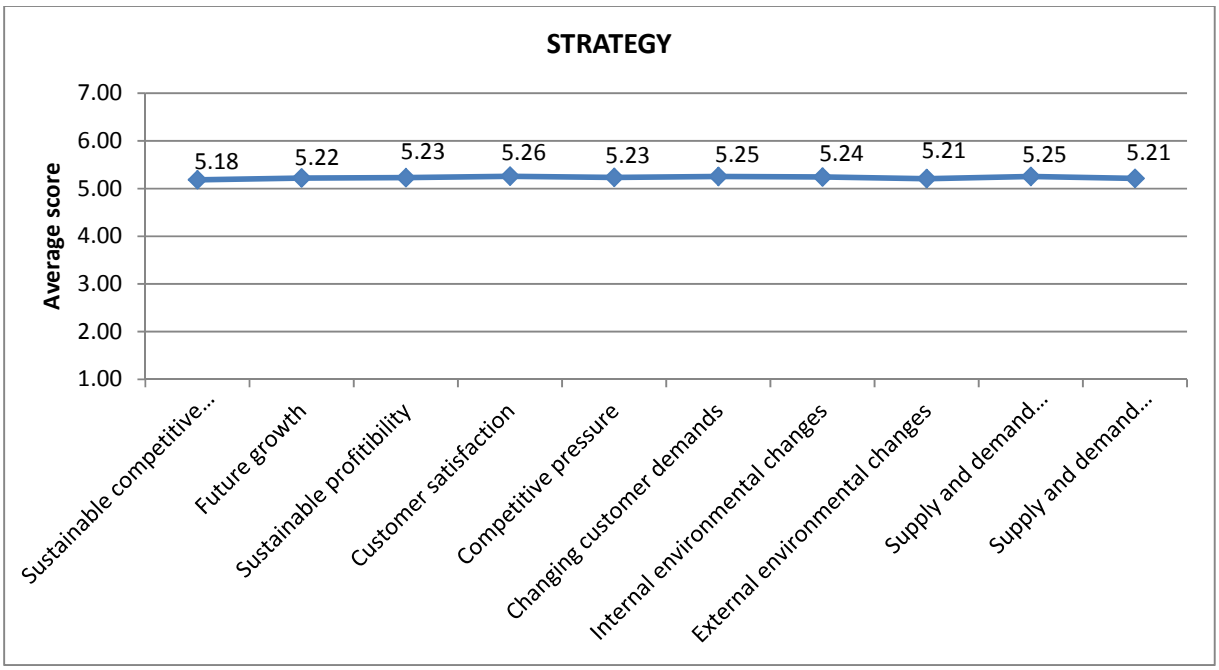
Evaluation of resource capabilities using McKinsey's 7-s model (Q10)

For each of the 7 sections below there will be:

- A graph of the average score for the items
- Analysis using the Wilcoxon signed ranks test to test whether the average score is significantly different from a central score of 4.

Table 5.25: STRATEGY

	N	Mean	Std. Deviation
10.1.1 The effectiveness of the route the company has chosen for gaining a sustainable competitive advantage	240	5.18	.771
10.1.2 The effectiveness of the route the company has chosen for future growth	240	5.22	.707
10.1.3 The effectiveness of the company strategy in achieving sustainable profitability	240	5.23	.692
10.1.4 The effectiveness of the company strategy in achieving customer satisfaction	240	5.26	.653
10.1.5 The effectiveness of the company strategy in dealing with competitive pressure	240	5.23	.687
10.1.6 The effectiveness of the company strategy in dealing with changing customer demands	240	5.25	.701
10.1.7 The effectiveness of the company strategy in responding to internal environmental changes	240	5.24	.709
10.1.8 The effectiveness of the company strategy in responding to external environmental changes	240	5.21	.780
10.1.9 The effectiveness of the strategy used to integrate supply and demand management within the company	240	5.25	.713
10.1.10 The effectiveness of the strategy used to integrate supply and demand management across companies.	240	5.21	.798



Ranks

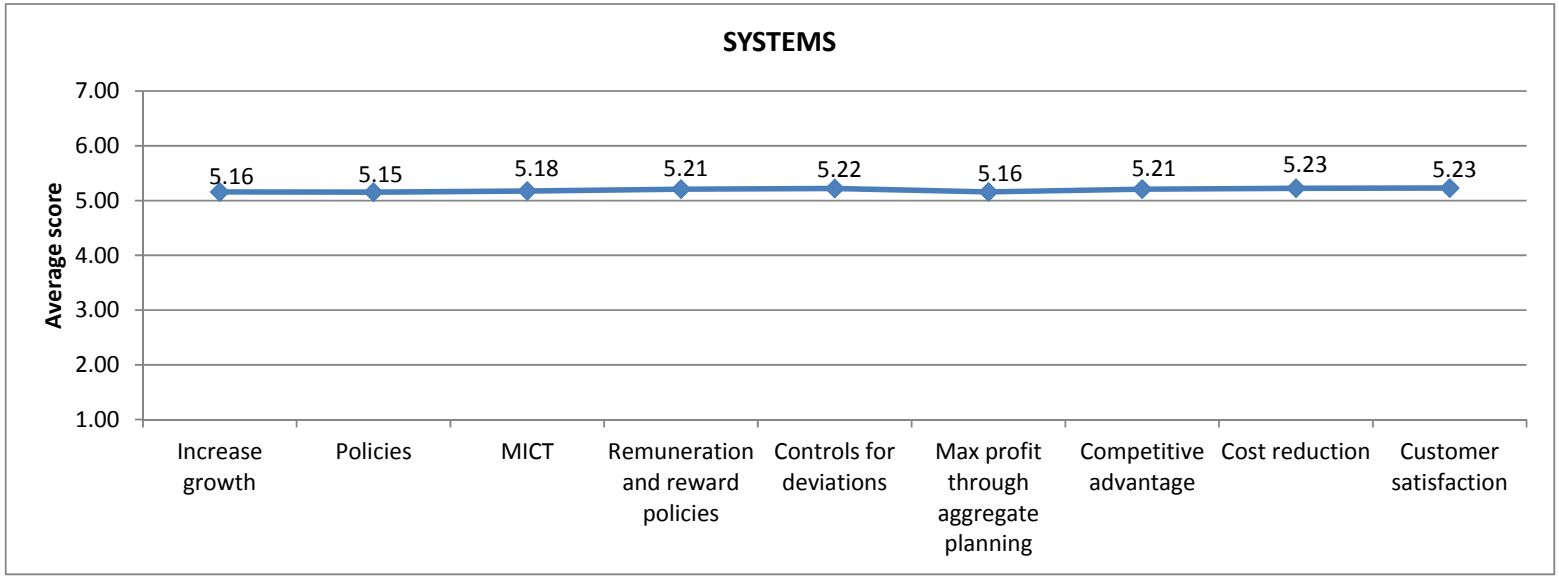
		N	Mean Rank	Sum of Ranks
fours - 10.1.1 The effectiveness of the route the company has chosen for gaining a sustainable competitive advantage	Negative Ranks	208[a]	108.13	22490.00
	Positive Ranks	6[b]	85.83	515.00
	Ties	26[c]		
	Total	240		
fours - 10.1.2 The effectiveness of the route the company has chosen for future growth	Negative Ranks	215[d]	109.55	23553.00
	Positive Ranks	3[e]	106.00	318.00
	Ties	22[f]		
	Total	240		
fours - 10.1.3 The effectiveness of the company strategy in achieving sustainable profitability	Negative Ranks	213[g]	108.37	23083.00
	Positive Ranks	2[h]	68.50	137.00
	Ties	25[i]		
	Total	240		
fours - 10.1.4 The effectiveness of the company strategy in achieving customer satisfaction	Negative Ranks	216[j]	108.50	23436.00
	Positive Ranks	0[k]	.00	.00
	Ties	24[l]		
	Total	240		
fours - 10.1.5 The effectiveness of the company strategy in dealing with competitive pressure	Negative Ranks	212[m]	107.89	22873.00
	Positive Ranks	2[n]	66.00	132.00
	Ties	26[o]		
	Total	240		
fours - 10.1.6 The effectiveness of the company strategy in dealing with changing customer demands	Negative Ranks	212[p]	107.91	22877.00
	Positive Ranks	2[q]	64.00	128.00
	Ties	26[r]		
	Total	240		
fours - 10.1.7 The effectiveness of the company strategy in responding to internal environmental changes	Negative Ranks	213[s]	109.08	23235.00
	Positive Ranks	3[t]	67.00	201.00
	Ties	24[u]		
	Total	240		
fours - 10.1.8 The effectiveness of the company strategy in responding to external environmental changes	Negative Ranks	213[v]	110.84	23609.50
	Positive Ranks	7[w]	100.07	700.50
	Ties	20[x]		
	Total	240		
fours - 10.1.9 The effectiveness of the strategy used to integrate supply and demand management within the company	Negative Ranks	218[y]	111.07	24212.50
	Positive Ranks	3[z]	106.17	318.50
	Ties	19[aa]		
	Total	240		
fours - 10.1.10 The effectiveness of the strategy used to integrate supply and demand management across companies.	Negative Ranks	213[ab]	109.97	23424.00
	Positive Ranks	6[ac]	111.00	666.00
	Ties	21[ad]		
	Total	240		

	fours - 10.1.1 The effectiveness of the route the company has chosen for gaining a sustainable competitive advantage	fours - 10.1.2 The effectiveness of the route the company has chosen for future growth	fours - 10.1.3 The effectiveness of the company strategy in achieving sustainable profitability	fours - 10.1.4 The effectiveness of the company strategy in achieving customer satisfaction	fours - 10.1.5 The effectiveness of the company strategy in dealing with competitive pressure
Z	-12.585[a]	-12.956[a]	-13.048[a]	-13.220[a]	-13.001[a]
Asymp. Sig. (2-tailed)	.000	.000	.000	.000	.000

	fours - 10.1.6 The effectiveness of the company strategy in dealing with changing customer demands	fours - 10.1.7 The effectiveness of the company strategy in responding to internal environmental changes	fours - 10.1.8 The effectiveness of the company strategy in responding to external environmental changes	fours - 10.1.9 The effectiveness of the strategy used to integrate supply and demand management within the company	fours - 10.1.10 The effectiveness of the strategy used to integrate supply and demand management across companies.
Z	-12.981[a]	-12.984[a]	-12.577[a]	-13.035[a]	-12.572[a]
Asymp. Sig. (2-tailed)	.000	.000	.000	.000	.000

Table 5.26: SYSTEMS

	N	Mean	Std. Deviation
10.2.1 The effectiveness of the company systems to increase growth	240	5.16	.787
10.2.2 The effectiveness of the company's policies	240	5.15	.811
10.2.3 The effectiveness of the company's media, information and communication technologies (MICT)	240	5.18	.815
10.2.4 The effectiveness of the company's remuneration and reward policies	240	5.21	.713
10.2.5 The effectiveness of the controls put in place in revealing any deviations	240	5.22	.670
10.2.6 The effectiveness of the company systems to maximise profitability through aggregate planning	240	5.16	.828
10.2.7 The effectiveness of the company systems to gain competitive advantage	240	5.21	.802
10.2.8 The effectiveness of the company systems in cost reduction	240	5.23	.737
10.2.9 The effectiveness of the company systems in customer satisfaction	240	5.23	.716


SYSTEMS
Average score
7.00
6.00
5.00
4.00
3.00
2.00
1.00
5.16
5.15
5.18
5.21
5.22
5.16
5.21
5.23
5.23
Increase growth
Policies
MICT
Remuneration and reward policies
Controls for deviations
Max profit through aggregate planning
Competitive advantage
Cost reduction
Customer satisfaction

	fours - 10.2.1 The effectiveness of the company systems to increase growth	fours - 10.2.2 The effectiveness of the company's policies	fours - 10.2.3 The effectiveness of the company's media, information and communication technologies (MICT)	fours - 10.2.4 The effectiveness of the company's remuneration and reward policies	fours - 10.2.5 The effectiveness of the controls put in place in revealing any deviations	fours - 10.2.6 The effectiveness of the company systems to maximise profitability through aggregate planning	fours - 10.2.7 The effectiveness of the company systems to gain competitive advantage	fours - 10.2.8 The effectiveness of the company systems in cost reduction	fours - 10.2.9 The effectiveness of the company systems in customer satisfaction
Z	-12.487[a]	-12.341[a]	-12.303[a]	-12.909[a]	-13.093[a]	-12.125[a]	-12.470[a]	-12.827[a]	-12.935[a]
Asymp. Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000

a. Based on positive ranks.

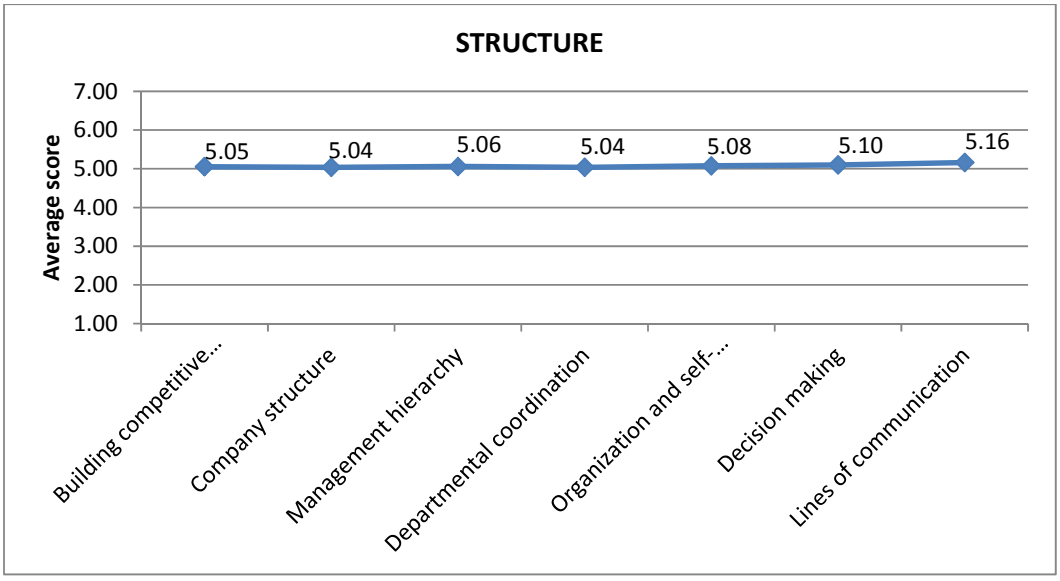
c. Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
fours - 10.2.1 The effectiveness of the company systems to increase growth	Negative Ranks	200[a]	103.94	20787.50
	Positive Ranks	5[b]	65.50	327.50
	Ties	35[c]		
	Total	240		
fours - 10.2.2 The effectiveness of the company's policies	Negative Ranks	196[d]	101.98	19988.50
	Positive Ranks	5[e]	62.50	312.50
	Ties	39[f]		
	Total	240		
fours - 10.2.3 The effectiveness of the company's media, information and communication technologies (MICT)	Negative Ranks	200[g]	104.25	20849.50
	Positive Ranks	6[h]	78.58	471.50
	Ties	34[i]		
	Total	240		
fours - 10.2.4 The effectiveness of the company's remuneration and reward policies	Negative Ranks	210[j]	107.56	22587.00
	Positive Ranks	3[k]	68.00	204.00
	Ties	27[l]		
	Total	240		
fours - 10.2.5 The effectiveness of the controls put in place in revealing any deviations	Negative Ranks	214[m]	108.86	23297.00
	Positive Ranks	2[n]	69.50	139.00
	Ties	24[o]		
	Total	240		
fours - 10.2.6 The effectiveness of the company systems to maximise profitability through aggregate planning	Negative Ranks	203[p]	108.08	21941.00
	Positive Ranks	10[q]	85.00	850.00
	Ties	27[r]		
	Total	240		
fours - 10.2.7 The effectiveness of the company systems to gain competitive advantage	Negative Ranks	204[s]	105.55	21532.00
	Positive Ranks	5[t]	82.60	413.00
	Ties	31[u]		
	Total	240		
fours - 10.2.8 The effectiveness of the company systems in cost reduction	Negative Ranks	207[v]	105.40	21817.00
	Positive Ranks	2[w]	64.00	128.00
	Ties	31[x]		
	Total	240		
fours - 10.2.9 The effectiveness of the company systems in customer satisfaction	Negative Ranks	210[y]	106.89	22446.00
	Positive Ranks	2[z]	66.00	132.00
	Ties	28[aa]		
	Total	240		

Table 5.27: Structure

	N	Mean	Std. Deviation
10.3.1 The effectiveness of the supply chain strategic plan in building competitive advantage.	240	5.05	.990
10.3.2 The effectiveness of the structure of the company	240	5.04	.902
10.3.3 The effectiveness of your management hierarchy	240	5.06	.841
10.3.4 The effectiveness, in general, of various departments in coordinating activities	240	5.04	.815
10.3.5 The effectiveness, in general, of team members in organizing and aligning themselves.	240	5.08	.773
10.3.6 The effectiveness of the decision making/controlling structure	240	5.10	.736
10.3.7 The effectiveness of the lines of communication used.	240	5.16	.773



	fours - 10.3.1 The effectiveness of the supply chain strategic plan in building competitive advantage.	fours - 10.3.2 The effectiveness of the structure of the company	fours - 10.3.3 The effectiveness of your management hierarchy	fours - 10.3.4 The effectiveness, in general, of various departments in coordinating activities	fours - 10.3.5 The effectiveness, in general, of team members in organizing and aligning themselves.	fours - 10.3.6 The effectiveness of the decision making/controllin g structure	fours - 10.3.7 The effectiveness of the lines of communication used.
Z	-11.101[a]	-11.420[a]	-11.774[a]	-11.826[a]	-12.261[a]	-12.535[a]	-12.577[a]
Asymp. Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000

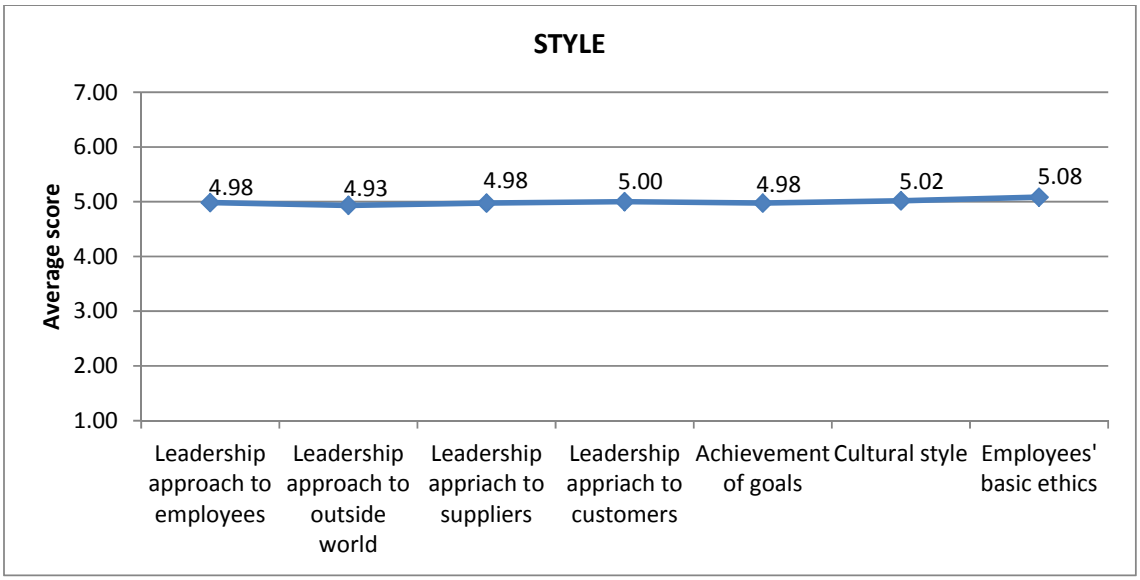
b. Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
fours - 10.3.1 The effectiveness of the supply chain strategic plan in building competitive advantage.	Negative Ranks	186[a]	103.95	19334.50
	Positive Ranks	17[b]	80.68	1371.50
	Ties	37[c]		
	Total	240		
fours - 10.3.2 The effectiveness of the structure of the company	Negative Ranks	188[d]	103.14	19391.00
	Positive Ranks	14[e]	79.43	1112.00
	Ties	38[f]		
	Total	240		
fours - 10.3.3 The effectiveness of your management hierarchy	Negative Ranks	194[g]	103.98	20171.50
	Positive Ranks	11[h]	85.77	943.50
	Ties	35[i]		
	Total	240		
fours - 10.3.4 The effectiveness, in general, of various departments in coordinating activities	Negative Ranks	191[j]	100.36	19169.00
	Positive Ranks	8[k]	91.38	731.00
	Ties	41[l]		
	Total	240		
fours - 10.3.5 The effectiveness, in general, of team members in organizing and aligning themselves.	Negative Ranks	200[m]	103.44	20688.00
	Positive Ranks	6[n]	105.50	633.00
	Ties	34[o]		
	Total	240		
fours - 10.3.6 The effectiveness of the decision making/controlling structure	Negative Ranks	200[p]	101.99	20397.00
	Positive Ranks	3[q]	103.00	309.00
	Ties	37[r]		
	Total	240		
fours - 10.3.7 The effectiveness of the lines of communication used.	Negative Ranks	203[s]	103.55	21020.00
	Positive Ranks	3[t]	100.33	301.00
	Ties	34[u]		
	Total	240		

Table 5.28: STYLE

	N	Mean	Std. Deviation
10.4.1The effectiveness of the leadership approach of top management towards employees	240	4.98	.634
10.4.2 The effectiveness of the leadership approach of top management to the outside world	240	4.93	.624
10.4.3 The effectiveness of the leadership approach of top management towards suppliers	240	4.98	.633
10.4.4 The effectiveness of the leadership approach of top management towards customers	240	5.00	.607
10.4.5 The effectiveness of teams/groups in achieving goals in the organization.	240	4.98	.620
10.4.6 The strength of the cultural style of the organization (strong culture is one which promotes transparency, integrity etc.)	240	5.02	.640
10.4.7 The influence of the company on employees' basic ethics (values)	240	5.08	.673



Ranks

		N	Mean Rank	Sum of Ranks
fours - 10.4.1 The effectiveness of the leadership approach of top management towards employees	Negative Ranks	194[a]	98.73	19153.00
	Positive Ranks	2[b]	76.50	153.00
	Ties	44[c]		
	Total	240		
fours - 10.4.2 The effectiveness of the leadership approach of top management to the outside world	Negative Ranks	189[d]	96.20	18181.00
	Positive Ranks	2[e]	77.50	155.00
	Ties	49[f]		
	Total	240		
fours - 10.4.3 The effectiveness of the leadership approach of top management towards suppliers	Negative Ranks	195[g]	99.20	19344.00
	Positive Ranks	2[h]	79.50	159.00
	Ties	43[i]		
	Total	240		
fours - 10.4.4 The effectiveness of the leadership approach of top management towards customers	Negative Ranks	198[j]	99.50	19701.00
	Positive Ranks	0[k]	.00	.00
	Ties	42[l]		
	Total	240		
fours - 10.4.5 The effectiveness of teams/groups in achieving goals in the organization.	Negative Ranks	191[m]	96.00	18336.00
	Positive Ranks	0[n]	.00	.00
	Ties	49[o]		
	Total	240		
fours - 10.4.6 The strength of the cultural style of the organization (strong culture is one which promotes transparency, integrity etc.)	Negative Ranks	194[p]	97.50	18915.00
	Positive Ranks	0[q]	.00	.00
	Ties	46[r]		
	Total	240		
fours - 10.4.7 The influence of the company on employees' basic ethics (values)	Negative Ranks	197[s]	99.00	19503.00
	Positive Ranks	0[t]	.00	.00
	Ties	43[u]		
	Total	240		

Test Statistics[b]

	fours - 10.4.1 The effectiveness of the leadership approach of top management towards employees	fours - 10.4.2 The effectiveness of the leadership approach of top management to the outside world	fours - 10.4.3 The effectiveness of the leadership approach of top management towards suppliers	fours - 10.4.4 The effectiveness of the leadership approach of top management towards customers	fours - 10.4.5 The effectiveness of teams/groups in achieving goals in the organization.	fours - 10.4.6 The strength of the cultural style of the organization (strong culture is one which promotes transparency, integrity etc.)	fours - 10.4.7 The influence of the company on employees' basic ethics (values)
Z	-12.725[a]	-12.645[a]	-12.833[a]	-13.065[a]	-12.762[a]	-12.783[a]	-12.746[a]
Asymp. Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000

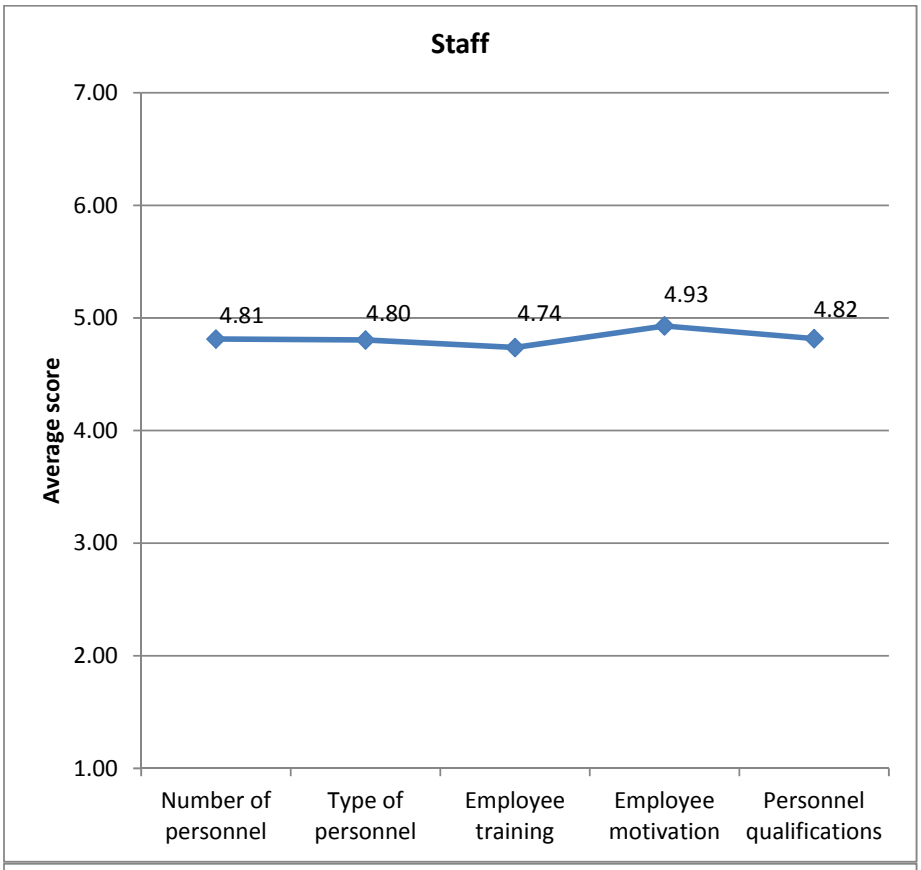
a. Based on positive ranks.

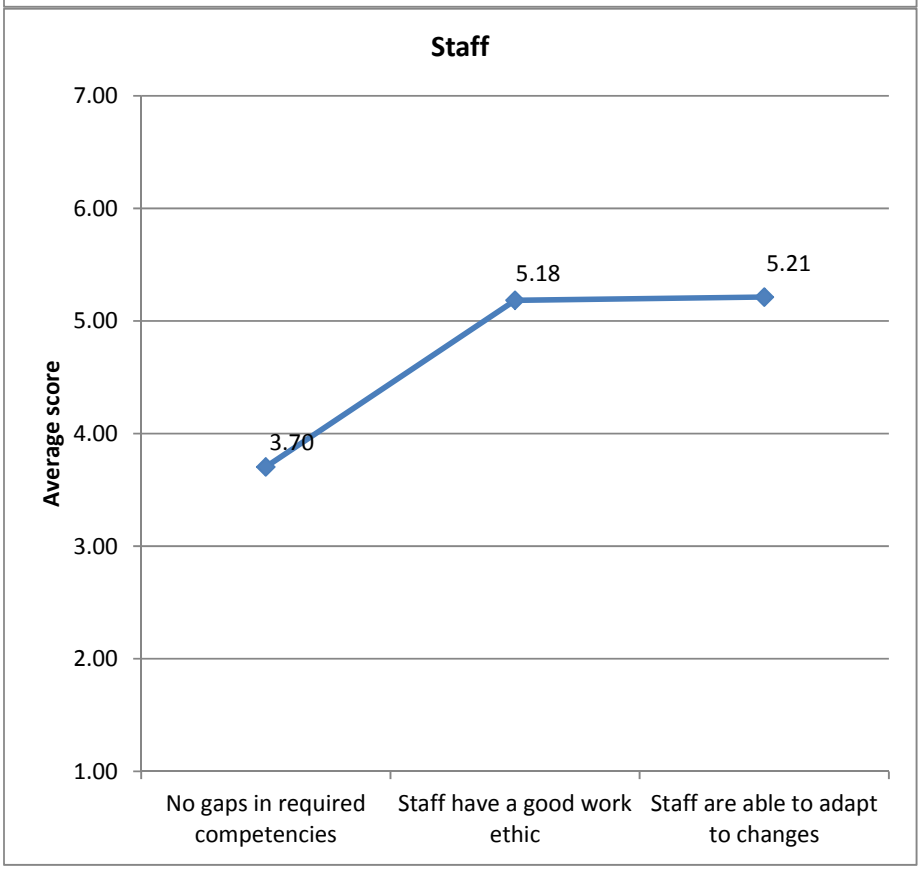
b. Wilcoxon Signed Ranks Test

Table 5.29: STAFF

Q10.5.6

	N	Mean	Std. Deviation
10.5.1 The adequacy of the number of personnel in the company	240	4.81	.602
10.5.2 The adequacy of the type of personnel in the company	240	4.80	.592
10.5.3 The adequacy of employee training	240	4.74	.629
10.5.4 The adequacy of employee motivation	240	4.93	.585
10.5.5 The adequacy of qualifications of the personnel	240	4.82	.684
q10.5.6_recoded	240	3.70	.989
10.5.7 Your agreement that the staff, in general, have a good work ethic	240	5.18	.666
10.5.8 Your agreement that the staff, in general, are able to adapt to changes in the fast moving consumer goods sector	240	5.21	.673


Staff
7.00
6.00
5.00
4.00
3.00
2.00
1.00
Average score
4.81
4.80
4.74
4.93
4.82
Number of personnel
Type of personnel
Employee training
Employee motivation
Personnel qualifications


Staff
7.00
6.00
5.00
4.00
3.00
2.00
1.00
Average score
3.70
5.18
5.21
No gaps in required competencies
Staff have a good work ethic
Staff are able to adapt to changes

Ranks

		N	Mean Rank	Sum of Ranks
fours - 10.5.1 The adequacy of the number of personnel in the company	Negative Ranks	174[a]	88.63	15422.00
	Positive Ranks	2[b]	77.00	154.00
	Ties	64[c]		
	Total	240		
fours - 10.5.2 The adequacy of the type of personnel in the company	Negative Ranks	176[d]	90.17	15870.00
	Positive Ranks	3[e]	80.00	240.00
	Ties	61[f]		
	Total	240		
fours - 10.5.3 The adequacy of employee training	Negative Ranks	170[g]	88.81	15097.50
	Positive Ranks	7[h]	93.64	655.50
	Ties	63[i]		
	Total	240		
fours - 10.5.4 The adequacy of employee motivation	Negative Ranks	194[j]	98.66	19140.00
	Positive Ranks	2[k]	83.00	166.00
	Ties	44[l]		
	Total	240		
fours - 10.5.5 The adequacy of qualifications of the personnel	Negative Ranks	176[m]	93.74	16498.50
	Positive Ranks	9[n]	78.50	706.50
	Ties	55[o]		
	Total	240		
fours - q10.5.6_recoded	Negative Ranks	60[p]	81.25	4875.00
	Positive Ranks	114[q]	90.79	10350.00
	Ties	66[r]		
	Total	240		
fours - 10.5.7 Your agreement that the staff, in general, have a good work ethic	Negative Ranks	213[s]	108.32	23073.00
	Positive Ranks	2[t]	73.50	147.00
	Ties	25[u]		
	Total	240		
fours - 10.5.8 Your agreement that the staff, in general, are able to adapt to changes in the fast moving consumer goods sector	Negative Ranks	212[v]	107.18	22722.00
	Positive Ranks	1[w]	69.00	69.00
	Ties	27[x]		
	Total	240		

Test Statistics[c]

	fours - 10.5.1 The adequacy of the number of personnel in the company	fours - 10.5.2 The adequacy of the type of personnel in the company	fours - 10.5.3 The adequacy of employee training	fours - 10.5.4 The adequacy of employee motivation	fours - 10.5.5 The adequacy of qualifications of the personnel	fours - q10.5.6_recoded	fours - 10.5.7 Your agreement that the staff, in general, have a good work ethic	fours - 10.5.8 Your agreement that the staff, in general, are able to adapt to changes in the fast moving consumer goods sector
Z	-12.330[a]	-12.387[a]	-11.729[a]	-12.933[a]	-11.740[a]	-4.463[b]	-13.119[a]	-13.082[a]
Asymp. Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000

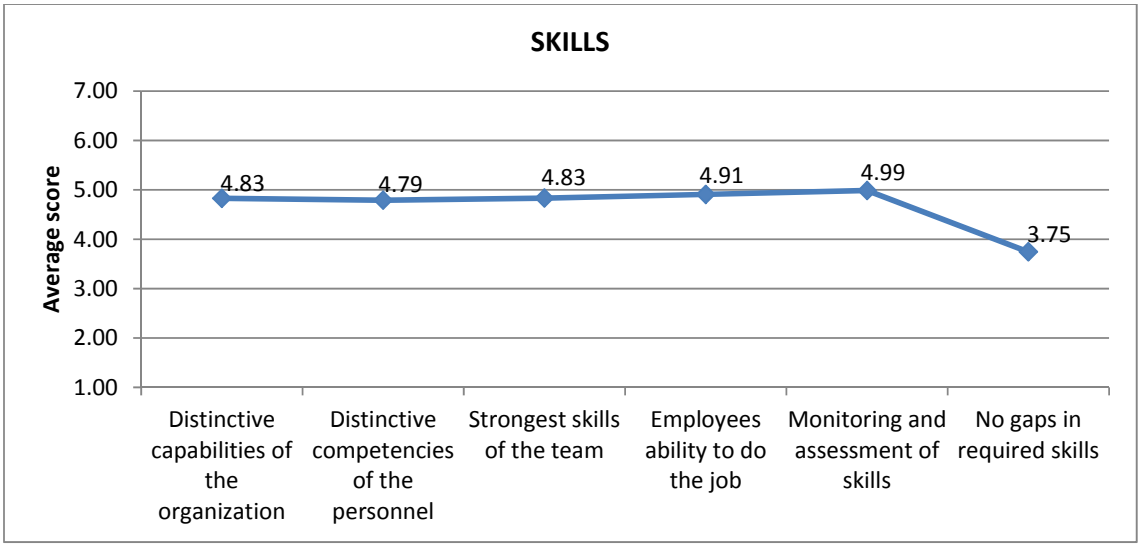
a. Based on positive ranks.

b. Based on negative ranks.

c. Wilcoxon Signed Ranks Test

Table 5.30: SKILLS

	N	Mean	Std. Deviation
10.6.1 The adequacy of the distinctive capabilities of the organization as a whole	240	4.83	.607
10.6.2 The adequacy of the distinctive competencies of the company's personnel	240	4.79	.612
10.6.3 The adequacy of the strongest skills represented within a team	240	4.83	.590
10.6.4 The adequacy of the current employees' ability to do the job	240	4.91	.556
10.6.5 The adequacy of the monitoring and assessment of skills within the company	240	4.99	.545
q10.6.6_recoded	240	3.75	1.081



Ranks

		N	Mean Rank	Sum of Ranks
fours - 10.6.1 The adequacy of the distinctive capabilities of the organization as a whole	Negative Ranks	182[a]	94.30	17163.00
	Positive Ranks	5[b]	83.00	415.00
	Ties	53[c]		
	Total	240		
fours - 10.6.2 The adequacy of the distinctive competencies of the company's personnel	Negative Ranks	181[d]	95.38	17263.00
	Positive Ranks	8[e]	86.50	692.00
	Ties	51[f]		
	Total	240		
fours - 10.6.3 The adequacy of the strongest skills represented within a team	Negative Ranks	189[g]	98.83	18679.50
	Positive Ranks	7[h]	89.50	626.50
	Ties	44[i]		
	Total	240		
fours - 10.6.4 The adequacy of the current employees' ability to do the job	Negative Ranks	197[j]	100.68	19834.50
	Positive Ranks	3[k]	88.50	265.50
	Ties	40[l]		
	Total	240		
fours - 10.6.5 The adequacy of the monitoring and assessment of skills within the company	Negative Ranks	205[m]	103.58	21234.00
	Positive Ranks	1[n]	87.00	87.00
	Ties	34[o]		
	Total	240		
fours - q10.6.6_recoded	Negative Ranks	67[p]	88.63	5938.00
	Positive Ranks	115[q]	93.17	10715.00
	Ties	58[r]		
	Total	240		

Test Statistics[c]

	fours - 10.6.1 The adequacy of the distinctive capabilities of the organization as a whole	fours - 10.6.2 The adequacy of the distinctive competencies of the company's personnel	fours - 10.6.3 The adequacy of the strongest skills represented within a team	fours - 10.6.4 The adequacy of the current employees' ability to do the job	fours - 10.6.5 The adequacy of the monitoring and assessment of skills within the company	fours - q10.6.6_recoded
Z	-12.408[a]	-12.203[a]	-12.582[a]	-13.101[a]	-13.373[a]	-3.598[b]
Asymp. Sig. (2-tailed)	.000	.000	.000	.000	.000	.000

a. Based on positive ranks.

b. Based on negative ranks.

c. Wilcoxon Signed Ranks Test

Table 5.31 : SHARED VALUES

	N	Mean	Std. Deviation
10.7.1 ... strategy chosen	240	5.75	.775
10.7.2 … systems used	239	5.72	.895
10.7.3 … organisational structure	240	5.75	.886
10.7.4 … achieving integration of supply chains with strategy implementation processes	240	5.67	1.065
10.7.5 … management style	240	5.51	.818
10.7.6 … personnel within the company	240	5.62	.799
10.7.7 … type of skills possessed by members of staff	240	5.62	.799

Ranks

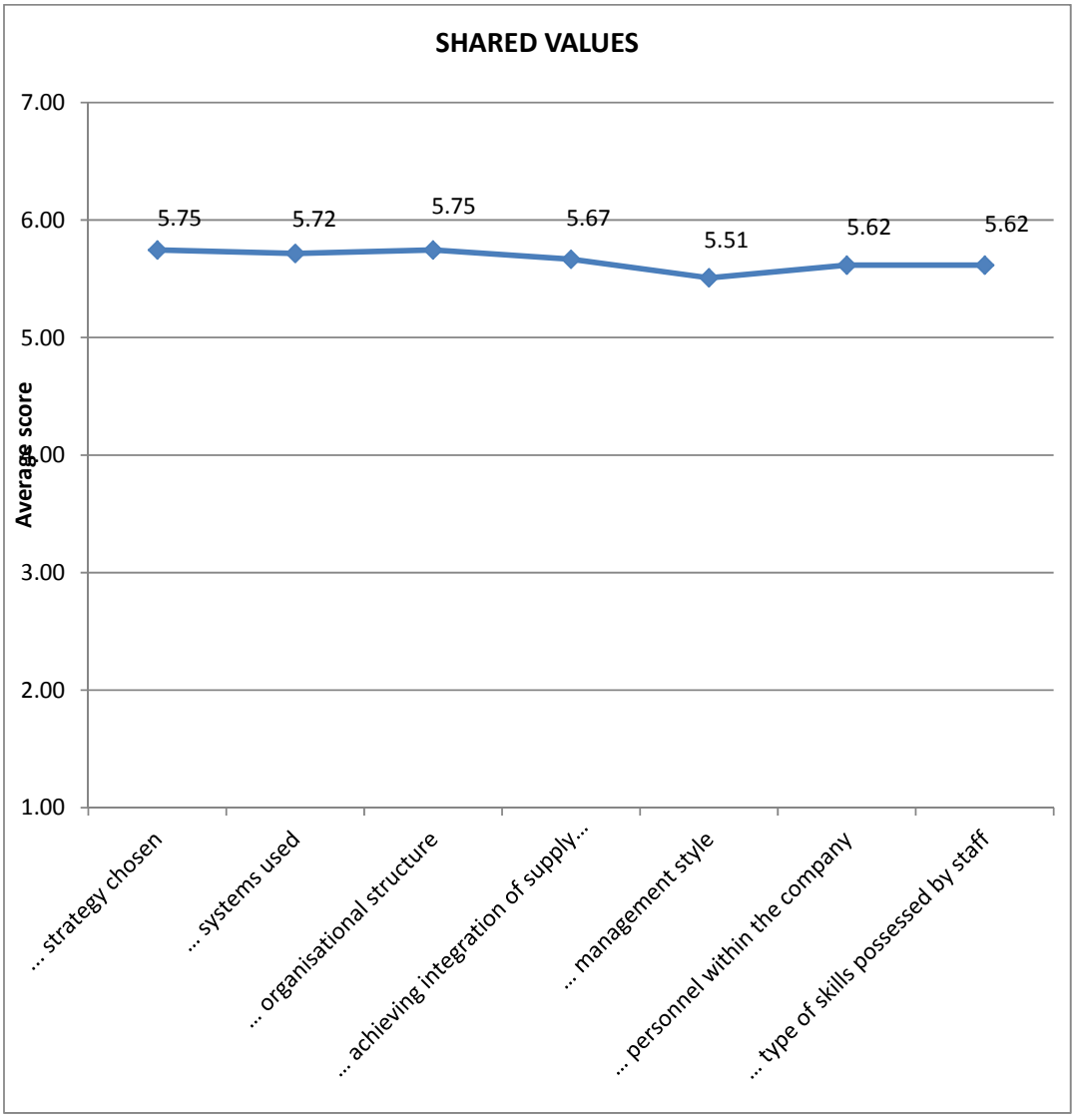
		N	Mean Rank	Sum of Ranks
fours - 10.7.1 ... strategy chosen	Negative Ranks	229[a]	116.69	26722.00
	Positive Ranks	2[b]	37.00	74.00
	Ties	9[c]		
	Total	240		
fours - 10.7.2 … systems used	Negative Ranks	218[d]	115.62	25204.50
	Positive Ranks	7[e]	31.50	220.50
	Ties	14[f]		
	Total	239		
fours - 10.7.3 … organisational structure	Negative Ranks	218[g]	113.92	24833.50
	Positive Ranks	5[h]	28.50	142.50
	Ties	17[i]		
	Total	240		
fours - 10.7.4 … achieving integration of supply chains with strategy implementation processes	Negative Ranks	214[j]	121.64	26030.00
	Positive Ranks	17[k]	45.06	766.00
	Ties	9[l]		
	Total	240		
fours - 10.7.5 … management style	Negative Ranks	217[m]	109.78	23822.00
	Positive Ranks	1[n]	49.00	49.00
	Ties	22[o]		
	Total	240		
fours - 10.7.6 … personnel within the company	Negative Ranks	225[p]	113.80	25604.00
	Positive Ranks	1[q]	47.00	47.00
	Ties	14[r]		
	Total	240		
fours - 10.7.7 … type of skills possessed by members of staff	Negative Ranks	225[s]	114.60	25786.00
	Positive Ranks	2[t]	46.00	92.00
	Ties	13[u]		
	Total	240		

Test Statistics[b]

	fours - 10.7.1 ... strategy chosen	fours - 10.7.2 … systems used	fours - 10.7.3 … organisational structure	fours - 10.7.4 … achieving integration of supply chains with strategy implementation processes	fours - 10.7.5 … management style	fours - 10.7.6 … personnel within the company	fours - 10.7.7 … type of skills possessed by members of staff
Z	-13.423[a]	-13.117[a]	-13.147[a]	-12.702[a]	-13.035[a]	-13.259[a]	-13.254[a]
Asymp. Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000

a. Based on positive ranks.

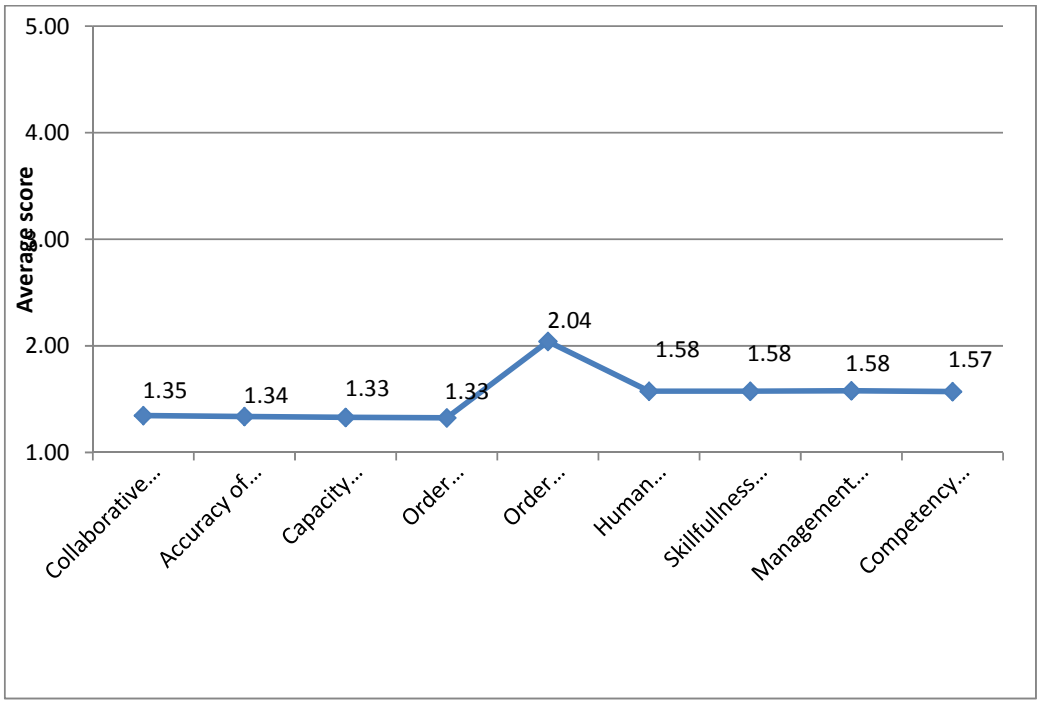
b. Wilcoxon Signed Ranks Test



Research Objective 4

Order planning of material and/or services (Q11)

	N	Mean	Std. Deviation
11.1 Collaborative forecasting	240	1.35	.477
11.2 Accuracy of forecasting	240	1.34	.483
11.3 Capacity planning	240	1.33	.480
11.4 The time in between the receipt of customer order until the delivery of finished goods to the customer. (Order cycle time)	240	1.33	.469
11.5 Order entry methods	240	2.04	.881
11.6 Human resource productivity	240	1.58	.551
11.7 Skill fullness of staff	240	1.58	.536
11.8 Management style	240	1.58	.535
11.9 Competency of staff	240	1.57	.529



Frequencies

	11.1 Collaborative forecasting				11.2 Accuracy of forecasting				11.3 Capacity planning				11.4 The time in between the receipt of customer order until the delivery of finished goods to the customer. (Order cycle time)			
	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual
1	Extremely important	157	48.0	109.0	Extremely important	160	48.0	112.0	Extremely important	162	48.0	114.0	Extremely important	162	48.0	114.0
2	Important	83	48.0	35.0	Important	79	48.0	31.0	Important	77	48.0	29.0	Important	78	48.0	30.0
3		0	48.0	-48.0	Slightly important	1	48.0	-47.0	Slightly important	1	48.0	-47.0		0	48.0	-48.0
4		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0
5		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0
Total		240				240				240				240		

Test Statistics

	11.1 Collaborative forecasting	11.2 Accuracy of forecasting	11.3 Capacity planning	11.4 The time in between the receipt of customer order until the delivery of finished goods to the customer. (Order cycle time)
Chi-Square	417.042[a]	423.375[a]	430.292[a]	433.500[a]
df	4	4	4	4
Asymp. Sig.	.000	.000	.000	.000

Frequencies

	11.1 Collaborative forecasting				11.2 Accuracy of forecasting				11.3 Capacity planning				11.4 The time in between the receipt of customer order until the delivery of finished goods to the customer. (Order cycle time)			
	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual
1	Extremely important	157	48.0	109.0	Extremely important	160	48.0	112.0	Extremely important	162	48.0	114.0	Extremely important	162	48.0	114.0
2	Important	83	48.0	35.0	Important	79	48.0	31.0	Important	77	48.0	29.0	Important	78	48.0	30.0
3		0	48.0	-48.0	Slightly important	1	48.0	-47.0	Slightly important	1	48.0	-47.0		0	48.0	-48.0
4		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0
5		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 48.0.

Frequencies

	11.5 Order entry methods				11.6 Human resource productivity				11.7 Skill fullness of staff				11.8 Management style				11.9 Competency of staff			
	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual
1	Extremely important	76	48.0	28.0	Extremely important	109	48.0	61.0	Extremely important	107	48.0	59.0	Extremely important	106	48.0	58.0	Extremely important	107	48.0	59.0
2	Important	90	48.0	42.0	Important	124	48.0	76.0	Important	128	48.0	80.0	Important	129	48.0	81.0	Important	129	48.0	81.0
3	Slightly important	62	48.0	14.0	Slightly important	7	48.0	-41.0	Slightly important	5	48.0	-43.0	Slightly important	5	48.0	-43.0	Slightly important	4	48.0	-44.0
4	Not really Important	12	48.0	-36.0		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0
5		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0
Total		240				240				240				240				240		

Test Statistics

	11.5 Order entry methods	11.6 Human resource productivity	11.7 Skill fullness of staff	11.8 Management style	11.9 Competency of staff
Chi-Square	132.167[a]	328.875[a]	340.375[a]	341.292[a]	345.542[a]
df	4	4	4	4	4
Asymp. Sig.	.000	.000	.000	.000	.000

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 48.0.

Planning and evaluation...

	N	Mean	Std. Deviation
11.10Supplier delivery performance	240	1.95	.531
11.11Supplier lead-time against industry norm	240	1.88	.487
11.12Supplier pricing against market	240	1.87	.488
11.13Quality level against the market	240	1.86	.472
11.14Efficiency of cash-flow method	239	1.88	.474
11.15Supplier booking-in procedures	240	1.90	.511
11.16Customer satisfaction	240	1.85	.472


5.00
4.00
3.00
2.00
1.00
Average score
1.95
1.88
1.87
1.86
1.88
1.90
1.85
Supplier delivery performance
Supplier lead-time against industry norm
Supplier pricing against market
Quality level against the market
Efficiency of cash-flow method
Supplier booking-in procedures
Customer satisfaction

Frequencies

	11.10Supplier delivery performance				11.11Supplier lead-time against industry norm				11.12Supplier pricing against market				11.13Quality level against the market			
	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual
1	Extremely important	40	48.0	-8.0	Extremely important	44	48.0	-4.0	Extremely important	46	48.0	-2.0	Extremely important	46	48.0	-2.0
2	Important	172	48.0	124.0	Important	180	48.0	132.0	Important	179	48.0	131.0	Important	182	48.0	134.0
3	Slightly important	28	48.0	-20.0	Slightly important	16	48.0	-32.0	Slightly important	15	48.0	-33.0	Slightly important	12	48.0	-36.0
4		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0
5		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0
Total		240				240				240				240		

Test Statistics

	11.10Supplier delivery performance	11.11Supplier lead-time against industry norm	11.12Supplier pricing against market	11.13Quality level against the market
Chi-Square	426.000[a]	480.667[a]	476.292[a]	497.167[a]
df	4	4	4	4
Asymp. Sig.	.000	.000	.000	.000

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 48.0.

Frequencies

	11.14Efficiency of cash-flow method				11.15Supplier booking-in procedures				11.16Customer satisfaction			
	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual
1	Extremely important	43	47.8	-4.8	Extremely important	44	48.0	-4.0	Extremely important	48	48.0	.0
2	Important	182	47.8	134.2	Important	178	48.0	130.0	Important	181	48.0	133.0
3	Slightly important	14	47.8	-33.8	Slightly important	17	48.0	-31.0	Slightly important	11	48.0	-37.0
4		0	47.8	-47.8	Not really Important	1	48.0	-47.0		0	48.0	-48.0
5		0	47.8	-47.8		0	48.0	-48.0		0	48.0	-48.0
Total		239				240				240		

Test Statistics

	11.14Efficiency of cash-flow method	11.15Supplier booking-in procedures	11.16Customer satisfaction
Chi-Square	496.753[a]	466.458[b]	493.042[b]
df	4	4	4
Asymp. Sig.	.000	.000	.000

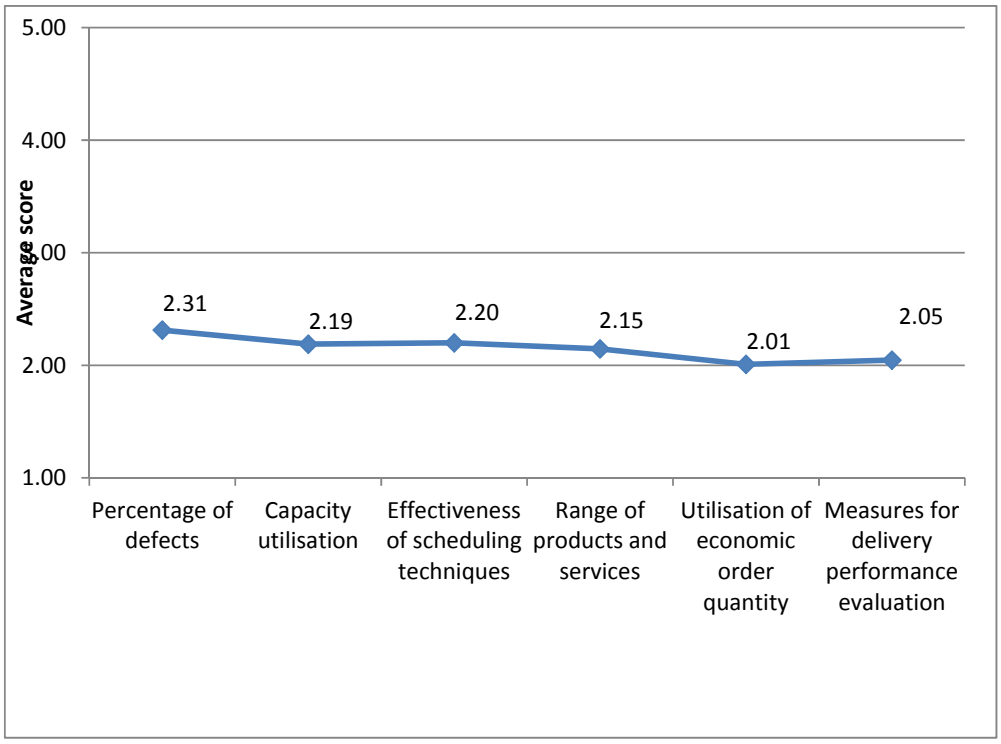
a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 47.8.

b. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 48.0.

Measures of production...

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
11.17Percentage of defects	240	2.31	.677	.044
11.18Capacity utilisation	240	2.19	.649	.042
11.19Effectiveness of scheduling techniques	240	2.20	.635	.041
11.20Range of products and services	240	2.15	.633	.041
11.21Utilisation of economic order quantity	240	2.01	.672	.043
11.22 Measures for delivery performance evaluation	240	2.05	.648	.042



Frequencies

	11.17Percentage of defects				11.18Capacity utilisation				11.19Effectiveness of scheduling techniques				11.20Range of products and services				11.21Utilisation of economic order quantity				11.22 Measures for delivery performance evaluation			
	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual
1	Extremely important	29	48.0	-19.0	Extremely important	32	48.0	-16.0	Extremely important	28	48.0	-20.0	Extremely important	33	48.0	-15.0	Extremely important	53	48.0	5.0	Extremely important	45	48.0	-3.0
2	Important	107	48.0	59.0	Important	131	48.0	83.0	Important	137	48.0	89.0	Important	139	48.0	91.0	Important	132	48.0	84.0	Important	139	48.0	91.0
3	Slightly important	104	48.0	56.0	Slightly important	77	48.0	29.0	Slightly important	74	48.0	26.0	Slightly important	68	48.0	20.0	Slightly important	55	48.0	7.0	Slightly important	56	48.0	8.0
4		0	48.0	-48.0		0	48.0	-48.0	Not really Important	1	48.0	-47.0		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0
5		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0
Total		240				240				240				240				240				240		

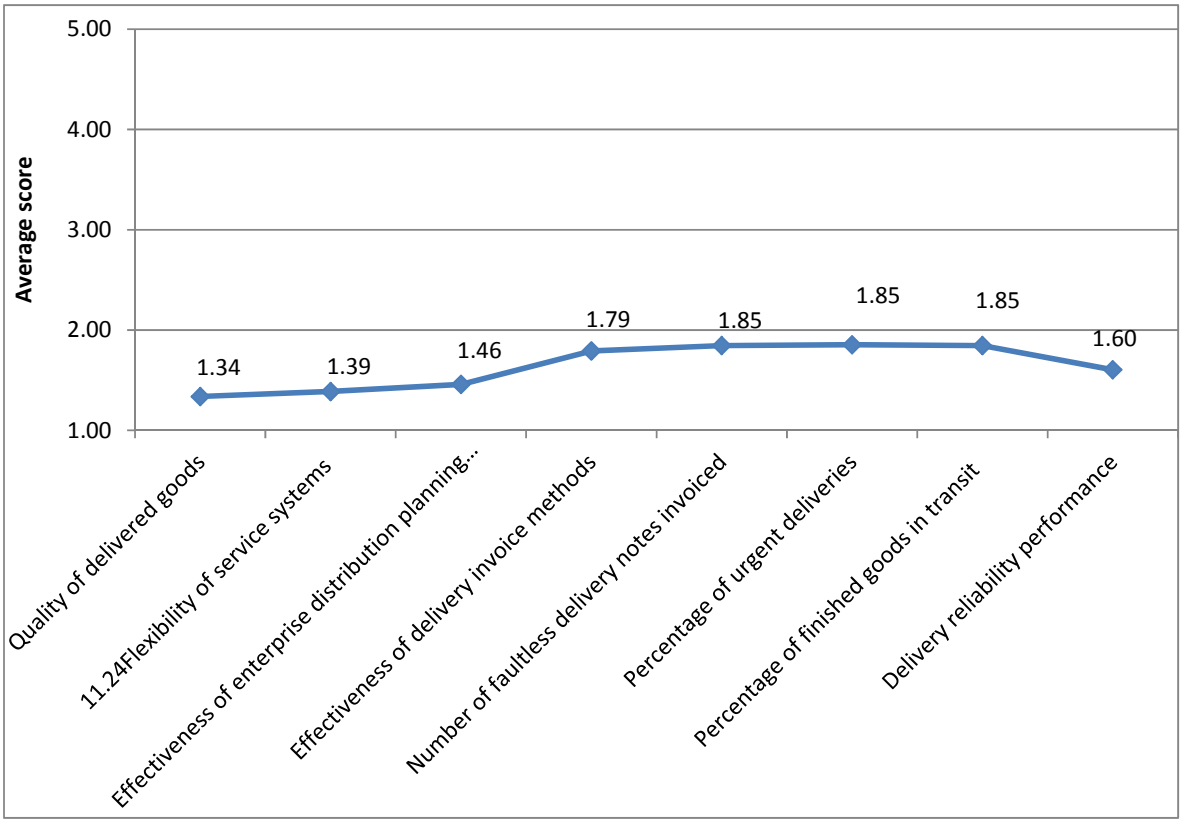
Test Statistics

	11.17Percentage of defects	11.18Capacity utilisation	11.19Effectiveness of scheduling techniques	11.20Range of products and services	11.21Utilisation of economic order quantity	11.22 Measures for delivery performance evaluation
Chi-Square	241.375[a]	262.375[a]	281.458[a]	281.542[a]	244.542[a]	270.042[a]
df	4	4	4	4	4	4
Asymp. Sig.	.000	.000	.000	.000	.000	.000

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 48.0.

Storage and delivery

	N	Mean	Std. Deviation
11.23Quality of delivered goods	240	1.34	.516
11.24 Flexibility of service systems	240	1.39	.567
11.25 Effectiveness of enterprise distribution planning schedule	240	1.46	.683
11.26 Effectiveness of delivery invoice methods	240	1.79	.980
11.27 Number of faultless delivery notes invoiced	240	1.85	.881
11.28 Percentage of urgent deliveries	240	1.85	.833
11.29 Percentage of finished goods in transit	240	1.85	.837
11.30 Delivery reliability performance	240	1.60	.764



Frequencies

	11.23Quality of delivered goods				11.24Flexibility of service systems				11.25 Effectiveness of enterprise distribution planning schedule				11.26Effectiveness of delivery invoice methods			
	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual
1	Extremely important	164	48.0	116.0	Extremely important	157	48.0	109.0	Extremely important	156	48.0	108.0	Extremely important	132	48.0	84.0
2	Important	71	48.0	23.0	Important	73	48.0	25.0	Important	58	48.0	10.0	Important	39	48.0	-9.0
3	Slightly important	5	48.0	-43.0	Slightly important	10	48.0	-38.0	Slightly important	26	48.0	-22.0	Slightly important	56	48.0	8.0
4		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0	Not really Important	13	48.0	-35.0
5		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0
Total		240				240				240				240		

Test Statistics

	11.23Quality of delivered goods	11.24Flexibility of service systems	11.25 Effectiveness of enterprise distribution planning schedule	11.26Effectiveness of delivery invoice methods
Chi-Square	425.875[a]	386.625[a]	351.167[a]	223.542[a]
df	4	4	4	4
Asymp. Sig.	.000	.000	.000	.000

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 48.0.

Frequencies

	11.27 Number of faultless delivery notes invoiced				11.28Percentage of urgent deliveries				11.29Percentage of finished goods in transit				11.30Delivery reliability performance			
	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual	Category	Observed N	Expected N	Residual
1	Extremely important	112	48.0	64.0	Extremely important	103	48.0	55.0	Extremely important	105	48.0	57.0	Extremely important	136	48.0	88.0
2	Important	55	48.0	7.0	Important	69	48.0	21.0	Important	67	48.0	19.0	Important	63	48.0	15.0
3	Slightly important	71	48.0	23.0	Slightly important	68	48.0	20.0	Slightly important	68	48.0	20.0	Slightly important	41	48.0	-7.0
4	Not really Important	2	48.0	-46.0		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0
5		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0		0	48.0	-48.0
Total		240				240				240				240		

Test Statistics

	11.27 Number of faultless delivery notes invoiced	11.28Percentage of urgent deliveries	11.29Percentage of finished goods in transit	11.30Delivery reliability performance
Chi-Square	189.458[a]	176.542[a]	179.542[a]	263.042[a]
df	4	4	4	4
Asymp. Sig.	.000	.000	.000	.000

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 48.0.

Further analysis resource capabilities using Cronbach's Alpha

Strategy

Reliability Statistics

Cronbach's Alpha	N of Items
.948	10

Systems

Reliability Statistics

Cronbach's Alpha	N of Items
.955	9

Structure

Reliability Statistics

Cronbach's Alpha	N of Items
.949	7

Style

Reliability Statistics

Cronbach's Alpha	N of Items
.886	7

Staff

Reliability Statistics

Cronbach's Alpha	N of Items
.821	7

Skills

Reliability Statistics

Cronbach's Alpha	N of Items
.829	5

Shared values

Reliability Statistics

Cronbach's Alpha	N of Items
.915	7

	N	Mean	Std. Deviation
Strategy	240	5.2296	.59657
Systems	240	5.1931	.65638
Structure	240	5.0750	.73240
Style	240	4.9952	.48772
Staff	240	4.9280	.44046
Skills	240	4.8700	.44901
Shared_values	240	5.6589	.70526

Test Statistics[c]

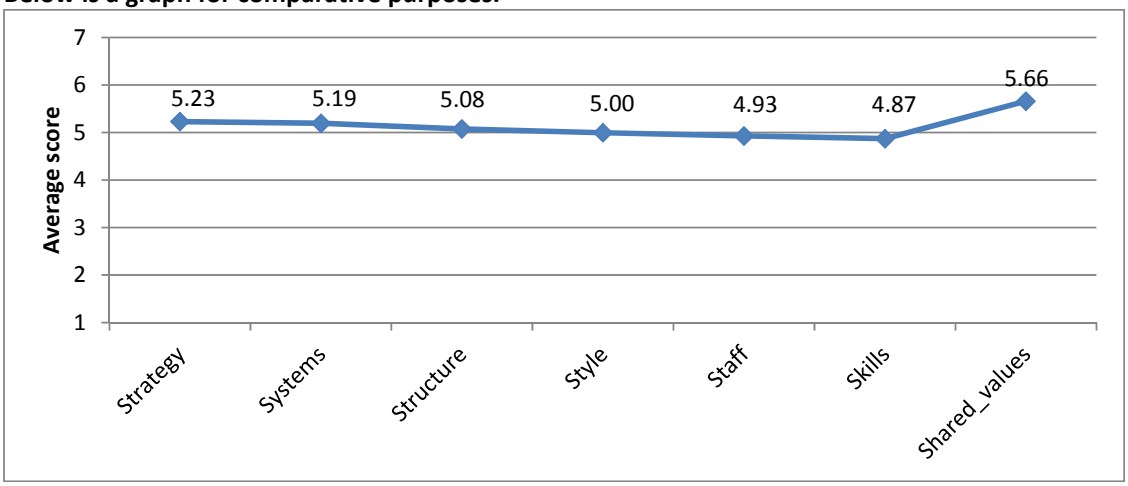
	fours - Strategy	fours - Systems	fours - Structure	Style - fours	fours - Staff	Skills - fours	fours - Shared values
Z	-13.320[a]	-12.980[a]	-12.331[a]	-13.125[b]	-13.187[a]	-13.116[b]	-13.393[a]
Asymp. Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000

a. Based on positive ranks.

b. Based on negative ranks.

c. Wilcoxon Signed Ranks Test

Below is a graph for comparative purposes.



Further analysis: Cross tabulations

Crosstab

			4 Highest qualification					
			NSC/Matric	Diploma	Degree	Honours	Masters	Total
3 Gender	Male	Count	6	43	52	43	14	158
		% within 3 Gender	3.8%	27.2%	32.9%	27.2%	8.9%	100.0%
	Female	Count	2	19	32	25	4	82
		% within 3 Gender	2.4%	23.2%	39.0%	30.5%	4.9%	100.0%
Total		Count	8	62	84	68	18	240
		% within 3 Gender	3.3%	25.8%	35.0%	28.3%	7.5%	100.0%

Crosstab

			2 Position					
			CEO	Director	Manager	Operational staff	Other	Total
3 Gender	Male	Count	11	48	80	14	5	158
		% within 3 Gender	7.0%	30.4%	50.6%	8.9%	3.2%	100.0%
	Female	Count	1	27	35	18	1	82
		% within 3 Gender	1.2%	32.9%	42.7%	22.0%	1.2%	100.0%
Total		Count	12	75	115	32	6	240
		% within 3 Gender	5.0%	31.3%	47.9%	13.3%	2.5%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	12.139[a]	4	.016	.015		
Likelihood Ratio	12.725	4	.013	.017		
Fisher's Exact Test	11.574			.017		
Linear-by-Linear Association	2.551[b]	1	.110	.121	.065	.018
N of Valid Cases	240					

a. 3 cells (30.0%) have expected count less than 5. The minimum expected count is 2.05.

b. The standardized statistic is 1.597.

Significantly more than expected males are CEO's and females are operational staff (Fisher's exact (N=240) = 11.574, p=.017).

Core business function by Business strategy.

There is a significant relationship between these two variables ($\chi^2(32,N=240),p<.0005$).

Table 6.3: **1 Core function * 6 Business Strategy Crosstabulation**

			6 Business Strategy									
			Low cost provider	Broad differentiation	Best cost provider	Focused differentiation	Defenders	Prospectors	Analysers	Resource-based	Value disciplines	Total
1 Core function	Consumers	Count	27	14	7	2	0	0	0	0	0	50
		% within 1 Core function	54.0%	28.0%	14.0%	4.0%	.0%	.0%	.0%	.0%	.0%	100.0%
	Wholesaler	Count	7	21	3	3	0	1	1	1	1	38
		% within 1 Core function	18.4%	55.3%	7.9%	7.9%	.0%	2.6%	2.6%	2.6%	2.6%	100.0%
	Distributor/Supplier	Count	2	7	3	7	0	0	0	8	8	35
		% within 1 Core function	5.7%	20.0%	8.6%	20.0%	.0%	.0%	.0%	22.9%	22.9%	100.0%
	Manufacturer	Count	7	15	11	24	1	0	1	8	13	80
		% within 1 Core function	8.8%	18.8%	13.8%	30.0%	1.3%	.0%	1.3%	10.0%	16.3%	100.0%
	Producer	Count	1	2	3	23	0	0	0	0	8	37
		% within 1 Core function	2.7%	5.4%	8.1%	62.2%	.0%	.0%	.0%	.0%	21.6%	100.0%
Total		Count	44	59	27	59	1	1	2	17	30	240
		% within 1 Core function	18.3%	24.6%	11.3%	24.6%	.4%	.4%	.8%	7.1%	12.5%	100.0%

Appendix V: Letter of information and consent

Statement of Agreement to Participate in the Research Study:

- I hereby confirm that I have been informed by the researcher, **Alpha Mugari (Msomi),** about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number: ***REC 2/13***,
- I have also received, read and understood the above written information (Participant Letter of Information) regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerised system by the researcher.
- I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- I understand that significant new findings developed during the course of this research which may relate to my participation will be made available to me.

Andrew John Layman	12 May 2013	12:45	[redacted]
Full Name of Participant	**Date**	**Time**	**Signature Right Thumbprint**

I, _____ (name of researcher) herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

_____	_____	_____
Full Name of Researcher	**Date**	**Signature**
N/A		
_____	_____	_____
Full Name of Witness (If applicable)	**Date**	**Signature**
N/A		
_____	_____	_____
Full Name of Legal Guardian (If applicable)	**Date**	**Signature**