THE INFLUENCE OF GLOBAL SOURCING ON LOCAL FIRMS' COMPETITIVENESS, SUPPLY CHAIN COMPETENCE AND PERFORMANCE IN THE SUGAR SECTOR IN SOUTH AFRICA

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by

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DECLARATION

I, Phumlani Marcus Makhaye, declare that, to the best of my knowledge and belief, this is my own work, and all the sources used in this dissertation have been properly acknowledged and accurately reported.

I furthermore testify that this dissertation has neither been submitted for a degree at any other University, nor for publication as a journal article/conference paper.

I confirm that:

- This dissertation is my own work.
- The contribution of my supervisor to the research was consistent with the normal supervisory policy.
- This work has not been previously accepted and is not concurrently submitted for any other degree.

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DEDICATION

To the amazing grace of the Almighty God

and

My dearest wife (Hlengiwe) and daughters (Nothando, Amanda and Siphumelele)

whose spiritual, moral, and physical support

were unquantifiable during my research.

This dissertation is dedicated to my amazing family, particularly my kids, who had to spend less family time with me as the husband, father, uncle and a son, just because I had to spend even more time with my research than with them. I thank them for their inspiration and motivation to pursue and achieve success in my studies.

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ABSTRACT

While a variety of studies have conducted research on the influence of global sourcing, only limited studies have investigated the supply chain competence, competitiveness of local firms and performance within the South African context. Hence, this study illuminates these themes with the intent of suggesting proactive strategies for the South African sugar industry. Furthermore, this study also attempts to suggest means through which the service delivery could be enhanced within the African continent and beyond, while also attracting, retaining and motivating professional business relationships with potential buyers of South African sugar cane growers and manufacturers of sugar from other countries. This study used a quantitative research approach. It focused on suppliers and manufacturers of sugar in South Africa (KZN), particularly sugar manufacturing firms and their sugarcane suppliers who are affiliated with the South African Sugar Association. A final sample size of 312 participants who were selected through the simple random sampling method was used in this study. A designed questionnaire was used to obtain relevant information from these participants.

The primary findings of this study indicated a positive and significant influence of global sourcing on local firm competitiveness, supply chain competence and supply chain performance. The results from the study suggest that sourcing some products globally can make the local sugar manufacturers and cane suppliers to enjoy cost and value competitive advantage, help them to create a competence and improve performance for the entire sugar supply chain. They show that there is possibility to create situations where global sourcing and job loss minimisation/stoppage in local firms of South African sugar industry. These findings have relevance for South Africa and for other African countries within the same industry.

The study indicated that, to attain competitiveness on a global scale, while meeting the global sourcing expectation standards, these sugar industries need to advance and sharpen their capacities. Invariably, findings emanating through this research may be beneficial to the South African sugar industry as the study provides recommendations on supply chain as well as its advocacy on measures which can enhance service delivery.

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LIST OF ABBREVIATIONS

ASCA	Achieving sustainable competitive advantage
CEO	chief executive officer
CFA	confirmatory factor analysis
CFI	comparative fit index
COQ	cost of quality
CTQ	critical to quality
EDI	electronic data interchange
EMS	environmental management system
EU	European Union
FMCG	fast-moving consumer goods
FSC	food supply chain
GDP	gross domestic product
HACCP	hazard analysis and critical control point
IFT	incremental fit index
ISO	International Organization for Standardization
JIT	just-in-time
KZN	KwaZulu-Natal
LPS	lean production system
MSA	Measurement System Analysis
NOSA	National Occupational and Safety Association
PCA	principal component analysis
QA	quality assurance
QC	quality control
QFD	quality function deployment
QM	quality management
QMP	quality management programme

QMS	quality management system
RBV	resource-based view
ROI	return on investment
RSC	reverse supply chain
RV	recoverable value
SACU	South African Customs Union
SASA	South African Sugar Association
SCA	sustainable competitive advantage
SCICS	Supply Chain Integration Corporate Strategy
SCM	supply chain management
SCOR-model	Supply Chain Operations Reference model
SCP	supply chain performance
SCRM	supply chain risk management
SMEs	small and medium-sized enterprises
SPC	statistical process control
SPSS	Statistical Package for the Social Sciences
STA	Sugar Trade Agreement
TCO	total customer order
TLI	Tucker-Lewis Index

CHAPTER 1: INTRODUCTION

1.1 Introduction

The contemporary business world is characterised by a rapidly changing system of technological advancements and extreme global competition. These changes have consequently influenced customers of today requiring firms to offer quality but affordable products, various product lines, higher service levels, shorter response time, and speedy delivery (Chow, Madu, Kuei, Lu, Lin & Tseng 2008 cited in Chin, Hamid, Rasli & Baharun 2012:615).

Resultantly, firms today are compelled by the materialisation of total completion to develop and pursue the most effectual global strategies that emphasise the essence of quality optimisation, higher responsiveness, lower costs, production cycle time and fulfilment rates (Moran 2019). Thus, firms are compelled to ensure that their respective suppliers adhere to cost-effective, yet good quality products to maintaining their competitiveness, while meeting their customers' ever-increasing demands. Previous studies have identified global sourcing as one of the strategies that stimulates low-cost capabilities to both the buying firms and their suppliers (Moran 2019).

1.2 Background

Global sourcing has become popular because of globalisation and recently, is augmenting in importance the world over. Despite its popularity, global sourcing has not been clearly defined (Moran 2019). Global sourcing is "the integration and coordination of procurement requirements across the worldwide business units when looking at common items like processes, technologies and suppliers" (Jessop & Jones 2018). It is a sourcing strategy and a defensive tactic that aims at capturing the global purchasing efficiencies, especially the lower price of foreign products (Lunga 2019). In other words, when a firm explores viable places in search of cost-effective production-support resources, it is using a global sourcing strategy.

Previous studies have associated global sourcing with various effects, including supplier integration (Steinle & Schiele 2008 cited in Van Pouckea & Matthyssens undated:6), product innovation (Dankbaar 2007), and enhanced firm competitiveness (Von Haartman & Bengtsson 2015). Firm competitiveness is a situation whereby a

business entity or nation can produce goods or services at a local or internationally accepted standard and quality while using fewer resources in comparison to competitors, and yet being able to offer competitive prices (Ahmed 2008 cited **in** Mubeen, Kulkarni & Hussaini 2014:204). Today's marketplace has become more competitive than previous years. Factors such as customer's ever-increasing demands, technological advancement and globalisation are beginning to erode mediocrity. More so, competitiveness has evolved over the years. Companies often do not need to compete against firms any longer, but rather their respective supply chains fight for supremacy amongst each other. For instance, "Toyota and its suppliers will clash with Ford and its suppliers for global competitive advantage" (Fawcett, Ellram & Ogden 2019).

Firm competitiveness is arguably a core function of a supply chain competence. Hove-Sibanda and Pooe (2018) defined the supply chain competence (SCC) as its potential to learn collectively in such a manner which unleashes incomparable and distinctive value-creating abilities through the combination of key capabilities of individual member firms. Previous studies allude to the fact that supply chain competences stem from supply chain practices (Hove-Sibanda & Pooe 2018) and firm competitiveness (Somuyiwa, Mcilt & Adebayo 2012 cited in Babatunde, Gbadeyan & Bamiduro 2016:133). According to Breite and Koskinen (2014:11), the ability of supply chain members in learning together, while creating competences is a key determinant of supply chain performance (SCP).

Supply chain performance is also said to be a practice of monitoring and examining if the required process were adhered to; as well as if the desired results were achieved (Ambe and Badenhorst-Weiss 2012:11006). Within the context of this study, supply chain performance is said to be the proactive-ness in responding to clients' demands timeously, while also delivering the precise quantity and minimising the cost of production and inventory cost (Hove-Sibanda & Pooe 2018). A variety of models and measurement classifications have been proposed for the advancement of SCP. These are inclusive of non-financial and financial; business procedure viewpoints, growth, internal, learning and customer (Lunga 2019). This study however used the flexibility, cost, quality, speed, responsiveness, reliability as well as delivery of the supply chain in assessing SCP. Through an assessment of SCP, business entities are able to better

understand the performances of their business (Taghipour, Megheri, Khoderzaei & Farid 2015 cited in Ramdas & Spekman 2000). Hence, it is imperative for business entities to consider factors which may affect SCP. Due to the scope of this field, the present research was confined to the influence of global sourcing on firm competitiveness, SCC, and SCP within the KwaZulu-Natal sugar industry.

In light of the above, the role of global sourcing, local firms' competitiveness and supply chain competence remain imperative within a global context, particularly due to the prevailing global trends, trade agreements between nations, as well as the value add associated with external functions (Jayaram & Tan 2018). The above discussion suggests a gap in literature as regards the effect of global sourcing on local firms' competitiveness, supply chain performance and supply chain competence**.** Hence, an elaborative research on effects of global sourcing on local firms' competitiveness, supply chain competence as well as supply chain performance, undoubtedly contributes to literature within the ambits of supply chain management (SCM).

1.2.1 Justification of focus area

The South African sugar industry provides direct employment opportunities for 79 000 individuals, while a further 350 000 are indirectly employed within this industry (south African Sugar Industry Directory 2016/2017). This industry also generates an estimated R12 billion annually (South African Sugar Industry Directory 2016/2017). Such economic indicators represent a significant portion of the country’s total employment and gross domestic product (GDP) (SABC news live blog, Wednesday 24 February 2016 17:20). In 2013, Tongaat-Hulett, a major sugar manufacturer in South Africa had, for instance, estimated production for 2013 at 23% lower in comparison to that of 2012. During the same period, Illovo also forecasted a 10% decline in its production. A similar worrisome figure was that of the 2015/2016 period wherein the country was forecasted to harvest 1.63 million tons of sugar. That was the most negative figure in the past 20 years. Similarly, the drought of 2015 significantly affected production (SASA, 2016). Given the relatively large decrease in production levels in the sugar industry, a detailed research dealing with the influence of global sourcing on local firms’ competitiveness, SCC and SCP in the KwaZulu-Natal sugar industry is justified.

1.2.2 Relevance of research focus area

The sugar industry has been retrenching since 2008, which warrants the need for a detailed study identifying what could be done to minimise these retrenchments in this industry, particularly considering the role of global sourcing in South Africa's sugar industry suppliers and manufacturers' firm competitiveness, SCC and SCP**.** Hence, the focus area of this research is topical and relevant and can make a significant contribution both theoretically, in practice and for policy formulation.

1.3 Research problem and aims

1.3.1 Statement of the problem

According to the local sugar industry, report (South African Sugar Industry Directory 2016/2017), South African Sugar Association (SASA) applied for an increment in the dollar-based reference price from USD 330 per ton to USD 400 per ton. This was premised on what it perceived to be a 60% distortion of the international sugar price (Holmes 2013).

In 2018, The South African Sugar Association (SASA) recently invited Rhodes University and several media organisations to their annual media tour, which took place between 28-29 November in KwaZulu-Natal. The two-day tour was entitled "From sugar farm to sugar bowl" and involved a walkthrough of SASA's farming facilities, the South African Sugarcane Research Institute (SASRI) and a full tour of the Sezela Mill (Trikam 2018). Trikam (2018) blamed the excessive acquisition of foreign produced products from across the globe as being mainly due to the sharp decline of smaller producers of cane suppliers in South Africa which was halved to 25 000 over a short period of time.

Though global sourcing was blamed for the adverse effects on local suppliers, nothing was mentioned with regards to an investigation or research being done to substantiate this statement. Therefore, to substantiate the above claims, there is need to research the consequences of global sourcing on firm competitiveness, SCC and SCP of the sugar industry within the KwaZulu-Natal Province. In addition, though the effects of global sourcing have been examined, there seems to be a lack of consensus among the previous studies conducted in this regard. In other words, it is not clear whether

global sourcing enhances or constrains the local firms' competitiveness, SCC and SCP, particularly within the KwaZulu-Natal sugar industry.

Clearly, the research problem of this study emanated from the gaps that exist in literature, since there seem to be few studies (if any) that have researched the effects of global sourcing on SCC and SCP, particularly within the South African perspective. Hence, the current research sought to evince the global sourcing effects on local firms' competitiveness, SCC, and SCP within the South African sugar industry.

1.3.2 Aim of the study

The study's aim was to ascertain the influence of global sourcing on local firms' competitiveness, supply chain competence and performance in KwaZulu-Natal (in **South Africa**) sugar industry.

1.4 Research objectives

1.4.1 Primary objective

The principal objective of this study was to investigate the influence of global sourcing on local firms' competitiveness, SCC and SCP in the sugar industry of KwaZulu-Natal, South Africa. This objective was achieved by means of the secondary objectives below.

1.4.2 Secondary objectives

- To investigate the influence of global sourcing on supply chain performance in South Africa. This objective was achieved through a comprehensive literature review and by collection of primary data and the empirical analysis of the data.

- To determine the influence of global sourcing on local firm competitiveness in South Africa. This objective was achieved by conducting a comprehensive literature review that is discussed under the global sourcing variable in the dissertation. Findings from primary research conducted to achieve this objective are also discussed in chapter 6 of this dissertation

- To examine the influence of local firms' competitiveness on SCC in South Africa. This objective was achieved through the examination of a wide range of literatures, as discussed under the supply chain competitiveness variable in the dissertation. Findings from primary research conducted to achieve this objective are also discussed in chapter 6 of this dissertation.

- To determine the influence of local firms' competitiveness on SCP in South Africa. This objective was achieved through the examination of a wide range of literatures, as well as the empirical findings from the primary data analysis as discussed under the SCP variable in the dissertation.

- To determine the influence of SCC on SCP in South Africa. This objective was achieved through the examination of a wide range of literatures, as discussed under the firm competitiveness variable in the dissertation. The objective was also achieved by conducting primary research, whose findings are presented in chapter 6 of the dissertation.

1.4.3 Hypotheses

$H0_1$: Global sourcing has no significant influence on SCP in KwaZulu-Natal, South Africa.

$H0_1$: Global sourcing has a significant influence on SCP in KwaZulu-Natal, South Africa.

$H0_2$: Global sourcing has no significant influence on local firms' competitiveness in KwaZulu-Natal, South Africa.

H_2: Global sourcing has a significant influence on local firms' competitiveness in KwaZulu-Natal, South Africa.

$H0_3$: Global sourcing has no significant influence on SCC in South Africa.

H_3: Global sourcing has a significant influence on SCC in South Africa.

$H0_4$: Local firms' competitiveness has no significant influence on SCP in South Africa.

H_4: Local firms' competitiveness has a significant influence on SCP in South Africa.

$H0_5$: SCC has no significant influence on SCP in South Africa.

H_5: SCC has a significant influence on SCP in South Africa.

1.5 Literature review

1.5.1 Theoretical framework

The researcher used the relational view theory postulated by Dyer and Sing in 2019 in explaining the nexus between SCC and supply chain (Dyer and Singh 2019). The relational view theory holds that increases in output are feasible in a value chain, particularly when a consumer and trader are keen on making relation-specific investments, while combining them in a distinctive manner (Dyer and Singh 2019). Thus, the researcher used the relational view theory in explaining the influence of global sourcing on local firm competitiveness, SCC, and SCP.

1.5.2 Empirical review

(a) Global sourcing

Global sourcing is a system whereby businesses source for commodities and services on a global scale (Vos 2019). The primal aim of this practice is to obtain optimality in terms of global efficiency as regards supply of commodities and services. Vos (2019) classified the definition of 'global sourcing' to the '*strictly defined*' as well as the '*more loosely defined*'.

The global sourcing competitiveness advantages are inclusive of low trade tariffs, tax breaks, affordable raw materials as well as an abundance of skilled labourers. Due to the competitive advantage that Pakistan and India have over other countries, several information technology (IT) related services and projects are outsourced to these countries (Jacobi 2020).

Global sourcing is usually attributed to the centralised procurement approach, wherein a principal purchasing entity or organisation solicits for an 'economies of scale'. This is often achieved through a corporation-wide standardisation. Monczka, Trent and Handfield (2019) defined global sourcing as "Proactively integrating and coordinating common items and materials, processes, design, technologies and suppliers across worldwide purchasing, engineering and operating locations".

Due to the ever-evolving market system, international competitions have been heightened, while drastic changes in innovation and technologies have further pressurised business entities. Monczka (2019) also mentioned that global sourcing has proven to be a strategic tool in facilitating an effectual supply chain system; stimulating innovation, helping to reduce overhead cost, while augmenting the quality of goods. A further advantage of global sourcing is that it enhances the management of supply through the integration and coordination of procedures, materials, technologies, and designs amongst suppliers across the globe (Monczka 2019).

The evolution of buying products from a domestic market to an international purchase, and to a global sourcing can be envisaged through a progression along a continuum through different stages. While progressing from a domestic purchase to an international purchase, business entities consider the lengthened distances, fluctuation in currencies as well as increases in regulations and rules.

Business tradition has to accommodate their customers' needs and every business has to change with time and technology to keep up with the competitiveness in their type of business; and according Vos (2019), to alleviate the increasing costs of production as well as the increasing competitiveness in the global trade, business entities are resorting to global sourcing as part of their production to countries abroad. He further stated that with the coming of a borderless economy, we can now improve our supply chain competitiveness by quality, cost, delivery, and engineering capability.

(b) Firm competitiveness

Easterly and Levine (2019) explained the term 'competitiveness' as the advantage a country, sub-sector or organisation has in regards to selling or supplying of commodities or services within a specific market as compared to a competing country, sub-sector or organisation within same market. The authors further contended that crucial resources such as technology, labour, skill, and capital tend to be found in abundance in some regions of the globe. Hence, this demonstrates that organisations are deeply rooted in inter-organisational relationships with a variety of buyers, suppliers and competitors. Thus, this enables them to gain competitive advantages while selling goods or offering their services.

There are predominantly three areas local businesses may offer substitutes to standard international goods. These substitutes may arise from a community's culture, information goods and products for similar local conditions and the poor worldwide**.**

Technology is a very important part of business when it comes to firm competitiveness because people progress with the times and some technologies make life easier, which is what most people need. Swanepoel, Botha and Mangonyane (2014) also stated that in the modern digital and computer revolution, within business practices, small and medium-sized enterprises (SMEs) have been identified as providers of the much needed flexibility to the economic structure of a country and this makes it feasible for large-scale firms to sharpen their economic competitiveness and performance by focusing on their core competency which is marketing and technology, and sub-contracting to SMEs. Swanepoel et al. (2014) confirmed that the hesitancy of SMEs to adopt and utilise new technologies to enhance their competitiveness and performance in the market, constrains the economic growth of a nation.

(c) Supply chain competence

Today's marketplace is more fiercely competitive than ever before. Globalisation, technological change, and demanding customers promise to eradicate traces of mediocrity. The very nature of competition has changed. Companies no longer compete against companies. Customers have a buying power that makes competition of product selection even more challenging than before and this has led supply chains to compete against other supply chains for supremacy. For example, "Ford and its suppliers will clash with Toyota and its suppliers for global competitive advantage" (Fawcett 2019).

Today, for most organisations, things are not going well when it comes to supply chain competency (Smith 2019). Demand volatility is escalating, product portfolios are more complex and supplier networks are harder to manage. Supply teams are being pressured to reduce costs while demand groups are feeling the squeeze to get the "demand plan right". The technology investments from the last decade are not meeting expectations (Smith 2019). Supply chains are complex systems and often not well understood in the organisation. According to Smith (2019), in prior studies, the lack of

understanding by the executive team is a major barrier and this, as a result, is incumbent upon supply chain leaders to talk the language of business, hold themselves accountable for corporate performance and learn to serve.

Simchi-Levi, Kaminsky and Simchi-Levi (2009 cited in Naude & Badenhorst-Weiss 2011:70) acknowledged that intensified competition in global markets, the introduction of products with shorter lifecycles, growing customer expectations, ongoing developments in communications, and transportation technologies have forced business to invest in and direct attention to their supply chains. Consequently, to remain competitive, there is pressure on businesses to decrease costs and enhance customer service levels.

A supply chain comprises two or more parties linked by a flow of resources – typically material, information and money (Webster 2019). Supply chain management (SCM) involves the management of activities surrounding the flow of raw materials to the finished product enjoyed by end customers, and back, in the case of recycling or returns (Webster 2019).

Supply chain management includes the purchasing of materials, transforming them into intermediate goods and final products and delivering a product or service to the final customers, the so-called ‘plan-source-make-and-deliver’ process, also known as the ‘Supply Chain Operations Reference model’, or ‘SCOR-model’ (Swink, Melnyk, Cooper & Hartley 2011:42-43). Thus, the supply chain includes all those direct and indirect parties involved in bringing forth products through all the various input, conversion, and output stages (Moran 2019).

The movement of materials and information through the supply chain is core to any supply chain since it is essentially aimed at creating a competitive advantage by providing outstanding customer service (by means of the delivery of the required product/service). The delivery of the required products at the right time and at the lowest cost (or value) enables a company to differentiate itself from its competitors in the market and enhances current and future profitability by balancing costs and service levels (Chopra & Meindl 2019).

(d) Supply chain performance

As defined by Kluwer (2019), supply chain is the systematic movement of raw materials in their unfinished form to a finished and consumable form. In recent times, the battleground has changed from ‘individualized firm performance’ to ‘supply chain performance’ (Burgstaller & Haslinger 2004:61-73).

As described by Kluwer (2019), SCP comprises the protracted activities within the supply chain geared towards meeting customer’s demand. These activities are inclusive of availability of goods, prompt delivery; alongside all required inventories and essentials needed to provide the necessary performance. Kluwer (2019) further explained that SCP cuts across an organisational boundary. This is said to be so, as the process between extraction of raw materials till finished products passes through various channels. The SCP also cuts across conventional functional organisational lines as it entails procurement from suppliers, production, delivery, advertising, selling as well as research and development (Kluwer 2019).

The business environment has continuously evolved. This is attributed to the ever-changing demand from insatiable consumers. Thus, this necessitates a continual improvement in the supply chain as well. In achieving this, Kluwer (2019) posited that organisations need to incorporate the ‘metrics’ or otherwise known as ‘performance measures’ into their day-to-day function. More so, the metric facilitates a global SCP enhancement instead of a narrow organisational-specific metrics which inhibit chain-wide enhancements.

SCP provides a major contribution to any successful business to compete in local markets and globally. Stank, Keller and Daugherty (2018) postulated that collaboration amongst external supply chain establishments can result in increases in internal collaboration. This invariably results in enhanced service performance. Such a formidable bond may possibly direct managers towards a better understanding of behavioural change. Collaboration amongst suppliers and consumers is considered as the initial phase towards an operative collaboration with the business entity.

SCM is arguably an integral tool of competitive strategy, as it augments a firm's profitability and productivity. Dürr (2019) stated that there are measurements that can be used and the role of these metrics and measures in the success of a firm cannot be overemphasised as this impact on control, operational and tactical planning. More so, metrics and performance measurement play an integral role while determining course of action, performance evaluation and setting objectives (Dürr 2019).

Customers are demanding when it comes to quality and it can be product or service quality, but if a customer is not happy or satisfied with quality there is a risk of losing that customer to your competition. Therefore, the main objective of management quality standards such as the 'International Organization for Standardization' (ISO) is to help companies develop and maintain a supply chain system that meets certain criteria such as those provided by the SCOR-model and 'result' in products and services that satisfy their customers (McKay 2018). The supply chain operation reference model comprises a set of procedures for measuring SCP. SCP has been a core constituent of competitive strategy in improving a firm's profitability and productivity.

1.6 Research methodology

The researcher used the quantitative approach wherein the probability sampling technique was used. The study focused on suppliers and manufacturers of sugar in South Africa (in KZN) by selecting sugar manufacturing firms and their sugarcane suppliers, for example, Tongaat-Hulett and Illovo Sugar. An initial sample size of 379 respondents was targeted, however, a final sample size of 312 respondents recruited using a simple random probability method was used in this study. The study applied a descriptive research design to analyse company information as well as that of the personnel of cane suppliers, manufacturers' directors, and that of managers. An explanatory research design was used to explain the linear hypotheses between the four variables used in this study. A self-administered questionnaire was employed as the research instrument in this study. Measures for the four latent variables were adopted and modified from previous studies, on a five-point Likert scale. The questionnaires were distributed through emails, Monkey Surveys and some were also personally delivered. A telephonic follow-up was made. Data was analysed using SPSS version 25 (using multiple regressions).

1.7 Delimitations

The current research was confined to the KwaZulu-Natal Province, where SASA affiliated sugar manufacturing firms and their cane suppliers operate. The respondents were exclusively managers and supervisors from different levels and units within the organisations.

1.8 Limitations of the study

The main limitation of this study is that the findings are not necessarily applicable or generalized to other organisations due to the size and structure of the two sugar manufacturing firms.

1.9 Outline of chapters

The study consists of seven chapters. These are outlined as follows:

Chapter 1: Introduction

Chapter 1 provides an overview to the research. It outlines the research problem, as well as aim and objectives. It further provides the significance of the study, adopted methodology as well as study's limitation.

Chapter 2: Strategy and global sourcing theories

This chapter provides literature relative to strategy and global sourcing theories. It also draws on research content from the body of knowledge on the perspectives of the influence of global sourcing on local firm competitiveness, supply chain competence and performance by analysing controversies from associated research initiatives related to the research problem.

Chapter 3: Supply chain and local firm competitiveness

Chapter 3 provides relevant literature within the context of supply chain and local firm competitiveness theories. As in Chapter 2, this chapter also draws on research content from the body of knowledge on the perspectives of the influence of global sourcing on local firm competitiveness, supply chain competence and performance by analysing controversies from associated research initiatives related to the research problem.

Chapter 4: Demand and local firm competitiveness

This chapter provides relevant literature within the context of demand and local firm competitiveness. The aim is to point out that the function of supply chain management is to optimally design and manage the flow of funds, material, and information to implement a firm's business strategy.

Chapter 5: Research methodology

Chapter 4 provides the methodology applied during the study. It describes the data collection instrument amongst other pertinent methodology-related concerns. It focuses on suppliers and manufacturers of sugar in South Africa (KZN), particularly sugar manufacturing firms and their sugarcane suppliers who are affiliated with the SASA.

It describes how the sample was identified, how the questionnaires were distributed, and how data collection procedures were used for data analysis. The validity and reliability of the study are also reviewed in this chapter.

Chapter 6: Presentation of research findings

Chapter 6 presents the study's results. It explains how the findings of the study were drawn from analysis of results. Comparisons are made with earlier studies, and from such comparisons, key findings and results are outlined.

Chapter 7: Summary, conclusions, and recommendations

Chapter 7 provides a summary of the entire study. It draws conclusions from Chapter 6 and makes recommendations in line with the key findings.

1.10 Conclusion

Chapter 1 has introduced the study and provided a background and a synopsis of the research problem; the aim and objectives; study's significance; the methodology adopted; and related shortcomings of the research. The intent of this research was explained in this preliminary chapter.

The focal points of Chapters 2 and 3 are to examine related literature in the influence of global sourcing on local firm competitiveness, supply chain competence and performance.

CHAPTER 2: STRATEGY AND GLOBAL SOURCING THEORIES

2.1 Introduction

The preliminary chapter of this study provided an overview to the current study. The current chapter presents a theoretical framework in line with the influence of global sourcing on local firm competitiveness, supply chain competence and performance. It uses the '*resource-based view*' (RBV) theories to theoretically ground and expound the nexus between global sourcing, local firm competitiveness, SCC, and SCP. The RBV theory is further discussed in the next section.

According to Fawcett et al. (2019), organisation's proactive-ness is key in attaining competitive advantage. Proactive-ness in this sense will require business managers to look beyond their organisation's frontiers and adopt measures that could enable them to convert customer and suppliers' resources into a competitive advantage. Fawcett et al. (2019) also mentioned that a key strategy to attaining competitive advantage is through collaboration with supply chain associates. The sole advantage of such collaboration will likely result to a seamless production process with optimal efficiency.

Moreover, in recent times, organisations have formed formidable partnerships with supply chain to enhance their efficiency in meeting the demands of an ever-evolving market. Such collaborations also give leverage to organisations in meeting up with customers' demands through the expertise, knowledge, and resources of their suppliers.

2.2 Impact on collaborative advantage and firm performance

2.2.1. RBV towards firms' competitiveness

A study on causes of competitive advantage by Rumelt (2019) outlined two differing views as regards the causes of an extraordinary revenues. The earliest view was the 'industry structure' view which is connected to Porter (2018). They affirmed that supernormal profits are mainly a function of an organisation's affiliation within a particular industry which offers them favourable structural features. Some of these features may include barriers to entry and a positive bargaining power. The second view on the contrary postulates that, the 'Resourced Based View of the firm' suggests

that an organisation with differential organisational performance is not due to ‘industrial structure’ but attributed to the organisation’s heterogeneity. Hence, organisations that possess difficult to imitate, non-substitutable, valuable, and unique capabilities as well as resources will possess a competitive advantage over their competitors.

The RBV theory is considered as the most significant theoretical framework in the field of ‘strategic management’. Rumelt (2019) buttressed this assertion when he identified three constituents of profitability related to this framework, namely different approaches to resource usage, the nature of resources and internal developments of resources. Dierickx and Cool (2018) however provided a differing view when they mentioned that the accumulation of valuable resources is fundamental, while the flow of resources may not really be significant. They further noted that resources which could generate a competitive advantage should be non-substitutable, inimitable, and non-tradable.

Since today’s business world is just one big seamless global village where customers have the liberty to source and procure their goods and services across the globe, firms, particularly the local ones, need to strive towards the formulation of strategies that enable them to remain competitive both locally and globally. In other words, as global sourcing is changing the rules of competitions, local firms need to balance their product differentiation and total costs affordability attributes to gaining advantage competitively within their home countries and across the globe.

More so, competition in recent times has evolved from a rivalry amongst individualised business entities to competitiveness. This may result in local firms losing their customers because of intense competition from other countries, which in turn results in customers even buying products between supply chains.

Global sourcing might require the supply chain member firms to work together towards the achievement of the result of firm competitiveness by cutting down costs and differentiation, and jointly developing supply chain competences. This will prevent the loss of their customers to global competitors which may even lead to other local firms being closed permanently if profit is not generated continually.

Thus, to implement global sourcing to inducing sustainable competitive advantage, local firms need to understand the relationship amongst ‘economic rents’ and resources as identified by Peteraf (2019). These identified conditions for achieving sustainable competitive advantage are - ex ante limits to competition, imperfect resource mobility, ex posts limit to competition and resource heterogeneity. According to Barney and Tyler (2018), resources are classified as “all assets, capabilities, organisational processes, firm attributes, information and knowledge that is controlled by the firm that enables the firm to conceive of and implement strategies that improve its efficiency and effectiveness”.

The RBV theory broadly defines resources as assets being owned by an organisation which may include capacities, knowledge, organisational processes, or any other forms of assets that offers competitive advantage to such organisation (Barney & Tyler 2018). The RBV theory assumes two preconditions for the attainment of a competitive advantage, namely (1) imperfect mobility, and (2) resource heterogeneity. Peteraf (2019) provided a distinction between imperfect mobility and resource heterogeneity. While the imperfect mobility deals with less valuable or non-tradable resources to handlers (users) rather than organisers who own them, the resource heterogeneity necessitates the disparity amongst the type and quantity of resources owned by organisations. In other words, if local firms collaborate with global counterparts who uphold the resource heterogeneity and imperfect mobility condition, they can use global sourcing to their own advantage and thus create competitive advantage. According to Barney and Tyler (2018), a firm can enjoy competitive advantage over its competitors if it possesses these distinctive features: rarity and value.

Before the reformulation of the RBV theory, it is very important to observe if the imperfect mobility and resource heterogeneity factors persist in networked environments. The heterogeneity factor is tied to the conceptualisation of organisations as independent bodies and this factor remains crucial, although associates may contribute to resource homogeneity by enabling asset flows among interconnected organisations.

However, associates do not boost competitive advantage by contributing to resource heterogeneity. As such, firms need to assess and evaluate the risks associated with

alliances in the quest to gain a competitive advantage through global sourcing. According to Barney and Tyler (2018), an organisation's resources include the following: organisational attributes, assets, knowledge, organisation know-how, information and any other tangible or intangible asset being used by an organisation in enhancing its effectiveness and efficiency.

Peteraf (2019) identified the imperfect mobility condition as one of the relevant conditions that can help interconnected firms to utilise global sourcing to create a competitive advantage since, under perfect mobility, resources can be traded and accessed without forming alliances. However, alliances can serve as the means for mobilising resources that have traditionally been considered immobile and even when resources cannot be mobilised, alliances enable the transfer of benefits associated with such resources and thus weaken the imperfect mobility condition.

Furthermore, internal rents resulting from the focal organisation's own resources are dependent upon complementary and non-complementary feedbacks with the non-shared and shared resources of its alliance associates. In support of Duffy and Fearne's (2019) statement about the term internal rents, which refers to the combination of quasi-rents and Ricardian rents resulting from the internal resources of the focal organisation, Dyer and Singh (2019) also analysed appropriated relational rents and agreed that relational rents are said to be mutual benefits alliances gain through the pulling together of their respective resources.

It is for this reason that some automobile assemblers keep their suppliers as close as possible to their assembling plants and some of them even keep them in one main entrance to the assembling plant. These decisions are taken to avoid some logistics challenges that may lead to a poor performing assembling plant or may even cause stoppages.

The stoppages may emanate from some logistics problems, for example parts not being delivered on time, which may end up affecting the assembling process. This relationship has also been highlighted and confirmed by Dyer and Singh (2019) who reported that asset-specific relationships between automobile assemblers and their suppliers led to a greater increase in the profitability of the former.

Thus, when local firms collaborate and form alliances with their global counterparts, they can use global sourcing to improve their SCP while gaining competitive advantage. Also, of essence when global sourcing is used to create competitive advantages, are SCC and SCP which are the issue of absorptive capacity.

According to Verwaal and Hesselmans (2004) cited in Cao & Zhang, 2013:18), absorptive capacity is an important learning capability that measures a firm's ability to identify, evaluate, assimilate and exploit external knowledge; however, firms differ in terms of their absorptive capacity owing to idiosyncratic resource stocks, path dependencies and heterogeneous communication channels. According to Lane, Salk, and Lyles (2019), prior studies have shown that a firm's absorptive capacity accounts for the actual learning from supply chain (alliance) partners and eventually contributes to a firm's performance. They concluded that the better the absorptive capacity of the focal firm relative to that of its alliance partner, the higher the proportional rents appropriated by the focal firm.

Running a successful business requires business operational assets for the business to be in full functional mode and these assets may vary according to the type of business with its business operational requirements. Amit, Schoemaker and Malhotra (2018) argued that the specialisation of assets is a necessary condition for the generation of alliance rent.

Since strategic assets by their very nature are specialised, firms must do something specialised or unique to develop a competitive advantage. Thus, a firm may choose to seek advantages by creating assets that are specialised in conjunction with the assets of an alliance partner (Huo & Zhao 2019).

More so, supplier networks and business decisions are very important to an operational long-term and short-term business plan, as well as good business network relationships; and can keep a business stable with a competitive advantage even better than its competitors. In other words, the ability of a firm to identify and evaluate partners with complementary resources depends on the extent to which the firm has access to accurate and timely information on potential partners.

The resource-based view of the firm substitutes two alternate assumptions in analysing sources of competitive advantage. Furthermore, this theory assumes that firms within an industry (or group) may be heterogeneous with respect to the strategic resources they control.

While the learning theory also assumes that these resources may not be perfectly mobile across firms, and heterogeneity can be long lasting, the RBV theory of the firm examines the implications of these two assumptions for the analysis of sources of sustained competitive advantage (Rumelt 2019). The next section focuses on competitive advantage and sustainability.

2.2.2. Firms' competitive advantage and sustainability

A business entity is said to be enjoying a competitive advantage if it has adopted a 'value-creating' approach which none of its potential or present competitors is using. And should the business entity's potential or present competitors not be able to replicate the benefits of this approach, such business is said to have attained a sustainable competitive advantage (SCA).

McWilliams and Turk (2019) collectively agreed that a business entity only attains a sustained competitive leverage or competitive advantage over its competitors if such competitors are not using similar strategies or approaches simultaneously. Porter (2018) simplified the explanation to 'sustained competitive advantage' when they infer it as a competitive advantage being enjoyed by a business entity over a lengthy period. They further alluded that for a business entity to sustain their competitive advantage, such sustainability is dependent on the feasibility of 'competitive replication'. More so, a business entity can possibly attain a sustainable competitive advantage if it continues to be in existence after efforts to replicate such advantage have terminated (Rumelt 2019).

It has been proven empirically that it is feasible to explore the effect of '*resource heterogeneity and immobility on SCA*'. This could be achieved by probing the form of competition while the business entity's resources are exactly '*homogeneous and mobile*' (Barney & Hoskisson 2018). However, this does not imply that some industries possess '*perfect homogeneity*' (Barney & Hoskisson 2018).

The research study conducted by Barney and Hoskisson (2018), however, does not suggest that there are industries where the attributes of perfect homogeneity exist. Although this is ultimately an empirical question, it seems reasonable to expect that most industries will be characterised by at least some degree of resource heterogeneity and immobility. Barney and Hoskisson (2018) also argued that firms, in general, cannot expect to obtain sustained, competitive advantages when strategic resources are evenly distributed across all competing firms and this conclusion suggests that the search for sources of SCA must focus on firm resource heterogeneity and immobility.

If an industry where firms possess the same resources can be imagined, this condition would suggest that the firms all have the same amount and kinds of strategically relevant physical, human, and organisational capital. This means that there is no strategy that could be conceived and implemented by any one of these firms that could not also be conceived and implemented by all other firms in this industry.

The formulation and execution of strategies are comprised of a variety of a firm's resources. And in situations where a single firm within an industry is surrounded by similar firms, and possesses the resources to conceive of and implement a strategy, this may be applied by these other firms because they possess the same resources and can also conceive of and implement this strategy (Barney & Hoskisson 2018). In as much as such firms utilise similar operational approaches, this will directly impact on their extent of effectiveness and efficiency. Hence, in such an industry, no firm is possibly able to possess an '*SCA*' (Barney & Hoskisson 2018).

According to Lieberman and Montgomery (2018), the term 'first mover advantage' materialises when a firm within an industry begins to implement strategies that could enable it to possess a '*SCA*' over its competitors within the same industry. In achieving this, such a firm may develop its brand, reputation, and goodwill amongst its clients, or equally gain access to a more extensive distribution network, and prior competitors from same industry are able to adopt such strategy. However, in a situation whereby competing firms have similar resources at their disposal, it becomes impracticable for any of such firms to possess the 'first mover advantage'.

It was analysed and concluded that to be a first mover by implementing a strategy before any competing firms, a particular firm must have insight into the opportunities associated with implementing a strategy not possessed by other firms in the industry, or by potentially entering firms (Ricciardi, Zardini & Rossignoli 2018:96).

The theory adopted by Lieberman and Montgomery (2018) states that if one firm in this type of industry can conceive of and implement a strategy, then all other firms will also be able to conceive of and implement that strategy. These strategies will be conceived of and implemented in parallel, as identical firms become aware of the same opportunities and exploit those opportunities in the same way. The theory does not suggest that one firm within an industry cannot actualise the 'first mover advantage'. It however emphasises that such advantage may only materialise when resources at the disposal of such firms are heterogeneous.

As inferred from the above conclusion, when firms in such industries possess similar traits and attributes – 'perfectly homogeneous', and possess entry barriers, such firms within this industry can sustain a competitive advantage. Thus, firms outside of this industry are unable to benefit from such SCA (Porter 2018). From a divergent viewpoint, Barney and Hoskinsson's (2018) also mentioned that entry or barrier mobility occurs when potential or current competing firms possess heterogeneous resources which are not 'perfectly mobile'. Hence, a conceding view amongst several authors is that, for a barrier or entry mobility to occur, the internally protected entities would have to utilise approaches the external entities aiming to enter the protected industry are not using.

Furthermore, external firms are protected from gaining entrance into the protected industry as they do not possess the same resources possessed by the protected firms. Hence, this implies external firms wanting to enter protected industry do not possess similar strategically needful resources. Thus, Barney and Tyler (2018) posited that entry and mobility barriers are only applicable when internally protected firms possess heterogeneity as regards the resources in their possession.

In Barney and Tyler's (2018) argument in relation to strategic group, if a firm does possess perfect mobility of resources, then external firms seeking to gain entry into

industry (group) can easily access such resources enjoyed by the internally protected firms (group). Thereafter, upon acquiring these resources, the external firms can then begin to implement in a similar manner to the internally protected firms that had implemented this strategy or set of strategies previously. Barney and Tyler (2018) also alleged that entry barriers could become catalysts to SCA in one of the following two situations: situations with non-perfect mobility; and when resources of the firm are non-homogeneously distributed amongst competing firms.

Studies on consequences of threats and opportunities within a firm's surroundings, regarding competitive advantage, indicate the restrictions when analysing competitive advantage with a presumption that a firm's resources are significantly mobile and homogeneously distributed (Barney & Tyler 2018). In assisting managers, a value chain concept was introduced by Porter (2018). This primarily was to enable firm managers to isolate potentially resource-based gains (advantage) within their respective establishments or organisations. The developed RBV merely pushes the value chain logic by scrutinising the features which resources isolated by value chain analyses are expected to possess to be sources of SCA (Porter 2018).

2.2.3. Firm resources and sustained competitive advantage

The importance of understanding sources of SCA was highlighted by Barney and Tyler (2018). They added that building a theoretical model was essential, with such model was premised upon the notion that firms' resources could be immobile and heterogeneous. However, not every firm resource holds the features of SCA. Thus, in having these features, a firm resource should be characterised by the following characteristics:

- Valuable – firms' resources should be able to exploit opportunities while neutralising threats in the organisations environ.
- Rareness – should be uncommon amongst potential or current competitors.
- Imitability – should possess an imperfect imitability.
- Non-substitutes – non-availability of substitutes to such resource.

(a) Valuable resources

The resources of a firm could only under two circumstances be of SCA or competitive advantage if the resource is perceived ‘valuable’. Barney and Hoskisson (2018) stated that a firms’ resources are considered valuable when such resources enhance effectiveness and efficiency while implementing strategies. Barney and Tyler (2018) alleged that the traditional "strengths - weaknesses - opportunities - threats" model of firm performance alludes to the assertion that firms could enhance their productivity when using approaches which explore opportunities, or that which neutralises the threats posed by competitors. A firm possessing features of competitive advantage such as non-substitutability, inimitability or rareness may not necessarily improve their performances or be considered valuable resources if these resources or privileges are not fully exploited, or if efforts are not made in neutralising threats from competing firms (Barney & Tyler 2018). More so, in attaining competitive advantage, the attributes of a firm must be valuable. However, environmental models are said to isolate firm attributes that are used in exploring opportunities or neutralising threats from competing firms, while the RBV theory does include extra features which firm resources should have in order to ensure SCA (Barney & Tyler 2018).

(b) Rare resources

Valuable firm resources possessed by many competing or potentially competing firms cannot be sources of either a competitive advantage or a sustained competitive advantage (Hambrick 2019). Hambrick (2019) proposed that a firm enjoys a competitive advantage when it is implementing a value-creating strategy not simultaneously implemented by many other firms. However, if a particular valuable firm resource is possessed by a large number of firms, then each of these firms has the capability of exploiting that resource in the same way, thereby implementing a common strategy that gives no one firm a competitive advantage (Goffin and Rothstein 2019).

The same method and analysis apply to bundles of valuable firm resources used to conceive of and implement strategies, and some of these strategies require a particular mix of physical, human and organisational capital resources to implement,

where normally one firm resource required in the implementation of almost all strategies is managerial talent (Fawcett 2019). When observing that competitive advantages only accrue to firms that have valuable and rare resources is not to dismiss common firm resources as unimportant, but instead, these valuable common firm resources can help ensure a firm's survival when they are exploited to create competitive parity in an industry (Barney & Hoskisson 2019).

Under conditions of competitive parity, Porter (2018) stated that although no one firm obtains a competitive advantage, firms do increase their probability of economic survival and it is not difficult to see if a firm's valuable resources are absolutely unique among a set of competing and potentially competing firms. More so, those resources will generate at least a competitive advantage and may have the potential of generating an SCA. It may also be possible for a small number of firms in an industry to possess a particularly valuable resource and still generate a competitive advantage. According to Hirshleifer (2019), in general, as long as the number of firms that possess a particularly valuable resource is less than the number of firms needed to generate perfect competition dynamics in an industry, that resource has the potential of generating a competitive advantage.

(c) Imperfectly imitable resources

Empirical studies have shown that rare and valuable organisational resources may become firms' source of competitive advantage when such firms possess innovators and strategist. This will be advantageous to such firms as competing firms are unable to utilise similar strategies due to resource limitation (Barney & Hoskisson 2018). Thus, this affirms that rare and valuable organisational resources could become sources of competitive advantage. When this arises, such firm is said to capitalise on the 'first mover advantage'.

In the context of imperfectly imitable resources, the studies by Barney and Hoskisson (2018) showed that rare and valuable organisational resources could become sources of SCA when competing firms are unable to access specific types of resources. In line with the above discourse, Dierickx (2018) outlined three conditions which could result in a firms' resources being '*imperfectly imitable*':

- The firm's privilege in obtaining specific resources due to historical factors/ advantages.
- If the relationship between the resources possessed by a firm and a firm's SCA is causally vague.
- The resource generating a firm's advantage is socially complex.

Another assumption of most environmental models of firm competitive advantage, besides resource homogeneity and mobility, as alluded to by Porter (2018), is that the performance of firms can be independent of their history and other idiosyncratic attributes. These researchers continued by arguing that firms do not vary in terms of their unique histories, but rather that these unique histories are not relevant to understanding a firm's performance (Porter 2018). Besides the resource-based theorists, Ansoof (2018) also recognised the significance of historical content as an element of competitive advantage and firms' performance. Ansoff (2018) cited historical situations as such where the ascension of a firm's new managerial team results in their long-term sustainability and performance.

According to Malhotra (2019), a firm's performance is not solely dependent on its industrial structure, but upon its historical route. Consequently, a firm in possession of rare and valuable resources due to its historical path, is able to tap into resources in applying '*value-creating strategies*' which are not replicable by other competitors. Malhotra (2019) further mentioned that firms without an historical route are unable to access resources needful in implementing strategies as well as market knowledge creation for SCA. Normally, the acquisition of most types of firm resources can depend on the unique historical position of the firm. According to Hirshleifer (2019), a firm that locates its facilities on what turns out to be a much more valuable location than was anticipated when the location was chosen, possesses an imperfectly imitable physical capital resource.

Also, regarding an imperfectly imitable resource, a firm which possesses personnel such as scientists is likely to have an '*imperfectly imitable resource*'. Such scientists can achieve a momentous scientific discovery which can be attributed to the historical dependency of such scientists' distinct expertise. Barney and Hoskisson (2018) highlighted that a firm with a valuable and unique organisational culture that emerged

in the early stages of the firm's history may have an imperfectly imitable advantage over firms established in another historical period where different beliefs and organisational values dominate.

The nexus between a firm's imitability of its resources and unique history has also received attention in literature. However, the nexus between the imperfect imitability and casual ambiguity of a firm's resources has gained even more attention amongst authors (Barney & Hoskisson 2018). Barney and Hoskisson (2018) further mentioned that, 'casual ambiguity' does occur when linkages exist between the resources under the control of a firm and such firm's SCA. More so, a poor understanding of the relationship between a firm's SCA and its resources often brings about difficulty in attempting to replicate a successful firm's strategies through imitation of its resources, in knowing which resources it should imitate. However, in circumstances of casual ambiguity, it is unclear if the resources described are the same resources which produce SCA or if those advantages are due to some other non-described resources of a firm.

Rumelt (2019) observed that, often, it is incomprehensible why a firm consistently outwits its competitors. Hence, he further noted that for firms to attain SCA, both the firms that possesses a resource generative competitive advantage as well as firms not possessing such resources, but intend to imitate such firms, are faced with a similar '*level of casual ambiguity*'. Rumelt (2019) further noted that, in circumstances whereby firms controlling resources possess a higher level of understanding, and thus capitalise this to their competitive advantage, competing firms with no access to similar resources will be compelled to utilise other non-conventional approaches in reducing the 'knowledge disadvantage'. Such approach may involve a thorough and systemic study of their rivalry firms' success strategy, or they need to hire highly experienced managers.

Fawcett (2019) explained that acquisition of knowledge often takes much effort and time. He further noted that, upon acquisition of such knowledge, casual ambiguity becomes non-existing, as knowledge regarding the relationship between a firm's ability to execute specific strategies and their resources is diffused amongst competing entities. Hence, this would not result in a source of 'imperfect imitability'. More so, the

firm needs to be knowledgeable about its clients and dealers (Fawcett 2019). Ironically, a firm may benefit from a competitive advantage even in situations whereby such firm may not comprehend or understand its basis of competitive advantage. However, in situations where only one firm amongst these competing firms does possess such knowledge, the 'same knowledge' will be diffused amongst competing firms in the long run. Invariably, 'causal ambiguity' premised upon 'imperfect imitability' and 'casual ambiguity' is eradicated (Fawcett 2019). Hence, such advantage could be sustained, due to its non-imitability. Fawcett (2019) further expounded that, in classifying 'causal ambiguity' as a means of SCA, every competing entity has an ambiguous knowledge or expertise on the nexus between (their respective) competitive advantage and resources at their disposal.

Regarding resources at the disposal of a firm, Klein and Leffler (2019) explained that these are extremely intricate and dependent upon a variety of factors. Such resources which are expected to be subject to critical analysis by managers, are often taken for granted.

Studies by Porter (2018), Barney and Hoskisson (2018) alleged that resources at the disposal of a firm are culturally and socially intricate. Such complexities may exist in aspects such as organisational culture, relationships amongst supervisors or administrators, or reputation with prospective clients or suppliers. Studies by Barney and Hoskisson (2018) claim that there is almost no significant difference of 'causal ambiguity' as regards the interrelatedness amongst competitive advantage and a firm's resources. Notwithstanding, the culture of an organisation portraying quality relations amongst its directors or managers can enhance performance or output of such firm. However, firms without such features may not be able to produce such. More so, 'social engineering' is often beyond the know-how of small business entities (Barney & Hoskisson 2018). Barney and Hoskisson (2018) further explained that when firms are able to buy physical equipment for productive purposes, which is available to other competitors in the marketplace, then, such 'physical equipment' could not be termed as sources of SCA. Barney and Tyler (2018) concluded that firms are unable to replicate the competitive advantage of other firms in their exact form. More so, if the managerial team possesses a similar extent of expertise amongst its competitors, then, such managerial skills may not be considered as an SCA. Robbinson (2018)

further advanced this discussion when they mentioned that, when managers envisage their firm's path in the short and long term, such vision resonates throughout the firm's 'strategic planning processes.

2.3 Strategic planning and sustained competitive advantage

Robbinson (2018) findings revealed that a large and increasing body of literature study has been proposed towards strategic planning practices geared at enacting a competitive advantage for business entities (firms). Hora and Klassen (2019) alleged that, 'formal strategic planning practices' may not necessarily be a basis to SCA even if such practices are of immense value. Firms are thus able to recognise potential prospects and challenges within their domain. Earlier studies have noted that several firms do employ 'formal planning practices', as these practices have become conventional. More so, these practices also determine supply chain integration and emphasise the critical role of knowledge exchange (Hora & Klassen 2019).

Barney and Hoskisson (2018) noted that firms inclined to adopting formal planning practices can easily acquire knowledge or expertise on how to learn these practices. This implies that these practices can easily be imitable, and hence, may not be considered as a source of SCA.

According to Burgelman (2020), the inimitability of 'informal strategy-making processes' is arguably an empirical query. Recent studies have shown that some firms endeavour to avert such informal practices from materialising. Burgelman (2020) agreed with the strategic insights that they generated. When a firm's competitors ignore the advantages attributed to informal processes, such a firm which may have adopted these practices then achieves a 'rare strategic resource'. This is achievable because there is a likelihood for an 'imperfect imitability' (Mintzberg & McHugh 2018).

In contrast to the previous research, Pearce (2018) suggested that formal planning mechanisms are strategic substitutes for informal, emergent, or autonomous processes. On the other hand, Fredrickson, and Mitchell (2018) alleged that either the informal or formal strategy-making processes are substitutable for each other. They further explained that while 'informal processes' are effectual in specific instances or circumstances, 'formal processes' on the contrary are ineffectual when 'informal

processes' are effectual, and vice versa. Invariably if such processes are not substitutable for each other and should the conditions of imperfect imitability and rareness hold, 'informal strategy-making practices' then become the source of SCA.

2.4 Information processing system and sustained competitive advantage

A variety of recent studies have been published on 'information processing' and SCA. Like strategic planning, the sources of SCA are dependent on the nature or form of 'information processing system' that has to be examined. On the one hand, Barnes (2019) noted that computers are likely not to be a source of SCA.

On the other hand, Barney and Hoskisson (2018) mentioned that machineries or equipment such as office computers or similarly related forms of equipment are classified as constituents of a firm's physical technology. This equipment is often commonly found in the marketplace, and hence not considered as sources of SCA because any approach used in exploiting this equipment is potentially imitable.

Furthermore, a deeply rooted information processing system within a firm's formal or informal 'management decision-making' is likely to possess SCA. Hence, such type of processing system could be scarce. More so, due to its socially complex nature, it would likely possess 'imperfect imitability'.

Studies by Hambrick (2019) showed that these same advantages may accumulate to such firms with skilled and experienced managerial personnel who are also closely knit**.** Conversely, when an 'information management system' is lacking, a proficient managerial team could be substitutable for 'information management system' which may have been rooted in the firm's formal and informal 'decision-making process' (Hambrick's 2019).

2.5 Positive information processing system and competitive advantage

Studies by Porter (2018) alluded to the claim that a positive reputation amongst a firm's suppliers and clients is considered a major source of competitive advantage. Positive reputation in general is dependent on factors which are not so easily replicable within such a firm's historical background, which is likely 'imperfectly imitable'.

In addition, Klein and Leffler (2019) stated that a firm's positive reputation can be perceived as informal social relations amongst prominent stakeholders and firms because such informal relations are often socially complicated, and thus imperfectly imitable. In a way, alternatives to positive reputation are considered intricate and complex. In Klein and Leffler's (2019) view, use of guarantees through reassurances of suppliers and clients can possibly substitute for a firm's positive reputation. Klein and Leffler 2019) further posited that the imbedded psychological bond between the stakeholders and firm when a firm utilises guarantees for reassurance is not clear.

Realising SCA for firms by leveraging their germane core capability differentials has become a centralised principle amongst contemporary theories of global unit strategy. According to Klein and Leffler (2019), a firm's positive reputation may be considered as an informal social relation between prominent stakeholders and firms.

Moreover, achieving a sustainable competitive advantage for firms by corporate executives applying their global leadership style and substance skills enhances the intangible asset of corporate reputation and leverages the firm's global SCA.

These intangible global leadership skills heighten intangible reputational capital assets at both the firm and industry levels which also set an even higher level of competitive advantage and are also dependent on relationships fostered through strategic alliances and collaboration (Chen & Paulraj 2019).

2.6 Conclusion

The RBV theory has become one of the most influential theoretical frameworks in the field of strategic management. In this study, resources were classified as all assets, capabilities, organisational processes and firm attributes, which also contribute to a major improvement in the supply chain, and ensures that the operational and customer service is done as the customer expectation is required.

CHAPTER 3: SUPPLY CHAIN AND LOCAL FIRM COMPETITIVENESS

3.1 Introduction

The earlier chapter discussed pertinent literature relating to the influence of global sourcing on local firm competitiveness, SCC, and SCP. The current chapter presents literature in line with supply chain management (SCM) and global sourcing. As early as the 1990s, service providers alongside manufacturers collaborated with their respective contractors in a bid to upscale their supply management role and purchases. Hence, this resulted in a shift from that of a clerical role to a more fundamental part of a new phenomenon. This new phenomenon was termed supply chain management (SCM). The identification and core function of SCM is to seek improvement in efficiency through the avoidance of waste and a more efficient utilisation of external and internal supplier technology and capabilities to creating a flawless synchronised supply chain. Such was driven by the motive to transform an 'inter-company competition' to 'inter-supply chain competition' (Buksh 2006 cited in Pita 2014:393).

3.2 Competitiveness and supply chain management

Easterly and Levine (2019) explain the term 'competitiveness' as the advantage a country, sub-sector or organisation has in regards to selling or supplying of commodities or services within a specific market as compared to a competing country, sub-sector or organisation within the same market. If a country needs to produce a quality product or service to be rated as one with a firm that is competitive in its markets, it will require professionals, experienced or well-trained staff in order to manage and deliver that expected quality product or service to meet the ISO requirements within the global market expectations (Simichi-Levi et al. 2009 cited in Naude & Badenhorst-Weiss 2011:1).

The prime role of the SCM is to achieve optimality in its operations while efficiently maintaining the flow of information, finances, and other resources in implementing the firm's strategic function. SCM plays an integral role as it directly affects a firm's income, while also affecting client services and market penetration, optimally designing, and managing the flow of funds, material, and information to implement a firm's business strategy. Supply chain decisions have a direct impact on the revenue side because

they affect both market penetration as well as customer service. On the cost side, logistics account for 20-25% of a typical firm's total cost.

Global sourcing affects both sides of the equation. While it reduces the firm's overhead cost through access to affordable resources, it also causes an increment in income through the rising response to the creation of supply options. Furthermore, global sourcing highlights the concerns of SCM within services and manufacturing. Hence, this facilitates coping with change, either reactively or proactively as an essence of management (Venkatesan & Kumar 2019).

Managers often consider their business environs as erratic and subject to unexpected circumstances. Due to this, managers are compelled to outsource to supply chains to help cushion the turbulence (Christopher & Holweg 2020). While adapting to such turbulence and the changes inherent in today's supply chains, much attention, both in practice and research, has been given to strategies that minimise supply chain risks (Bakshi & Kleindorfer 2009; Kern, Moser, Hartmann and Moser 2012; Sodhi, Son & Tang 2012).

In addition, Zinn and Eroglu (2019) highlighted that within the literature about supply chain risk management (SCRM), resilience plays an important role, while it still remains ambiguous and elusive and at the same time to achieve resilience is not yet sufficiently understood. Therefore, even though popular SCRM definitions include the need for a coordinated approach amongst supply chain members, the interplay between supply chain relationships and resilience remains unexpected (Manuj and Mentzer 2020).

Simchi-Levi et al. (2009 cited in Naude & Badenhorst-Weiss 2011:70) are of the view that native business entities (firms) can compete with their transnational counterparts if their operations are able to capitalise on their inward potentials. In sustaining their competitiveness, they would be required to have deep insight into 'global production' as well as 'consumption dynamics'. To further sustain this competition, local firms most make concerted efforts in reducing overall cost, while improving the quality of their services.

Christopher and Lee (2018) proposed that, for companies to achieve competitive advantage, they should work towards building consolidated rapport with their respective supply chain associates. Such rapport could become a leverage towards enhancing their resilience.

Their interest in types of relational competencies, led Dyer and Singh (2019) and Christopher and Lee (2018) to a conclusive agreement that the three types of relational competencies facilitate the resilience of a supply chain. They further stated that little research exists on distinguishing and jointly investigating different domains of resilience as, over the past decade, the traditional purchasing and logistics functions have evolved into a broader strategic approach to materials and distribution management known as supply chain management.

It has also been highlighted by Easterly and Levine (2019) that when a customer decides to make a purchase, they trigger action back along the whole chain, whereas all the businesses in the supply chain pass on portions of that end-customer's money to each other, with each retaining a margin for the value it has added, as each operation in the chain should be satisfying its own customer but also making sure that eventually the end customer is satisfied.

Although SCM may be differently defined by other researchers, Christopher, and Lee (2018) identified SCM as the chain linking each element of the manufacturing and supply process from raw materials through to the end user, encompassing several organisational boundaries. Furthermore, Easterly and Levine (2019) stated that SCM consists of the entirety of a value chain and addresses supply and materials management from raw material extraction till it reaches its end user.

Baatz (1995 cited in Kamath, Saurav 2016) and Christopher and Lee (2018) further expanded on SCM by including re-use or recycling. While Granell (2019) focused on SCM and on how firms utilise their suppliers' processes, technology and capability to enhance competitive advantage, Granell (2019), Easterly and Levine (2019) stated that there should be a coordination of the resource management function, production and logistics within an organisation and when all strategic organisations in the value

chain ‘integrate’ and act as a single unified entity, performance is throughout the system of suppliers.

3.2.1 Supply chain and global sourcing relations

According to Smith (2019), taking a global perspective requires searching for common market demands worldwide, rather than dividing world markets into separate entities with very different product needs; while on the other hand, different parts of the world have different service needs related to such concerns as information availability, order completeness and expected lead times.

However, the local congestion, infrastructure, communications, and time differences may make it impossible to achieve the same levels of customer service globally. Furthermore, Fawcett et al. (2019) agreed that service should match local customer needs and expectations to the greatest degree possible, while a compelling argument can be made for the implementation of a centrally coordinated global supply chain management strategy, and the one activity that should be conducted locally is establishing the customer service strategy.

According to Mutke (2019), the intense global competition in the 1980s forced world-class organisations to offer low-cost, high quality and reliable products with greater design flexibility, while manufacturers utilised just-in-time (JIT) and other management initiatives to improve manufacturing efficiency and cycle time. Further, in the fast-paced JIT manufacturing environment with little inventory to cushion product production or scheduling problems, manufacturers began to realise the potential benefit and importance of strategic and cooperative buyer-supplier relationship.

Furthermore, Naude and Badenhorst-Weiss (2011:70) claimed that the concept of SCM began as industrialists experimented with a strategic partnership with their suppliers. This then resulted in experienced transporters, logistics experts, and procurement professionals to conduct the concept of materials management. This was considered a step closer to incorporating the transportation function and physical distribution. Thus, an ‘integrated logistics concept’ referred to as ‘supply chain management’ emerged.

Therefore, Geffert et al. (2013) identified global sourcing as the practice of sourcing from the global market for goods and services across geopolitical boundaries, as global sourcing also often aims to exploit global efficiencies in the delivery of product or service, and these efficiencies include low-cost skilled labour, low-cost raw material and other economic factors like tax breaks and low trade tariffs, As such, a large number of information technology projects and services, including international system application, mobile apps and database services are outsourced globally to countries like Pakistan and India for more economical pricing.

According to Geffert et al. (2013), global sourcing is a business's procurement strategy for establishing the most cost-efficient location for a manufactured product, typically located in a foreign country and also confirmed to be true that, a company closes the domestic factory and uses a foreign manufacturer as it finds manufacturing and delivery costs lower in a foreign country due to lower wages.

In respect of the sugar industry, Higman (2018) referred to sugar as an additive used in drinks and foodstuffs of all kinds, and it produced from sugarcane and sugar beet, which currently account for approximately 75% and 25% of the world's sugar production respectively. The author also stated that sugarcane is a tall perennial grass native to New Guinea and was first used to produce crystalline sugar in India around 300BC, and following its migration to Indochina and the Mediterranean by AD 1000, sugarcane production eventually found its way to Latin America through colonialism.

According to Higman (2018), most today's global production comes from Brazil, India and China, while Brazil alone accounts for more than half of all cane sugar exports. Furthermore, Higman (2018) highlighted that in the year 2012, there were 143 million metrics tons of cane sugar that were produced from sugarcane harvest on 26 million hectares, equivalent to 0,5% of the world's agricultural area. About one third of all cane sugar was exported in 2012 for a value of US$ 17.1 billion.

According to the general manager of Durban's sugar terminal, Dean Moodley, in Business Report Economy (8 August 2013), statistics showed that hundreds of KwaZulu-Natal's new black farmers in the R12-billion sugar industry are at risk as cheap sugar imports are sold at lower than production cost, threatening the industry.

Furthermore, the report also warned sugar bosses that the industry was in “crisis” and unless the government acted swiftly to halt the flooding of cheap sugar imports into the country, black farmers who owned 21% of sugarcane farms, through government-backed reform projects, would collapse. Hence, Durban’s sugar terminal would come under increasing storage pressure as at least 250 000 extra tons of raw sugar were exported in that year (2013), with further spikes expected as tariff negotiations still had to get off the ground.

In addition, Moodley (2013) confirmed that, as a “price taken” on the world sugar market competing with high-producing countries such as Brazil and Australia in the year 2013, where production is heavily subsidised, South Africa’s sugarcane farmers will reap revenues lower than production costs, despite a bumper crop, and as a “price taker”, South Africa’s sugar industry is also dependent on a set world price, as South African sugar industry provides 79 000 jobs, which represents 11% of the country’s total agricultural workforce.

Further, at least 170 black growers, farming on more than 20 000 hectares excluding those in co-operatives and on tribal land, could go out of business. Suresh Naidoo (2013), the head of the South African cane growers organisation stated that the industry had expected 200 000 extra tons of sugar to be exported, and that there has been a huge jump since there are many new entrants into sugar farming because of government land reform imperatives, and they will be the first to be hurt.

According to IOL Business Report of 8 August 2013, the director of the South African Sugar Association, Trix Trikam, stated that 10% of the two million tonnes domestic market had now been taken by cheap sugar imports that were coming as a direct result of low import tariffs, and highlighted that the bulk of the South African sugar industry revenue was from the local markets.

South Africa only exports what is left over and at that stage (IOL Business Report of 8 August 2013) South Africa was exporting the highest tonnage yet in relation to the sugar crop produced, while the income lost to imports was about R600 million a year. However, Trikam (IOL Business Report of 8 August 2013) suggested that there is only one way to minimise imports and save this sugar industry and that is to raise the dollar-

based reference price, which would trigger an appropriate tariff, as the report on sugar imports also stated that 250 000 tons of extra sugar exported in 2013 was equivalent to the production capacity of two sugar mills (IOL Business Report of 8 August 2013).

According to Naylor (2019), sugarcane cultivation is an important part of the rural development strategy in many countries, perhaps most notably in Brazil, where in the Cerrado region sugar production was shown to be positively correlated with higher levels of economic and social development, while the crop has long been the subject of media campaigns highlighting specific cases of forced labour, child labour and land tenure issues, as well as health-related issues affecting sugarcane cutters. Sustainability issues within the sugar sector have driven the development of production compliant with four voluntary sustainability initiatives, namely, organic, fair-trade, rainforest alliance and bonsucro.

Working conditions among sugarcane cutters (Fairtrade), soil and personal health (organic) were the main drivers of certification until 2011, whereas the entry of Bonsucro and Rainforest Alliance certified production points for the use of sugar standards have enabled better supply chain risk and environmental management in mainstream channels.

The Food and Agriculture Organization (2013) reported that in 2012, standard-compliant sugar accounted for 2.7% of all cane sugar production and its sales accounted for 1% of global exports. According to Gopal (2019), sugarcane crushing involves the production of sugarcane juice, which can be used for the production of ethanol or raw sugar, and bagasse which is a fibre that is used for energy production, often to power the processing facilities. Additionally, molasses is a by-product of the conversion process of sugarcane juice into raw sugar and it can be used to produce alcohol (ethanol), animal feed or table molasses.

Gopal (2019) further stated that sugarcane processing factories can be one of three types: factories used for the production of raw sugar only (sugar mills) extracted from sugarcane juice, factories used for production of ethanol only (sugar mills), or integrated factories used for production of ethanol only (sugar mills), or integrated factories where sugarcane juice is used for both the production of sugar and ethanol,

while the molasses by-product (created from raw sugar production) is used for the production of ethanol.

3.2.2 Local sugar supply chain and global sourcing

The Department of Trade and Industry in conjunction with the Board on Tariffs and Trade of 2000 regulate prices of sugar in South Africa. This is done through two enactments, the Sugar Industry Agreement (SIA 2000) alongside the Sugar Act of 1978. Thus, sugar pricing is mainly regulated through three regulations. Firstly, through a solitary channel export mechanism; pricing set with due consideration to the US dollar-based (tariff) reference price, and pricing with due consideration for the South African market agreement wherein profits earned by this industry are divided between millers and growers in accordance to a pre-set agreement (formula). While millers are allocated an estimated 36% of the proceeds, the remaining 64% is allotted to growers. Over the years, these pricing approaches or rather referred to as regulatory provisions have enabled the sugar industry to retain a reasonable sugar price of which the domestic price is at parity with that of the import.

The South African sugar regulating entities often impose tariffs as a mechanism to protect the sugar industry. More so, such imposition is partly attributed to the biased nature of the global sugar industry. Besides regulating prices of sugar, the Board of Tariffs and Trade of 2000 also has a mandate to regulate the ‘maximum domestic prices of refined sugar’, while also regulating the amount of sugar to be exported or sold within the local market.

A number of analysts have been proposing mechanisms to sustain profitability in the South African sugar industry. One of such is Granell (2019) who proposed that the setting of local sugar supplies at maximum will enable the sugar industry to reap much higher prices from the local market.

Thus, the excess demand within the South African market may be stored up, and thereafter exported to the global market at a reduced price to accommodate the price elastic demand. The South African sugar market is considered to be an ‘oligopoly’. This oligopoly is dominated by the ‘Illovo Sugar Limited’ as well as the ‘Tongaat-Hulett

Sugar Limited' both of whom produce 48% and 35% (respectively) of South Africa's sugar production. Granell (2019) further mentioned that the SASA no longer is charged with regulating the South African sugar prices, hence, the 'benefits of price discrimination', import tariff protection as well as the solitary channel export mechanism still offer leverage to the millers.

This serves as a motive for millers to distribute less sugar to the South African market than to the global market. More so, in enabling millers to increase their prices to correspond with that of import, organisations within the oligopoly will have to take into account possible reactions of competitors, as the South African millers presently have an implicit 'profits-sharing agreement'. Invariably, millers who sell more sugar beyond the assigned market share will have to reimburse their counterparts who sell below their assigned market share. Through this plan, South African millers often evade 'open price competition'. According to Naude and Badenhorst-Weiss (2011:70), the status quo permits the South African millers to set their prices in parity with that of import. Should the local millers raise their prices, they are likely going to lose the South African market to global competitors. Such price increment will also have a negative effect on available stock and local prices.

Naude and Badenhorst-Weiss (2011:70) also argued that a downward review of prices by South Africa millers will increase the South African demand but may result in retaliations by global competitors through price cuts. Naude and Badenhorst-Weiss (2011:70) instead proposed strategies such as agreement with competitors on market share allocation, sales rebates, advertising, or special promotions instead of cutting sugar prices.

3.3 An overview of the sugar industry in South Africa

The South African sugar industry (SASI) contributes enormously to the economy. This industry plays a dominant role within the agricultural and industrial investments.

The sugar industry inversely impacts the South African labour force, foreign exchange earnings, as well as linkages with sugar suppliers alongside other industrial and manufacturing suppliers (RSA, 2011a). An estimated 2.2 million tons of sugar are produced in South Africa seasonally. This industry involves the agricultural sector, with

sugarcane cultivators being the forerunner. A wide range of products ranging from refined sugar to raw sugar, specialised sugar and syrups are amongst produces of this industry (RSA, 2011a). The sugar industry further augments industries such as food and services, transportation, chemical, fuel and fertilisers.

The South African sugar industry ranks among the top 15 sugar manufacturers amongst the 120 listed nations of sugar producers. This industry is also ranked as one of the leading cost-competitive producers of sugar globally (South African Sugar Industry Directory 2016/2017).

An estimated 85 000 individuals are directly employed within the sugar industry, while a further 350 000 individuals are indirectly employed in this industry. Interestingly, a further one million individuals depend on this industry; part of whom are those who are some 12 751 individuals employed amongst 14 sugar mills (South African Sugar Industry Directory 2016/2017). The SASA generates an estimated R8 billion direct income on an annual basis, while a further R96 million is generated through the domestic value chain.

The majority of this industry's produce is marketed locally, with an estimated 60% of this produce being marketed by the South African Customs Union (SACU). While the remaining produce is marketed within the African continent, mid-East, and parts of Asia.

Sugarcane farming is mostly prominent amongst the Eastern Cape, KwaZulu-Natal, and Mpumalanga Provinces. Sugarcane is cultivated on an estimated 430 000 ha, of which an estimated 68% are cultivated along the coastal axis, while another 17% are being cultivated within regions within the KwaZulu-Natal Province with high rainfalls, while the remaining sugarcane is cultivated within the Mpumalanga low veld and Pongola area (South African Sugar Industry Directory 2016/2017).

The majority of the sugarcane cultivators are small-scale farmers. Of the 29 130 cultivators registered in South Africa, 27 580 are classified as small-scale farmers. Also, most of the small-scale sugarcane farms are cultivated on tribal land. It was revealed in a 2010/2011 report that the canes delivered for crushing within that year

accounted for 8.59% of total crop production. The sugar industry does not only benefit the agricultural sector but has significantly empowered historically disadvantaged individuals (South African Sugar Industry Directory 2016/2017). However, in recent times, the historically disadvantaged individuals, mainly black farmers, are beginning to transit into commercial farming. The identified black sugarcane commercial farmers are estimated at 1 300 individuals, and they own an estimated 40 000 ha. The entrance of 378 black farmers into commercial farming in more recent times has increased the number of black commercial farmers to 1550. These farmers are responsible for the production of an estimated 84.7% of the South African sugarcane production, while other companies such as Huletts and Illovo are responsible for the production of 6.72%.

The South African Department of Agriculture does allege that the 430 000 ha of land dedicated towards sugarcane production has remained constant between 2001 and 2008. The hectares dedicated to sugarcane production increased during the mid-1990s. This increase was attributed to the launch of the Komati Mill. Besides the Komati Mill of Mpumalanga, the increases were also attributed to the relocation of the Illovo Mill to Easton (South African Sugar Industry Directory 2016/2017).

The South African sugar industry has however experienced some declines in recent times. This decline is attributed to the several years of poor performance by contractors, insufficiency of capital, increases in overhead cost which significantly impacted profitability, withdrawal of sugarcane supply backing, as well as the high rates charged to contractors.

A challenge the sugar industry faces is the rivalry amongst other producers. Millers within South Africa do not only compete against each other, but also compete with producers from Swaziland alongside SADC nations, who have the liberty to trade within the SADC Free Trade Agreement.

3.4 Trends in sugar supply chain and global sourcing

According to Smith (2019), a variety of researches have been conducted in line with these theoretical frameworks. While some focus on information asymmetry and information technology within the ambits of supply chain, others have focused on

coordination amongst business entities, as well as strategic alliance amongst firms (Kluwer 2019). Hence, the next sub-section focuses on supply chain management within the sugar industry.

3.4.1 Supply chain management in the sugar industry

Dürr (2019) describes SCM as the chain connecting each component of the supply and production process which runs from extraction of raw materials to the buyer. This process entails several organisational boundaries.

Chukwuma (2019) also noted that SCM comprises re-use and recycling. He further mentioned that SCM involves means through which companies utilise their suppliers' competences, knowledge, expertise, and processes in attaining a competitive advantage over their competitors.

SCM encompasses the entire value chain as a singular 'virtual firm'. It entails planning, product design and development, sourcing, manufacturing, fabrication, assembly, transportation, warehousing, distribution, and post-delivery customer support. To augment cycle time and efficiency, producers often use the JIT alongside other managerial strategies.

As far back as the industrialist era, producers recognised the possible benefits, as well as the significance in strategic and cooperative relationships between buyers and their respective suppliers. It can be said that the concept of SCM came into being through experimentation amongst producers with their strategic partners (suppliers). This was further advanced by procurement personnel alongside transporters and logistics experts who integrated the 'concept of materials management' into transportation functions and physical distribution. This resulted in an integrated logistics concept referred to as the 'supply chain management'.

Several producers and retail stores have adopted this concept (SCM) as a means to enhancing efficiency across their production line (value chain). More so, producers take advantage of their suppliers' technology, expertise, strength, and knowledge while developing new products (Unilever 2007).

Retail stores seamlessly incorporate their products distribution function with their logistics and transport counterparts to achieve a direct distribution or delivery without having to undergo inspections (Naude 2018). Goldratt and Cox (2019) also added that, when producers involve their suppliers at the preliminary phase, they are able to adopt a value-adding conceptual solution while selecting an optimal means of technology, component and equally get assistance with ‘design assessment’.

Fawcett (2019) also mentioned that SCM was because of two perspectives which resulted in one ‘common body of knowledge’, which entails the entire value-adding processes of the value chain. Thus, academicians were able to recognise the significance of integrating SCM into the business planning process. Jennex (2007: 70) also explained that literature on ‘business process re-engineering’ advocates the concept of carefully incorporating the processes between customers, suppliers, and producers.

An empirical survey done by Nyaga, Whipple and Lynch (2020) disclosed that despite the increased emphasis of integrating purchasing into overall corporate strategy, the primary function of purchasing remains a clerical role of negotiating price per items. Lejeune and Yakova (2018) confirmed that many strategic models have been proposed to link the crucial role of supply chain management in overall strategic corporate planning, but they failed to suggest any action model that is useful to practitioners.

Greater competitiveness and deregulation in agribusiness and the food industry require new forms of co-ordination between farmers and their clients to increase the efficiency and profitability of the supply chain. Processing firms use various co-ordination processes to control the quantity and quality of their raw material.
In the sugar industry, millers plan their cane supply to ensure that the mill operates at optimum capacity throughout the entire season. They may also consider variations in cane quality within the supply area and at different times during the season to maximise sugar production. These decisions will have an impact on the choices growers make regarding their harvest capacities and management and, depending on the cane payment system in place, on their incomes as well. Other stakeholders in the

supply chain, such as contractors and haulers, also directly affect its management and results.

Similar to the above discussion on supply chain management, the SCM within the South African sugar industry revolves within the same ambit. It's a process within this industry which commences at the extraction of raw materials (sugarcane). However, the planning which is a key phase in SCM comes about even before the sugar has been cultivated. This is followed by manufacturing, fabrication, assembly, transportation, warehousing, distribution, and post-delivery customer support.

3.4.2 The evolution of supply chain management

The philosophy and thinking around supply chain have continuously evolved over the years. More so, people's ideas concerning management of supply have become far more complex and strategic (Ssemakula & Mutimba 2011). In modern times, the perception around supply chain revolves around 'supply structure' as a network competing with other networks (Chopra & Meindl 2010:22 and Mangan, Lalwani, Butcher & Javadpour 2012). A firm reviews and segments clients' demand whereupon such firm uses its resources and capabilities to satisfy these demands. According to Helms and Sarkis (2005), the desire to meet clients' needs satisfactorily results in the concept of offering 'customer value'.

O'Sullivan's (2012:3) study also argued that the nature of clients' demands, or value often has a direct correlation on a firm's strategy. A firm's strategy defines consumer clusters as well as consumer needs in respect of how consumer's needs are to be satisfied and in what regards such needs are to be satisfied. The 'new' approach revolves around the interconnectedness through the entirety of manufacturing sector, wherein supplier and buyer roles are interchanged a couple of times within the structural networks.

More so, the concept of 'value chain' goes beyond a business entity (firm). This is said to be so as value chain evolves from extraction of raw materials to the end users. Burt, Petcavage and Pinkerton (2018) alleged that business entities can break down the entire set of connections within a supply chain system to identify where value-added

competencies are integral as well as where margins could be made. The evolvement of supply chain management is illustrated in Figure 3.1 below.

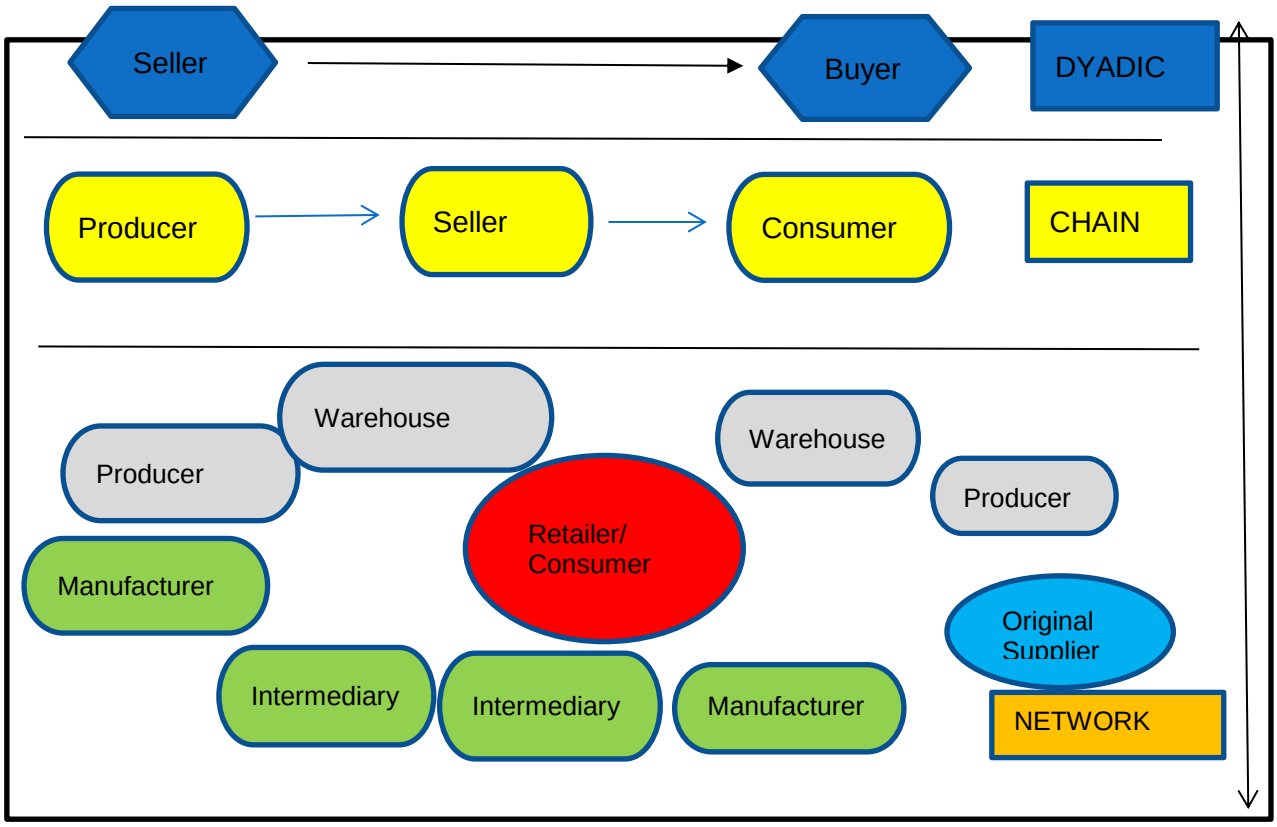

Figure 3.1: From purchasing to supply chain network/web (SCN/W)

Source: Adapted from Chopra and Meindl (2010:22)

3.4.3 Conventional supply chain environment

The supply chain environment consists of a sequential system of activities and facilities that propel the manufacturing and delivery of products and services. This environment also consists of perceptions and inter linkages and connections of various processes which result in value amongst the end users (Cordon, Hald & Seifert 2012:4).

Hence, a supply chain originates with the suppliers and goes all the way to end users through a variety of phases. The supply chain is fundamentally directional: backward or upstream towards suppliers and downstream towards the end users. This is depicted in Figure 3.2.

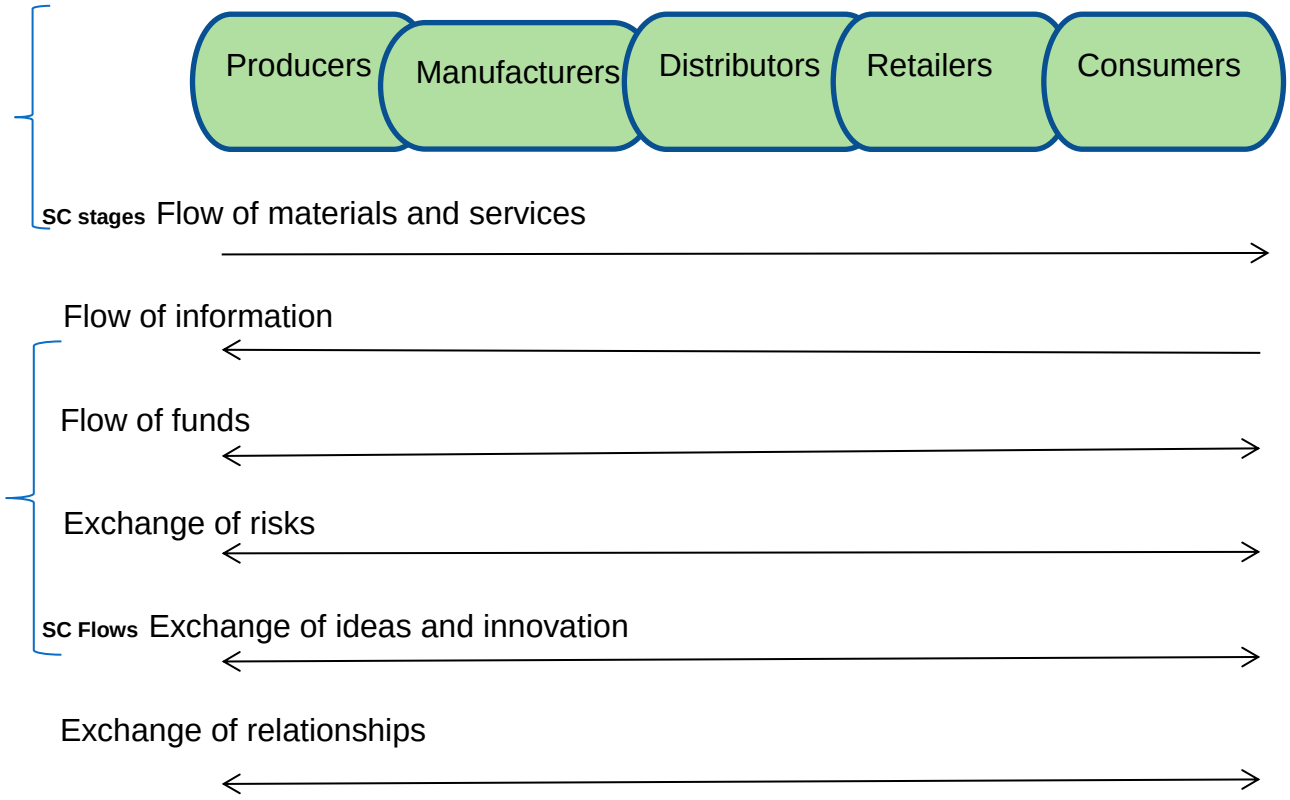

Figure 3.2: SC core functions and the different flows

Source: Cordon, Hald and Seifert (2012)

According to Sisco, Chorn and Prizan-Jorgenen (2010), the supply chain environment consists of external companies alongside internal functional units. Both entities take independent decisions as regards the exchange of 'different flows. Banihashemi (2011) explained that the external perspective comprises all entities that are either directly or indirectly involved in meeting customers' demand. These entities also include the functional units involved in identifying and providing consumer's demands. The core motive of these entities is to generate profits while meeting customer's expectations.

A survey by the Supply and Demand Chain Executive (2005) reveals that a prominent challenge within the supply chain environment is the lack of collaboration, knowledge, and information sharing. Carr and Kaynak (2018) re-affirmed this assertion when they noted that the flow of information amongst firms plays an integral role in the success of supply chain management. Attention has been growing on flow of information

amongst firms due to the increasing scale of external activities across the supply chain phases.

More so, there is insufficient evidence to support an integrated flow of processes across supply chain phases. Hence, this demonstrates a noticeable lack of harmonisation in the 'demand-fulfilment' process, as well as between the 'demand-fulfilment and creation' process (Godsell, Harrison, Emberson & Torey 2006).

According to Niranjan (2018), the shared value upon which supply chain systems are built should advocate economic viability value, environmental stewardship, and social responsibility. This also involves the prioritisation by manufacturers to consider the sustainability of their immediate environment over making profits.

3.4.4 Supply chain design

The importance of a well-structured supply chain design cannot be emphasised. This is premised upon the fact that such design has a direct relationship with a firm's level of competitiveness (Badenhorst-Weiss 2019). Capgemini (2019) stated that 'supply chain integration corporate strategy' (SCICS) is used in exploring the possibility of implementing an 'end-to-end strategic fit' in order for the supply chain phases to capture collaborations that are non-accessible to those that only optimise within regional or functional silos.

Delipinar and Kocaoglu (2016:398) claimed that supply chain systems are fundamentally directional with their downstream and upstream counterparts that are interconnected through an exchange of different flows. Studies by Fantazy et al. (2019) stated that a prominent challenge within the model of a modern firm is that supply chains do not compete as an exclusive self-governing corporation any longer.

Rather this cooperation is within an organisation which is involved by 'upstream-downstream' connections. Through this, they can exchange different flows of goods to gaining advantages attributed to the inter and intra-organisational connectedness.

However, researchers within this field of expertise are yet to arrive at an optimal supply chain model (Simchi-Levi, Kaminsky & Simchi-Levi 2019). Studies by Delipinar &

Kocaoglu (2016: 398) reveal that phases within the supply chain experience coordination-related challenges. The lack of common structure to timely coordinate the processes and activities in a firm alongside its supplier's network also poses a challenge within its value chain system.

3.4.5 Misconceptions about SCM

Though the supply chain management has been introduced as far back as the 20th century, in the current century, persistent issues still revolve around this integral organisational practice. Deliberations exist about whether to accept the SCM as a reality or utopia (Cohen 2019). Furthermore, firm managers possess varying perceptions about SCM (Tanner 2019). These divergent views amongst managers are being compounded by the diverse array of participants having different economic activities. Also adding to the complexity of SCM is the variance between phases of supply chain, differences in objective functions as well as variance in value system (Chaharsooghi 2019).

Further misconception regarding supply chain management is due to the inherent resistance amongst business leaders (Cordon 2019). This resistance is largely due to leaders' inability to embrace SCM as a strategic role in organisational activities. The negative notion perceived by (some) managers (over supply chain management) has resulted in misconceptions of whether it should be considered as an integral strategy for competitiveness or not (Tanner 2019).

3.4.6 Total cost of ownership and SCM

Studies by Anand (2018) advocate that corporations within the fast-moving consumer goods (FMCG) should restructure their supply chain strategy to survive the escalating supply chain challenges. In curtailing the rising supply chain cost, well-thought out integration mechanisms are crucial in tackling the market reactions.

Burt, Petcavage and Pinkerton (2018) explained the concept 'total customer order' (TCO) as the summation of cost related to supply chain. This includes 'procurement, use of the products as well as cost of disposing off the item after its use'. Mangan et al. (2012: 339) explained that supply chain management goes beyond consumption

and product availability, but also intends to realise ethical and prosperous economic gains with minimal depletion of resources for future generations. This could be accomplished by increasing the quantity of materials retrieved from the organisation's waste system through a process called reverse supply chain (RSC).

Kumar and Bauer (2019) mentioned that corporations use the RSC for the following three main reasons. Firstly, the feasibility of profits envisaged through RSC; secondly, the impossibility of manufacturers to ignore the public on sustainable development; and lastly, firms possess enormous benefits and opportunities when they are identified as promoting a 'green' culture.

The FMCG in South Africa are yet to fully exploit the reverse supply chain managerial process. In organisations where this is being practised (in South Africa), it is either carried out on a small scale or voluntarily, unlike in Europe. The reverse supply chain is becoming a topical concern across the world due to the climate change-related concerns. Hence, supply chain entities need to adopt and embrace this practice (Chaharsooghi & Heydari 2010:475; Mangan et al. 2012). This view is buttressed by Anand (2018) who argued that the application of the RSC management system will have a significant effect on reducing the TCO, as TCO is interrelated to reducing the acquisition and purchase price, energy costs, environmental compliance cost, risks, taxes and consumption.

3.5 Conclusion

Supply chain is a co-function of any logistic process, as this defines the beginning of the production process from the raw material planning up to the demand planning of any customer and also leading to the product being delivered to the customer at the right time and in the right condition with all customer quality expectations' boxes ticked.

CHAPTER 4: DEMAND AND LOCAL FIRM COMPETITIVENESS

4.1 Introduction

The identification and core function of supply chain management (SCM) is to seek improvement in performance. As explained by Buksh (2006) cited by Pita (2014: 393), such improvement is attainable through the efficient use of supplier competence as well as technology in creating a seamless coordinated supply chain, while also eliminating waste. This also elevates 'inter-company' competition to 'inter-supply chain' competition (Buksh 2006 cited by Pita 2014: 393).

4.2 Supply chain, global sourcing, and firm competitiveness relation

According to Smith (2019), taking a global viewpoint necessitates the search for identical consumer demands (globally), rather than segregating the global market into different customer demands and distinct entities. Regions across the globe require different products and services in relation to availability of information, order completeness as well as anticipated lead times. However, factors such as communication, infrastructure, local congestion as well as time zone differences may impede the actualisation of achieving similar or equivalent levels of consumer services worldwide.

Furthermore, Fawcett et al. (2019) agreed by stating that services offered should align with the consumer's expectation and needs to a reasonable extent. More so, a persuasive argument put forward is that, the application of a 'centrally coordinated' global supply chain management approach and the one activity that is necessary to be carried out at the local level is to establish the 'customer service strategy'.

According to Badenhorst-Weiss (2019), the extreme competitive nature of multi-national cooperatives in the 1980s compelled these entities to provide customers with high quality products at low prices. These persuasive efforts were further buttressed through the utilisation of management initiatives such as the JIT to enhancing cycle time and efficiency.

As time and development progressed, manufacturers recognised the importance and possible gains attributed to the 'strategic and cooperative' purchaser-seller relationship. Kaminsky and Simchi-Levi (2009 cited in Naude & Badenhorst-Weiss 2011:70) explained that the principle of SCM came into being when manufacturers experimented with a 'strategic partnership' amongst their respective suppliers. Johnson (2019) confirmed that a higher level of integration amongst consumers and suppliers within a supply chain will generate a more effectual competitive advantage. This assertion is based on contemporary studies on SCM strategies which emphasise the integral role of 'purchasing**'** while formulating corporate level approaches**.**

Sheu (2019) cited in Chakraborty (2014:679) postulated a four-stage SCM model and described the purchasing features required amongst each of these stages. The functionality of this conceptual work is suitable while matching purchases with the strategic processes of an organisation. Furthermore, the author suggested a framework which provides a strategic linkage of purchases to other useful areas.

4.3 Local firm competitiveness and supply chain

Quite a few publications have dwelled on local firm competitiveness and supply chain both from a local and global perspective (Johnson 2019; Holweg 2005; Gosain 2004). Some of these earlier studies have emphasised the importance of supply chain in firms. More particularly, the significance of an efficient supply chain system cannot be overemphasised in the daily operations of local firms (Li et al. 2007; Lambert 2004; Sheu 2006).

As earlier stated within the earlier chapters of this study, SCM provides a variety of advantages to a firm. Manthou et al. (2004 cited in Chakraborty 2014: 689) explained that through the adoption of SCM, firms can recognise the advantages attributed to the 'backward vertical integration' while incapacitating the shortfalls. In realising a successful SCM, specific conditions must be met. The most essential prerequisite to realising a successful SCM is the need to change the 'organisational culture' among employees who are involved in the value chain (Granell 2019). Such prerequisite is no doubt imperative when driving the 'competitiveness' agenda within an organisation.

In addition, Li and Lynn (2006 cited in Lin, Li & Yang 2006:922); Li, Humphreys, Yeung and Cheng (2007), and Flynn et al. (2010) alluded that SCM entails the positioning of a firm in such a manner that benefits the partakers or stakeholders involved in the value chain. For local firms to truly benefit from an effectual SCM, personnel within the logistics department need to be well versed and experienced in their respective capacity, while also having knowledge of the whole value chain.

In staying competitive, Lejeune and Yakova (2018) stated that local firms should utilise the SCM in reducing overhead costs while improving their efficiency. Martin (2017: 43) added that, in augmenting the SCM of a firm, the electronic commerce components may also be adopted. This will facilitate a speedy development of client SCM software. Furthermore, within this discourse, Simantupang and Sridharan (2019) mentioned that a critical aspect of SCM is the sharing of relevant knowledge, expertise, and information amongst supply chain associates. Such sharing could be made via the electronic data interchange (EDI). Mische (1992 cited in Brauch et al. 2008: 106-107) further elaborated on the usefulness of the EDI when they mentioned its uses to include – for logistical purposes, for shipping, for stocking; in ordering electronic system, as well as its usage in materials acquisition. When the EDI is used efficiently, it could result in an improved customer service as well as proactive style of organisation management.

More so, when the following nine processes are well integrated, a successful supply chain system emanates. These are - return management, commercialisation, product development, supplier relationship management, manufacturing flow management, order fulfilment, demand management, customer service management and customer relationship management (Ballou 2019). These processes must however be synchronised in such a manner that the ‘returns management process’ should be isolated from that of ‘returns management from customers’, as well as from ‘returns management’ to ‘suppliers. Furthermore, there should be a smooth coordination and synchronisation from the inception of supply chain (suppliers) till it gets to end users (Ballou 2019).

When the above supply chain strategies, information and expertise are incorporated into the supply chain system of a firm, such firm is likely to remain competitive.

4.4 Supply chain, global sourcing, and quality management

Quality management revolves around the continuous development of employees, and business entities. This philosophy has been confirmed by various authors (Dale 2003:21-26; Folaron, Morgan, and Chase & Company 2003:1-7 and Beecroft 2004:425-428; Johnson 2009:1-7) who concurred that during the last century, quality management has transformed and metamorphosed in accordance with customers' needs and challenges faced by business entities within a particular era. It can be suggested that there is substantial evidence to support the claim that the contemporary methods to quality management have come into being through a gradual process. These quality management approaches are said to arrive through a gradual evolution, and not through revolutionary breakthroughs.

There is a perception and argument that the foundation of several renowned multi-national corporative is based upon well-structured quality management principles. At present, organisations are faced with increasing customer demands as well as business challenges which are based on current trends fuelled by sophisticated and informed shareholder expectations (Zairi 2005:175-188; Saco 2008: 8-9; Gutner & Adams 2009:4).

Table 4.1 illustrates the fundamental principles of the four eras during the evolution of quality. It is envisaged that such an illustration will provide a synopsis to display the positioning of the prevailing fundamental principles within each era. It is evident that two fundamental principles dominated in Era One. According to Garvin (2018), during this period, the scale of production was minimal. Thus, a direct communication between customers and craftsmen often resulted in satisfaction of customers' needs.

Table 4.1: Fundamental principles during the evolution of quality

Fundamental Principle	**Era One 1700-1800s**	**Era Two Early 1900s**	**Era Three Mid 1900s – late 1900s**	**Era Four Late 1900s**	**Post-Era Four from 1990s-2000s**
Craftsmanship					
Inspection – Non-conformance detection					
SQC – Non-conformance control					
QA – Non-conformance prevention					
SQM – Strategic impact					
QM – Continuous improvement					

Source: [adapted by the researcher from Beecroft (2004:425-428); Grover and Walker (2003:8); Folaron et al. (2003:38); Garvin (1988:37)]

Pascal (2007:2-3) claimed that in the 19th century, a high demand of products incessantly resulted in production on a large scale, as well as the adoption of mass production approaches. Pascal (2007:2-3) mentioned that the fundamental change required for these techniques was the manufacturing and testing of enormous amounts of exchangeable portions, which could not be accomplished totally by the craftsmanship philosophy.

Moonsamy (2018) also confirmed that inspection continued into Era Two, with a changed focus of incorporating incoming and in-process inspection. According to Beecroft (2004:425-428), quality management in Era Two was approached proactively with the adoption of the fundamental principles of statistical process control (SPC) and problem solving. The stimulus for the change to SPC thinking, according to Hossain (2008:1961-1966), was an earlier study by Dr. Walter Shewhart from the Bell Telephone Laboratories.

Statistical process controls emphasised process control through detection and prediction of non-conformance at different stages of production. However, the limitation of this era was that it was still viewed as inspecting the product after production and it did not reduce the quality of non-conformance. This method only controlled the non-conforming product and prevented it from being shipped to customers. Thus, the amount of non-conformance and cost of quality remained high as these became the main drivers of Era Three.

It was identified in the research of Moonsamy (2018) that the fundamental principle of Era Three was quality assurance (QA), which was triggered by the Japanese. This era flagged a radical department from prior practice of quality management by focusing on becoming more competitive, agile and customer responsive through quality, cost and waste reduction. Through this approach, the Japanese changed the world view of quality and the Americans' products and positioned themselves as leaders in quality and according to Schonberger (2007:403-405), the Japanese adopted the approaches used by western management theorists such as Feigenbaum, Juran and Deming instead of competing with their American counterparts. Thus, the focus in this era changed from the product to an integrated and holistic approach to quality management through process focus (Johnson 2009:1-7).

From Dale, Van der Wiele and Van Iwaarden (2007:581), it can be deduced that the evolution from Era Three was driven by the Americans who were faced with customers' demands and business challenges, that were created for them mostly by the Japanese. According to these authors, during the third era, the Americans started to experience serious external factors such as trade recalls due to defective products.

More so, these defective products led to losses in market share due to the unsatisfactory quality. They added that the increased foreign competition from the Japanese, pressure from the government, as well as an unexpected rise in the quantity of goods liability suit on several occasions stimulated and pushed the American organisations to ‘quality management’s’ competitive potential. A repercussion of this could perhaps be the reason for the evolution to the fourth era.

Quality management in the last ‘two decades’ (after the fourth era) has focused on the advantage of quality planning tools (Dale et al. 2007:580). Other advancements noted over the last two decades are the development and advancement of international and local standards or management systems and business awards (Johnson 2019).

Moonsamy (2018) further stated that, from the review of each of the listed four eras, it is evident that quality management evolved due to changes in supply and demand and customer needs, which purposely were linked to supporting organisations becoming more competitive and profitable. The review further illustrates that quality management after the fourth era predominately focused on continuous improvement. The changes in quality management through the various eras also led to the development and adoption of new tools, techniques and guidelines.

Due to the nature of manufacture and small volume of goods produced by craftsmen, self-evaluation of workmanship was feasible to determine the acceptability of the product (Garvin 2018), while also confirming that, as customer demand increased, this signalled a need for higher production volumes; therefore, organisations found it necessary to change their production strategy to accommodate the supply.

It has also been highlighted that mass production was used as a strategy to achieve the desired product volumes. Thus, products were thoroughly inspected as a means to identifying products which fell within the conforming or non-conforming categories. This approach provided solution for decades. More so, quality control inspectors inspected finished products when products were in their final state, while specifications were introduced to measure the acceptability of these products against predefined standards (Priestley 2005:1-6).

Beecroft (2004:425-428) suggested that the fundamental change in Era Two was the focus on the product and the transfer of ownership of quality to process and engineering. With the change of ownership, inspection was included within the production stages to support the requirement, namely incoming, in-process and final inspection when products were at their final state. This created focus on product uniformity and ensured that non-conforming products were not shipped to the customer.

The review of Era Two demonstrated that SPC placed emphasis on the reduction of non-conforming product and process control through detection and prediction of non-conformance at various phases within the production line. Problem solving addressed the prevention of producing non-conforming product. Thus, from this review it can be gathered that this era, in comparison to Era One, delivered better product quality, reduced the cost of poor quality, increased customer satisfaction and ultimately increased profit.

Supply chain management and quality management should be complementing each other as they both serve great customer service result expectations when both are at their best. At present, organisations are faced with increasing customer demands and business-related issues, based on current trends fuelled by sophisticated and informed shareholder expectations (Adams 2019).

According to Dale, Van der Wiele and Van Iwaarded (2007), quality management within the past few decades has focused on advanced quality planning tools. Other advancements noted over the last two decades are the development and advancement of international and local standards or management systems and business awards (Singh 2006:68-69 & Johnson 2009:2).

Confirmed by the research of Moonsamy (2018), and Koning, Verver, Heuvel, Bisgaard and Does (2006:4-11), the lean production system (LPS) is explained as an integrated system of techniques, tools, practices and principles used in managing production flow, synchronising work flows and reducing waste. Kumar and Bauer (2010:29-46) maintained that the cornerstone to the LPS approach is waste reduction.

According to Chase, Jacobs, and Aquilano (2007:472), and Taj (2008:219), waste in this context refers to any doing or activity or engagement which does not contribute to the final product. Some of these are inclusive of scrap, unnecessary operations and excess inventory.

Bendell (2006:257) supported this view that the elimination of these non-value-added activities reduce cycle time and costs, and will result in a more competitive, agile, and customer-responsive organisation that makes currently-used resources accessible to focus on strategies which enhance value of services or products. The LPS discussed above by the various authors (Schonberger 2007:403-419; Hossain 2008:1961-1966; Toney and Rodica 2009:2) supported the step change made by quality management, namely the feasible approach to avoiding substandard products was through the close monitoring of the process used in producing such products.

According to Conti, Kondo, and Watson (2003:21-46), Bernal, Castel, Agustin, and Aleson (2004:20-34), and Jabnoun and Sedrani (2005:8-20), the leadership by top management transformed quality management to become strategic and competitive with more customers, rather than a focus on internal standards. This includes paying attention to individual commodity cost, review of products from competing brands and market research, all of which have elucidated the linkage between profitability and quality as key outputs for quality management.

Swink et al. (2011: 42-43) mentioned that SCM consists of buying raw materials and transforming such materials to intermediary and final goods, while the logistics personnel deliver these finished goods or services to final consumers. Hence, the cycle of ‘plan-source-make-and-deliver’ is referred to as the ‘SCOR-model’.

Moonsamy (2018) noted that the first era (craftsmen period) was characterised as a period where products were carefully crafted to consumers’ requests. The strength of this period was that each product was unique (Juran & De Feo 2010:26-37). A similitude of the first era could be exemplified in modern times with production of luxurious vehicle producers such as Aston Martin, Ferrari and Lamborghini which are specifically manufactured to meet the taste and desire of customers who negotiate directly with car manufacturers. Such customers seek prestige in this form of bargain

as only a small number of these expensive vehicles are produced (Pascal 2007:1-2). Others, including Beecroft (2004:425-428), noted that a key strength in the second era (Inspection and System Quality Control) was the transfer of responsibilities to engineering and manufacturing departments to ensure quality control and the introduction of statistical techniques.

These changes resulted in improved focus on product uniformity and the adoption of corrective measures aimed at enhancing product quality. Hence, the quantity of scrap products and non-conforming products was significantly minimised. More so, the adoption of statistical techniques further minimised the need for inspectors and inspection time. Organisations using SPC were able to better control and predict performances of their processes. This eventually resulted in better product quality, reduced cost of poor quality, increased customer satisfaction, and showed a decrease in supply chain reverse logistics and an increase in profitable growth.

Moonsamy's (2018) findings also involved those of Dale et al. (2007:27-28), and Hossain (2008:1961-1966), stressing that a fundamental strength of the third era was the adoption of a prevention approach to quality management. This meant more importance was directed to critical problem-solving tasks, training and quality planning rather than inspecting for non-conforming products. It also showed that training and capacity initiatives enhanced the level of performance amongst employees. Invariably, employees were able to perform at optimal level. Thus, the yearly training brought about continuous development amongst employees and renewed knowledge.

Notably, LPS is at present widely used across the globe. According to Lewis and Bagley (2009:1-20), LPS principles, building on the success in manufacturing, are being increasingly applied to a wide range of private-sector service organisations, including some governmental entities. The strengths of developments after the fourth era included the development and use of advanced techniques and planning tools to deliver continuous improvement (Lewis & Bagley 2009:1-20). Gutner and Adams (2009:1-21) argued that in the last two decade's quality management was not seen to be aligned to business challenges and market demands. The most striking reason for the difference in the last two decades was that quality could no longer sufficiently produce a flawless service or product, as this became a trend amongst customers.

More so, it also seemed as though quality became embedded in corporate processes (Gutner & Adams 2009:1-21).

Another reason implied by Gutner and Adams (2009:5) is that the mindset of quality that has become embedded in corporate processes and taken for granted has over the last two decades led to some corporate leaders becoming unfamiliar or inexperienced with quality matrices and strategies. These authors also added that this resulted in corporate leaders not fully appreciating the aspects that are required to systematically achieve and maintain business improvements as well as faultless goods and services. Hence, when consumer demands and business challenges became emerging trends, these corporate leaders may have not fully appreciated the benefits of quality management or how it could help improve an organisation's top-line growth and profitability (Gutner & Adams 2009:5).

Therefore, quality management matrices and strategies were not considered for assisting organisations in addressing consumer demands and business challenges. It is thus evident from this review that contributing reasons for non-alignment amongst customer demand, business challenges and quality management could be due to the lack of proper appreciation and understanding by corporate leaders of how quality management could deliver competitive advantages, customer focus and profitable growth to organisations as done previously during the four evolutions discussed.

This outlook brought about the concept of little "q" and big "Q", which was coined by Juran and De Feo (2010). Little "q" focused on quality assurance and thus deals variables such as costs, suppliers, consumers, viable products, and services. On the other hand, big Q dealt with costs, stakeholders, processes, functions, and business outputs. As previously mentioned, supply chain deals with the manufacturing processes between extraction of raw material till it arrives at the end user. Thus, supply chain comprises procurement, producing, warehousing, shipping, logistics, customer service, supply planning and supply chain management (Kluwer 2019).

The approach using little "q" and big "Q" advocated that each function, in one way or the other, is influenced by the capability of a firm in creating and retaining their clients.

Hence, the sustainability of a firm is dependent on the relationship amongst the stakeholders, the firm's employees and managers, suppliers, and the public at large.

Moonsamy (2018) also stated that, according to Hoyle (2009: vii), big "Q" thereafter became packaged as TQM. Therefore, in his opinion, TQM was not well understood and resulted in many misconceived but well-meaning initiatives and the reason was that it did not bridge the intellectual gap between quality management and general management. It was noticed that even though organisations implemented TQM, they mainly focused on satisfying customer requirements by improving product quality only.

Further, it can be inferred from this review that although TQM intended to move the thinking of quality management beyond the focus of the product or process, it was not achieved. It has also been suggested by Hoyle (2009: vii) and Gutner and Adams (2009:5) that this non-alignment, namely the inexperience and lack of knowledge of quality management matrices and strategies by corporate leaders, was the primary reason for the gap between general and quality management.

Based on Moonsamy's (2018) research, Mapuva (2010:390-413) stated that globalisation is a process and activity heralding a new era of interaction among nations, economies, and people. Furthermore, he defined globalisation as an ongoing process of 'international integration' which consists of information technology, political interaction, culture investment and capital flows as well as trade as a result of economic integration.

From this definition it can be inferred that through globalisation there is an unprecedented flow of people, capital, technology, goods, and services that transcends national borders. However, an important consideration is that globalisation brings potentially large benefits as well as many challenges and risks. Feigenbaum (2007:36-40), Saravanan and Roa (2007:15-24), and Feigenbaum (2008:22-27) stated that globalisation has significantly changed the world, as it could be said to be a 'global village'.

This has been advantageous to consumers as they are able to choose from a wide range of products, services, or suppliers. More so, globalisation has offered

consumers the possibility to purchase products across the globe through the internet, as compared to their initial buying which was limited to local firms or sources (Gutner & Adams 2009:11).

Gutner and Adams (2009:11) further added that globalisation is not only advantageous to consumers, as it equally provides a variety of alternatives to manufacturers and firms. Previously, firms were restricted to location of their raw materials where they equally sourced talents and manufactured goods. However, in recent times, the employee and raw materials could be sourced based on cost-effectiveness and no longer restricted to proximity to raw materials.

It is evident from the literature above that Mapuva (2010:390-413), Feigenbaum (2007:36-40), Saravanan and Roa (2007:15-24), Feigenbaum (2008:22-27) and Gutner and Adams (2009:11) are in agreement that globalisation has changed the world significantly. Therefore, it can be gathered that the changes brought about by globalisation have created a wide range of new challenges in the business world, individual lives, society and to the planet. Thus, for organisations to be successful, they need to carefully navigate these new challenges and market demands.

With these reviews, it has been confirmed that the world has changed over the past few decades as globalisation became a reality. Previously, consumers purchased their goods within sales outlets near them. However, in recent times, consumers have instant access to products and services across the globe. Thus, products and services at present have insignificant ‘country identity’ to the country where such products originated and have become independent of location.

Some authors (Watkins 2005:24-31; Gutner and Adams 2009:11-12) collectively concluded that leadership has supported the idea that quality management can be provided in managing these trends and they could be revealed through the use of management systems and management business tools, such as ISO 9001, ISO 14001 and benchmarking.

They also indicated that these management systems and tools need to be leveraged in a manner in which they are seen, which is as mechanisms that contribute to the

simplification of the management of supply chains, production process and suppliers across geographic regions. Therefore, by using this approach, it is hoped that quality management will be considered as directly supporting organisations addressing globalisation and associated stakeholder expectations, business challenges and market demand.

According to the research of Moonsamy (2018), the identification of the customer's power and sophistication as an emerging trend can be misleading. However, Qin and Prybutok (2008:35-50) supported the notion that without the customer, there would be no organisation; hence, companies who ensure customers' needs are being met will likely achieve high turnovers.

Donaldson (2006: 37-43) argued that quality of products may not necessarily influence consumers as they are exposed to the internet which is significantly influenced by the world market. Invariably, such customers will likely trade their country's loyalty for the right cost to benefit ratio.

Furthermore, it has been identified that an inadvertent effect is the development of a different kind of consumer whose preferences are constantly changing and thus placing ongoing pressure on innovation and new product development. In addition, in the opinion of Hillmer and Kocabasoglu (2008:51-63) and Gutner and Adams (2009:14), this increase in customer sophistication is due to the rise in 'health consciousness' as well as their consciousness of environmental sustainability.

Moonsamy (2018) also highlighted that Gutner and Adams (2009:12) are of the opinion that the future of quality management is uniquely poised to take advantage of the changing customer expectations, which in this trend is termed customer sophistication and power. Their view is that quality management already has the expertise of understanding the customer and is well versed in the use of quality tools such as benchmarking, quality function deployment (QFD), and customer surveys. Therefore, quality management using these tools can easily provide top management with the information they require to leverage this trend.

There are two sub-categories or trends that seem to be worthy of further elaboration, due to their auxiliary popularity through customer sophistication and power, which have been widely discussed in quality-related literature, and those are innovation and food safety (ASQ 2007:1-7; Levesque & Walker 2007:18-22; Surak 2007:21-27; Bisgaard 2008:20-25; ASQ 2010:1-9).

Researchers (such as Moonsamy 2018) have confirmed that food safety and quality have received much attention over the last five years, including negative publicity associated with several high profile food recalls resulting from poor food safety practices followed by producers (Surak 2007:21-27).

In an FMCG-type organisation, food safety concerns itself with the stages and operations involved in the production, processing, distribution, storage and handling of a foodstuff and its ingredients, from primary production to consumption, in a manner that prevents the transfer of food-borne illness to the customer (ISO 22000:2005).

Organisations in the sugar manufacturing industry are also regarded as FMCG-type organisations, where the supply chain begins from cane growers and ends up in a consumer's hand for their personal use or even in other organisations where it is used as their raw material in manufacturing their inventory. Furthermore, the ISO 22000 (2005:2) Standard for Foods Safety Management defines food safety as a concept that food will not cause harm to the customer when it is prepared and/or eaten according to its intended use.

Surak (2007:21-27) declared that food safety has become a challenge for organisations as consumers across the globe now prefer food products that are minimally processed and fresher. This has been primarily driven by the desire to consume a healthy diet. Surak (2007: 21-27) further added that food substances which are minimally processed are often subjected to lower cooking temperatures. Such a process however does not eliminate the pathogens. Hence, this increases the risk attributed to food safety.

According to the research of Moonsamy (2018), the ASQ Quarterly report (2007:1-7) confirmed that due to the awareness of incidents, there are growing calls by the media, the public, customer groups and legislators for more focus on the safety of food supplied. The report also stated that the solution sought for more focus on food safety cannot be a reactive, inspection-based one; it needs to be a preventative approach that considers current challenges in food production, processing, and distribution.

A preventative solution has a logical fit with a quality management system approach, which led Surak and Lorca (2007:1-7) to support the views of the ASQ report and suggest that quality management must use approaches such as the newly introduced ISO 22000 Food Safety Management System, as this discipline could enable organisations to have quality programmes or standards that could be used on a global basis.

The research findings of Moonsamy (2018) confirmed that, according to Works and Hemphill (2005:15-33), quality management and innovation did not complement each other in the past as they did not have a good history. They reckoned that for manufacturing operations the business strategies were based on highly efficient, mass production of a consumable product or service. However, for this type of operation, the model of cost of quality (COQ) was a very logical one, and introduction of innovation into this model was a major rival.

Another view provided by Bisgaard and Mast (2006:30-36) claimed that the primary reason for referring to the term innovation was that its recognised importance in economic and management theory. Many business executives claim that quality management is a nuisance issue which they hope will lose eminence. Research findings of the past do not favour a good relationship between quality management and innovation.

It is also evident that innovation is an essential strategic tool an organisation cannot disregard. The trend of customer power and sophistication specifically includes innovation as a key element and thus all the emerging trends in some way or another must take note of the need for innovation.

Therefore, through effective and efficient implementation of innovative ideas, organisations can unceasingly accommodate increasing or changing customer needs to generate more profit.

Research findings show that an emerging trend exists which at present is creating business challenges based on stakeholders and market demands. Various other studies, like those of Hopen (2008:1-3), and Leonard (2008:30-35), also noted that this trend is rapidly increasing worldwide.

The expectation for an organisation to apply socially responsible practices is on the rise, as it has been revealed that business challenges and market demands are associated with social responsibility. Thereafter, organisations need to examine how quality management can be used to assist them to manage this trend.

Hopen (2008:1-3) described 'social responsibility' as a firm's commitment to perform their business in line with operational, commercial, legal and ethical standards that meet with public's expectations while giving consideration to environmental, economic, cultural and social concerns. Further, according to Watson (2008), the fundamental reason for the requirement of social responsibility practices was born from the failure of business leadership to provide adequate due diligence or responsible oversight in organisations. He added that consequently, social responsibility provides a reform in the administration of governance with an emphasis on increasing the ethical behaviour of managers and avoiding conflict of interest among competing stakeholders.

Moonsamy (2018) did allege that unethical practices attributed to social responsibility, such as sales of harmful goods and fraud by executives which have led to corporate governance increasing both governments and organisations' focus on the advocacy for good governance amongst different regions of the globe (McKinsey & Company 2009:1-9). During the past years, some negative cases were witnessed such as the two examples of globally renowned organisations, namely Coca Cola and McDonalds, which mishandled their corporate responsibility (Fahy et al., 2005:228-229). A third example, discussed by Godden (2010:1), is a recent example of the Toyota Motor Industry.

An assessment of the development of quality management through the four eras demonstrates that quality management, by changing its scope, played a significant role during each period. Therefore, it can be inferred that quality management can once again change its scope to incorporate collaborations, way of thinking, infrastructure as well as the usage of novel tools (Friedman 2008:27). As inferred from earlier studies, it is evident that the emerging trends and opportunities presented for quality management strongly advocate that the discipline is ready for the next evolution; and that the role quality management can play in the next evolution will be centred mainly on providing a disciplined approach through the International Organization for Standardization.

4.5 Conclusion

The main objective of SCM is to efficiently manage resources (materials, information and funds) of a firm with the intent of maximising productivity. This must be done carefully so as not to destabilise the country's economy by relying too much on imports with less exporting of their own goods as this may have a negative effect on such country's economy.

CHAPER 5: RESEARCH METHODOLOGY

5.1 Introduction

Research methodology describes the systematic approach to solving a research problem (Brink 2007:53). It is a process which consists of logical discourse of the study design, ethical considerations, sampling procedures used, exclusion and inclusion criteria, and the research procedures that were employed to obtain the data for data analysis and the subsequent discussion (Hofstee 2006:115). This chapter discusses the research methods, design, sampling design as well as data collection procedures, and analysis techniques used in this study.

5.2 Methodology

5.2.1 Research design

Gray, Grove and Sutherland (2019) defined a research design as “a blueprint for conducting a study with maximum control over factors that may interfere with the validity of the findings”. It is a plan that details a step-by-step procedure of how the methodology was implemented to solve the research problem (Mouton 2001:55 and Brink 2007:92). Parahoo (2019) described a research design as “a plan that describes how, when and where data are to be collected and analysed”, whereas Polit, Beck and Hungler (2018) defined a research design as “the researcher’s overall plan for answering the research question or testing the research hypothesis”. According to Babbie (2019), ‘a research design’ revolves around decision making as regards aspects the researcher is interested in (topic), while also providing parameters to the population, aim of the study and research methodology to be adopted.

There are various research designs, and these include: descriptive, exploratory, explanatory among others. An exploratory design is associated with qualitative studies in which research problems are explored in-depth based on participants’ insights, attitude, or experiences, whereas an explanatory design is used to explain quantitative relationships. This study uses both a descriptive and explanatory research design. The descriptive design was used to describe the firm and respondent profile, while the explanatory design helped explain the quantitative relationships hypothesised between global sourcing, local firm competitiveness, SCC, and SCP.

5.2.2 Research approach

Broadly, there are two types of research approaches, namely quantitative and qualitative research approaches (Brink 2007:92). The type of research approach includes quantitative or qualitative measurement tools that the researcher may choose to address the research objectives accurately and systematically (Hofstee 2006:107). Qualitative research approaches explore people's description and meaning of their personal experience through interviews, case studies or unstructured questions (Brink 2007:3). In contrast, quantitative research approaches capture the participants' perceptions using surveys and/or questionnaires. A quantitative research approach seeks to quantify human behaviours and attitudes (De Vos 2019). Thereafter, to derive meaning from the participants' answers, the researcher uses statistical analysis to examine relationships from the varied data or answers received (Foster 2010:144).

This study used a quantitative research approach to describe variables; determine and explain the effects and causes of interaction amongst variables; and used in examining the nexus between variables. The study focused on suppliers and manufacturers of sugar in KZN, South Africa, particularly sugar manufacturing firms and their sugarcane suppliers who are affiliated to SASA. This helped to collect more information, from many respondents at lower costs.

5.3 Sampling design

A sample design comprises the target population, sampling frame, sampling technique, and sample size.

5.3.1 Target population

Kazerooni (2001) drew a distinction between a target and study population. While a target population comprises the entirety of samples that can be studied, the study population on the contrary consists of a set of samples that a researcher can realistically study. Babbie (2010:116) further mentioned that a target population is that from which a researcher generalises their findings and conclusions. David and Sutton (2011:226), also in agreement with the definition put forward by earlier authors, defined target population as 'the nature of inquiry'.

The target population of the current study consisted of the sugar industry's cane suppliers and sugar manufacturers in KZN.

Supply chain/logistics/procurement/purchasing directors, managers and officers of the sugar firms were the respondents in this study. For this study, the assumption was that all suppliers and manufacturers of sugar have managers and as such all those managers constituted a population from which the sample could be drawn. The study used SASA databases to obtain the list of cane suppliers and sugar manufacturers in KZN Province.

The current population of SASA affiliated cane suppliers and sugar manufacturers in KZN is 24 000 registered sugarcane growers supplying 14 sugar mills as sugar manufacturers. A final sample of 312 respondents was selected from the SASA database for this study. For the relevant quantitative tools to be effective, a final sample size of 312 respondents was deemed sufficient.

5.3.2 Sampling

Studies by Babbie (2010:192) and Creswell (2008:152) explain the term 'sampling' as a procedure of selecting representative units within a population which possesses similar attributes. Schultze and Patel (2019) defined a sample as comprising elements or units or individuals taken from the population of interest. The assumption is that all suppliers and manufacturers of sugar have managers and as such all those managers constitute a population from which the sample can be drawn. Babbie (2018) mentioned that the selected sampling methodology or technique enables a researcher to control or decide which elements, units or individuals should be included in a research. However, the most fundamental considerations while selecting sampling are the "size and representativeness". Thus, a sample is said to be representative if the features are like the characteristics of the entire population (Babbie 2010:200 and De Vos et al. 2011:196).

5.3.2 Sampling method

Welman, Kruger, Mitchell and Huysamen (2005:56) distinguished two sampling methods as probability sampling and non-probability sampling. Probability sampling is

based on randomisation selection (Welman et al. 2005). Since this study used the quantitative approach, it relied more on probability sampling techniques. De Vos et al. (2019) explained that, in probability or random sampling, each element or individual within the chosen population has an equal chance of being selected for the purpose of the study, that enables the researcher to have a realistic estimation of the sample prior to the research being conducted. The current study used a simple random sampling method to recruit participants into the study. This sampling method was selected because all members of the population had an equal opportunity to be selected. More so, simple random sampling is arguably flexible, comprehendible, and reduces the level of bias.

In non-probability sampling, the sample is selected based on non-random criteria, and not every member of the population has a chance of being included. Common non-probability sampling methods include convenience sampling, voluntary response sampling, purposive sampling, snowball sampling, and quota sampling.

5.3.3 Sample size

Evans (2019) defined a sample size as the sum of observations within the sample. It would normally be impractical to study a whole population, for example when doing a questionnaire survey. Sampling is a method that allows researchers to infer information about a population based on results from a subset of the population, without having to investigate every individual. Reducing the number of individuals in a study reduces the cost and workload, and may make it easier to obtain high quality information, but this has to be balanced against having a large enough sample size with enough power to detect a true association. Conventionally, statisticians denote a sample size with ‘n’. This study used an initial sample size of 379 respondents, calculated by using the Rao soft sample size calculator at 95% confidence level and 5% margin of error. However, a final sample size of 312 participants was used in this study.

5.4 Piloting of research

A pilot test is an act of testing an instrument (e.g. Questionnaire) before the actual study. Pilot testing is a technique in the study consisting of critical findings which assist the researcher to remove uncertainty and mistakes (Singh 2019). This enables a

researcher to possibly detect errors, risk or mistakes the instrument may have (De Vos et al. 2011; Cohen et al., 2001:56). More so, a similar advantage a pilot test possesses is that it enhances the reliability of the research instrument. Cohen et al. (2001: 129) further mentioned that the pilot test is used in ensuring that variables under review are effectively operationalised, exhaustive and appropriate for the research. Hence, while conducting the pilot test for the current study, the researcher used a research frame in establishing the validity as regards population, respondents' level of understanding, resources, and the data collection process (Cohen et al., 2001:263).

Moreover, the pilot testing was rather significant as it helped the researcher in evaluating participants' level of understanding of questions asked. It was also useful in identifying unclear or irrelevant questions (Babbie & Mouton, 2010; Creswell, 2008). Pilot testing was conducted before the actual field work with a sample of 20 respondents to test the questionnaire. The purpose of pretesting is to calibrate feasibility of instrument application. The outcome of this pilot test necessitated some rephrasing and amendments in the final draft of research instruments.

5.5 Ethical issues

While collection of data plays an integral role in research, it is equally essential to comply with ethical principles while such data is being collected. Ethical principles are no doubt important in research as researchers often intrude into participants' way of life, where such participants may divulge sensitive or personal issues with a researcher they probably did not know before the research (Babbie & Mouton 2010).

Thus, prior to collection of data, the researcher requested relevant letters from the Durban University of Technology (Ethics clearance letter: FREC No: 145/16FREC), alongside other individuals and entities involved in this study (Creswell, 2008:157). All participants were presented with a letter which provided the synopsis of the study. Aspects contained in the letter included title of research and main purpose of the study. Consent was formally requested, and each of the participants signed the letter of consent (Leedy & Ormrod, 2010).

A similar aspect of research is the 'ethical-moral' dimension. In fulfilling this ethical aspect, the researcher is expected to adhere to professional and moral obligations

and norms (Neuman, 2011). These moral obligations and norms are inclusive of ensuring confidentiality and anonymity, right of withdrawal (by participant) from study without making any justification, right of privacy; while also ensuring participants suffer no injury, harm or inconvenience (Babbie 2010:451). All of these were adhered to during the data collection process.

To further build participants' trust and confidence, they were assured that the completed questionnaires were only available to the researcher, or the supervisor. In ensuring anonymity amongst participants, no organisation, individuals and entities names or personal information was gathered in this study.

5.6 Data collection

Data collection instruments are tools used in collecting data for research purposes (Seliger & Shohamy 2019). Accumulating data through various mechanisms or sources, for specific occurrences often results in valuable data (Seliger & Shohamy 2019). Burns (2019) also stated that, the more comprehensive the approach is, the more valuable such data is, and more confident the researcher.

In this study, quantitative primary data was gathered using a self-administered questionnaire. Measures for the four latent variables were adopted and modified from the four latent variables from previous studies, on a five-point Likert scale. The questionnaires were distributed by email and Survey Monkey and some were physically distributed. Emails were sent to most of the participants who had an email address as their form of communication and being able to do their questionnaires and send back by means of the email replying method. Those participants who did not have email addresses as form of communication, were visited on their work site after obtaining a permission from their human resources departments, as their contributions also played a vital role for analysis within the research. This is because most of them have more than 20 years of experience in the sugar industry and they have witnessed most of the changes within the sugar manufacturing sector. Both forms of data collection were treated the same regardless of the form of reply or from whom the reply came, as the standard of emails and hard copy completion may determine the person's work environment within the organisation. Telephonic follow ups were made.

(a) Questionnaire

Foster (2010:18) affirmed that questionnaires can be used to obtain valuable data from a large population, whereby the researcher gains insight into participants' perceptions, opinions, attitudes, and insights on researchers' areas of interest. Brink (2007:141) further noted that using questionnaires, researchers can reduce bias, as respondents are served the same questions. Hence, the likelihood of misinterpreting data is minimised.

(i) Motivation and design

On the topic of the influence of global sourcing on local firm competitiveness, supply chain competence and performance in KZN (in South Africa), questionnaires were useful in collecting data on phenomena "which are not easily and quickly answered," (Seliger & Shohamy 2019). The questionnaire contained the Likert scale type of questioning where participants had to select either 'Strongly Disagree, Disagree, Neutral, Agree or Strongly Agree. Such type of questioning "do not discriminate unduly on the basis of how articulate the respondents are" (Cohen et al. 2001:248). Although, the Likert scale type of questioning is criticised for not enabling meaningful statistical calculations; nonetheless, the researcher is able to understand the opinion and perception of participants around a subject matter (Strauss 2008:48; Babbie & Mouton 2010). Cohen (2019) noted that a further advantage of the Likert scale is that it enhances flexibility of responses with quantitative analysis, correlations and frequencies. On the contrary, a limitation of the Likert scale is that its total score does not reflect a significant connotation, as "*many patterns of responses to the various items may produce the same score*" (Babbie & Mouton 2010). This however was not related to the study, as the study did not deal with total score, but rather experiences and expertise of participants. This was done on purpose to establish an objective and logical flow of perceptions (Dorasamy 2005: 40; Babbie & Mouton 2010).

The questionnaire comprised five sections. The first set of questions were simple, and easy for the participants to comprehend. Invariably, this enhanced their level of cooperation while (their) chances of withdrawal from the study were reduced (Babbie & Mouton 2010) Section A included personal information questions to better

understand and know more about the respondents. Section B was designed with questions related to the global sourcing perspective, Section C comprised questions related to firm competitiveness, and Section D comprised questions related to supply chain competence. The last section, Section E, was differently designed with questions related to SCP. The purpose of the questionnaire was to gather information about the influence of global sourcing on local firm competitiveness, SCC, and SCP in KZN, South Africa.

5.7 Data analysis

To analyse the data, descriptive and inferential statistical data analysis was conducted. In terms of descriptive data analysis, frequency, percentage, means, and standard deviation were used. A descriptive survey was used in this study to establish the participants' demographic and psychosocial characteristics (Brink 2007:102-105). To test the hypotheses, inferential statistics such Pearson correlation and multiple regression were performed using IBM SPSS version 25. As a result, this study was quantitative and cross-sectional in nature.

5.7.1 Reliability and validity

According to De Vos et al. (2011:163), reliability is the ability of a measuring instrument to reproduce the same outcome in situations wherein the features being assessed or measured remain constant. On the contrary, Denzin and Lincoln (2000) defined validity as the extent to which a measuring instrument precisely measures what is expected. Validity may also imply the degree to which a description precisely denotes the occurrence or circumstance it was intended for (Silver 2006:47).

Hence, validity is perceived as the substance of degree, and not necessarily an absolute state. A poor reliability may vitiate the accuracy of measurement, while reducing the possibility of tracking changes within the measurement. Researchers use the Cronbach's alpha while measuring reliability. Defining reliability from a mathematical perspective, is seen as *'the proportion of the variability in the responses to the survey that is the result of differences in the respondents*. This implies the responses of participants in a 'reliable survey' will be different as participants do have differing notions or perspectives, and it does not necessarily imply that such a survey is unclear or misleading.

De Vos (2019) further noted that objectivity, validity, and reliability are the core criteria to assessing the quality of quantitative studies, while confirmability, credibility, and dependability; or neutrality, consistency and applicability are considered the criteria for that of qualitative studies. More so, validity within qualitative research may be addressed by the objectivity of the researcher, honesty of researcher, or the scope, richness, or depth of the data (Cohen 2019).

Cohen (2019) added that, due to researchers' engrossment in the world around them, it is not possible to completely achieve 'fidelity' or 'objectivity'. However, researchers are expected to make efforts in ensuring high morals while reporting their findings, as this will boost the validity and objectivity of the study.

The principles of validity and reliability take a primary role in any scientific research. Testing validity is a requisite to test reliability. Reliability is said to be the degree to which the research instrument produces an unswerving and trustworthy result. Creswell (2020) believes that consistency with which questionnaire items are answered or individual scores remain relatively the same can be determined through the test/retest method. Tanveer (2019) agreed with Creswell's assertion and further argued that there are two ways in which reliability is tested which are test/retest and internal consistency. In this study, reliability was assured or increased by using the professional and well-experienced respondents in their field and was tested using a Cronbach's alpha coefficients. A pilot test was used to ensure the validity of the research instrument.

5.8 Conclusion

This chapter explained the research methodology adopted in this study. It touched on relevant aspects applicable to this study. The researcher explained the research design applicable to the study, the sampling method, and how pilot testing was conducted. Furthermore, discussions in this chapter covered data collection, data analysis, as well as reliability and validity. The following chapter provides a presentation of the research findings.

CHAPTER 6: PRESENTATION OF RESEARCH FINDINGS

6.1 Introduction

A synopsis of the previous chapter is presented in this chapter. These presentations are discussed in line with study's aim and objectives. The analysis presents the following outputs: reliability analysis, correlation, assumption of multi-collinearity, linear regression, to make a conclusion if there is a negative or positive correlation amongst the variables. Thereafter, the research findings are presented, based on the results of the study.

6.2 Hypotheses

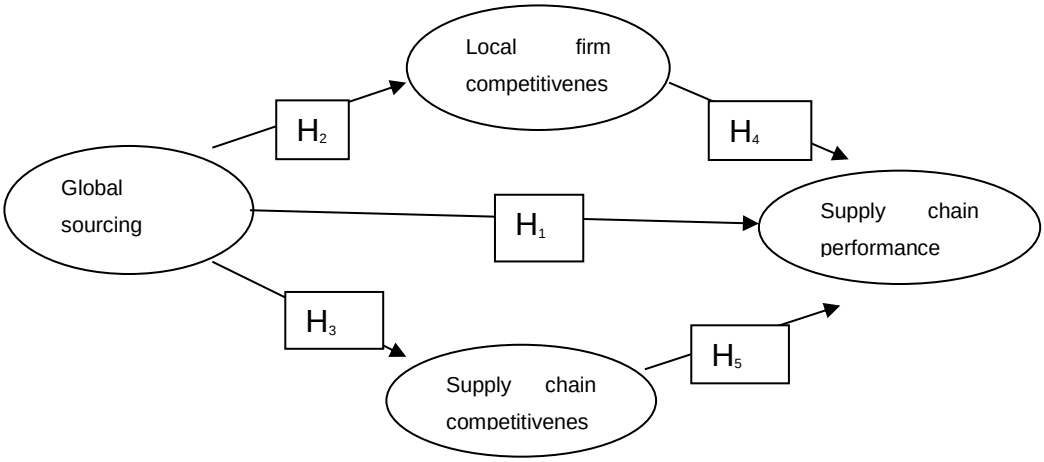

Figure 6.1: Research framework

Source: own compilation

Figure 6.1 above presents the linear relationships between the four research variables used in this study. Global sourcing is the independent variable, local firms' competitiveness and supply chain competence are the mediator variables, while supply chain performance is the outcome variable. The five hypotheses tested in this study are:

H_1: Global sourcing has a significant influence on SCP in KwaZulu-Natal, South Africa.

H_2: Global sourcing has a significant influence on local firm competitiveness in KwaZulu-Natal, South Africa

H_3: Global sourcing has a significant influence on SCC in KwaZulu-Natal, South Africa.

H_4: Local firm competitiveness has a significant influence on SCP in KwaZulu-Natal, South Africa.

H_5: SCC has a significant influence on SCP in KwaZulu-Natal, South Africa.

6.3 Demographic information

The demographic profile of respondents is discussed below. Section A of the survey questionnaire sourced demographic data to provide personal information for the research hypothesis developed for this study. The personal information was incorporated into questions A1 to A8 of the survey questionnaire.

The following list of personal information was extracted, namely Gender (A1), Education (A2), Race (A3), Number of employees (A4), Amount of money from sales per year in Rand's (R) in thousands or millions (A5), Number of years in business since start up (A6), What business are you in? (A7) and Does your business source goods from outside South Africa? (A8).

6.3.1 Gender

The questionnaire was distributed to a total number of 312 respondents. Figure 6.2 presents the gender distribution of the surveyed respondents.

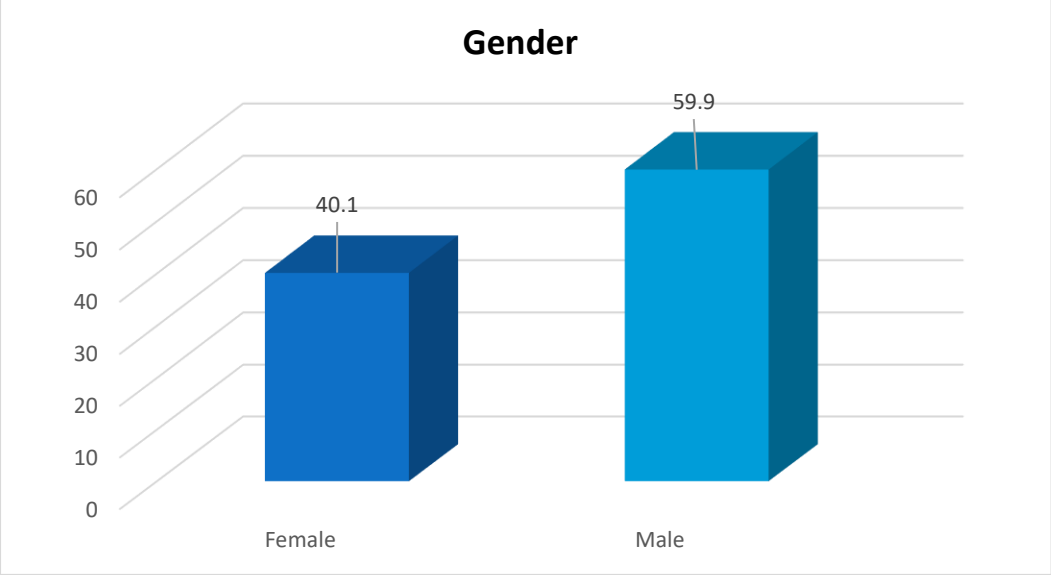

Figure 6.2: Gender

As shown in Figure 6.2, 187 (59.9%) of the respondents in this study were males and 125 (40.1%) females. This is quite surprising given that females are usually more likely to participate in surveys. This dominance of male respondents might be explained by the fact that most manufacturing industries are male dominated.

6.3.2 Education

Grobler, Warnich, Carrell, Elbert, and Hatfield (2011) claimed that, “there is a relationship between educational achievements and position held in the organisation”.

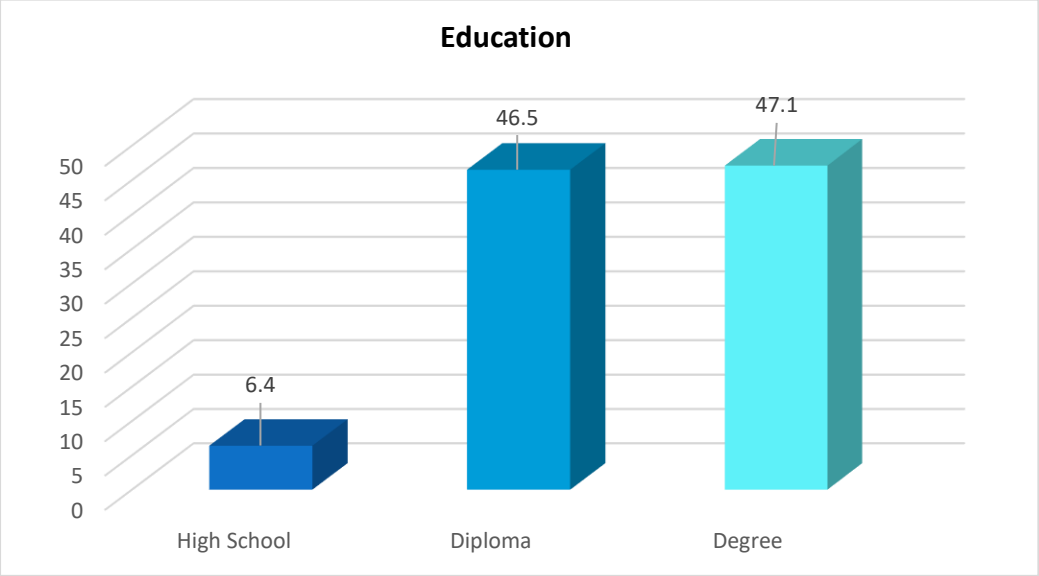

Figure 6.3: Education

The study revealed that, amongst the 312 respondents, 47.1% have degrees, 46.5% have diplomas and lastly 6.4% have senior certificates (see Figure 6.3).

6.3.3 Race

A successful business is often because it has different racial groups, with different cultures and backgrounds within the organisation which helps in learning each other’s cultures and also working towards the common goal of a profitable organisation.

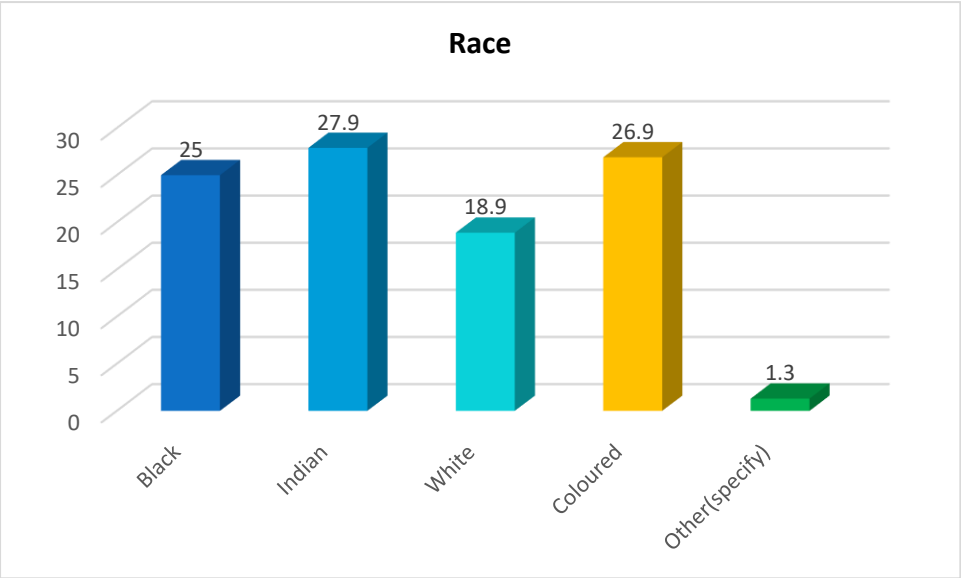

Figure 6.4: Race

The results in Figure 6.4 show that the highest number of participants are Indian (27.9%). 26.9% of the participants are coloured, 25% are of African origin, while 18.9% are white.

6.3.4 Number of employees

Respondents were also asked about the number of employees in their firm. This was done to ascertain the size of the firm. The findings are presented in Table 6.1.

Table 6.1: Distribution of number of employees

Number of employees		
	Frequency	Valid Percent
5 or less	2	0.6
6-10	8	2.6
11-20	19	6.1

21-50	140	44.9
51 or above	143	45.8
Total	312	100

As shown in Table 6.1, most of the surveyed firms were medium (45.8%), and small (44.8%) in nature. The rest (9.3%) were very small and micro enterprises, employing 20 or less employees.

6.3.5 Yearly sales in monetary terms

Respondents were also asked about their average annual sales. The findings are presented in Figure 6.5.

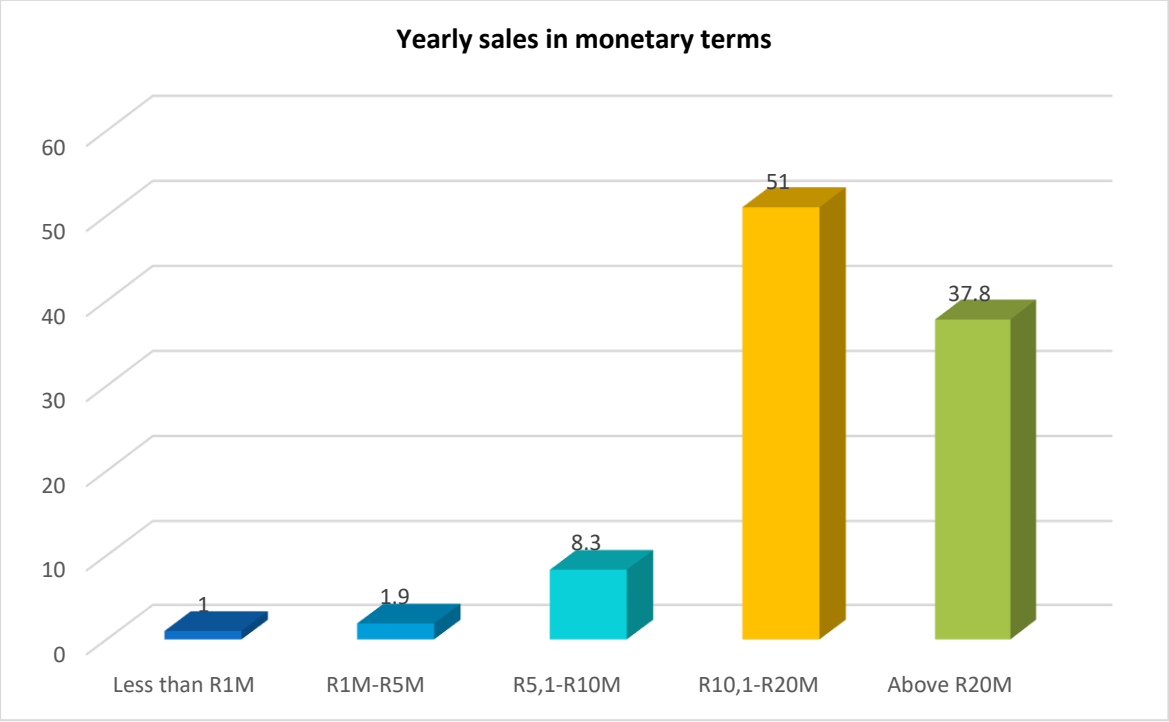

Figure 6.5: Yearly sales in monetary terms

Figure 6.5 indicate that just more than half (51.0%) of the surveyed companies make more than R10.1 – R20 million per year. Only (1.0 %) three participants from the total

of 312 indicated that their companies make less than R1million per year, thus confirming the presence of micro enterprises in the study. The rest of the results reflect good sales figures in these industries.

6.3.6 The number of years in business since start up

The respondents were also asked to indicate the number of years for which their company has been in business. The findings are presented in Figure 6.6.

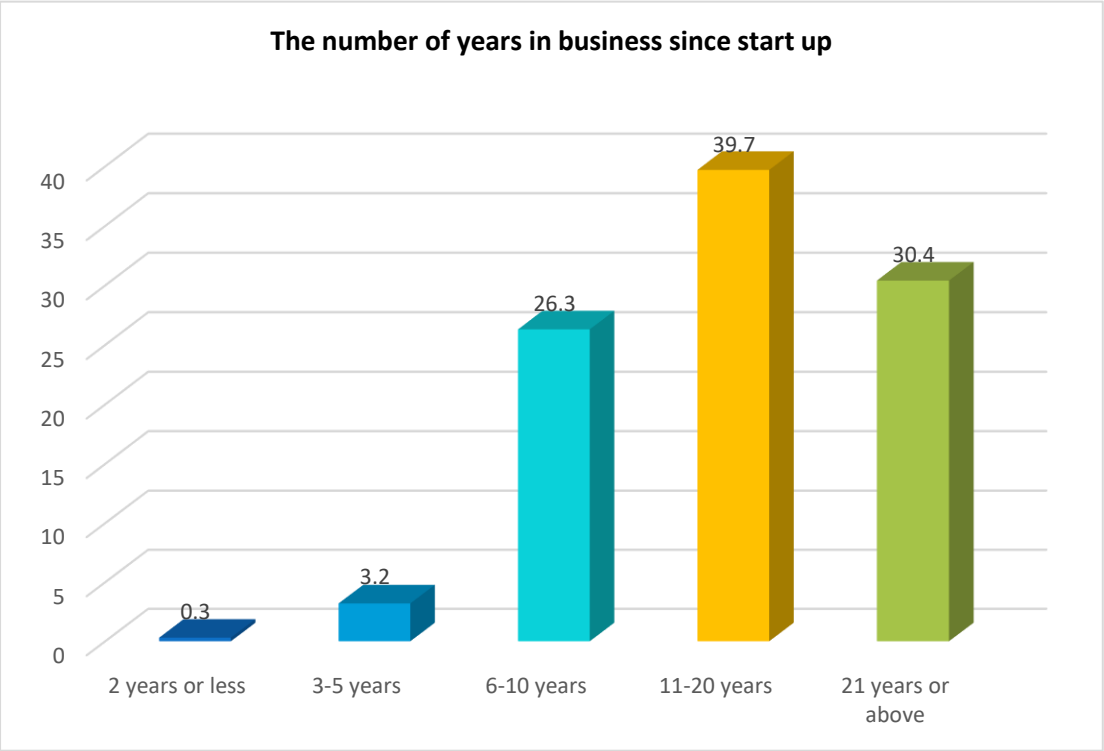

Figure 6.6: Number of years in business since start up

The results in Figure 6.6 show that the highest number of the respondents stated that their organisation has been in business since start up for 11-20 years (39.7%). 30.4% of the surveyed companies have spent 21years or more in the sugar industry. This helped to confirm the experiences required around global sourcing and how it influences local firm competitiveness, SCC, and SCP.

6.3.7 What business sector are you involved in?

The respondents were further asked to indicate the business they are in. The findings are presented in Figure 6.7.

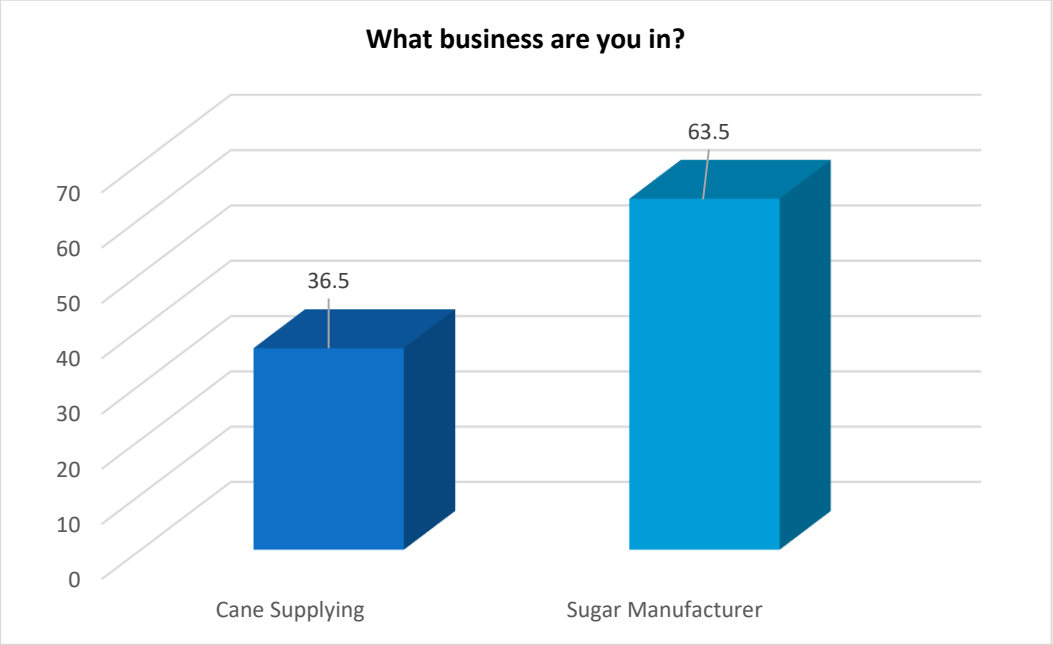

Figure 6.7: Business sector participants are involved in

The results in Figure 6.7 show that most of the respondents are from the sugar manufacturing businesses (63.5%). Fewer are from the cane supplying industries by almost half, showing percentage results of 36%, which is far from the percentage of those who are manufacturing sugar.

6.3.8 Does your business sector source goods from outside South Africa?

The study also surveyed respondents on whether they source goods from outside South Africa. The findings are shown in Figure 6.8.

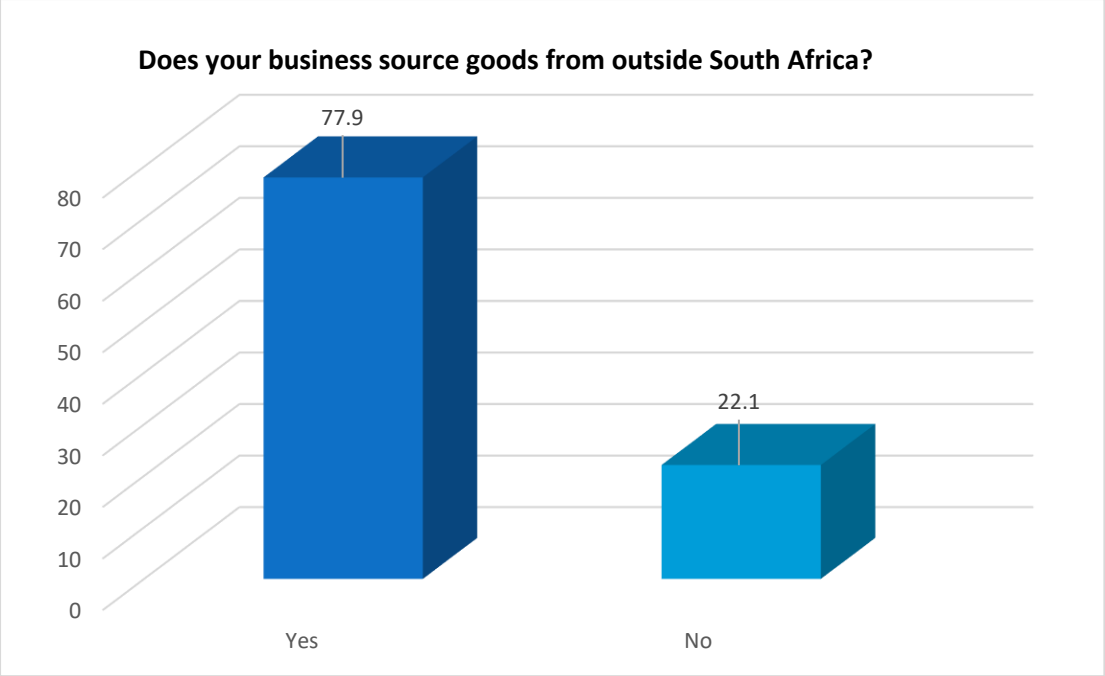

Figure 6.8: Business sector sourcing goods from outside South Africa?

The results in Figure 6.8 show that most of the respondents' businesses source goods from outside South Africa (77.9%). As approximately 78% of the respondents selected that their businesses source goods from outside South Africa, this indicates that they engage in global sourcing and this may indicate better economic growth for the country (SA). 22.1% of the surveyed companies only source their goods in South Africa.

6.4 Central tendency measure of the constructs

All the constructs investigated in this study such as Global Sourcing, Firm Competitiveness, SCC and SCP were measured on a five-point Likert scale; where the value of 1 corresponds to "Strongly disagree" and the value of 5 corresponds to "Strongly agree". The mid-point of the five-point Likert scale is therefore 2.5, meaning that all the mean values below 2.5 suggest that most respondents tend to disagree with the statements. The values between 2.5 and 3.5 indicate that respondents tend to neither agree nor disagree (neutral). All the means above 3.5 reflect that most respondents tend to either 'strongly agree or agree' with questions posed. The mean and standard deviations of each item are presented in tables in the following sections.

6.5 Global Sourcing

Table 6.2 shows the mean and standard deviations of the global sourcing variable.

Table 6.2: Global Sourcing results

	Mean	Std. Deviation
Whole Company	**3.54**	**0.70**
Company has a vision or mission focused on international business activities.	3.36	1.06
The company corporate philosophy has allowed international sourcing.	3.70	1.04
Departments are in harmony with each other and jointly represent international sourcing activities.	3.63	1.02
Company has enough financial resources for international sourcing available.	3.44	1.10
Company has enough capacities for international sourcing.	3.56	1.13
Responsibilities	**3.48**	**0.80**
Company is responsible for international sourcing defined.	3.46	1.19
Sourcing goals have been defined correctly and in detail.	3.39	1.08

Sourcing goals have been communicated understandably to sourcing executive.	3.48	1.15
Sourcing executives are free of other goals and projects and can concentrate fully on the sourcing project.	3.57	1.17
Purchasing	**3.43**	**0,65**
Company purchasing department has been positioned internationally.	3.46	1.08
International purchasing offices (IPO's) of the company could be used for the projects.	3.24	1.09
Global sourcing is practised daily and actively (product components, parts or raw materials).	3.46	1.04
There is a distinction between strategic and operational purchasing.	3.52	1.13
Planning to increase the share of global suppliers in the future.	3.44	1.15
A Global supplier strategy will be pursued.	3.44	1.15

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree

Following the statement mentioned above, the Whole Company's overall mean (3.54) and standard deviation (0.70) in Table 6.2 indicate that most respondents tended to agree with the statements on the whole company's vision, philosophy and capacities. The construct responsibilities reveal an overall mean of 3.48 and standard deviation (0.80), as most of the respondents tended to neither agree nor disagree with the statements. Additionally, most of the respondents tended to neither agree nor disagree

with the statements of Purchasing with an overall mean (3.43) and standard deviation (0.65).

6.6 Firm Competitiveness

Central tendency measures (mean and standard deviation) of the firm competitiveness construct are presented in Table 6.3.

Table 6.3: Firm Competitiveness results

	Mean	**Std. Deviation**
Flexibility Performance	**3.47**	**0.72**
Our firm has the ability to respond and accommodate periods of poor delivery performance.	3.15	1.09
Our firm has the ability to respond and accommodate periods of poor supplier performance.	3.46	1.01
Trusting our firm, partners give our firm the ability to respond to and accommodate new product, new markets, or new competitors.	3.71	1.08
Our firm has the ability to respond and accommodate demand variations, such as seasonality.	3.52	1.14
Our firm has the ability to respond and accommodate periods of poor	3.52	1.09

manufacturing performance (machine breakdown).		
Resource Performance	**3.43**	**0.75**
Developing our firm and new performance creation has increased our entire firm's return on investments.	3.41	1.10
Creating new performance strategy has reduced the costs associated with holding inventory in our entire firm.	3.36	1.06
Developing our firm and new performance creation has reduced the total cost of manufacturing, including labour, maintenance and re-work costs.	3.50	1.10
Performance creation has reduced the total cost of resources used in our firm as a whole.	3.44	1.20
Output Performance	**3.49**	**0.71**
Developing our suppliers has reduced our supply chain manufacturing lead time.	3.51	1.00
Developing our performance has reduced our firm shipping errors.	3.36	1.12
Developing our performance has reduced our overall firm customer complaints.	3.59	1.11

Developing our performance has increased our overall firm sales.	3.50	1.18
Developing our performance has improved our overall firm order fill rate.	3.29	1.12
Developing our performance has increased our overall firm on-time deliveries.	3.70	1.01

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree

Table 6.3 presents the mean and standard deviation results of firm competitiveness which has three sub-constructs, namely output performance, resource performance and flexibility performance. Based on the results, flexibility performance has a standard deviation of 0.72 and a mean of 3.47, meaning that most of the respondents neither agreed nor disagreed with the statements on flexibility performance. Resource performance has the standard deviation of 0.75 and mean of 3.43, indicating that most of the respondents tended to neither agree nor disagree with the statements of resource performance. The results for output performance (Mean=3.49: Std=0.71) indicate that most of the respondents tended to neither agree nor disagree with the statements of output performance.

6.7 Supply Chain Competence

Table 6.4 presents the means and standard deviation results for supply chain competence.

Table 6.4: Supply Chain Competence results

	Mean	**Std. Deviation**
Quality and Service	**3.44**	**0.72**

Our company has the ability to fill orders with improved accuracy because of global sourcing.	3.22	1.17
Our company has the ability to issue advanced notices on shipping delays due to the culture of sourcing globally.	3.51	1.04
Global sourcing in our supply chain gives our company the ability to produce high quality	3.44	1.09
Global sourcing and firm competitiveness enable our company to respond to the needs of key customers.	3.51	1.10
Global sourcing with key suppliers and sharing information with them gives our company the ability to work with our key suppliers.	3.52	1.14
Operations and Distribution	**3.46**	**0.76**
Global sourcing in our supply chain gives our company the ability to manage supply chain inventory.	3.44	1.10
Acquiring products outside the country in our supply chain gives our company the ability to meet a promised delivery date.	3.42	1.01

Sourcing globally in our supply chain gives our company the ability to enhance our supply chain's position in terms of integrity	3.53	1.01
Design Effectiveness	**3.33**	**0.88**
Sourcing globally in our supply chain gives our company the ability to design a low-pollution production process.	3.28	1.14
Sourcing globally in our supply chain gives our company the ability to design low-pollution delivering process.	3.37	1.07
Sourcing globally in our supply chain has the ability to enhance our supply chain's position in terms of social responsibility.	3.34	1.13

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree

As shown in Table 6.4 quality and service have a standard deviation (0.72) and an overall mean of 3.44, which indicate that most of the participants were in agreement with the statements of quality and service. The construct operations and distribution has a standard deviation (0.76), and mean (3.46), which explains that most of the participants were 'indifferent' to the questions posed. The mean of 3.33 for the design effectiveness construct indicates that most of the participants tended to neither agree nor disagree with these statements.

6.8 Supply Chain Performance

Table 6.5 presents the means and standard deviation results of supply chain performance.

Table 6.5: Supply Chain Performance results

	Mean	Std. Deviation
Flexibility Performance	**3.53**	**0.72**
Our supply chain has the ability to respond to and accommodate demand variations, such as seasonality.	3.22	1.13
Our supply chain has the ability to respond to and accommodate periods of poor manufacturing performance (machine breakdowns).	3.63	0.99
Our supply chain has the ability to respond to and accommodate periods of poor supplier performance.	3.53	1.04
Our supply chain has the ability to respond to and accommodate periods of poor delivery performance.	3.62	1.05
SCC gives our supply chain the ability to respond to and accommodate new products, new markets, or new competitors.	3.64	1.01
Resource Performance	**3.47**	**0.79**

SCC has reduced the total cost of resources used in our supply chain as a whole.	3.41	1.09
Global sourcing and our SCC have reduced the total cost of manufacturing, including labour, maintenance and re-work costs.	3.45	1.11
Firm competitiveness has reduced the costs associated with holding inventory in our entire supply chain.	3.53	1.14
Supply competence and global sourcing have increased our entire supply chain's return on investments.	3.49	1.08
Output Performance	**3.46**	**0.68**
Supply chain competence has increased our overall supply chain sales.	3.30	1.07
Supply chain competence has improved our overall supply chain order fill rate.	3.51	1.04
Supply chain competence has increased our overall supply chain on-time deliveries.	3.39	1.12
Global sourcing has reduced our supply chain shipping errors	3.46	1.11
Global sourcing has reduced our supply chain manufacturing lead time.	3.56	1.06

Global sourcing has reduced our overall supply chain customer complaints.	3.56	1.11

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree

As seen in Table 6.5 above, the descriptive results (Mean=3.53: Std=0.72) of flexibility performance show that most of the respondents tended to agree with the statements of flexibility performance. The construct on resource performance has a standard deviation (0.79) and mean (3.47). This shows that most of the participants were 'indifferent' to the statements. Similarly, the output performance (construct) had a standard deviation (0.68) and mean (3.46). This also shows that most of the participants were 'indifferent' to the statements.

6.9 Assessment Normality

Given that the regression analysis is performed to test the hypotheses, the assumption of normality needs to be met. Table 6.6 (see Appendix G) indicates skewness and kurtosis coefficients of all the items. Generally, the value for skewness and kurtosis between -2 and +2 is considered acceptable to prove normal univariate distribution (George & Mallery 2010). The results in Appendix G show that all the skewness and kurtosis values are within the recommended interval [-2 and +2]. This indicates that the deviation from the normality was not an issue in this study's data set.

6.10 Reliability of the constructs

The reliability analysis was conducted on the four constructs including their items to measure the internal consistency of each construct. For the scale to be considered reliable and internally consistent in its measurement, the Cronbach Alpha should be above 0.7 (Pallant 2010:97) although 0.6 is sometimes permissible (Malhotra et al., 2017).

Moreover, Table 6.7 below also presents the corrected item-total correlation. This presents the correlation between each scale item and a scale score that excludes that specific item. A corrected item-total correlation above 0.3 is usually indicative of a good contribution of the item in building the scale.

Table 6.7: Results of reliability constructs

Constructs	Items	Corrected item-total correlation	Cronbach's alpha	Number of Items
GLOBAL SOURCING	B1	0.48	**0.769**	**15**
	B2	0.44		
	B3	0.44		
	B4	0.32		
	B5	0.42		
	B6	0.36		
	B7	0,33		
	B8	0,32		
	B9	0.47		
	B10	0.19		
	B11	0.33		
	B12	0.36		
	B13	0.41		
	B14	0.31		
	B15	0.39		
FIRM COMPETITIVENESS	C1	0.40	**0.792**	**15**
	C2	0.53		
	C3	0.38		
	C4	0.38		
	C5	0.36		
	C6	0.29		
	C7	0.35		
	C8	0.31		
	C9	0.45		
	C10	0.36		
	C11	0.48		
	C12	0.41		
	C13	0.45		
	C14	0.41		
	C15	0.40		
SUPPLY CHAIN COMPETENCE	D1	0.44	**0.749**	**11**
	D2	0.44		
	D3	0.41		
	D4	0.42		
	D5	0.35		
	D6	0.29		
	D7	0.28		
	D8	0.35		
	D9	0.43		
	D10	0.49		

	D11	0.46		
SUPPLY CHAIN PERFORMANCE	E1	0.52	**0.811**	**15**
	E2	0.40		
	E3	0.41		
	E4	0.37		
	E5	0.30		
	E6	0.42		
	E7	0.46		
	E8	0.43		
	E9	0.43		
	E10	0.43		
	E11	0.38		
	E12	0.43		
	E13	0.43		
	E14	0.45		
	E15	0.48		

As shown in Table 6.7 all the constructs have a Cronbach's alpha value of above 0.7. This confirms that all the research variables used in this study are internally consistent in their measurement. Since most of the items had a corrected item-total correlation value above 0.3, this shows that most items have a positive contribution towards building up the scale.

6.11 Multiple-linear regression

In this study, the researcher chose a multiple linear regression to find the value of the variable premised upon the value of the other three variables. Hence, the variable which the researcher intended to forecast is referred to as 'dependent variable'. This study's core objective was to investigate the influence of global sourcing on local firm competitiveness, SCC, and SCP in the sugar industry of KwaZulu-Natal, South Africa. To ascertain if there was a significant relationship between 'independent variables', the multi-collinearity test was performed. This test is performed through the examination of the Variance Inflation Factor (VIF) and Tolerance. The value of the VIF should fall below 10, while that of the Tolerance is expected to be 0.1.

Table 6.8 presents the multi-collinearity of three independent variables: Supply Chain Competence, Global Sourcing and Firm Competitiveness. The presented results show

no multi-collinearity as the value of the VIF is below 10, while that of Tolerance is above 0.1.

Table 6.8: Multi-collinearity results

Coefficients[a]			
Model 3		Collinearity statistics	
		Tolerance	VIF
	Global Sourcing	0.501	1.997
	Firm Competitiveness	0.439	2.276
	Supply Chain Competence	0.498	2.010
Supply Chain Competitiveness		0.479	2.094

As shown in Table 6.8, the VIF values ranged between 1.997 and 2.276. These values are below the 10. The tolerance values ranged between 0.439 and 0.501, which is above 0.1. This confirms that there were no multi-collinearity issues in this study.

6.12 Correlation analysis

Prior to running a 'regression analysis' for testing of hypotheses, a correlation test was performed to determine the correlation amongst the constructs. Table 6.9 below shows that all the correlations are statistically significant at the 0.01 level. A conventional means to narrating a result necessitates a 'statement of statistical significance'. Thus, a "$p < 0.05$" denotes a significant result. This 'p-value' is produced through the test statistic. To determine if a statistically significant correlation exists amongst the columns and rows (variables), the researcher performed a second chi-square test. The null hypothesis indicates no relationship between the variables. The alternative hypothesis however suggests a relationship amongst the two variables. Hence, the table provides a summary of the chi-square test. For example: The p-value between "Number of employees" and "Company has a vision or mission focused on international business activities" is 0.000 (which is written as $p < 0.001$ when $p = 0.000$). Thus, it implies a significant correlation amongst variables 'highlighted in yellow'.

Invariably, the size of the organisation did play a significant role in terms of whether they were involved in international trade. More so, values without an “asterisk” or those having their p-values higher than “0.05” do not hold any significance.

The results reveal the subsequent trends. While positive values denote a ‘directly proportionate correlation’ between variables, negative values denote an ‘inverse relationship’. Thus, relationships that are significant are represented with a single or double asterisk (* or **). A correlation analysis was used to ascertain if a relationship exists amongst variables or not. More so, a ‘multiple-linear’ regression analysis was used in investigating the predictability of independent over the dependent variable. The findings are presented in Table 6.9 below.

Table 6.9: Correlation analysis results

Correlations				
	Firm Competitiveness	**Global Sourcing**	**SCP**	**SCC**
Firm Competitiveness				
Global Sourcing	**0.672*** **			
Supply Chain Performance	**0.748*** **	**0.672*** **		
Supply Chain Competence	**0.674*** **	**0.615*** **	**0.712*** **	
*** means that the relationships are significant at the 0.01 level				

The findings in Table 6.9 illustrates that a statistically significant and positive correlation exists between **Global Sourcing** and **Firm Competitiveness** (r= 0.672; *p*<0.001). The findings also show a positive and significant relationship between **Global Sourcing** and **SCP** (r= 0.672; *p*<0.001), and between **Global Sourcing** and **SCC** (r= 0.615; *p*<0.001). There is also a positive and significant relationship between **Firm Competitiveness** and **SCP** (r= 0.748; p<0.001), and there is a significant and positive relationship between **SCC** and **SCP** (r= 0.712; p<0.001). Based on the above results, the positive correlation coefficients and high significant levels confirms that there is a relationship between global sourcing and firm competitiveness, SCC and SCP. Thus, the findings support and validate the alternative hypothesis which suggests a relationship amongst each pair of variables used in this study.

6.13 Multiple-linear regression analysis

To test the hypotheses stipulated above, a multiple-linear regression test was conducted to evaluate the impacts of predictors (Global Sourcing) on dependent variables (Firm Competitiveness, SCP and SCC).

Given that the conceptual model has three dependent variables, a series of three linear regressions which constitute three models were conducted successively. The first model (model 1) investigated the impact of firm global sourcing on local firm competitiveness. The second model (model 2) examined the influence of global sourcing on supply chain competitiveness. And finally, the third model (model 3) investigated the impact of global sourcing, local firm competitiveness and SCC and SCP.

Table 6.10: Model summary

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.672[a]	**0.451**	0.449	0.41086
a. Predictors: Global Sourcing b. Dependent variable: Firm Competitiveness				
2	0.615[a]	**0.378**	0.376	0.46083
a. Predictors: Global Sourcing b. Dependent variable: Supply Chain Competence				
3	0.815[a]	**0.664**	0.661	0.32893
a. Predictors: Supply Chain Competence, Global Sourcing, Firm Competitiveness & Supply Chain Competitiveness b. Dependent variable: Supply Chain Performance				

The results on Tables 6.10 and 6.11 show that the model 1 predicting Local Firm Competitiveness is statistically significant ($F = 254.627$; R^2 adjusted= 0.449; $P < 0.001$). With a coefficient of determination (R-square adjusted) of 0.449, the model implies that the predictor (Global Sourcing) explains up to 44.9% of the variance of Firm Competitiveness. The results also show that model 2 predicting Supply Chain Competence is statistically significant ($F = 188.500$; R^2 adjusted= 0.376; $P < 0.001$). This shows that, the predictor (Global Sourcing) explains up to 37.6% of the variance of Supply Chain Competence. Model 3 predicting Supply Chain Performance is statistically significant ($F = 203.300$; R2= 0.661; $P < 0.001$). These results also show

that the predictors (Firm Competitiveness, Global sourcing, and Supply chain competitiveness) explains up to 66.1% of the variance of SCP.

The ANOVA table below summarises the test of significance of the regression models (1, 2, 3 and 4).

Table 6.11: ANOVA results

ANOVA[a]					
Model	Sum of Squares	Df	Mean Square	F	P-value
1	42.984	1	42.984	254.627	0.000[b]
	52.331	310	0.169		
	95.315	311			
a. Dependent variable: Firm Competitiveness b. Predictors: Global Sourcing					
2	40.030	1	40.030	188.500	0.000[b]
	65.832	310	0.212		
	105.862	311			
a. Dependent variable: Supply chain Competence b. Predictors: Global Sourcing					
3	65.989	3	21.996	203.300	0.000[b]
	33.325	308	0.108		
	99.314	311			
a. Dependent variable: Supply chain Competence b. Predictors: Global Sourcing					
4	49.667	3	35.003	203.300	0.000[b]
	50.496	308	0.226		
	100.163	311			
a. Dependent variable: SCP b. Predictors: Supply Chain Competence, Global Sourcing, Firm Competitiveness & Supply Chain Competence					

Based on Table 6.10 and 6.11, all three model are significant (p -value<0.05). This indicates that the predictors in the model significantly explain some variance of the outcome variables.

6.14 Testing hypotheses

Table 6.12 reveals the 'predictive effect of each predictor'.

Table 6.12: Predictive effect of each predictor

Coefficients[a]					
Model		Standardized Coefficients	T	P-value	**Hypotheses conclusion**
		Beta			
1	(Constant)		6.920	0.000	
	Global sourcing	0.672	15.957	**0.000**	Global Sourcing has a significant influence on Firm Competitiveness as its P value (0.000) is lower than .05. This means Global Sourcing is a key driver that can be used to enhance Firm Competitiveness. Therefore, H2 is accepted.
a. Dependent Variable: Firm competitiveness					
2	(Constant)		6.365	0.000	
	Global sourcing	0.615	13.730	**0.000**	Global Sourcing has a significant effect on Supply Chain Competitiveness as its P value (0.000) is lower than .05. This means Global Sourcing is an important source of by Supply Chain Competence in the South African Sugar Industry. Therefore, H3 is accepted.
a. Dependent Variable: Supply Chain Competence					
3	(Constant)		1.918	0.056	

	Global sourcing	0.230	4.927	**0.000**	Global Sourcing has a significant effect on Supply Chain Performance as its P value (0.000) is lower than 0.05. This means Global Sourcing is a key driver to enhance Supply Chain Performance in the South African Sugar Industry. Therefore, H1 is accepted.
	Firm competitiveness	0.383	7.686	**0.000**	Firm Competitiveness has a significant effect on Supply Chain Performance as its P value (0.000) is lower than .05. This means Firm Competitiveness is a key driver of Supply Chain Performance in the South African Sugar industry. Therefore, H4 is accepted.
	Supply Chain Competence	0.312	6.675	**0.000**	Supply Chain Competence has a significant effect on Supply Chain Performance as its P value (0.000) is lower than .05. This means Supply Chain Competence is a key driver that can enhance Supply Chain Performance in the

				South African Sugar Industry. Therefore, H5 is accepted.
a. Dependent Variable: Supply Chain Performance				

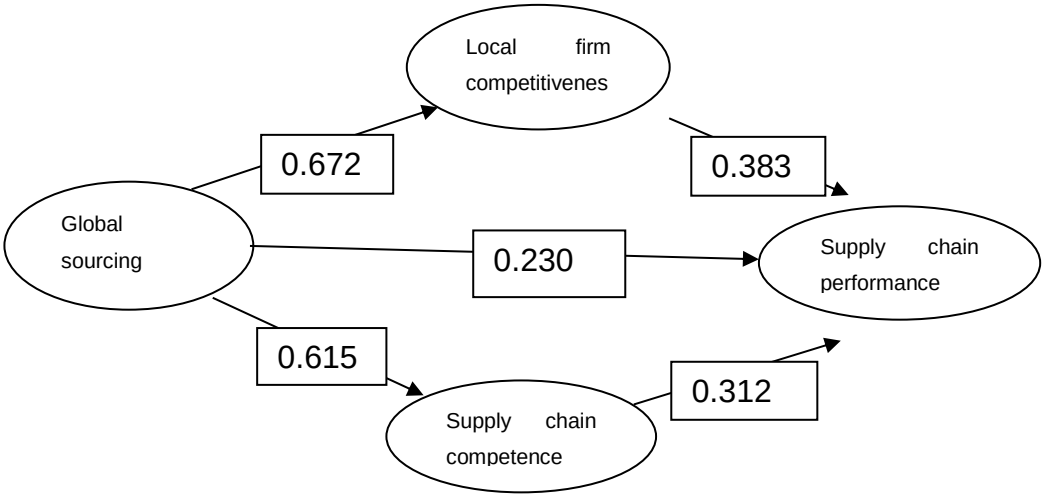

Figure 6.9: Hypotheses tested

As shown in Figure 6.10, all the predictive effects are statistically significant. The β values demonstrate that Firm Competitiveness strongly predicts SCP (β= 0.383), followed by Supply Chain competence (β= 0.615). The results also indicate that Global Sourcing (β= 0.672) tends to be a stronger predictor of Firm Competitiveness than of Supply Chain competence (β= 0.712). Unlike Hove-Sibanda and Pooe (2018) whose study found that supply chain competence has a weak negative and insignificant influence on supply chain performance, the current study reports a weak positive (β= 0.312) and significant influence of supply chain competence on supply chain performance. All hypotheses posited in this study are therefore accepted.

The results suggest that sourcing some products globally can make the local sugar manufacturers and cane suppliers to enjoy cost and value competitive advantage, help them to create a competence and improve performance for the entire sugar supply chain. Fawcett et al. (2017) agreed that managers need to be proactive by looking beyond their organisation's boundaries to evaluate supplier and customer resources. Fawcett (2017) further stated that there has been a need for firms to look outside their organisation for opportunities to collaborate with partners to ensure that the supply

chain is efficient and responsive to dynamic market needs. Thus, the positive and significant influence of global sourcing on local firm competitiveness, SCC, and SCP, indicates that sugar companies can prioritise global sourcing to create a competitive advantage, especially in the wake of globalisation and too many customer demands. Not only will this improve competitiveness locally, but it will also create a competence and improve performance for the entire supply chain.

6.15 Conclusion

The sugar industry in South Africa is more dependent on the sugar industry within African Countries than on the support from EU. Since such a huge part of the population is dependent on the sugar industry for livelihood, South Africa has no other choice than to make sure that the industry will remain sustainable. The EU is however South Africa's most important development partner and the cooperation with the EU benefits South Africa in several ways, especially in terms of trade and in order to make South Africa more competitive.

When initiating this research, competing on the world market was an important aspect. But the analysis has shown that, even though South Africa has the possibility to increase their competitiveness on the regional as well as on the international market, there is no need for South Africa to strive after the world market today. South Africa has the advantage of having fixed markets and can therefore sell whatever they produce. In view of the fact that there is a market demanding all the sugar that South Africa can produce, the primary goal for South Africa should rather be to get back the maximum level of production in order to sell as much as possible to the existing market.

CHAPTER 7: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

7.1 Introduction

This chapter provides a synopsis of the previous chapters of the study, discusses the achievement of the objectives, the limitations of the study, and the findings as they link with relevant literature. Thereafter, it draws conclusions and makes recommendations based on the results of the study. The aim of this study was to evaluate the influence of global sourcing on local firm competitiveness, SCC, and SCP in KZN, South Africa.

Through the analysis of data, it can be deduced that the organisations which participated in this study (representing selected manufacturing organisations in South Africa) demonstrated a high level of standards in their global sourcing processes and practices. These organisations also demonstrated a significant level of awareness and understanding of questions posed on global sourcing influences. These findings are aligned to the motivation for the study, that global sourcing control measures have become outdated and need to be re-aligned with prevailing business issues and market demand that is created by emerging trends and stakeholders' needs of generating a business profit, as well as protecting local jobs by documenting government policies and laws that will guide excessive imports.

7.2 Discussion of the results of the research objectives and recommendations

The aim of this research was to ascertain the influence of global sourcing in local firm competitiveness, SCC and SCP in Kwazulu-Natal, South Africa. To accomplish the aim, five objectives were developed:

- To investigate the influence of global sourcing on supply chain performance in South Africa.
- To determine the influence of global sourcing on local firm competitiveness in South Africa.
- To examine the influence of global sourcing on SCC in South Africa.
- To determine the influence of local firms' competitiveness on SCP in South Africa.
- To determine the influence of SCC on SCP in South Africa.

The following sub-section demonstrates the manner in which the primary objective for this study was achieved.

7.2.1 Objective 1

The first objective of this study was to conduct a literature review on the topics of global sourcing in local firms' competitiveness and to establish the suitability of the term for the new definition of global sourcing to support the framework.

7.2.1.1 Conclusion

It can be concluded that the changes which global sourcing underwent during the various evolutionary stages up until the 2000s, although linked to demand and supply, customer focus, competitive advantage and profitable growth, indirectly strengthened or refreshed the discipline's thinking and strategy on an ongoing basis.

Furthermore, it is apparent that all these changes advanced global sourcing as a discipline on a continuum from the inception phase of – quality through pride, to quality by inspection, assurance, prevention, and ultimately to the final phase – quality of management; which will all link to global sourcing being improved once all quality checks have been done. This will lead to a customer receiving the expected good quality product without any reason to complain – which, in not achieved, mostly leads to a product being returned (reverse logistics). If all quality checks are done correctly at the first time, it thus saves additional costs of product return.

7.2.1.2 Recommendation

The African Union should protect the local cane growers and manufacturing firms in South Africa and in Africa as a continent. For example, the domestic legislation and international commitment can be used as a tool to protect local companies from global suppliers. Our legislation can be amended in such a way that it protects our local firms and keeps sustainable jobs to increase our economic growth.

It is evident from the review of related literature that supply chain performance and quality management have to move into new areas in order to support businesses to manage emerging trends such as globalisation, customer power and sophistication, social responsibility and environmental sustainability. Essentially, going back to the

continuum mentioned above, supply chain management (SCM) will need to extend from supply of management to supply chain performance of the entire enterprise. Therefore, organisations should prepare to benefit from what supply chain performance is becoming or else they will be overtaken by competitors who pursue this new direction, which is ultimately dictated by the customers and stakeholders.

7.2.2 Objective 2

The second objective was to investigate the influence of global sourcing on supply chain performance in South Africa through regression analysis. It has been identified that today's companies are no longer competing against each other, but supply chains are competing against other supply chains for supremacy. A multiple regression analysis was therefore conducted.

7.2.2.1 Conclusion

McWilliams and Turk's (2019) findings can be concluded by stating that, as collectively agreed that a firm that enjoys a competitive advantage or an SCA when it implements a strategy not simultaneously being implemented by any of its current or competitors. Jacobsen and Porter (2018) suggested that an SCA is simply a competitive advantage that lasts a longer period of calendar time and companies need to always be competitive in order to survive. Barney and Hoskisson (2018) also argued that firms, in general, cannot expect to obtain sustained, competitive advantages when strategic resources are evenly distributed across all competing firms.

The firm competitiveness reliability statistics results have shown it to be 0.899, which shows that the firm competitiveness measurement items used in this study namely, flexibility performance, firm competitiveness, and output performance are highly reliable. These results have indicated that firms are highly competitive, regardless of strategies that they may use differently from other competitions, provided they have a common supplier. The term 'competitiveness' as according to Easterly and Levine (2019) pertains to the ability and performance of a firm, sub-sector or country to sell and supply firm competitiveness in output performance and these results have indicated that they may be goods and services in a given market, sub-sectors or countries in the same market.

If excessive imports are not controlled, more job opportunities will be created in other importing countries and more job loss will be occurring in our country as people will be buying imported goods and local sugar suppliers may have less volumes to supply our local stores and wholesalers. If the country allows more imported product, it can put most local jobs at risk, resulting in even higher levels of job loss.

7.2.2.2 Recommendation

It is recommended that the South African Government should be supporting SMEs by giving them proper business guidance and training to create more local job opportunities, to have control over the import product minimising plan and importing tariff laws, and also to use domestic legislation and international commitment to increase economic growth as well as protecting current jobs. The scoring regarding this in question B2 was a total of strongly agree and agree resulting in 63% and a total of strongly disagree and disagree amounting to 14.8% – showing a 48.2% difference between agree and disagree. The same applies to question B3 scoring which resulted in a total of strongly agree and agree at about 61.8%, while strongly disagree and disagree amounted to 14.4% – showing a difference of 47.4% between the two responses. It can also be concluded that firms are now highly competitive and ensuring that they are moving with industrial changes to survive in their businesses.

This can decrease the negative impact on local firms who are manufacturing the same products as those being imported, and it may stabilise SMEs and create more job opportunities for local communities. If excessive imports are not controlled, more job global sourcing is good for the country economically, but when excessive imports take place and there is no maximum allowance being set for imported products, it leads to major local job losses. Furthermore, related literature indicates that this result reflects the fact that firms are embedded in inter-firm relationships with networks of suppliers, buyers and even competitors that help them to gain competitive advantages in selling of their product or providing services (Easterly & Levine 2016). It is recommended that proper control of import product (sugar) should be closely managed by the government in order to protect the South African economy.

Small and medium-sized enterprises have been identified as providers of the much needed flexibility for the economic structure of a country and this makes it feasible for

large-scale firms to sharpen their economic competitiveness and performance by focusing on their core competency, which is marketing and technology, and sub-contracting to SMEs.

Global sourcing has also contributed positively in South African economic growth, as some local firms also order their raw materials from other countries to make their finished products, which has resulted in increased job opportunities to those local people closer to those local firms, as they will require people to produce and meet the market demand of those products required on retailers' shelves for the end users. This has been the result of global sourcing positive sign towards those employed locally to support their families – as the saying goes 'half a loaf is better than no bread' (Getting little, is better than getting nothing at all).

Those local people employed by those local firms may not earn high wages, but their families get supported by these earnings they receive and jobs created by these products that are being sourced globally into South African ports (Harbour), which also creates jobs for those truck drivers picking up those globally shipped containers stored with those products (raw materials) and transporting them to those local manufacturing plants or warehouses. This becomes a chain of job creation from global sourcing job creation opportunities and resulting in those who even pack these products into those retailers' shelves for the end user enjoyment of finished product, hence – from global sourcing into locally finished product.

The quick ways of also placing an order as a local manufacturer or service provider when sourcing products globally, has been made easier by the 4th industrial revolution, which has introduced modern ways of running any business. This is done by giving everyone access to the relevant information that they could use or need to develop their businesses with a quick response just needing the click of a "button".

7.2.3 Objective 3

The third objective of this study was to ascertain the influence of global sourcing on supply chain competence in South Africa, using the so-called 'plan-source-make-and-deliver' process, also known as the SCOR-model.

7.2.3.1 Conclusion

It can be concluded by stating that there are thousands of people relying on the sugar industry for feeding their families, as the South African Sugar Industry Directory (2016/2017) shows that the South African Sugar Industry is one of the world's leading cost-competitive producers of high quality sugar, with an approximately 79 000 direct jobs and 35 000 indirect jobs. The research findings have shown the result of supply chain competence reliability statistics to be above 0,5 as it was found to be 0,876 which indicates that it is highly reliable and well above the recommended value with quality and service, operations and distribution as well as design effectiveness included, as shown by the statistics results. As the result shows the reliability statistics to be higher, it can be concluded that most of the companies have the ability to issue advanced notices on shipping delays due to the culture of sourcing globally.

Even though modern ways of doing business do somehow compromise the cultural ways of doing business, which may be only relying on the local suppliers to able to supply local business with product needs, this also creates or compromises a business risk when there is no back-up plan for your product supplier. This is when it is also very important to allow business growth to take place in your local business and give a chance to the global sourcing in your supply chain competitiveness business planning, as it may give you a better bulk discount purchase price in shipping the business products required.

The responses obtained to all the demographic-related questions indicate that the survey returned an ideal sample of respondents from the population to undertake the proposed statistical analysis for this study. In addition, the high overall Cronbach alpha values for both Sections B and C provided the reliability for the hypothesis testing, using the chi-square test, which was undertaken to further understand current global sourcing practices within selected manufacturing organisations in South Africa. It can be concluded that supply chain competence has taken a positive turn within the global supply chain level.

Based on the variable levels of responses in global sourcing practices and a high level of agreement or awareness regarding the questions on the current thinking of global sourcing, it can be concluded that the organisations in this study manage global

sourcing using either ISO 9000 or ISO 14000 management system philosophies. It can also emphasised that quality, as defined by Darko (2018), includes an “error detection culture” or “error prevention culture”.

In addition, the principal study also included a detailed factor analysis on Sections B and C to determine common themes in the form of principal components or the most significant factor influencing global sourcing of local firms in the participating organisations.

Based on some responses from participants, it can also be concluded that longer lead times hinder their adoption of global sourcing. This is particularly the case when they have low levels of stock as in such cases, it takes three months (including a month at sea) for the merchandise to arrive in South Africa from China, which is basically the whole trading season. The results of such a predicament include lost sales, damaged reputation and more expenses. In comparison, local suppliers can get the merchandise to the store in a few weeks, hence ensuring that the needs of the customers are constantly met and ensuring a reduction of expenses.

It can also be concluded that local currency fluctuation, due to the change in exchange rates, makes it challenging for sugar manufacturers and retailers to set and maintain budgets. Christopher and Holweg (2011:70), Masson, Perlman, Ross and Gates (2007:240) and Vedel and Ellegaard (2013:510) all concurred with this point and explained that currency fluctuation is a major risk experienced by most companies that employ global sourcing.

7.2.3.2 Recommendation

The recommendation is for the South African government to also use international commitment and domestic legislation to improve South Africa’s company supply chain competitiveness in the global world, as every country must have a home manufactured product in order to be an economical growth player in the global world of sourcing. As the study indicates a high level of agreement or awareness regarding the questions posed on current thinking of global sourcing, the recommendation is that other countries that are involved in global sourcing should give support with knowledge and money to the poorer countries, so they can also grow both politically and economically

in order to develop their agriculture and other industries. This is very positive, since poor countries need assistance to develop and be more competitive.

It is recommended in the literature that companies should start acknowledging that customers have more buying power which makes product selection to be even more challenging than before. This challenge has led to supply chains competing against other supply chains for supremacy.

In addition, the global sourcing strategy needs to demonstrate a strong sense of governance, ownership and responsibility for outcomes that support the local organisations, the society that it operates in and the planet.

According to Monczka et al. (2005:26), global sourcing is very demanding in terms of resources, particularly financial, time and personnel. These resources are very scarce in modern businesses. The support and technicalities needed, such as constant visits to suppliers and design expenses are very costly and that is why it is recommended for the government of local firms to protect local jobs regarding global sourcing.

The requirements for global sourcing are too extreme, particularly those imposed by the supplier who requires a 50% down-payment before commencement of production which some of the respondents indicated they cannot afford. In comparison to that, domestic sourcing allows respondents to purchase on credit and pay after 30 days' despite them charging more than the suppliers in China. That is why it is recommended that local firms deal more with local suppliers as it will ensure a delivery scheduled time as opposed to the supplier across the world, where many external factors may result in increasing lead time which may negatively affect the firm's production demand target when required material to complete a finished product (inventory) has not been shipped in time.

According to literature and media reports (newspapers & television), the unemployment rate in South Africa has increased due to more job losses and the influx of imported products. By recommending local firms to select local suppliers can protect what's left in our local industries and may give our local communities better lives.

7.2.4 Objective 4

The fourth objective was to examine the influence of local firms' competitiveness on supply chain performance in South Africa.

7.2.4.1 Conclusion

Firm competitiveness can be regarded as a key source of supply chain competences. Easterly and Levine (2016) stated that competitiveness pertains to the ability and performance of a firm, sub-sector or country to sell and supply goods and services in a given market, in relation to the ability and performance of other firms, sub-sector or countries in the same market. Regarding this as it pertains to this study, it thus can be concluded that the findings show positive results as reliability statistics of supply chain performance were found to be 0,903, which is very much higher than the minimum of 0,5 which also included flexibility performance, resource performance and output performance.

A supply chain competence can be defined as the supply chain's ability to learn collectively in a manner which unleashes unique and inimitable value-creating abilities by combining the core competencies of the individual member firms. Previous studies alluded to the fact that supply chain competences stem from supply chain practices and firm competitiveness (Somuyiwa et al. 2012 cited in Babatunde et al. 2016: 133).

According to Breite and Koskinen (2014:11), supply chain members have the ability to learn collectively and create competences as a key determinant of supply chain performance.

Firms who are willing to compete in future global sourcing need to understand that assessing supply chain performance enables them to gain understanding and improve their entire business performance (Taghipour 2015). Thus, it is important for firms to consider the nature of factors that influence supply chain performance and a conclusion can be drawn by stating that, all firms who want to survive in this global sourcing world need to revisit their supply chain processing and find ways of improvement that will accommodate the current global sourcing changes.

In the South African sugar industry, there are two major sugar firms both very strong in upstream and downstream activities in this industry. These two giant firms are Tongaat-Hulett sugar and Illovo sugar. Tongaat-Hulett sugar was established in 1892, which means they have existed for around 127 years (as at 2019) and thus are the oldest player in the sugar industry.

The sugar industry has a revenue of about R12 billion (USD783 million) and employs 79 000 people directly and 350 000 indirectly, which is a significant portion of South Africa's total employment and GDP (Trikam 2018). In 2013, Tongaat-Hulett estimated production for that year to be as much as 23% lower than the prior year while Illovo forecast a 10% drop. These two giant South African sugar firms are located in the province of Kwazulu-Natal and have created thousands of jobs, mostly for people of South Africa, which also includes local independent cane growers, who in turn have also created thousands of jobs in the cane growing sector of this business.

It can also be concluded that it is a fact that there can be local firm competitiveness among the organisations who are in the same type of business, but there can be less job loss in South Africa if these competing firms choose local suppliers instead of international ones. Job creation can start from raw material suppliers up to retailers who are handling the product and include supply chain processes in between. If all these processes involve the local people of South Africa, there will be an even better chance of the employment rate increasing and of economic stability.

7.2.4.2 Recommendation

Given the criticality of supply chain performance, due to the long distance from international suppliers, it is recommended that local firms select local suppliers as they can arrange a personal face-to-face meeting when unhappy about any supplier issues. They can also quickly return any product that doesn't meet their quality specifications and quickly get that stock replaced, without any plant stoppages, as the distance is shorter. When an international supplier must replace defected products, it will be impossible to return and replace the defected batch without any production stoppages, as it will take months. In the research survey and questionnaires returned, some respondents indicated that longer lead times also hinder their adoption of global sourcing, particularly in instances when they have low levels of stock.

In such a case, it takes three months (including a month at sea) for the merchandise to arrive in South Africa from China, which is basically the whole trading season. The results of such a predicament include lost sales, damaged reputation, and more expenses. This is another reason for recommending local suppliers, since in comparison, local suppliers can get the merchandise to the store in a few weeks, hence ensuring that the needs of the customers are constantly met, and expenses are more affordable.

Another risk and challenge with global sourcing is, as mentioned before, the local currency fluctuation due to changes in the exchange rate. This makes it challenging for sugar retailers to set and maintain budgets. Christopher and Holweg (2011:70), Vedel and Ellegaard (2013:510) all concurred with this point and explained that currency fluctuation is a major risk experienced by most companies that employ global sourcing.

There are also other factors that may cause risk when sourcing globally, such as bad weather during transit. Bad weather restricts progress at the ports, which means that the lead times of the sugar will be extended, hence disrupting business operations at the store. Any local firm considering global sourcing for their merchandise should know that any disruption during transit is a global sourcing risk.

Politics also have an influence – political instability in a country or region of the world may cause the whole sourcing process to be difficult as movement within the country may be difficult due to the tension. Change in logistical procedures or documentation in sourcing countries may also cause delays in shipments and possibly even be pricey to execute. The results of this study also confirmed that government needs to focus more on local firm competitiveness because it influences supply chain performance.

The β value indicated that local firm competitiveness is the strongest predictor of supply chain performance as compared to global sourcing and supply chain competitiveness. These results indicate that the South African government needs to focus more on educating and upskilling local firms to compete with the global sourcing level or standard, as other global countries should also be able to acknowledge that South Africa has caught up with a globalisation sourcing standard/level. This in turn

may even build good and respectable business decisions that may be tabled in any negotiation.

7.3 Meeting research objectives

A customer disappointment or a product stock out should never be an option to companies who are wanting to retain their customers in this competitive world of business, as this may open a gap for the new rivalry manufacturing companies to introduce their new products, using the gap or a competitor's poor supply chain to win their customers. The fourth objective has been met by requesting government to put more budget and funding into SMEs to be involved in the supply chain. These SMEs are closer to the chain stores that they need to be supplying when unexpected stock out events take place. Lead time may be an obstacle to those supply chain entities who are more geographically challenged whereas local suppliers can quickly deliver as are be closer. This assists in avoiding customer disappointment and unexpected product stock out in any stores in their area of supply chain.

7.4 Summary of the study

The first chapter provided an overview of the study where aspects such as the problem statement, aim and objectives, methodology and study's limitation were discussed. Chapters 2, 3, and 4 reviewed literature relating to the impact and influence of global sourcing on local firm competitiveness, SCC and SCP in KwaZulu-Natal, South Africa. Thus, the focus of these chapters was to highlight that the study is important in the sense that there is a gap of knowledge regarding global sourcing in KZN and focusing on this area of study may give South African local firms a chance to be competitive in global sourcing.

This study was based on the argument that global sourcing at present has been a contributing factor in the local sugar manufacturing employment job risk, with flooding of sugar imports from mainly three countries (Brazil, India and China), which has led to some African local cane growers and manufactures lowering their cane and finished product supply as demand has drastically declined from African sugar processing industries.

Based on the current business challenges and global market demands, this study proposes that local cane growers should be given a chance to supply African manufacturing firms before they consider any import the same product. This will create even better job opportunities for the local community people to be able to support their families and to provide better education for them.

These family members will in turn add value to the country's (South Africa) economic growth and also enable it to be competitive in a global world market. It will decrease the risk of job losses for future families who will also require the same opportunities. From the literature review conducted for this study, it is evident that global sourcing has undergone several changes or evolutions since the 1900s. Some of these changes were major changes in the approach and philosophy of global sourcing, whilst others were minor additions and enhancements to the prevailing philosophy.

A key insight from the review of the various changes in global sourcing was that this approach of world business requires discipline to meet the changing business challenges and market demands. Businesses are now operating in a competitive world which forces them to be included in a global sourcing world, to survive in this current highly challenging business world.

Another part of the literature review revolved around business-related challenges likely to dominate the mainstream in the couple of years to come. It has been proven empirically that globalisation will have a significant effect on organisations.

Particularly, the influx of sugar import will induce business's and customers' interest in societal and environmental issues, as well as food regulations and safety. Environmental issues are forecast to create international, regional, and national headlines. Invariably, this will require organisations either at global, regional, or national level to play a more stringent role in sustaining the world's depleting resources and their immediate environment.

The conclusions drawn from this part of the literature review were that all the identified emerging trends, together with discussed prevailing business issues and customer

demand, are essentially the missing links in the current global sourcing world of business.

Also, regarding the new evolution of global sourcing, the literature review was extended to evaluate the relevance of local firm competitiveness to this study. This revealed that excessive import of sugar must be reduced and managed accordingly to ensure that local firms in the sugar industry do not suffer because of sugar imports. These global sourcing countries (Brazil, India & China) may lead to job losses in our own local industries.

Hence, government protection is essential in minimising these excessive sugar imports and proposing control measures by protecting the local cane growers. Government should consider local manufacturers before authorisation of imports of the same production to ensure the local production can accommodate local demand.

Further to the relevant literature presented, the development of influence of global sourcing on local firm competitiveness, SCC, and SCP in KZN, South Africa, an empirical study was undertaken to support the motivation stated for this study. The empirical analysis focused on obtaining responses on global sourcing practices and thinking across FMCG-type organisations in South Africa.

A structured questionnaire was developed as an instrument for data collection. The questionnaire consisted of five sections, namely personal information/demographic information, global sourcing, firm competitiveness, SCC, and SCP and also with research design. Survey questionnaires were emailed to targeted participants. Completed surveys were returned via email.

The analysis of the empirical research revealed that the organisations involved in this study represented selected manufacturing organisations in South Africa, demonstrated variable levels in global sourcing practices; and also demonstrated a deep understanding of the questions posed on current realities in global sourcing influences. These findings are aligned to the motivation for the study, that global sourcing control measures have become outdated and need to be re-aligned with prevailing business concerns and customer needs driven by stakeholder needs and

emerging trends, as well as protecting local jobs by documenting government laws that will guide excessive imports.

7.5 Original contribution to the body of knowledge

The aim of this study was to identify the influence of global sourcing on local firm competitiveness, SCC and SCP in South Africa, as this is currently putting people's jobs at risk when allowing excessive imported product (sugar) into the country within the global sourcing business world.

Some imported products do not meet our country's (South Africa) quality standards and using quality as a recommendation for more alignment with current business challenges and leadership may even set up more control and protection. When a country is enforcing quality standards for all imported products, it may be able to minimise the influx of excessive imported product.

The empirical study of global sourcing and quality displayed a high degree of preference for the framework of repositioning quality management to support organisations in addressing current business challenges, market demands, and new stakeholder requirements created by identified emerging trends.

South Africa was considered as a location for the data collection for this study, because it is believed that emerging economies are known to lead in new concepts and theories based on the specific needs and challenges, they have to overcome. This framework, by addressing "global sourcing" as the new challenge for governance and leadership approaches for local firm competitiveness, makes an original contribution to the literature within SCP and SCC.

7.6 Limitations of the study

The following are regarded as the limitations of this study:

- Relevant literature within the concept of "global sourcing" is limited and hence various associated topics on the term were reviewed and analysed with distillation of a definition pertinent to this study being compiled.

- In addition to limitations mentioned in Chapter 1 under research methodology, there was also geographical scattering of other sugar manufacturing sites within the country (South Africa), as not all people in this industry have access to emails. Though the current study is underpinned by standards and norms in line with global sourcing, the findings however cannot be generalized to a generic South African context.
- This knowledge is national, situated mostly in sugar industries with much more experienced managers, directors (non-executive and executive), and small and large sugarcane growers within South Africa. However, they could have made a major contribution to the findings as they have been with these industries for a longer time than those who have access to emails.

7.7 Possible solutions to the limitations of the study

This study has indicated the differences in SCM practices and identified the important variables of SCM practices which significantly contribute to better practice. Thus, the best or better practice will influence the performance of the sugar producers and retailers. The operational performance of organised sugar manufactures and retailers depends on the variables like demand forecasting, material requirement planning, inventory management, supplier relationship, spend analysis, supplier integration, reverse logistics, radio frequency identification, warehouse, and transportation.

Although the organised manufacturers and retailers are very much structured and highly professional compared with the unorganised ones, it still requires a much better business model to compete with the competitors. The large sugar manufacturing industries have successfully applied this by adopting a cultural change which has been in existence within the sugar industry.

There are trends within the manufacturing sector towards enterprise resource planning (ERP), total quality management (TQM) and just-in-time (JIT), which confirms and supports claims that there is an enabling culture change. It is obvious that through effective planning, an organisation is able to reduce the overhead cost to the barest minimum, while ensuring raw materials are available when needed. On the contrary, non-effective planning would likely escalate the overhead and operational costs.

Furthermore, delays, inefficiency in the production line, re-handling and duplication of customers' orders, alongside other factors may possibly occur due to an inefficient materials management system. Hence, by improving the materials management systems, the sugar industry can possibly achieve efficiency in its labour force optimisation. The consequence of non-availability of material when needed may be impossible to quantify accurately; however, the effect it has on labour efficiency is quantifiable and noticeable. Hence, indirect labour costs emanating from the unavailability of materials could be weighty, and even increase unproductivity time expectations. It is anticipated that prospective studies will be conducted in line with implementing and evaluating the effectiveness of this global sourcing context for supply chain performance and SCC of local firms.

7.8 Further research remarks

Researchers are life-long learners. My curiosity about the research domains in the field of operations and quality management as well as in the global supply chain world which let my way to the Masters program at Durban University of Technology, where my professor and fellow students furthered my understanding of the field, helped me established my goals as a researcher, equipped me with various researcher tools, and opened a door for me to the scientific research world. My work experience in the sugar industry has helped me in data collection as well as receiving an accurate feedback from most respondents who were also senior managers and well experienced employees in this sugar industry due to their vast working experience years. There is still need for more further research that can be done in this field of sugar industry and furthermore can include the protection of local sugar markets from the imports influx in this industry as these influx can increase local job loses if uncontrolled. Future research can replicate this study in other South African provinces, and or different regions and continents, to build a comprehensive body of knowledge and perhaps develop a managerial framework which will guide the sugar supply chain decision makers on global sourcing and how this can be used as a tool to enhance firm competitiveness.

7.9 Conclusion remarks

The motive behind this study is premised upon the argument that global sourcing has an adverse effect and influence on local firm competitiveness within the sugar industry

when there is less government control and protection from influx of excessive sugar imports.

Although supply chain and quality are ranked amongst the most prominent strategic concerns in most sugar manufacturing entities, these entities are currently confronted with an increased level of sophistication as well as high expectations from stakeholders.

Standards in which business entities can be judged are constantly changing customers' expectations, which are preferences and demands guided by their awareness of food safety. As organisations are preoccupied with issues as listed above, the role of quality management and supply chain and its alignment with today's business concerns is widely criticised. This study endeavoured to address the misalignment between the negative influence of global sourcing and local firm competitiveness, which may result in local job loss when global sourcing is not properly managed by government, as local businesses require protection from excessive imports.

The importance of ongoing review of this strategy and framework cannot be overemphasised, as alterations within the organisations' external environment as well as requirements from the increasingly sophisticated and informed stakeholder expectations will continue. Hence, in sustaining a business, managers need to continuously renew organisational strategies, while meeting customers' demands and addressing business challenges.

A variety of researches have been conducted on the effect of global sourcing and SCM practices. Even though those studies focused on supply chain management, a significant number of them were conceptual and few were from organised manufacturers from South Africa. In addressing this lacuna, the researcher attempted to determine the impact of global sourcing and SCM practices at different levels of the process such as planning, sourcing, and procurement. In addition, the present study established the supply chain capabilities needed to establish competitive advantage in the current sugar manufacturing environment, specifically for South African industries.

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APPENDIX A: Letter of Consent to Organisation

Faculty of Management Sciences

Department of Management

10 August 2016

Dear Sir/Madam

RE: REQUEST TO COLLECT DATA FROM THE SASA AFFILIATED CANE SUPPLIERS AND SUGAR MANUFACTURERS

I am a post graduate student at Durban University of Technology undertaking a Master's in management sciences: Business Management. My research topic is "The influence of global sourcing on local firm competitiveness, supply chain competence and performance in KwaZulu-Natal, South Africa." My supervisor is Dr P. Hove-Sibanda (proggyhove@gmail.com).

This letter serves as a request for a permission to use the SASA database for my data collection and it is for academic purpose. Obtaining permission from your association will be of great help to me as it is a prerequisite for my study to be cleared ethically, and for the successful completion of my study and your response will be of great value to this research. A questionnaire has been prepared to gather information on cane suppliers and sugar manufacturers.

LOOKING FORWARD TO A FAVOURABLE RESPONSE.

Yours Sincerely
Phumlani

Email address: phumlani.makhaye@tongaat.com Cell: 076 8622556

_____

Student Contact Details

Email address: proggyhove@gmail.com cell: 073 4389935

_____
Supervisor / Promoter

APPENDIX B: Gatekeeper's Approval Letter

18 October 2016

Mr PhumlaniMakhaye
No.8 Freyberg Lodge
Stamfordhill Road
Greyville
Durban
4001

Email: phumlani.makhaye@tongaat.com

Dear Mr Makhaye

RE: PERMISSION TO CONDUCT RESEARCH

Gatekeeper's permission is hereby granted for you to conduct research at the South African Sugar Association (SASA) towards your postgraduate studies, provided that you are aware of and will comply with the ethics requirements of South African Sugar Association (SASA) in the process of your research. We note the title of your research is:

"The influence of global sourcing on local firm competitiveness, supply chain competence and performance in KwaZulu-Natal, South Africa".

It is noted that you will be constituting your sample with a request for responses on emails from our cane suppliers and sugar manufacturers that were available from our South African Sugar Industry directory and database (2016/2017). The questionnaires must be distributed through emails. You are not authorized to force participants to respond to your questionnaires, but you can encourage them to participate and inform them that the research is purely for academic purposes and the information will be kept confidential.

Please note that the data collected must be treated with due confidentiality and anonymity.

Yours Sincerely
Rakshia Becum-Khadaro

Industry Affairs Executive

South African Sugar Association

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4300

APPENDIX C: Letter to Participants

Faculty of Management Sciences

Department of Management

05 August 2016

Dear Sir/Madam

RE: COMPLETION OF QUESTIONNAIRE

I am a post graduate student at Durban University of Technology undertaking a Master's in management sciences: Business Management. My research topic is "The influence of global sourcing on local firm competitiveness, supply chain competence and performance in KwaZulu-Natal, South Africa."

A questionnaire has been prepared to gather information on cane supplier and sugar manufacturer' supply chain practices, technology enable supply chain collaboration, sharing of strategic information, supply chain competences and their overall supply chain performance within South Africa. This letter serves as a request for a permission to use the SASA database for my data collection and it is for academic purpose. This cover letter also serves as a kind request to you to complete the attached questionnaire. Your responses will be of great value to this research. Please be advised that you will remain unanimous and your feedback will be kept in utmost confidence. My promoter (Supervisor) is Dr P. Hove-Sibanda (proggyhove@gmail.com)

YOUR VIEWS ARE VERY IMPORTANT TO ME!

Yours Sincerely
Phumlani

Phumlani Makhaye

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Student Contact Details

Dr P. Hove-Sibanda

Email address: proggyhove@gmail.com cell: 073 4389935

Supervisor / Promoter Contact Details

APPENDIX D: Participants' Letter of Consent

FACULTY OF MANAGEMENT

Research Thesis

The Influence of global sourcing on local firm competitiveness, supply chain competence and Performance in KwaZulu-Natal, South Africa.

Researcher: Phumlani Makhaye (0768622556)

Supervisor: Dr P. Hove – Sibanda (0734389935)

CONSENT

I_____(full names of participants)

Hereby confirm that I understand the contents of this document and the nature of the Research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the research project at any time, should I so desire.

_____ _____

Signature of Participant Date

APPENDIX E: Letter from Ethics Committee (DUT)

MANAGEMENT SCIENCES: FACULTY RESEARCH ETHICS COMMITTEE (FREC)

17 July 2017

Student No: 21242441

FREC No: 145/16FREC

Dear Mr P Makhaye

MPhil: Quality

TITLE: The influence of global sourcing on local firms' competitiveness, supply chain competence and performance: A South African Perspective

Please be advised that the Faculty Research Ethics Committee has reviewed your proposal and the following decision was made: Ethical Level 2

Approval has been granted for a period of two years, after which you are required to apply for safety monitoring and annual recertification. Please use the form located at the Faculty. This form must be submitted to the FREC at least 3 months before the ethics approval for the study expires.
Any adverse events [serious or minor] which occur in connection with this study and/or which may alter its ethical consideration must be reported to the FREC according to the FREC SOP's.
Please note that ANY amendments in the approved proposal require the approval of the FREC as outlined in the FREC SOP's.

Yours Sincerely

_____

Prof JP Govender Deputy Chairperson: FREC 236.

APPENDIX F
Dear Respondents,

Thank you for paying attention to this academic questionnaire. The purpose of this questionnaire is to gather information about the influence of global sourcing on local firm competitiveness, supply chain competence and performance in KwaZulu-Natal, South Africa. You are, therefore, requested to assist in completing the questionnaire below. The research is purely for academic purposes and the information will be kept confidential. It will take you approximately 10 minutes to finish the whole questionnaire. Please mark or circle the most appropriate response you choose for the questions below.

SECTION A: PERSONAL INFORMATION (Put an X on the appropriate block)

A1. Gender

Female	Male
1	2

A2. Education

High School	Diploma	Degree
1	2	3

A3. Race

Black	Indian	White	Coloured	Other(specify)
1	2	3	4	5

A4. Number of employees

5 or less	6-10	11-20	21-50	51 or above
1	2	3	4	5

A5. Amount of money from sales per year in Rands (R) in thousands (T) or millions (M):

Less than R1 million	R1m- R5 m	R5,1m-R10m	R10,1m -R20	Above R20m
1	2	3	4	5

A6. The number of years in business since start up:

2years or less	3-5years	6-10years	11-20years	21years or above
1	2	3	4	5

A7. What business are you in?

Cane Supplying	Sugar Manufacturer
1	2

A8. Does your business source goods from outside South Africa?

Yes	No
1	2

SECTION B: GLOBAL SOURCING

Please circle the level of agreement on each of the items below based on the situation of your company. There is no right or wrong response, the question asks for your opinion.

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree

	Whole Company	**Responses of respondents**				
1	Company has a vision or mission focused on international business activities.	1	2	3	4	5
2	The company corporate philosophy has allowed international sourcing.	1	2	3	4	5
3	Departments are in harmony with each other and jointly represent international sourcing activities.	1	2	3	4	5
4	Company has enough financial resources for international sourcing available.	1	2	3	4	5
5	Company has enough capacities for international sourcing.	1	2	3	4	5
	Responsibilities	**Responses of respondents**				
6	Company is responsible for international sourcing defined.	1	2	3	4	5
7	Sourcing goals has been defined correctly and in details.	1	2	3	4	5
8	Sourcing goals has been communicated understandable to sourcing executive.	1	2	3	4	5
9	Sourcing executives are free of other goals and projects and can concentrate fully on the sourcing project.	1	2	3	4	5
	Purchasing	**Responses of respondents**				
10	Company purchasing department has been positioned internationally.	1	2	3	4	5
11	Could IPO of the company be used for the projects.	1	2	3	4	5
12	Global sourcing is daily and actively practised (product components, parts, or raw materials).	1	2	3	4	5
13	The distinction between strategic and operational purchasing.	1	2	3	4	5
14	Planning to increase the share of global suppliers in the future.	1	2	3	4	5
15	A global supplier strategy will be pursued.	1	2	3	4	5

SECTION C: FIRM COMPETITIVENESS

Please circle the level of agreement on each of the items below based on the situation of your company. There is no right or wrong response, the question asks for your opinion.

	Flexibility Performance	**Responses of respondents**				
1	Our firm has the ability to respond and accommodate periods of poor delivery performance.	1	2	3	4	5
2	Our firm can respond and accommodate periods of poor supplier performance.	1	2	3	4	5
3	Trusting our firm partners gives our firm the ability to respond to and accommodate new product, new markets, or new competitors.	1	2	3	4	5
4	Our firm can respond and accommodate demand variations, such as seasonality.	1	2	3	4	5
5	Our firm can respond and accommodate periods of poor manufacturing performance (machine breakdown).	1	2	3	4	5
	Resource Performance	**Responses of respondents**				
6	Developing our firm and new performance creation has increased our entire firm return on investments.	1	2	3	4	5
7	Creating new performance strategy has reduced the costs associated with holding inventory in our entire firm.	1	2	3	4	5
8	Developing our firm and new performance creation has reduced the total cost of manufacturing, including labour, maintenance, and re-work costs.	1	2	3	4	5
9	Performance creation has reduced the total cost of resources used in our firm.	1	2	3	4	5
	Output Performance	**Responses of respondents**				
10	Developing our suppliers has reduced our supply chain manufacturing lead time.	1	2	3	4	5
11	Developing our performance has reduced our firm shipping errors.	1	2	3	4	5
12	Developing our performance has reduced our overall firm customer complaints.	1	2	3	4	5
13	Developing our performance has increased our overall firm sales.	1	2	3	4	5
14	Developing our performance has improved our overall firm order fill rate.	1	2	3	4	5

15	Developing our performance has increased our overall firm on-time deliveries.	1	2	3	4	5

SECTION D: SUPPLY CHAIN COMPETENCE

Please circle the level of agreement on each of the items below based on the situation of your company. There is no right or wrong response, the question asks for your opinion.

	Quality and Service	**Responses of respondents**				
1	Our company can fill orders with improved accuracy because of global sourcing.	1	2	3	4	5
2	Our company can issue advanced notices on shipping delays due to the culture of sourcing globally.	1	2	3	4	5
3	Global sourcing in our supply chain gives our company the ability to produce high quality Products: the ability to deliver high quality services	1	2	3	4	5
4	Global sourcing and firm competitiveness enable our company to respond to the needs of key customers.	1	2	3	4	5
5	Global sourcing with key suppliers and sharing information with them gives our company the ability to work with our key suppliers.	1	2	3	4	5
	Operations and distribution	**Responses of respondents**				
6	Global sourcing in our supply chain gives our company the ability to manage supply chain inventory.	1	2	3	4	5
7	Acquiring products outside the country in our supply chain gives our company the ability to meet a promised delivery date.	1	2	3	4	5
8	Sourcing globally in our supply chain gives our company the ability to enhance our supply chain's position in terms of integrity	1	2	3	4	5
	Design Effectiveness	**Responses of respondents**				
9	Sourcing globally in our supply chain give our company the ability to design low-pollution production process.	1	2	3	4	5
10	Sourcing globally in our supply chain gives our company the ability to design low pollution delivering process.	1	2	3	4	5
11	Sourcing globally in our supply chain can enhance our supply chain's position in terms of social responsibility.	1	2	3	4	5

SECTION E: SUPPLY CHAIN PERFORMANCE

Please circle the level of agreement on each of the items below based about your company. There is no right or wrong response, the question asks for your opinion.

	Flexibility performance	**Responses of respondents**				
1	Our supply chain can respond to and accommodate demand variations, such as seasonality.	1	2	3	4	5
2	Our supply chain can respond to and accommodate periods of poor manufacturing performance (machine breakdowns).	1	2	3	4	5
3	Our supply chain can respond to and accommodate periods of poor supplier performance.	1	2	3	4	5
4	Our supply chain can respond to and accommodate periods of poor delivery performance.	1	2	3	4	5
5	Supply chain competence gives our supply chain the ability to respond to and accommodate new products, new markets, or new competitors.	1	2	3	4	5
	Resource Performance	**Responses of respondents**				
6	Supply chain competence has reduced the total cost of resources used in our supply chain.	1	2	3	4	5
7	Global sourcing and our supply chain competence have reduced the total cost of manufacturing, including labour, maintenance, and re-work costs.	1	2	3	4	5
8	Firm competitiveness has reduced the costs associated with holding inventory in our entire supply chain.	1	2	3	4	5
9	Supply competence and global sourcing has increased our entire supply chain's return on investments.	1	2	3	4	5
	Output Performance	**Responses of respondents**				
10	Supply chain competence has increased our overall supply chain sales.	1	2	3	4	5
11	Supply chain competence has improved our overall supply chain order fill rate.	1	2	3	4	5
12	Supply chain competence has increased our overall supply chain on-time deliveries.	1	2	3	4	5
13	Global sourcing has reduced our supply chain shipping errors.	1	2	3	4	5
14	Global sourcing has reduced our supply chain manufacturing lead time.	1	2	3	4	5

15	Global sourcing has reduced our overall supply chain customer complaints.	1	2	3	4	5

Appendix G

Assessment normality results

Constructs	Items	Skewness	Kurtosis
Global Sourcing	**B1** Company has a vision or mission focused on international business activities.	-0.18	-0.62
	B2 The company corporate philosophy has allowed international sourcing.	-0.58	-0.31
	B3 Departments are in harmony with each other and jointly represent international sourcing activities.	-0.60	-0.12
	B4 Company has enough financial resources for international sourcing available.	-0.28	-0.75
	B5 Company has enough capacities for international sourcing.	-0.38	-0.66
	B6 Company is responsible for international sourcing defined.		

		-0.42	-0.65
	B7 Sourcing goals have been defined correctly and in details.	-0.11	-0.88
	B8 Sourcing goals have been communicated understandably to sourcing executive.	-0.37	-0.76
	B9 Sourcing executives are free of other goals and projects and can concentrate fully on the sourcing project.	-0.44	-0.75
	B10 Company purchasing department has been positioned internationally.	-0.34	-0.66
	B11 IPO of the company could be used for the projects.	-0.03	-0.72
	B12 Global sourcing is practised daily and actively (product components, parts or raw materials).	-0.38	-0.46
	B13 There is a distinction between strategic and operational purchasing.	-0.38	-0.74
	B14	-0.35	-0.66

	Planning to increase the share of global suppliers in the future.		
	B15 A global supplier strategy will be pursued.	-0.35	-0.60
Firm competitiveness	**C1** Our firm has the ability to respond and accommodate periods of poor delivery performance.	-0.08	-0.81
	C2 Our firm has the ability to respond and accommodate periods of poor supplier performance.	-0.40	-0.23
	C3 Trusting our firm partners gives our firm the ability to respond to and accommodate new product, new markets, or new competitors.	-0.82	0.19
	C4 Our firm has the ability to respond and accommodate demand variations, such as seasonality.	-0.38	-0.72
	C5 Our firm has the ability to respond and accommodate periods of poor manufacturing performance (machine breakdown).	-0.40	-0.50
	C6	-0.30	-0.67

	Developing our firm and new performance creation has increased our entire firm return on investments.		
	C7 Creating new performance strategy has reduced the costs associated with holding inventory in our entire firm.	-0.22	-0.67
	C8 Developing our firm and new performance creation has reduced the total cost of manufacturing, including labour, maintenance and re-work costs.	-0.31	-0.79
	C9 Performance creation has reduced the total cost of resources used in our firm as a whole.	-0.47	-0.73
	C10 Developing our suppliers has reduced our supply chain manufacturing lead time.	-0.16	-0.75
	C11 Developing our performance has reduced our firm shipping errors.	-0.21	-0.76
	C12 Developing our performance has reduced our overall firm customer complaints.	-0.52	-0.44

	C13 Developing our performance has increased our overall firm sales.	-0.42	-0.66
	C14 Developing our performance has improved our overall firm order fill rate.	-0.34	-0.55
	C15 Developing our performance has increased our overall firm on-time deliveries.	-0.49	-0.14
Supply chain competence	**D1** Our company has the ability to fill orders with improved accuracy because of global sourcing.	-0.33	-0.77
	D2 Our company has the ability to issue advanced notices on shipping delays due to the culture of sourcing globally.	-0.44	-0.31
	D3 Global sourcing in our supply chain gives our company the ability to produce high quality	-0.51	-0.43

	products: and the ability to deliver high quality services		
	D4 Global sourcing and firm competitiveness enable our company to respond to the needs of key customers.	-0.42	-0.56
	D5 Global sourcing with key suppliers and sharing information with them gives our company the ability to work with our key suppliers.	-0.38	-0.63
	D6 Global sourcing in our supply chain gives our company the ability to manage supply chain inventory.	-0.45	-0.56
	D7 Acquiring products outside the country in our supply chain gives our company the ability to meet a promised delivery date.	-0.18	-0.43
	D8 Sourcing globally in our supply chain gives our company the ability to enhance our supply chain's position in terms of integrity.	-0.34	-0.58
	D9	-0.41	-0.57

	Sourcing globally in our supply chain gives our company the ability to design low-pollution production process.		
	D10 Sourcing globally in our supply chain gives our company the ability to design low pollution delivering process.	-0.30	-0.64
	D11 Sourcing globally in our supply chain has the ability to enhance our supply chain's position in terms of social responsibility.	-0.23	-0.80
Supply chain performance	**E1** Our supply chain has the ability to respond to and accommodate demand variations, such as seasonality.	-0.14	-0.85
	E2 Our supply chain has the ability to respond to and accommodate periods of poor manufacturing performance (machine breakdowns).	-0.43	-0.19
	E3 Our supply chain has the ability to respond to and accommodate periods of poor supplier performance.	-0.53	-0.30
	E4	-0.64	-0.09

	Our supply chain has the ability to respond to and accommodate periods of poor delivery performance.		
	E5 Supply chain competence gives our supply chain the ability to respond to and accommodate new products, new markets, or new competitors.	-0.49	-0.20
	E6 Supply chain competence has reduced the total cost of resources used in our supply chain as a whole.	-0.48	-0.49
	E7 Global sourcing and our supply chain competence have reduced the total cost of manufacturing, including labour, maintenance and re-work costs.	-0.34	-0.65
	E8 Firm competitiveness has reduced the costs associated with holding inventory in our entire supply chain.	-0.57	-0.40
	E9 Supply competence and global sourcing have increased our entire supply chain's return on investments.	-0.43	-0.49
	E10 Supply chain competence has increased our overall supply chain sales.	-0.20	-0.76

	E11 Supply chain competence has improved our overall supply chain order fill rate.	-0.43	-0.30
	E12 Supply chain competence has increased our overall supply chain on-time deliveries.	-0.23	-0.69
	E13 Global sourcing has reduced our supply chain shipping errors.	-0.25	-0.86
	E14 Global sourcing has reduced our supply chain manufacturing lead time.	-0.38	-0.56
	E15 Global sourcing has reduced our overall supply chain customer complaints.	-0.50	-0.50