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IMPACT OF SUPPLY CHAIN MANAGEMENT STRATEGIES ON FIRMS' SUSTAINABLE PERFORMANCE: A CASE OF AN EMERGING ECONOMY

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Abstract. In recent times, there has been growing popularity and importance of supply chain management (SCM) among academics and the business fraternity in emerging economies. At present, every company's long-term survival, prosperity, and value chain creation are at risk since they rely on an enterprise's level of supply chain growth. The increasing demand for sustainable development of large companies in emerging economies indeed entails an inclusive array of SCM practices beyond mere logistics enhancement and automation so that these companies can overcome the persistent concerns in the current supply chain ecosystem. Therefore, this study attempts to fill these gaps by examining how sustainable supply chain management strategies can assist firms in emerging economies, especially South Africa, to achieve sustainable growth and a competitive advantage in the global market. The study used a mixed method approach and surveyed 100 JSE-listed companies, supplemented with in-depth interviews from 46 respondent companies. The findings expose a significant positive impact of SCM practices in achieving success and sustainable growth for multinational companies. These results suggest that firms operating within emerging markets should adopt SCM practices in their business processes with a broader consideration of environmental sustainability issues and production cost implications. This study contributes significantly to the literature to assist in planning supply chain practices linked with the UN SDGs. The paper also offers robust insight and an excellent understanding of the implications of the SCM strategies on promoting opportunities for sustainable growth in an emerging economy context.

Keywords: supply chain management strategies; JSE listed companies; success and sustainable growth of multinational companies; emerging economies; South Africa

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JEL Classifications: F20, F23, G15

1. Introduction

These days, companies are under pressure to demonstrate evidence of sustainable business growth from different players, such as customers, development partners, government, and shareholders (Diabat et al., 2014; Meixell & Luoma, 2015; Sanchez-Flores et al., 2020). Supply chain management (SCM) started addressing sustainability issues to uphold green growth and business success (Moktadir et al., 2018; Vivek, Tobias & Parikshit, 2018;

Tseng et al., 2019). Consequently, many multinationals have been recognised as the substantial drivers in facilitating the smooth execution of sustainable SCM practices (Ali et al., 2020), as well as the demand to look into the interests of investors and engender competitive advantage for their enterprises (Roy, Silvestre & Singh, 2020). The primary focus of SCM practices is to optimise the level of customer satisfaction because customers are the critical stakeholders of organisations. However, the question of how SCM practices can enhance a firm's success and sustainable growth is a research question yet to be answered.

The evolution of global value chains in diverse sectors, such as commodities, apparel, electronics, tourism and business service outsourcing, has significant implications on international trade, production and employment, and on how companies in emerging economies like South Africa can participate in the global economy (Gerrefi & Fernandez-stark, 2016). In contrast, Koksai et al. (2017) posit that the textile and apparel industries that demand SCM practices to boost their sales volume and meet customer demands with quicker response time face the most challenging issues for maintaining sustainable growth. Likewise, Avittathur and Jayaram (2016) assert that supply chain challenges have become even more critical because customers and suppliers of firms are globally located. Yet, every company's long-term survival, prosperity, and value chain creation are at risk since they rely on an enterprise's level of supply chain growth (Szczepanski, 2021). Thus, triggering a deficiency of clarity. These challenges were exacerbated by the hostile chaos of the Covid-19 pandemic, which exposed large companies to disrupting value chains. They reversed hard-earned growth for many countries, for instance, dwindling foreign direct investment, cross-border trade closures, supply shocks from the manufacturing industries and decreasing GDP per capita. The emerging countries recognised with less significant domestic markets, limited capacity to adjust, and heavy reliance on vulnerable sectors (World Bank, 2020) reported adverse consequences about sustainable growth. This study aimed to extend our knowledge by empirically examining the impact of supply chain management strategies on firms' sustainable performance using Johannesburg Stock Exchange (JSE) market-listed companies in South Africa.

Previous works expose a rising number of scholarly articles that support the integration of SCM strategies within corporate firms. Unfortunately, the impact of supply chain management strategies on firms' sustainable performance has not remained unresolved. Furthermore, research indicates that realising sustainable production within an SCM framework has been one of the most crucial challenges in emerging markets, as it does not entail acquiring financial advantages (Esfahbodi, Zhang & Watson, 2016). Yet SCM practices are essential for companies that struggle to generate a competitive advantage to augment their sustainable evolution capabilities. As a result of the shortage of empirical studies, this scholarly article delivers novel insights and implications for adopting SCM practices by listed companies in South Africa. We compare how corporate companies can remain relevant amidst the global bubble of adhering to the sustainable SCM framework (Silvestre, 2016; Schrettle et al., 2014; Scnchez-Flores et al., 2020). Prior scholars argue that the supply chain management system is demand-driven because final customer demands are widely considered the most crucial (Barbosa-Póvoa, Da Silva & Carvalho, 2018). There is an upsurge in interrelated notions such as green supply chains and green operations (Sajjad et al., 2020). The primary motivation in the wake of SCM practices was to balance the firm's growth and the external finance needed. The greater the percentage of development in assets, the better the required external finance *ceteris paribus* (OECD, 2015).

Even though prior scholars have made various extrapolations about SCM with a call to search for and expand rising areas of interest, our review of the literature reveals a lack of studies that certainly discuss the influential role of SCM in encouraging a company's sustainable growth, because many of them are confined to the market, workplace, environment, and society (Esfahbodi, Zhang & Watson, 2016). Therefore, this article attempts to fill these gaps by conducting an empirical study in South Africa that examines how sustainable supply chain management strategies can encourage sustainable growth and competitive advantage among JSE market-listed companies.

The rest of the paper is structured as follows: Section 2 presents the theoretical background to sustainable supply chain management; Section 3 discusses empirical literature relating to SCM. Section 4 offers the research design and approach employed for collecting data, section 5 explores results and discussion, and Section 6 states conclusions, implications, and future research directions.

2. Theoretical background to sustainable Supply chain management

Recent studies reveal that expanding regional value chains across Africa, particularly South Africa, offers more significant opportunities to produce both local and international market linkages between regions, integrate critical supply chains, and substitute some products that are now being imported from outside Africa. The African market embodies an R7-trillion market opportunity for goods that can be produced on the continent (Dtic, 2021). However, for these opportunities to emerge, there is a demand to settle the structural limitations that may inhibit Africa and South Africa from capturing these opportunities. Although there appear to be significant opportunities as identified above, there is an apparent need to pursue the problems that hinder manufacturing in South Africa and open these opportunities to the rest of the continent. The significant constraints that require urgent government intervention to boost the supply chain management system include energy supply, energy prices, and the efficiency of logistics systems, including rail, roads, and ports (Dtic, 2021).

According to the World Bank (2020), Africa has a much lower global value chain (GVC) trade performance of merely 8% of GDP, matched to 11% of emerging countries in Asia and 14% in developed countries from 2000-2015. Furthermore, Africa's GVCs exports have mostly been obstructed by worldwide trade trends, bashed by the 2008 financial crisis and the rise of labour-saving skills, inhibiting incentives to outsource manufacturing. Africa largely continued to supply raw materials to countries at the high end of the GVCs task chain, while other developing regions deepened regional trade in GVCs (OECD, 2022).

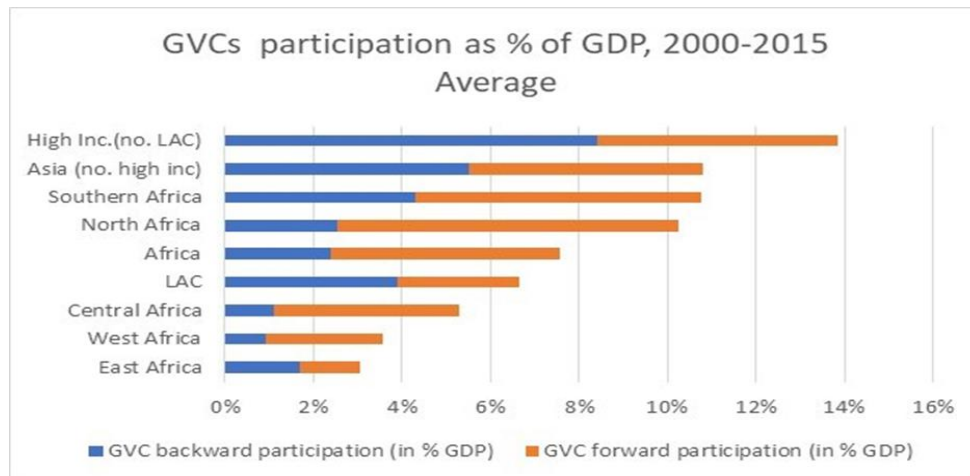


Figure 1. Africa’s percentage Global Value Chain performance from 2000-2015
 Source: World Bank, 2020

As it can be noticed in Figure 1, Africa's GVCs contribution is focused on a handful of resource-based and simple manufacturing sectors, with an inadequate account for superior manufacturing and services. All through 2015, we found that 50% of Africa's GVCs were essentially directly in mining and interrelated sectors such as petroleum and minerals. However, the global push for decarbonising transportation and global production networks, as well as investments in renewables, will shape the future of resource-based GVCs activities and the inflow of FDI to these sectors in Africa (OECD, 2022). In contrast, there is a belief that famous companies listed on the stock exchange markets are more privileged to adapt to SCM practices compared to SMEs. Because they are endowed

with better resources, such as the capacity to conduct robust research and development to preserve sustainable growth, in South Africa, the situation seems to be unique. It is, therefore, necessary to develop models that will support the integration process and make it easier for business decision-makers to choose the optimal implementation strategy for UN SDGs in the supply chain.

In the last two years, the global supply chain suffered a shock wave as it could not adapt to disruptions triggered by the Covid-19 outbreak. We found that China's automotive manufacturing sector nearly fell below 50% before the outburst, lowering automotive manufacturing across the globe (Betti & Ni, 2020). In light of GVCs in Africa, Covid-19 enlarged the continent's dependence on imported goods and strengthened the pressure to build up competitive, resilient, and robust value chains in this sector (Cyn-Young et al., 2022). Regrettably, SCM strategies remain a term frequently found in the literature and suffer from inconsistent use, lack of an accurate description, and lack of a universally accepted definition.

3. Literature review

3.1 Role of supply chain management in firms' success

Recently, SCM practices have garnered greater attention from academics, policymakers, and investors for numerous causes: The main objective of SCM is to build and enhance competitive advantage through cost reduction without compromising customer satisfaction (Saeed & Kersten, 2019). Furthermore, Mukhsin and Suryanto (2022) discover that SCM practices are vital for a firm's sustainable growth and survival in the existing competitive business market. Because SCM primarily facilitates the smooth flow of products, data and finances, which permits firms to create better customer relationships, thus enhancing their value-added and adherence to the operating financial procedures. In other words, adopting SCM strategies have been observed as a fundamental instrument to strengthen the corporate industries' competencies, to remain relevant and develop while sustaining their needed funding streams. Reflecting on the debate of Silvestre (2016), it is observed that the propagation and achievement of learning in this field can be understood at distinct levels in specific supply chain components. The literature review shows that ground-breaking companies have explored SCM innovations and extended them into other supply chain sections.

We aim to determine how managers and investors have integrated SCM strategies into their operational activities to meet customer satisfaction. We address two fundamental questions:

- *What is the role of SCM in promoting a company's sustainable growth rates in an emerging economy like Southern Africa?*
- *How have the barriers to SCM influenced the growth rate of companies in emerging economies?*

The SCM system is fundamental for enhancing the business success, customer satisfaction, and sustainable growth of nearly all companies. The primary focus of SCM is on customer satisfaction since they are the critical stakeholders of any organisation. Avittathur and Jayaram (2016) assert that supply chain challenges have become even more vital because customers and suppliers of firms are globally located. Therefore, the evolution of global value chains in diverse sectors, such as commodities, apparel, electronics, tourism, and business service outsourcing, has significant implications in terms of global trade, production, and employment and how developing country firms, producers, and workers integrate into the global economy (Gerrefi & Fernandez-Stark, 2016).

However, as all supply chains are demand-driven, final customer demand information is widely considered essential information in the supply chain system. We discover that not only does the adoption of SSCM practices develops the environmental and social performance of firms and the supply chains, but it also delivers an opening for organisations to gain a new set of proficiencies, which can benefit them to realise a competitive advantage by undertaking sustainability creativities within and outside of the structural limitations of the companies.

Studies on SCM demonstrate that this field is gaining attention. Saeed and Kersten, 2019; Mukhsin and Suryanto (2022) investigated sustainable supply chain management drivers. Diabat et al. (2014) examined enablers for implementing sustainable supply chain management and explored sustainable logistics. Meixell et al. (2015); Avittathur and Jayaram (2016); World Bank, (2020) concentrated on global value chains and supply chain management. Esfahbodi, Zhang & Watson (2016) examined sustainable supply chains in promoting sustainable growth in emerging economies. Lately, the literature has developed increasingly and more robustly (Silvestre, 2016; Baig et al., 2020; Ali et al., 2020; Mani, Jabbour & Mani, 2020). These studies have raised substantial ambiguity among researchers, business fraternity, and policymakers. Besides, many empirical studies about SCM are primarily made in developed countries; hence the interrogation of how SCM practices can encourage a firm's success to sustainable growth in an emerging economy is lacking.

In addition to SCM being intelligent, strategic supply chain programs such as lean management and agility, which have yielded considerable benefits for supply chain processes in developed economies, are being adopted by developing economies (Avittathur & Jayaram, 2016; Mancidi, 2020). The reality of the competitive environment for businesses is inevitable, whether in a developing or a developed economy. The difference, however, is that, in developing economies, the inadequate distribution channels do not reach most consumers, unlike in developed economies, where there are large retailers in the supply chains (Sodhi & Tang, 2012). Furthermore, to survive competition in developing economies, enterprises must be able to deal with external and internal uncertainties by adopting supply chain flexibility as an approach to coping with sources of uncertainty (Manchidi, 2020). Therefore, assessing the role of SCM practices in a firm's success and sustainable growth requires understanding the indicators used to measure its impact. We discovered that the central indicators for a successful implementation of SCM practices revolve around social and environmental sustainability issues which consider the concerns of the legislators and policymakers about negative ecological and social impacts across the world (Baig et al., 2020)

This concept is complicated and necessitates a different approach from arbitrary and volatile pursuits. Corporate directors must encourage adopting SCM practices with proficiency to account for social, economic, and ecological performance. Moreover, applying sustainable solutions in the supply chain is time-exhausting and can create several difficulties that deter business management from engaging in environmentally friendly approaches. For that reason, business leaders and future entrepreneurs with knowledge of advancing business prosperity and sustainable growth rates must know the limitations and opportunities of sustainable SCM (Zimon, Tyan & Sroufe, 2018).

3.2 Drivers of sustainable supply chain management practices

While it has been continually conveyed in previous studies that the textile and apparel industries are the major global players in the SCM landscape in terms of GDP per capita and employment share. These sectors confront the utmost complex problems in upholding sustainability limitations with the United Nations (UN) development goals. Furthermore, the worldwide disintegration of the textile industry has made it challenging since high levels of outsourcing are completed in emerging countries. Suppliers are situated in varied geographical places, triggering a lack of clarity, specifically while less important levels are concerned (Köksal et al., 2017). Because of the textile sector's reputation, its manufacturing's sustainability tribulations to the environment and the world ought to be tackled instantly (Baig et al., 2020). Therefore, in this article, we aim to deliver good insights into how adopting SCM practices can assist corporate companies in achieving prosperity and sustainable growth while balancing customer demands. We further illuminate the significance of SCM in promoting change within friendly companies and its impact on society.

SCM emerged as a way to realise the overall firms' performance and respond to sustainability issues within the industry's resources (Diabat et al., 2014; World Bank, 2020). Nearly scholars have made efforts to advance SCM focused on achieving a firm's prosperity and sustainable growth in the context of Supply chain green environment

and corporate social responsibility to help out companies accomplish implementation of their economic, social, and environmental dimensions (Saeed & Kersten, 2019; Scavarda et al., 2019). South Africa has not been excluded in advocating for sustainable SCM practices, although efforts in this field relatively draw significant attention from government programs regarding strategic priorities. Whereas companies in emerging economies have attempted to adapt SCM practices, they have been onerous as companies encounter relatively substantial social and environmental sustainability barriers compared to their counterparts operating in developed countries (Silvestre, 2016; Köksal et al., 2017). Recent research uncovers SCM practices in developing countries are comparatively underdeveloped. Therefore, research in countries like South Africa is still limited (Esfahbodi, Zhang & Watson, 2016; Silvestre, 2016).

Moreover, corporate companies may not direct their attention to social and environmental sustainability issues since they do not involve any financial returns; hence their adaptability capacity often is influenced by the volatile demands of today's customers. For instance, nearly 90% of supply chain leaders in the healthcare sector confirm that their highest challenge is a quicker response to customer demands. The demand to adopt and implement effective SCM strategies is inevitable to defeat these problems. As a result, scholars and policymakers ought to understand how sustainability is integrated into the textile/apparel supply chain while mitigating risks.

SCM is achieved mainly through partnerships with suppliers/transporters and customers through the expansion of upstream and downstream firms' activity (Vasiliu & Dobrea, 2013). Supply chain managers are therefore compelled to be closely in touch with cultural, historical, and political trends that can change the playing field virtually overnight (Stank, 2015).

Similarly, despite the significance of a firm's size and the prosperity of a company's growth, more prominent companies execute environmental and social habits as corporate responsibility to deliver universal sustainability concerns (Tebaldi, Bigliardi & Bottani, 2018; Saeed & Kersten, 2019). Well-known companies listed on the stock exchange markets are more privileged to adopt SCM approaches when compared to SMEs because they are endowed with better resources, capacity to conduct robust research and development, funding, marketing, and social compact, and practice these traits to chase sustainable development. On the contrary, they appear to strive for their reality, hence, not enough focus on sustainability questions (Sodhi & Tang, 2012; Touboullic & Walker, 2015). But again, the more significant hurdle is that there is partial evidence in earlier literature to underpin sustainable supply chain development in emerging economies. Although reaching the desired sustainable growth rate has become the main objective for every firm's manager, in today's severe competition and quickly changing economic and political environment, reaching the desired sustainable growth rate is not easy.

3.3 Barriers to implementation of SCM practices in emerging economies

Many regimes, in an effort to adhere to the UN SDGs, have designed policies that ultimately consider all manufacturing and service companies liable for their actions that impact the environmental aspects of the economy arising from their businesses in conjunction with their supply chain contributors (Saeed, Week & Kersten, 2017). As the firms get larger, they are more affected by their buyers from the global textile supply chain (Ali et al., 2017). Baig et al. (2020) exhibit that economic, managerial, and supplier-related barriers directly impact the adoption of SCM practices negatively or positively.

Alternatively, García-Arca, Garrido and Prado-Prado (2017) posit that the internationalisation of actions and the surge in raw material prices demand actual performance of sustainable mixtures in the supply chains. Thus, effective implementation of the SCM idea requires new methods for permanent set-up and tools that enable the integration of different spheres that are so far considered distinctly (Kot, 2018)

Lately, the Covid-19 pandemic has had a significant impact on international trade and supply chains. The world has witnessed cross-border trade closures, condensed demand for traded goods, and supply shocks in the supply

chains, including South Africa. Indeed, the persistent susceptibility of regional supply chains impacts the long-term socio-economic development trajectory of the nation (Pretorius et al., 2022). This was due to labour shortages, fluctuations in expenditure patterns, supply networks, and cross-border transport service disruptions globally to implement Covid-19 national protocols. Additionally, just-in-time inventory and lean manufacturing widened the worldwide supply chain to a breakeven point in times of pressure (Cyn-Young et al., 2020). Furthermore, we also discovered diverse effects on the SCM system from barriers linked to red tape and bureaucracy in implementing these practices by local authorities; for instance, uncertainty was detected in parts of KwaZulu-Natal and Gauteng. Consequently, understanding these encounters and other issues influencing the implementation of SCM sustainability issues of different business and society practices in Africa entails nuanced analysis.

On the other hand, even if the concept of sustainability aspect has gained a high level of importance in Europe, America, and Asia due to its ability to ensure environmental sustainability, in Africa, the integration and application of the sustainability concept are facing several challenges (Giunipero, Hooker & Denslow, 2012; Moktadir et al., 2018). Several studies have investigated the barriers affecting sustainability practices at the country's levels (Sajjad, Eweje & Tappin, 2015; Moktadir et al., 2018). Research also recently exposed that several companies in emerging economies in Africa dropped back in quantifying, registering, and adopting sustainability issues. For example, only 5% of all registered businesses in Kenya are accounted for in the national Global Compact Network. Yet the government is robust in shipping finished goods to Western countries. This suggests that African suppliers in GVCs have yet to adopt the sustainability practices that prevail in GVCs. Unfortunately, the corporate procurement policies and procedures lack a good fit for the African context. This paper aims to fill this gap.

Similarly, it is imperative to stress that the diversity of national laws, resident organisations, transparency, and detachment between organisations manifested in the global value chains drive change in the sustainability practices of corporate companies in emerging economies in Africa across all sectors (Hofstetter et al., 2021).

Besides, the growing pressures from various players, such as governments and customers, have provoked business corporations to address the economic, environmental, and social sustainability issues associated with their supply chain activities (Diabat et al., 2014; Meixell & Luoma, 2015).

We notice that different barriers inhibit the integration of sustainability in the firms' supply chain (Giunipero, Hooker & Denslow, 2012) in attempting to adapt to SCM practices in their businesses. This has been identified in some of the studies focusing on firm or country-specifics (Luthra et al., 2011; Moktadir et al., 2018; Baig et al., 2020).

On the other hand, several of these studies have repeatedly observed supplier's lack of resources, lack of commitment from top management, and difficulty in changing company practices and policies as a fundamental barriers to adopting SCM practices (Moktadir et al., 2018; Murillo-Luna et al., 2011; Trianni et al., 2017). Although (Giunipero, Hooker & Denslow, 2012; Oelze, 2017) believe that the frail regulatory orders and controls have significantly failed the implementation of sustainability initiatives in emerging economies.

Despite the lack of good literature on this study from a developing economy perspective, careful consideration was given to the choice of literature. In our review, the literature reveals a lack of studies comprehensively discussing the impact of SCM practices in achieving sustainable growth in an emerging economy.

4. Materials and Methods

This study employed the mixed-method approach in which qualitative and quantitative methods were sequentially used to collect data. Specifically, an exploratory sequential design strategy was chosen to use qualitative findings from the purposively selected participants for this study. The study began with a quantitative method in which theories and concepts were tested, followed by a qualitative approach involving a detailed exploration of individuals. This approach was adopted by earlier scholars who recommended a mixed method approach for this kind of study (Bryman, 2010). Therefore, an empirical study concerning quantitative and qualitative data was conducted for this research work to examine and test the efficacy of sustainable supply management strategies in fostering sustainable growth rates of corporate companies in South Africa. The study derived critical practical insights for SCM to benefit the business fraternity by adopting sustainable approaches to business development.

4.1 Sample and data collection

This study's primary data collection was executed through semi-structured interviews for the qualitative data, while survey questionnaires were used for the quantitative data collection. The researcher posed a series of questions to the participants using a five-point Likert-scale questionnaire to indicate the extent to which they agreed or disagreed with statements ranging from strongly agree-5 to strongly disagree-1.

The database utilised for this study in 2015 comprised 400 Johannesburg Stock exchange (JSE) market-listed companies (N = 400), i.e. well-known organisations seeking to attain the next level in growth. A purposive sample of the top 100 JSE-listed companies was considered for this study (n = 100) based on the impact of their highest shareholder returns over the past five years. Their achievements became evident when they were acknowledged by the Sunday Times in 2015 as the best-performing businesses on the JSE due to their highest shareholder returns over the past five years.

Table 1. Sample composition of 100 companies listed on the JSE market

Standard industrial classification	Percentage
Manufacturing	9%
Retail, wholesale trade, commercial agents, and allied services	18%
Mining, quarrying, and agriculture	8%
ICT, transport, logistics, and storage	18%
Finance and business services	25%
Catering, accommodation, property, and hospitality	22%
TOTAL	100%

Source: Primary data, 2020

As illustrated in Table 1, the sample structure of the respondent companies comprised: manufacturing 9(9%); retail, wholesale trade, commercial agents and allied services 18 (18%); mining, quarrying, and agriculture 8 (8%); ICT, transport, logistics, and storage 18 (18%); finance and business services 25 (25%); and catering, accommodation, property, and hospitality 22 (22%). The study depended on a survey approach for data collection because, according to Page (2014), survey research is efficient since many variables can be measured with less time and costs, and the respondents can answer the questionnaires at their convenience without being subdued in answering sensitive questions (Goddard & Melville, 2001).

The interview schedule was used to collect data in a face-to-face interview.

However, the interviewer read the questions on the interview schedule and recorded the participants' answers. This method is associated with the advantage that it provides an opportunity for the researcher to ask for clarity from the participants instantly and follow up on responses that appeared to be interesting for the research. On the other hand, our small interview sample size is reinforced by the earlier study by Gentles et al. (2015). They

claimed that qualitative research uses smaller samples because it aims to acquire information that is useful to comprehend the intricacy, depth, variation, and context surrounding a phenomenon. There is a consensus from scholars that a selection of anywhere between five and 50 participants in an interview is adequate. It is against this backdrop that a purposive sample of eight industry specialists was selected for this study ($n = 8$). These specialists worked in industries specialising in SCM, logistics, chemical and industrial engineering, and production and manufacturing engineering. Six of these specialists were purposely selected locally from South Africa and two from abroad to have opinions from both local and international perspectives. The study was conducted in South Africa because it is one of the top 73 middle-income countries (OECD, 2015) and one of the 11 advanced emerging economies; therefore can be comparable to developing economies of the world.

4.2 The measure of performance variables

Many research projects fail because of selecting tests or measurement techniques that are either unreliable, invalid, or both (Bart et al., 2012). Whether the research project is a qualitative, quantitative, or mixed study, the researcher's responsibility is to ensure that the measurement techniques in use represent the most elementary sense of what measurement involves and are valid indicators of the variables under investigation (Leedy & Ormrod, 2013). For the quantitative data analysis in this study, preference was given to the use of descriptive statistical analysis and inferential statistical methods of testing for relationships among variables such as t-tests, analysis of variance (ANOVA), and tests for normality and homogeneity of variance. In addition, factor analysis was used to obtain the study's results. The main objective of quantitative research analysis is to quantify the differences between groups, a change over time, or the existence of a measurable phenomenon.

In contrast, in qualitative research, the emphasis is on telling a story or putting together a puzzle that can help to explain a particular phenomenon and its relationship to other factors (Bart et al., 2012). Against this backdrop, for the quantitative data analysis in this study, preference was given to the use of descriptive statistical analysis and inferential statistical methods of testing for relationships among variables, such as t-tests, analysis of variance (ANOVA), and tests for normality and homogeneity of variance. In addition, factor analysis was used to obtain the results of the study.

Descriptive statistics were also used to analyse the raw data to describe and summarise data in a way conducive to recognising emerging patterns. In addition, descriptive statistics helped to create tables and graphical summaries in the form of graphs and charts that facilitated statistical comments for discussion of the results. The variables (dependent and independent) in this study informed the use of t-tests and ANOVAs for non-parametric analyses in the form of Mann-Whitney and Kruskal Wallis tests as ANOVA tests. Descriptive statistics are helpful for the presentation of data in a more meaningful way. However, they are not immune to shortcomings. The main limitation of descriptive statistics is that they only allow for summations of the measured people or objects. The use of inferential statistical analysis provides the researcher with an opportunity to draw inferences about a population from the sample. This study made inferences about the JSE-listed companies by estimating the parameters and testing the hypotheses. The limitation of inferential statistical analysis is that the researcher can never be entirely sure that the values or statistics calculated are correct. These construct values were calculated for every company on the top 100 JSE-listed companies list.

The three measures of validity, reliability, and trustworthiness were applied. During the interviews for qualitative data collection, the researcher, as the interviewer, immediately recorded the responses using a voice recorder and individually took notes. Bart et al. (2012) posit that content analysis aims to quantify or categorise qualitative data. For the quantitative data, an online web-based questionnaire was used to collect the data, and therefore an automatic recording of data was made possible by the pre-programmed system.

4.3 Ethical clearance

Ethical clearance was obtained from the Unisa Graduate School of Business Leadership in line with the university's policy on research and ethics. Assurance was given to the participants regarding the confidential treatment of their responses and participation in the study.

5 Results and discussion

5.1 Demographic statistics of the respondent companies

This study employed a mixed-method approach in which both qualitative and quantitative approaches were successively applied to collect data. We embraced a purposive sample of the top 100 JSE-listed companies for this study (n = 100), for which the selection was based on the highest shareholder returns over the past five years. The top 100 JSE-listed companies are categorised as medium to large enterprises in terms of the Small Business Act, No. 102 of 1996 (Dti, 1996), because approximately 50% of them employed over 1500 employees, while over 30% generated annual turnover above 5 billion rands, and reported total assets value of between 100 million and 10 billion rands.

This study depended on a response rate of 40% (100 out of 400) JSE listed companies which are acceptable according to prior literature. Doane and Seward (2011) resolved that if the sample size is $\geq 30\%$, it is satisfactory for statistical analysis. Similarly, Nulty (2008) and Creswell and Garrett (2008) suggest that a response rate of 50% and above is ideal, while a mail survey structured questionnaire can be 20% or low. While these results might convey a fair distribution of the correspondent companies from each sector, we noticed that the manufacturing industry, which largely depends on a practical, sustainable supply management system, constituted only 9% of the sample size. It can be concluded that there is less production of goods and more imports in the country; hence, such trade patterns certainly necessitate a solid upstream and downstream SCM system in the country.

5.2 Descriptive statistical analysis

The debate under this section was centred on measuring how SCM practices ultimately contribute towards the achieving prosperity and sustainable growth of JSE-listed medium and large companies in South Africa. Consequently, we performed various statistical data analyses, which included, among other things: descriptive statistics and inferential tests.

The data were summarised in the form of tables and graphs to generate relevant results to answer.

H01: Supply chain management strategies positively impact companies' success and sustainable growth.

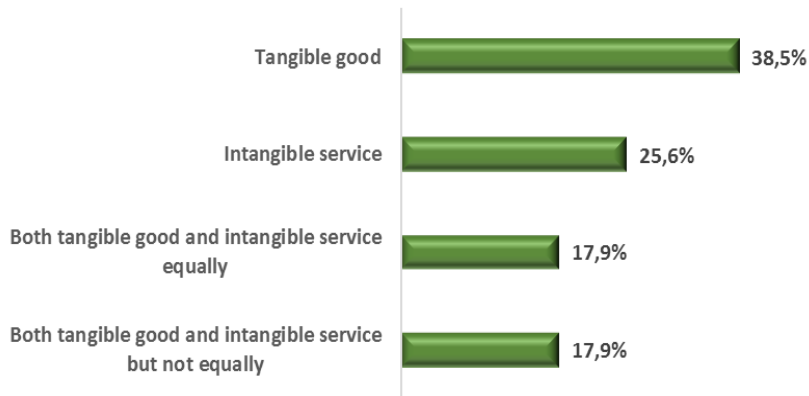


Figure 2. JSE listed companies classified as either tangible goods or intangible services

Source: Primary data, 2019/2020

As shown in figure 2, 38.5% (15 of 100) of the respondent companies produced tangible goods. These results demonstrate that a significant percentage of the top 100 JSE listed companies are manufacturing companies matched to the service industries. Our findings are supported by the recent report (Dti, 2020), which discloses that a well-founded manufacturing sector offers many opportunities to prospective investors looking to expand their portfolio in South Africa. This structure suggests that investors can pick the niche industries they wish to explore, such as food processing, beverages, motor manufacturing, and wood products, which have attained maturity and are ripe for foreign direct investment. Despite the Coronavirus disrupting the economy, South Africa's manufacturing sector contributed 13% to the GDP and almost 50% to total export earnings in 2020. South Africa is home to some of the world's biggest automotive manufacturers due to *its ease of doing business*, the rule of law, and reasonable labour practices (360 Mozambique, 2022). In addition, South Africa has been trading in the surplus from 2016-2020 with the rest of Africa). In June 2019, the manufacturing industry in South Africa sold goods to a value of R203.7 billion compared to South Africa's total imports of R 103 billion. (South Africa's Manufacturing industry, 2021)

SADC is South Africa's major trading block for exports and imports, accounting for over 70% of all the country's exports in Africa, comprising key markets like Botswana and Namibia. Zambia, Zimbabwe, and Mozambique (Dti, 2020). These results suggest that these companies are well established in adopting SCM practices with the maximum level of agility as the leading cause of their competitiveness (Vasiliiu & Dobrea, 2013). We can therefore conclude that the vibrant manufacturing sector might have been a significant player in these companies' success and sustainable growth amidst the difficulties caused by the pandemic. This decision in the literature is coherent with the attributes of SCM that involve the strategic actions that will bring about a definite impact towards realising sustainable growth and, hence, a competitive advantage.

Influence of firm geographical location on supply chain performance

Both global and regional supply chains have definite geography that entails the scope of production, distribution, and consumption. Supply chain managers and academics examining SCM practices frequently overlook this structure at the heart of several sourcing strategies. This article emphasises how the firm's geographical location may influence the management's decision to adopt SCM practices. In recent times emerging nations South Africa inclusive, have made deliberate efforts to expand the supply chain terminals in a way to remain relevant in the wake of the VGC; hence significant sections of SCM are present merely to provide for this three-dimensional discrepancy, for instance, public transport (road, water, airport) terminals and cross border entry ports. Therefore, firms privileged to these supply chain management channels are highly adaptable, and variations in the locational performance are expected to reflect fluctuations in outsourcing and SCM strategies.

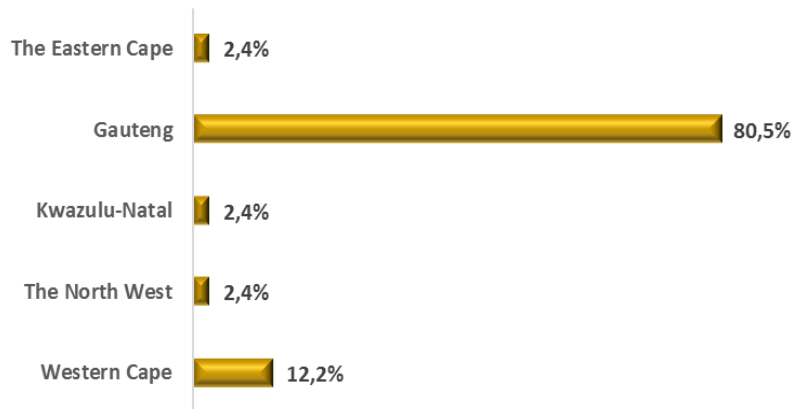


Figure 3. Company’s geographical location by provinces in South Africa

Source: Primary data, 2019/2020

As it can be seen in Figure 3, 80.5% (33 of 100) of the top 100 JSE listed companies are situated mainly in Gauteng province. These results convey that Gauteng is the economic hub of South Africa, where business activities are primarily taking place. It is estimated that over 10,000 companies are involved in the province's manufacturing sector, employing over 500,00 workers. The significant companies in this sector include iron and steel, chemical products, appliances, electrical supplies, food, machinery, fabricated and metal products, motor vehicle parts, and accessories. We discover that the concentration of JSE-listed companies within the primary central business districts in Gauteng province is attributable to management's desire to create close interactions with their main clients through primarily maintaining corporate head offices within such locations. This is especially critical for those companies targeting the retailing sector. Hence, an area near a central airport terminal enabling the 3PL to deal with the time sensitivity of air cargo effectively is desirable to facilitate on-time custom clearance and delivery. Such strategic actions have been critical for attracting new markets for growth and opportunities that have motivated multitudes of global corporations to invest in developing economies (Subramaniam et al., 2015).

While several industries are located in Gauteng province, the critical question is how these companies have responded to the increasing demand to adapt to global value chain practices to meet customer satisfaction and minimise operational costs. The global geography of production has been accompanied by restructuring worldwide transportation and distribution networks. Transport terminals are unique bottlenecks in global freight distribution as they consume scarce land. Yet, their location and characteristics allow supply chain managers to adapt to their imposed constraints (Rodrigue, 2012).

Therefore, developing economies have also become a podium for various multinational companies targeting large regional and cross-border markets. Hence, a location that facilitates access and service to the leading regional markets through proximity to a significant cross-border gateway is desirable to assist customs-related procedures and take advantage of cargo opportunities.

Despite the standing attributed to SCM in emerging economies, crucial considerations for achieving SCM strategic actions like public transport, accessibility of skilled labour, and business environment are barely present in SCM literature.

Previous scholars suggest emerging nations with less significant entry to different resources might not be competent to reproduce to a similar level the supply chain strategies implemented in advanced countries (Avittathur & Jayaram, 2016; Sodhi & Tang, 2012).

Role of SCM practices in achieving success and sustainable growth of the JSE listed companies

To successfully measure the role of SCM practices in achieving success and sustainable growth for the JSE-listed companies, we asked the respondents to present their level of success in adoption and the implications of SCM practices within their companies. The primary goal for implementing the SCM practices is to enhance a company's competitive advantage and customer service, mainly through higher reliability of distribution that guarantees demands are met on time. For this reason, these companies opened offices in the different metropolitan districts in Gauteng province to increase their supply value chain with proficiency to meet customer demands.

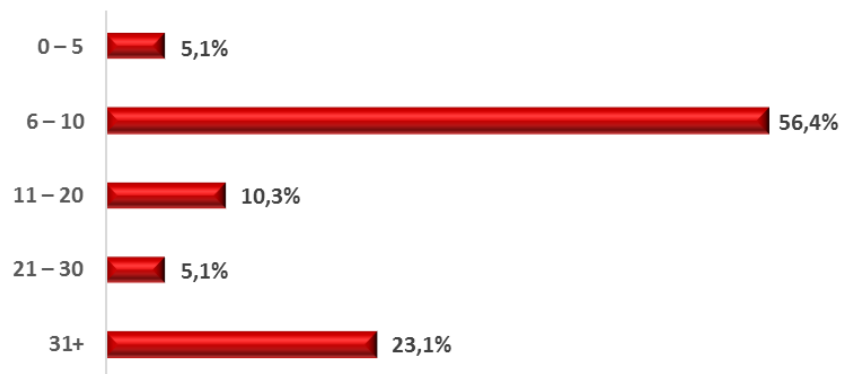


Figure 4. Percentage of the 100 JSE-listed companies which adopted SCM practices

As illustrated in Figure 4, 56.4% (22) of the respondent companies have about 1-10 branches in South Africa. While on the other hand, we discovered that 65% of these companies own up to 5 branches outside of South Africa. These results show the extraordinary efforts exhibited by JSE-listed companies to enhance their supply chains, mainly where they have spotted potential markets for their goods and services. Recent studies uncover that supply chain management and geo-location are an ideal match. When geo-location services and capabilities are deployed, companies can optimise their transportation route, track assets, identify bottlenecks, and better understand how and where their assets are going (Knellinger, 2020).

More so, an effective and informed supply chain is critical to continue to produce products and meet demand. Companies need to understand the impacts of certain links in the global value chain that will affect operations and decide route changes, operation schedules, and manufacturing capabilities. Effective and efficient SCM practices must maximise customer value and achieve sustainable competitive advantage. Location services can significantly improve worker protection and the flow of goods and services at many levels of the supply chain. In addition, location technology and data help businesses gain visibility into how the current situation has influenced their supply chain and what changes could maximise efficiency (Rodrigue, 2012).

Some studies expose that the geographical location of companies in terms of physical distance has revealed an adverse impact on nations' bilateral global trade relations. However, this geography is a complex network of crucial and flexible spending patterns that can mainly be embodied as a metropolitan system contemplating the amount of material consumption as municipalities are places of ultimate consumption (Rodrigue, 2012). Although the results expose that JSE-listed companies are spread over different provinces in South Africa and outside the country, we did not investigate further the location decision outcomes of these companies in terms of what

influenced their location of regional offices and distribution centres. We suggest future research to assess the decision-making process that has led to site selection.

We also evaluated the role of SCM practices focusing on if these companies operated separate SCM departments and their implication for achieving sustainable growth. In figure 5, we illustrate the percentage of companies that created a designed SCM section to enhance their overall performance in terms of sales volume balanced with customer service.

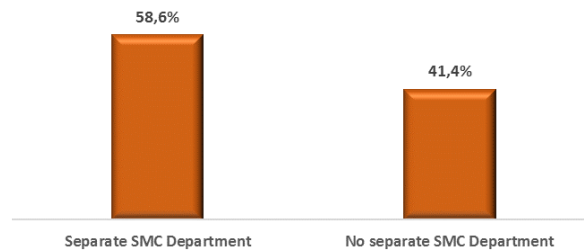


Figure 5. JSE listed companies operating SCM practices within a separate SMC
Source: Primary data, 2029/2020

As Figure 5 shows, 58.6% of the respondents reported having a separate SCM department. The above establishes a link between the company's particular department and a strategic plan for SCM. In both instances, SCM significantly affects whether the company has a strategic plan or whether it has a separate department for SCM. The results testify that a successful company (i.e., those on the top 100 JSE list) owes some of its success to effective SCM by separating the supply chain department from other functional departments. Therefore, the results indicated that different departments within the chain have different flexibility needs, which need to be separated from others.

Fundamentally, supply chains are demand-driven, so the information about final customer demand is generally considered the most critical information in the supply chain systems (Wu et al., 2016). In this context, the top 100 JSE-listed companies recognise the benefits of generating data into valuable information since it can make it accessible and usable in improving processes (Wu et al., 2016). In other words, the results suggest that strategic planning creates a platform to collect, store and manage data for ultimate transformation into implementable decisions to achieve supply chain operational performance.

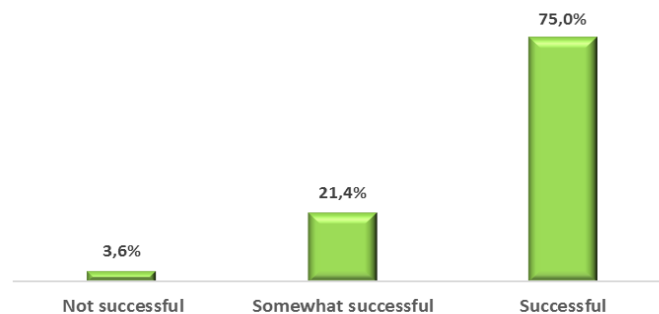


Figure 6. The level of success in adopting SCM practices with JSE-listed companies
Source: Primary Data 2019/2020

Figure 6 illustrates the level of success in adopting SCM practices with JSE-listed companies. Three quarters (75.0%, n=21) of the respondents reported that their company's general management of SMC operations is successful. SCM remains an emergent concept to most companies, whether small or large. Yet, it has now become an activity of strategic importance that determines either the success or failure of a business (Kot 2018). It may further be argued that knowledge about applying the SCM concept to top JSE-listed companies in South Africa is still in its infancy, which increases the necessity of continual empirical studies directed to this critical sector (Kot, 2018)

Ho2: Barriers to adapting SCM strategies in encouraging sustainable growth of corporate companies

Companies in emerging economies like South Africa encounter challenges while integrating sustainable SCM practices, such as burdens for execution with a constant demand for low point prices and increasing disputes for textile and apparel suppliers. We discover that the barriers to sustainable SCM practices delay the operation and comparative performance valuation of managerial SCM practices in emerging countries. The difficulties recognised in this research centred on lasting performance since health-related services, trade, manufacturing, and agriculture were the most significant positive contributors to South Africa's economic growth. Yet, these sectors essentially require just-in-time delivery of goods and services hence compelling setting up effective SCM systems.

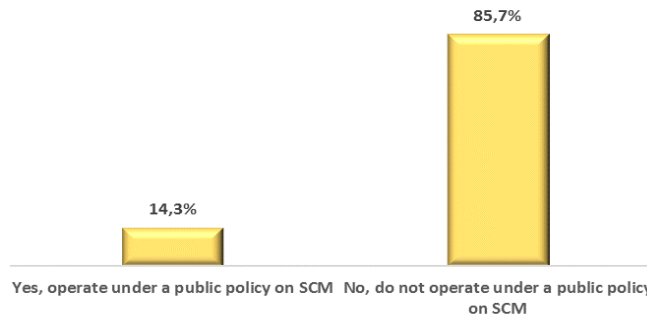


Figure 7. JSE listed companies operating under the public preferential procurement policy
Source: Primary data 2019/2020

As indicated in Figure 7, the results show that more than 85.7% of the respondents' companies do not operate under any public policy on SCM. Such results convey whether preferential public policies are essential for facilitating SCM practices operations in JSE-listed companies. These are large multinational companies; therefore, it is blurred which country transnational public policies should adhere to. Such a considerable percentage (85) demonstrates noncompliance with public policy on SCM in South Africa.

Fundamentally, the high percentage of noncompliance to public SCM policies by JSE-listed companies, as mentioned in paragraphs, compelled the researcher to investigate further the possible contributing factors to this question. As a result, we examined the JSE-listed companies' capacity and willingness to adopt public SCM practices.

Table 2. The capacity of JSE-listed companies to adopt SCM practices

Crosstab					
		How well is the company positioned for effective SCM		Total	
		Well positioned	Still to get there		
Q14 Does your company have a separate SCM department?	Yes	Count	4 _a	13 _b	17
		% within How well the company is positioned for effective SCM	36.4%	76.5%	60.7%
	No	Count	7 _a	4 _b	11
		% within How well the company is positioned for effective SCM	63.6%	23.5%	39.3%
Total		Count	11	17	28
		% within How well the company is positioned for effective SCM	100.0%	100.0%	100.0%

Each subscript letter denotes a subset of How well the company is positioned for effective SCM categories whose column proportions do not differ significantly from each other at the .05 level.

Source: Primary data, 2019/2020

When we asked the affiliated companies how well they were positioned to implement effective SCM practices, 76.5% (Table 2) reported that they had not achieved the required performance of SCM practices for their companies. Yet SCM practices significantly affect the company's overall success and sustainable growth. In addition, one important aspect was that respondents whose companies were not entirely positioned for effective SCM were identified with a separate SCM department than those well set and vice versa. But of course, the figure for well-positioned companies of 34.6% is not satisfactory, thus calling for government intervention to address this problem. These results are consistent with earlier literature demonstrating that public SCM policies have not benefited the participating companies.

Barriers to adopting SCM practices in the JSE-listed companies

Supply chain questions have become even more critical, given that customers and suppliers of firms are now located globally. For that reason, we performed a robust analysis of the significant barriers to the success of SCM practices with the medium and large companies listed on the JSE market. This was intended to accentuate why there is high noncompliance to especially public SCM practices. In an ideal business world, companies would like SCM to be as smooth as possible and without problems confronted. However, the reality is that challenges are unavoidable and thus must be predicted and dispensed with once engaged.



Figure 8. Barriers to effective implementation of SCM practices in medium and large companies

Source: Primary data, 2019/2020

As seen in Figure 8, the significant barriers to adopting SCM practices in the top 100 JSE-listed companies were rising labour costs, energy or fuel price volatility, market changes, raw material fluctuations, unplanned IT disruptions, geopolitical instability, and currency fluctuations which all generated a mean score of above 3.5. A mean score of 3.5 designated a response of agreement, while a score below 3.4 indicated disagreement. On the other hand, the rising labour costs as a barrier suggests that the top 100 JSE-listed companies are confronted with escalating demand for higher wages and salaries. While regard to energy or fuel price volatility indicates that the top 100 JSE-listed companies have little control over the price of energy or fuel, in the same way, there is little control over changes in the market for consumer goods and services. From the above, the measures taken to mitigate barriers to SCM are creating and implementing a business continuity plan, collaborating with suppliers and customers, and implementing a dual sourcing strategy. To decrease their production costs, notably labour costs, several companies have moved sectors of their industrial production systems to new locations, a process generally known as offshoring (De'murger et al. 2002). Despite the various barriers described above, it was surprising that most companies reported successful performance and continuous, sustainable growth, regardless of many of them ignoring government public SCM procedures. This kind of trend creates an impression that government SCM policies are perhaps unconnected or the business fraternity has noticed any economic benefit from such policies.

Due to limited resources and capacity, it is recommended that companies in developing economies embark only on strategic actions that have a direct link with SCM. This will enable companies to concentrate on what they do best and avoid a meagre deployment of resources. From the emerging economies' perspective, manufacturing firms in developing countries have recently started to pay more attention to green concepts in their supply chain management activities as they have faced tighter environmental restrictions from their governments and intense scrutiny from an increasingly educated society and competitors (Esfahbodi, Zhang, & Watson, 2016).

However, manufacturing firms often struggle to implement SCM initiatives in emerging economies as they are not self-sufficient concerning their internal resources (Paulraj et al., 2008). Given this, SCM practices enable manufacturers in emerging markets to meet their domestic expectations and permit them to compete in the global market because they conform to international legislation (Esfahbodi, Zhang & Watson, 2016).

Moreover, we also investigated the role of preferential public policies in boosting the sustainable growth of the listed companies in the JSE market. In our view, these multinational companies demand conducive national policies guaranteeing their competitiveness. To encourage equal opportunities for a government contract, the Republic of South Africa enacted a *Preferential Procurement Policy Framework Act* No 05 of 2000 (PPPFA), which intended to advance equal opportunities for government contracts, especially for the deprived black-owned South African businesses communities, along with bridging a crated gap by previous governments (Sibanda & Tshikovhi, 2022).

In this article, we evaluated the extent to which companies listed on the JSE market are satisfied with the government's preferential procurement policy and its integration into the SCM system.

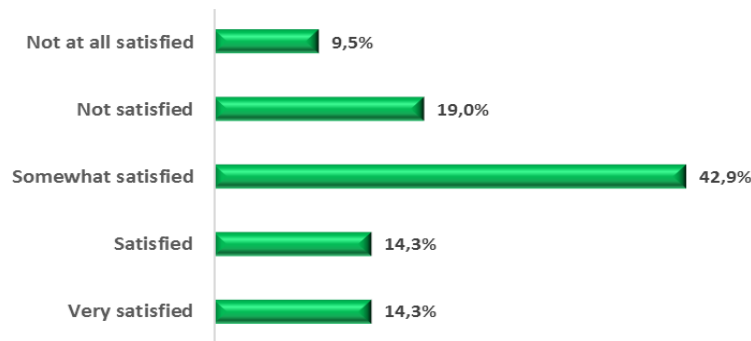


Figure 9. Satisfaction with the public policy regarding SCM

Source: Primary data, 2019/2020

As demonstrated in Figure 9 above, 71.4% (42.9+19+9.5) of the respondent companies disclosed that they were unsatisfied with the current public policy regarding SCM. These results demonstrate public policies on SCM in South Africa and similar emerging economies like India, Brazil, and China. Given that JSE-listed companies are multinationals, they are not sure which country's public policies they adopt in their Supply chain. Worse still, a quick comparison where we discovered that 85% of listed JSE companies do not adhere to any SCM public policy indicates significant neglect of SCM in developing economies. These results are consistent with the findings of (Sibanda & Tshikovhi, 2022), who exposed that the Preferential Procurement Policy Framework Act No 05 of 2000 (PPPFA) had an impact on supply chain performance attributable to the gap between policies and implementation. Moreover, some managers within the supply chain framework lack a complete understanding to adapt to their companies' public policy SCM practices effectively.

On the other hand, Ambe and Maleka (2016) indicated that poor implementation of policies such as the PPPFA were some of the root causes of service delivery problems, leading to poor supply chain performance. Other scientists argue that there is still a gap between the PPPFA and its implementation in the government supply chain, implying the PPPFA is either incorrectly applied or misunderstood altogether (Tshikovhi & Sibanda, 2022).

In contrast, despite noncompliance, we received conflicting results from the respondents, where approximately 72% reported being satisfied with public policies. So, why are they not using these public policies, as illustrated in figure 4? While the answer is not definite, perhaps the point of departure should be whether the policies are needed for multinational companies and from which country they apply to global companies. Despite the prominence of the public preferential SCM function as a significant indicator in estimating government expenditure, Fourie and Malan (2020) reported that this sector remains a big challenge, as it is characterised by criticisms from the different players in the SCM framework. We suggest that government departments study their SCM practices by creating technological improvements in the SCM practices. We also consider making reforms to accommodate the global value chain dynamics to benefit the mutational companies across the globe, as this could enhance supply chain performance.

5 Implications and future research agenda

In terms of practical implications, this research has demonstrated the challenges in managing international or global supply chains. It has provided insights into the role of SCM practices in boosting the sustainable growth of corporate companies and including sustainable approaches to mitigating the barriers to implementing these principles. This article offers vital research insights which contribute to earlier literature since there was a lack of prior research studies on the topic of SCL from a developing economy perspective. Indeed, the study results may

have a restricted level of argument relative to the entire population of listed companies on the JSE market because of the somewhat small sample utilised in the survey.

These results most likely differ from those obtained within European developed economies and in developing economies in Asia or Africa (Kot, 2018). Since the study was conducted in South Africa only, which is just one of the myriad developing economies, the researcher suggests that in the future, it would be reasonable to achieve a more extensive study embracing more countries from developing economies. Furthermore, with only the top 100 JSE-listed companies as the sample, the researcher suggests using a more significant piece for future research would be worthwhile. The study provides an opportunity for future comparative studies between developing and developed economies to compare the outcomes from the two perspectives of the different economies. It would be interesting to establish both economies' similarities and contrasting results in such a comparison. The top 100 JSE-listed companies are large multinational companies. Therefore, the study provides an opportunity for future studies focusing on small and medium-sized enterprises, excluding the big companies.

6 Conclusions

This paper aimed to examine through an empirical study the impact of supply chain management strategies on firms' sustainable performance for JSE-listed companies in South Africa. SCM questions have become steadily more crucial, given that customers and suppliers of firms are now located globally. We discovered that a large percentage of JSE-listed companies were concentrated within the CBD in Gauteng province. CBDs are bestowed with good infrastructure, for instance, central airport terminals, railway networks and high-way roads, which are critical for air cargo and facilitate on-time custom clearance and delivery.

In addition, the desire of management to create close interactions with their primary clients, for instance, through their corporate head offices located within CBDs, partly explains these questions. While several industries are situated in Gauteng province, the critical question is how these companies have responded to global value chain practices, met customer satisfaction, and minimised operational costs. Therefore, a location that facilitates access to the leading regional markets through proximity to the cross-border gateway is desirable to assist customs-related procedures and take advantage of cargo opportunities.

Regarding how well-listed companies were positioned to implement effective SCM practices to boost sustainable growth, seventy-five (76.5%) stated that they were not well positioned to adapt the SCM practices within their companies. Due to limited resources and capacity, it is recommended that companies in developing economies embark only on strategic actions that have a direct link with SCM. This will enable companies to concentrate on what they do best and avoid a meagre deployment of resources.

The increasing uncertainty of supply networks, internationalisation of companies, and production of a variety of products with shorter life cycles have compelled multinational companies in emerging economies like South Africa to pursue SCM practices outside conventional supply chain approaches.

In summary, knowledge, and implementation of SCM strategies are crucial to the efficiency and effectiveness of multinational companies. Consequently, if multinational companies remain relevant in a competitive global business environment, it is inevitable to integrate SCM strategies within their business processes. It ought to be aware of supply chain uncertainties and environmental sustainability issues. In this regard, we discovered that maintaining a separate SCM department from other functional departments might enhance visibility, reliability, coordination of functions, and resilience to overcome current and future economic challenges.

References:

- 360 Mozambique. (2022). SA's Manufacturing Sector a Unique Option for investors; <https://360mozambique.com/world/africa/sas-manufacturing-sector-a-unique-option-for-investors>
- Ali, S.S., Kaur, R., Ersöz, F., Altaf, B., Basu, A., & Weber, G.-W. (2020) Measuring carbon performance for sustainable green supply chain practices: A developing country scenario. *Central European Journal of Operations Research*, 28, 1389-1416. <https://doi.org/10.1007/s10100-020-00673-x>
- Ambe, I.M. & Maleka, T. (2016). Exploring supply chain management practices within municipalities in the West Rand district'. *Problems and Perspectives in Management*, 14(3), 657-666. [https://doi.org/10.21511/ppm.14\(3-3\).2016.09](https://doi.org/10.21511/ppm.14(3-3).2016.09)
- Attaran, M., & Attaran, S. (2007). Collaborative supply chain management: the most promising practice for building efficient and sustainable supply chains. *Business Process Management Journal*, 7(1), 1841525 <https://doi.org/10.1108/14637150710752308>
- Avittathur, B., & Jayaram, J. (2016). Supply chain management in emerging economies. *Journal of the Indian Institute of Management*, 43(2), 117-124. <https://doi.org/10.1007/s40622-016-0130-8>
- Baig, S.A., Abrar, M., Batool, A., Hashim, M., & Shabbir, R. (2020). Barriers to the adoption of sustainable supply chain management practices: Moderating role of firm size. *Cogent Business & Management*, 7(1) <http://doi.org/10.1080/23311975.2020.1841525>
- Barbosa-Póvoa, P., Cátia da Silva, & Carvalho, A. (2018). Opportunities and challenges in sustainable supply chain: An operations research perspective. *European Journal of Operational Research*, 268(2), 399-431. <https://doi.org/10.1016/j.ejor.2017.10.036>
- Betti, F., & Ni, J. (2020). How China can rebuild global supply chain resilience after COVID-19. World Economic Forum. [Online]. Available at: <https://www.weforum.org/agenda/2020/03/coronavirus-and-global-supply-chains/> [Accessed 24 March 2020].
- Cyn-Young, P, Kijin, K, Susann, R, Steven, B, Jong, K, Mara, T & Griffin, M. (2020), Global Shortage of Personal Protective Equipment amid COVID-19: Supply Chains, Bottlenecks, and Policy Implications. Asian Development Bank <http://dx.doi.org/10.22617/BRF200128-2>
- Diabat, A., Kannan, D., & Mathiyazhagan, K. (2014). Analysis of enablers for implementation of sustainable supply chain management—A textile case. *Journal of cleaner Production*, 83, 391-403. <https://doi.org/10.1016/j.jclepro.2014.06.081>
- Dtic, (2021). Annual performance plan 2021/2021' <http://www.thedtic.gov.za/wp-content/uploads/DTIC-2021-2022-Annual-Performance-Plan-March2021.pdf>
- Esfahbodi, A, Zhang, Y., & Watson, G. (2016). Sustainable supply chain management in emerging economies: Trade-offs between environmental and cost performance. *International Journal of Production Economics*, 181, 350-366. <https://doi.org/10.1016/j.ijpe.2016.02.013>
- Fourie, D., & Malan, C. (2020). Public Procurement in the South African Economy: Addressing the Systemic Issues. *Sustainability*. 12(20), 8692. <https://doi.org/10.3390/su12208692>
- García-Arca, J., Garrido, A., & Prado-Prado, J. C. (2017). Sustainable Packaging Logistics. The link between Sustainability and Competitiveness in Supply Chains. *Sustainability*, 9(7), 1098-1105. <https://doi.org/10.3390/su9071098>
- Gereffi, G., & Fernandez-Stark, K. (2016). Global value chain analysis: a primer.2nd Edition Center on Globalization, Governance & Competitiveness, Duke University
- Giunipero, C, Hooker, R & Denslow, D. (2012). Purchasing and Supply Management Sustainability: Drivers and Barriers. *Journal of Purchasing and Supply Management*, 18(4), 258-269. <https://doi.org/10.1016/j.pursup.2012.06.003>
- Hofstetter, J.S., McGahan, A.M., Silverman, B.S., & Zoogah, D.Z. (2021). Sustainability and global value chains in Africa: Introduction to the Special Issue. *Africa Journal of Management*, 8(1), 1-14. <https://doi.org/10.1080/23322373.2021.2018220>
- Knellinger, N. (2020). How Location Makes Supply Chain Management More Efficient and Effective. *Software & Technology* <https://www.sdexec.com/software-technology/article/21134581/how-location-makes-supply-chain-management-more-efficient-and-effective>
- Köksal, D., Strähle, J., Müller, M., & Freise, M. (2017) Social Sustainable Supply Chain Management in the Textile and Apparel Industry—A Literature Review. *Sustainability*, 9(1),100. <https://doi.org/10.3390/su9010100>
- Mani, V., Jabbour, C.J.C., & Mani, K.T.N. (2020). Supply chain social sustainability in small and medium manufacturing enterprises and firms' performance: Empirical evidence from an emerging Asian economy. *International Journal of Production Economics*, 227, 107656. <https://doi.org/10.1016/j.ijpe.2020.107656>
- Meixell, M.J., & Luoma, P. (2015). Stakeholder pressure in sustainable supply chain management: A systematic review. *International Journal of Physical Distribution & Logistics Management*, 45(1/2), 69-89. <https://doi.org/10.1108/IJPDLM-05-2013-0155>
- Moktadir, M. A., Rahman, T., Rahman, M. H., Ali, S. M., & Paul, S. K. (2018). Drivers to sustainable manufacturing practices and circular economy: A perspective of leather industries in Bangladesh. *Journal of Cleaner Production*, 174, 1366-1380. <https://doi.org/10.1016/j.jclepro.2017.11.063>
- Mukhsin, M., & Suryanto, T. (2022) The Effect of Sustainable Supply Chain Management on Company Performance Mediated by Competitive Advantage. *Sustainability*, 14, 818. <https://doi.org/10.3390/su14020818>
- OECD. (2015). New Approaches to SME and Entrepreneurship Financing: Broadening the Range of Instruments. <https://www.oecd.org/cfe/smes/New-Approaches-SME-full-report.pdf>
- OECD. (2022). Value chains in Africa: what role for regional trade? <https://oecd-development-matters.org/2022/02/22/value-chains-in-africa-what-role-for-regional-trade/>

- Pretorius, O.R., Drewes, J.E., Engelbrecht, W.H. & Malan, G.C. (2022). Developing resilient supply chains in the Southern African Development Community: Lessons from the impact of COVID-19. *Journal of Transport and Supply Chain Management*, 16(0), a737. <https://doi.org/10.4102/jtscm.v16i0.737>
- Rodrigue, J. (2012) The Geography of Global Supply Chains: Evidence from Third-Party Logistics. *Journal of Supply Chain Management*, 48(3), 15-23. <https://doi.org/10.1111/j.1745-493X.2012.03268.x>
- Roy, V., Silvestre, B.S., & Singh, S (2020) Reactive and proactive pathways to sustainable apparel supply chains: Manufacturer's perspective on stakeholder salience and organisational learning toward responsible management. *International Journal of Production Economics*, 227, 107672. <https://doi.org/10.1016/j.ijpe.2020.107672>
- Saeed, M.A., Week, I., & Kersten, W. (2017) Literature review of drivers of sustainable supply chain management. In *Digitalization in Maritime and Sustainable Logistics: City Logistics, Port Logistics and Sustainable Supply Chain Management in the Digital Age*; Eds., Epubli GmbH: Berlin, Germany, pp. 137-159.
- Saeed, A & Kersten, W. (2019). Drivers of Sustainable Supply Chain Management: Identification and Classification. *Sustainability*, 11, 1137. <https://doi.org/10.3390/su11041137>
- Sajjad, A., Eweje, G., & Tappin, D. (2015). Sustainable Supply Chain Management: Motivators and Barriers. *Business Strategy and the Environment*, 24(7), 643- 655. <https://doi.org/10.1002/bse.1898>
- Sajjad, A.B, Abrar, M, Batool, A, Hashim, M., & Shabbir, R. (2020) Barriers to the adoption of sustainable supply chain management practices: Moderating role of firm size. *Cogent Business & Management*, 7(1), 1841525. <https://doi.org/10.1080/23311975.2020.1841525>
- Bryman, A. (2010). Quantitative vs. qualitative methods. *Sociology: introductory readings*, 47.
- Sanchez-Flores, B., Cruz-Sotelo, S., Ojeda-Benitez, S., & Ramirez-Barreto, E. (2020). Sustainable Supply Chain Management—A Literature Review on Emerging Economies. *Sustainability* ,12, `6972. <https://doi.org/10.3390/su12176972>
- Scavarda, A., Daú, G.L., Scavarda, L.F., & Korzenowski, A. (2019). A proposed healthcare supply chain management framework in the emerging economies with sustainable lenses: The theory, the practice, and the policy. *Resources, Conservation and Recycling*, 141, 418–430. <https://doi.org/10.1016/j.resconrec.2018.10.027>
- Sibanda, B., & Tshikovihi, N. (2022). Supply chain performance and preferential procurement in Gauteng government departments. *Journal of Transport and Supply Chain Management*, 16(0), a702. <https://doi.org/10.4102/jtscm.v16i0.702>
- Silvestre, B. (2016). Sustainable supply chain management: Current debate and future directions. *Gest. Prod.*, 23(2), 235-249. <https://doi.org/10.1590/0104-530X2202-16>
- South Africa's Manufacturing industry, 2021 <https://www.southafricanmi.com/south-africas-manufacturing-industry.html>
- Stank, T. P. (2015). Global supply chain operations: a region-by-region assessment of readiness. *Supply Chain Management Review*. https://courses.smeal.psu.edu/scm824fa16/scm824fa16_module_2/Global%20Supply%20Chain%20Operations_A%20Region-by-Region.pdf
- Szczepanski, M, (2021) Resilience of global supply chains Challenges and solutions' PE 698.815 – November 2021 EPRS | European Parliamentary Research Service
- Tebaldi, L., Bigliardi, B., & Bottani, E. (2018). Sustainable Supply Chain and Innovation: A Review of Recent Literature. *Sustainability*, 10, 3946. <https://doi.org/10.3390/su10113946>
- Touboulic, A., & Walker, H. (2015). Theories in sustainable supply chain management: A structured literature review. *International Journal of Physical Distribution & Logistics Management*, 45(1/2) <https://doi.org/10.1108/IJPDLM-05-2013-0106>
- Tseng, M., Islam, M.S., Karia, N., Fauzi, F.B., & Afrin, S. (2019). A literature review on green supply chain management: Trends and future challenges. *Resources, Conservation and Recycling*, 141, 145-162. <https://doi.org/10.1016/j.resconrec.2018.10.009>
- Vasiliu, C & Dobreá, M. (2013). State of Implementation of Supply Chain Management in Companies in Romania. *The AMFITEATRU ECONOMIC* journal, 15(33), 44-55.
- Vivek, R, Tobias, S., & Parikshit, C. (2018). The thematic landscape of literature in sustainable supply chain management (SSCM): A review of the principal facets in SSCM development. *International Journal of Operations & Production Management*, 38, 1091-1124 <https://doi.org/10.1108/IJOPM-05-2017-0260>
- World Bank. (2020). *Trading for development in the Age of Global Value Chains*' © 2020 International Bank for Reconstruction and Development / The World Bank' 1818 H Street NW, Washington, DC 20433' (online) <https://www.worldbank.org/en/publication/wdr2020>
- Zimon. D., Tyan, J. & Sroufe, R. (2018). Drivers of sustainable supply chain management: practices to alignment with unsustainable development goals. *International Journal for Quality Research*, 14(1), 219-236. <https://doi.org/10.24874/IJQR.14.01-14>

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