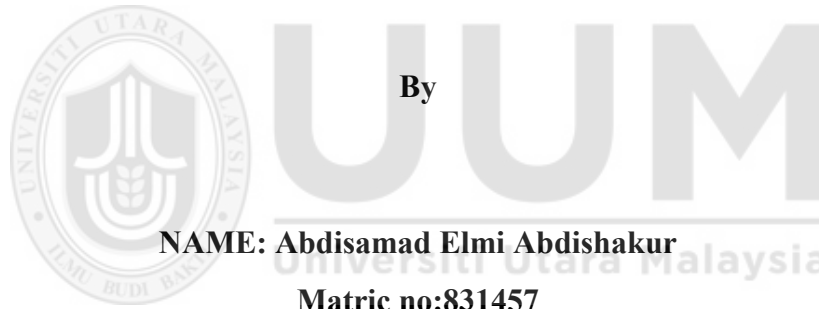


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TITLE PAGE

**Supply Chain Management Practices, Logistics Integration, and Moderating
Effect of Demand Uncertainty on SME's Performance in Kenya.**



**Research paper submitted to
School of Technology Management and Logistics (STML)
Universiti Utara Malaysia
In partial requirement for the Master of science (Supply Chain Management)**

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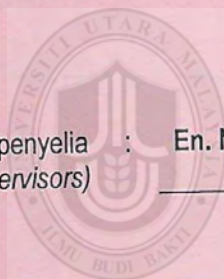
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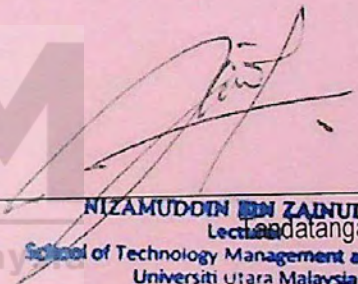
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ABSTRACT

The business environment is a challenging one. The challenges of supply chains, logistics, and the uncertain business environment are more pronounced in small and medium-scale enterprises in Africa and Kenya. The central aim of the study is to determine the nature of supply chain management practices, logistics integration, and how demand uncertainties affect the success of small and medium-scale enterprises. Specifically, the objectives include determining the supply chain management practices and how they affect the success of small and medium-scale enterprises, examining their logistic integration practices and how they affect the performance of small and medium-scale enterprises, and determining if demand uncertainty moderates the relationship between supply chain management practices, Logistic Integration and the performance of small and medium-scale enterprises. The study adopted three null hypotheses for the study. The data generated was tested using regression analysis, and the results reveal that they adopted some supply chain management practices, including collaboration, benchmarking, inventory management practice, communication, and technology. And they also affect the performance of firms. Logistics integration practices include warehousing, forecasting, demand management, etc. They also positively affect the success of businesses. Additionally, Demand uncertainty significantly moderates the relationship between supply chain management practices, logistics integration, and the performance of small and medium-scale enterprises. It was recommended that managers of firms ensure efficiency in the supply chain management practices. There is a need to ensure effective logistic integration, and managers should manage uncertainties in the business environment.

Keywords: Africa, Business environment, Logistics, Management practices, Supply chain,

ABSTRAK

Persekitaran perniagaan adalah persekitaran yang mencabar. Cabaran rantai bekalan, logistik dan persekitaran perniagaan yang tidak menentu lebih ketara dalam perusahaan kecil dan sederhana di Afrika dan Kenya. Matlamat utama kajian adalah untuk menentukan sifat amalan pengurusan rantai bekalan, integrasi logistik, dan bagaimana ketidaktentuan permintaan mempengaruhi kejayaan perusahaan kecil dan sederhana. Secara khusus, objektif termasuk menentukan amalan pengurusan rantai bekalan dan cara ia mempengaruhi kejayaan perusahaan kecil dan sederhana, mengkaji amalan penyepaduan logistik mereka dan bagaimana ia mempengaruhi prestasi perusahaan kecil dan sederhana, dan menentukan sama ada ketidaktentuan permintaan menjadi sederhana. hubungan antara amalan pengurusan rantai bekalan, Integrasi Logistik dan prestasi perusahaan kecil dan sederhana. Kajian ini menggunakan tiga hipotesis nol untuk kajian ini. Data yang dijana telah diuji menggunakan analisis regresi, dan hasilnya mendedahkan bahawa mereka menerima pakai beberapa amalan pengurusan rantai bekalan, termasuk kerjasama, penanda aras, amalan pengurusan inventori, komunikasi dan teknologi. Dan ia juga mempengaruhi prestasi firma. Amalan penyepaduan logistik termasuk pergudangan, peramalan, pengurusan permintaan, dsb. Ia juga memberi kesan positif kepada kejayaan perniagaan. Selain itu, ketidakpastian permintaan menyederhanakan dengan ketara perhubungan antara amalan pengurusan rantai bekalan, penyepaduan logistik dan prestasi perusahaan kecil dan sederhana. Adalah disyorkan bahawa pengurus firma memastikan kecekapan dalam amalan pengurusan rantai bekalan. Terdapat keperluan untuk memastikan integrasi logistik yang berkesan, dan pengurus harus menguruskan ketidaktentuan dalam persekitaran perniagaan.

Kata kunci: Afrika, Persekitaran perniagaan, Logistik, Amalan pengurusan, Rantai bekalan

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CHAPTER ONE

INTRODUCTION

1.1 Background to the study

In developing economies, small and medium-sized businesses are the backbone of the economy. In Kenya, for example, as of 2022, the government reports that 93% of business enterprises are owned by or classified as small and medium-sized businesses. This suggests that most Kenyans are involved in some economic activity. Most firms in Kenya fall into the "small and medium-scale enterprises" category, indicating that these establishments face stiff competition. (Momanyi, et al 2023).

As a whole, Kenya's economy is quite difficult to anticipate because of how complicated and disorganized it is. The Kenyan government and private sector work together in economic planning to foster growth in the country's organized private sector and its partners (Kagira, E.K, Mallam K. & Koss 2012). For some time now, the government has been actively working to create conditions that are conducive to the success of small and medium-sized businesses. However, they must overcome internal and external obstacles (Thakkar, J., Kanda, A., & Deshmukh, S. G. 2012).

Due to the country's hostile economic climate, medium and small businesses in Kenya have had to find ways to cut costs without sacrificing revenue. Maximizing the efficiency of supply networks is one strategy employed by small and medium-sized enterprises. Also, to ensure that products and services reach their final consumers, supply chain management must be practiced with utmost efficacy and efficiency. This is the way to go if you want your goods and services delivered smoothly and cheaply (Grimes, 2017). Regardless of size, various organizations employ strategies and practices in their supply chain management to reach potential consumers. These

approaches and methods are called strategies. Organizations typically use different strategies to maximize profits and exploit market opportunities. Logistics also acts as a connective tissue between small and medium-sized businesses and their consumers by facilitating the distribution of goods and services to the end users who generate value (profitability). Small and medium-sized enterprises must maintain a steady equilibrium in their supply chain management methods to ensure long-term success, as compromising the importance of these companies is not an option.

1.2 Statement of the Problem

Small and medium-scale firms are crucial in emerging economies, contributing significantly to the gross domestic product and ensuring a steady output of products and services. Small and medium-scale firms play a pivotal role in economic growth but face many obstacles that have led to the closure of many of them. These problems might vary from internal procedures to external factors and affect the progress and advancement of small and medium-sized firms and the country. Several studies, including those by Ezeani, Osita, & Ezemoyih (2012), Kimani (2013), and Aremu & Adeyemi (2015), have discovered a gap between the current demand and supply, which has been established. It has been growing because of the inadequate supply chain management procedures of many small and medium-sized businesses in Kenya. Research conducted by Wanjau, K.L & Slim K (2013) and Kimani (2013) has shown that most small and medium-scale firms lack an efficient supply chain management system. Therefore, they experience substantial losses.

In today's world, if properly adopted, supply chain management is considered an advantage to business organisations. Organizations need to make critical decisions on the pattern and nature of the supply chain to be adopted, which will not just guarantee the organization's source, survival, and growth but will also encourage a firm's competitive advantage. Small and medium-scale business organisations in Kenya have confronted notable challenges. These have hindered the

efficiency of the supply chain and has greatly affected the profitability of businesses, especially those of small scale. The management of the procurement and the supply of raw materials has been scarcely considered by most of the small and medium-scale enterprises; the provision of the facilities, which are also a critical component of the production chain, have not also been given adequate attention, facilities such as; warehouses, processing centers, distribution centers, retail outlets, and offices are not given due consideration by most small and medium scale enterprises, this is partly due to the need to cut the cost of production and to maximize profit for the firms. Functional activities, which include forecasting, inventory management, information management, quality assurance, scheduling, production, distribution, delivery, and customer service, have been mostly ignored. The consequence of neglecting supply chain management practices alongside their components is an increase in the cost of production and loss of profit.

Another problem that necessitated this study is the fact that the centrality of Logistics integration has been undermined; most small and medium-scale managers consider Logistic integration to only include the internal process of movement of goods and services like planning, product development, exchange of information, and coordination between and among components units of the same organization, they tend to neglect the fact that in addition to the internal logistic integration, it includes the collaboration with the suppliers upstream and distributors, and customers downstream. The effective application and harmonization of the internal and external logistic integration will provide a significant competitive advantage. The neglect will result in poor profitability. Businesses in Kenya, especially small- and medium-scale enterprises, do not utilize the opportunity provided by considering internal and external logistic factors for optimum maximization.

Further, the challenge of small and medium business enterprises arises from the rising production costs of goods and services in contrast to the low purchasing power of most of the population. This poses a significant problem for small and medium-sized enterprises as they struggle to balance reducing production costs while ensuring consumer affordability. Due to the unpredictable economy, small and medium-sized enterprises often struggle to produce goods and services with limited flexibility. Adapting to an uncertain economy is a significant challenge for businesses. Furthermore, Small and medium-scale firms face consumers who want higher-quality products and have unpredictable preferences and purchasing habits. These consumers desire higher quality goods and services and are only ready to pay for such products. Small and medium-sized firms face the difficulty of efficiently producing goods and delivering them to end consumers in a satisfactory condition to ensure usefulness. The main obstacles facing small and medium-scale firms have significantly hindered their growth and survival, particularly given the unpredictable economic conditions. Kibera, F. N & Waruinge, C.B (2009) suggest that small and medium-scale firms may enhance their operational performance and profitability by improving the efficiency of their supply chain management.

1.3 Research Questions

As a result of this study, the following research questions are being raised.

- i. What are the supply chain management practices of small and medium-scale enterprises in Kenya?
- ii. What are the logistic integration practices of small and medium-scale enterprises in Kenya?
- iii. Do the supply chain management practices affect the performance of small and medium-scale enterprises in Kenya?

- iv. Does the Logistic Integration affect the performance of small and medium-scale enterprises in Kenya?
- v. Does demand uncertainty moderate the relationship between supply chain management practices, logistics integration, and the performance of small and medium-scale enterprises in Kenya?

1.4 Objectives of the study

The central objective of this research is to determine how supply chain management practices and logistics integration affect the performance of small and medium-scale enterprises in Kenya, at the same time determining if demand uncertainty plays a moderating role; its sub-objectives include;

- i. To determine the supply chain management practices of small and medium-scale enterprises in Kenya.
- ii. To examine the logistic integration practices of small and medium-scale enterprises in Kenya.
- iii. To examine if the supply chain management practices affect the performance of small and medium-scale enterprises in Kenya.
- iv. To examine if Logistic Integration affects the performance of small and medium-scale enterprises in Kenya.
- v. To determine if demand uncertainty moderates the relationship between supply chain management practices, Logistic Integration, and the performance of small and medium-scale enterprises in Kenya.

1.5 Hypotheses of the Study

H₀₁: Supply chain management practices are positively related to the performance of small and medium-scale enterprises in Kenya.

H₀₂: Logistic Integration is positively related to the performance of small and medium-scale enterprises in Kenya.

H₀₃: demand uncertainty does not moderate the relationships between supply chain practices, logistics integration, and the performance of small and medium-scale enterprises in Kenya.

1.6 Scope of the Study

This study has chosen seven years, from 2018 to 2024, to make the study more current and enable data generation and analysis. The researcher has also considered the scarcity of research in the country during this time frame. Because small and medium-sized businesses in Kenya (namely Baringo, Narok, and Nairobi) have been vocal about their difficulties, our research will likewise concentrate on those cities. According to the World Bank, a very hostile business climate, particularly for small enterprises, is prevalent in Kenya. Additionally, small and medium-sized enterprises (SMEs) from many industries were included in the target demographic. These sectors included manufacturing, agriculture, transportation and communication, professional and technical services, public and private education, and other fields. The study concludes by looking at how supply chain management, logistics integration, and the profitability of small and medium-sized businesses are affected by demand unpredictability.

1.7 Significance of the study

This study, by its Significance, examines the relationship between supply chain management, logistical integration, and the profitability of SMEs while also taking demand uncertainty into account; to the best of the researcher's knowledge, no other study has done this. Studies like Mayaka, R.L. (2015), Mbanje and Lunga (2015), and Dangayach and Deshmukh (2021) examined comparable topics but failed to provide a thorough analysis; hence, this study fills a gap in the

literature by focusing on previously ignored features of SMEs. Consequently, this research has a leg up on the competition. At last, this research is up to date. Researchers, practitioners, and policymakers in Kenya who care about the success of small and medium-sized enterprises (SMEs) should read this paper. This research has the potential to shape strategic decision-making, policy-making, and future academic investigations by illuminating the complex relationships between supply chain components and company success.



CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

This chapter reviews various literature related to supply chain management, small and medium scale enterprises, logistic integration, and performance of small and medium scale enterprises and also adopts a theory to interrelate the variables as expounded below,

2.2 Supply Chain Management

According to Stock and Bower (2009), supply chain management establishes and maintains an efficient flow of resources (including people, money, and information) from the point of origin to the end of consumption to maximize profit. This flow must be continuous to prevent disruptions in producing or distributing goods and services. Elmuti (2002) further argues that supply chain management is best understood as an interconnected system that ensures production and consumption by bringing together producers, distributors, retailers, and consumers. Similarly, Chow et al. (2008) define Supply chain management as an approach to demand, sourcing, production, logistics, procurement, and process management to guarantee that production and consumption are profitable. Supply chain management is the internal mode of operation that ensures the consumption of produced goods and services, according to Fynes, De Burca, and Voss (2005). This is because it acts as a link between product producers and consumers.

More so, Supply chain management (SCM) aims to streamline the process by which a company gets its supplies and then ships them to customers. Manufacturers, wholesalers, distributors, and retailers are the numerous links in the supply chain that typically contribute to the final product or

service offered by any given business. Finally, consumers make up the last group in this chain. Improving manufacturing quality, decreasing inventory and time, and increasing overall profitability are the main objectives of supply chain management, according to Wisne and Tan (2000). Nevertheless, along with the goals above, supply chain management seeks to enhance value, expand market domination, and ensure customer happiness (Cook and He, 2001). On top of all that, according to Sezen (2008), the overarching objectives of supply chain management are to boost profitability, customer happiness, market share, and efficiency and effectiveness with supply chain partners.

According to Quynh and Huy (2018), supply chain management is the process by which a company systematically and strategically coordinates the performance of internal and external business functions. Also, to maximize efficiency for the market serviced, SCM may be defined as coordinating production, inventory, location, and transportation operations within the supply chain (Afande et al., 2015). According to Gómez-Cedeño et al. (2015), supply chain management involves providing consumers with a product and an integrated service. Supply chain management (SCM) is crucial since it mediates interactions between the company, its vendors, intermediaries, distributors, and clients. “Handoko et al., 2015” claim that the five primary steps of the supply chain are as follows: acquisition, production, distribution, storage, and final sale.

The many facets of supply chain management techniques serve as the framework within which the practice is based and the stages via which it is typically implemented. Multiple aspects of supply chain management methods, each with its character and effect on business outcomes, have been identified by Cook and Heise (2011). The study's five (5) aspects of supply chain management techniques are detailed below;

a. Supply integration.

It has been suggested that this is the long-term partnership between a particular company and its suppliers; in this partnership, the company seeks to leverage each participating company's operational capacities and business plans to achieve substantial advantages. Li et al. (2004) defines it by several elements and actions: cooperation, sharing data and technology, trust, long-term agreements, supporting suppliers to create new products, and sharing risks and rewards. Inferentially, supply integration leads to better decision-making, knowledge-sharing encouragement, matched capabilities, and increased output/performance of supply chain participants.

b. Internal integration

The organization's success relies on the collaboration of its suppliers and consumers. Flynn et al. (2010) describe collaborative strategy as the extent to which a manufacturing organization establishes internal rules, processes, and strategies to ensure customer needs are met and suppliers are effectively linked. According to Li et al. (2007), internal integration enhances productivity and profitability by aligning and linking different organizational divisions to provide faster sharing and access to pertinent data. This involves incorporating the procedures of many departments to facilitate the seamless movement of resources between each element. External elements pertain to supply integration with the external environment, whereas internal variables relate to internal integration.

c. Customer integration

Relationship building is at the heart of customer integration, which aims to efficiently and effectively meet customers' requirements, goals, and earnings. Customer integration is the facet of supply chain management that guarantees happy, satisfied, and improved customers over the long term (Sheth et al., 2000). According to Smith et al. (2000), the fundamental purpose of customer

integration is to establish a channel for learning about and meeting the demands and expectations of customers. Customer integration results from various activities and practices, as highlighted by Boulding et al. (2005). These include managing customer complaints, increasing customer satisfaction, establishing long-term relationships to guarantee a productive relationship, and directing customer contacts. Customer integration has several positive effects on organizations, as demonstrated by Magretta (2018). These advantages include standing out from the competition, making customers more loyal, solving problems faster, learning about new technologies, understanding customers better, increasing market share, keeping good customers, and responding quickly to their needs.

d. Information Sharing

As a result, the organization's partners will always be current on the status of company operations and any emerging trends in the industry. Given the exponential evolution of technology and the fact that no company can keep up, it's clear that information is crucial to any company's success. So that everyone may learn from one another and make money in the process, we offer knowledge on current trends and technological growth impartially and critically. Enhanced customer responsiveness, decreased costs, improved service levels, reduced complexity, and increased performance are all outcomes of information sharing, according to Li et al. (2004). In addition, according to Zhao (2000), sharing adequate, accurate, credible, and timely information is vital to achieving the best results. Products, needs, delays, and planning information are among the most common types of inventory and resource-related data communicated (Singh, 2018).

d. Postponement

The practice of delaying the completion of an operation or activity till a later stage of the supply chain is known as postponement. According to Pagh and Cooper (2018), it's when an organization

knowingly delays its operations or activities till a later period. This approach is suitable for high-priced items with short product life cycles, lengthy delivery durations, high levels of customization (for new products), poor shipment delivery rates, and substantial demand variability, according to Van et al. (2019). According to Yang et al. (2005), delaying gratification has several advantages. For example, it helps organizations manage risk associated with diverse products and unpredictable demand. Delaying gratification also increases flexibility, decreases inventory levels, improves forecasting accuracy, and shortens production cycle times.

2.2.1 Benefits of Supply Chain Management Practices

Fischer et al. (2010) state that small and medium-sized enterprises (SMEs) may benefit from adopting efficient supply chain management strategies. To reap the full benefits of SCM methods, several organizations are reengineering and streamlining their primary supply chain network (Van der Vorst, 2004).

In addition, even when faced with intense competition in the market, supply chain management strategies may help boost profits. Naslund and Williamson (2008) cite prior research in the field of supply chain management that found that effective SCM leads to several advantages, including lower costs, which allows firms to be price competitive; better processes; lower inventory; reduced redundancies; reduced lead time and demand uncertainties; better quality; improved customer service levels and market responsiveness; and better access to target market segments through information, knowledge, and skill sharing.

Every business wants to find ways to save expenses, which is obvious. According to research by Venkateshwarlu and Akula (2013), which focused on a subset of Indian businesses, supply chain management has several advantages. These include more accurate and timely data, greater

adaptability, shorter processing times, lower costs, more sales, and stronger relationships between businesses and their clients and vendors.

The necessity to react quickly to client requests directly results from the more demanding nature of supply chain customers. According to research by Valmohammadi (2013) on supply chain management in Iranian manufacturing companies, the primary motivation for adopting such strategies was to raise customer happiness and company output. Improving delivery performance, increasing operational information availability, and decreasing tactical and strategic time-to-market may profoundly impact supply chain profitability. Applying the benefits of SCM can increase sales and sales margins while reducing transportation and inventory carrying expenses and indirect and direct labor costs (Van Der Vorst, 2004). Improving service levels in supply networks is a common goal of supply chain management methods, which aim to increase inventory availability at the moment of demand. According to studies comparing the car industry in India and the Middle East, supply chain management has helped automakers with demand forecasting, dealer order fulfillment (leading to nearly accurate promise dates), part sourcing, and manufacturing (ensuring the correct parts are available at the right time), part positioning (ensuring optimal fill rate), part picking and packing, and part movement efficiency (Kaushal & Sangha, 2013).

2.2.2 Challenges of Supply Chain Management Practices

Organizations face divergent challenges from within or outside their supply chains; these challenges pose threats and have reduced the profitability level of organizations. Fisher et al (2010) observed that the COVID crisis and the global recession have had a positive effect. It has forced

companies to look intensely at their supply chains, question some assumptions, and root out major inefficiencies.

Kearney (2001) claims that the main challenge with supply chains is the uncertain demand patterns and limited information about the status of the different supply chain elements. Some SMEs lack the essential skills to deal effectively with delivery delays. He further argues that good transport and physical distribution systems are the basic problems in supply chain management. Also, the steady increase in the cost of transportation has crumbled the supply chains. Finally, it is noted that supply chains require Hugh's financial investments in procuring raw materials and meeting other daily expenses; this has also been a challenge.

Abdifatah (2013) identified the lack of financial resources as the major SCM challenge facing most humanitarian organizations in Kenya. The poor availability of financial resources to pilot general organizational activities impedes the successful implementation of supply chain management practices and negatively affects the relationships with supply chain partners.

Kimani (2013) has identified poor partnership/collaboration as a challenge in Kenya's petroleum industry regarding supply management practices.

Fisher et al. (2010) identified cost control planning and risk management as some of the SCM risks associated with supply chain management. Amemba (2013) identified supply chain risks as technical, structural, cultural, market, financial, legal, and political.

2.2.3 Supply Chain Performance Measurement

The purpose of measuring supply chain performance is to determine how well a company's current supply chain works and compare other options by determining which supply chain variables have the best relative values and produce the best possible performance. If businesses are serious about

reaching their stated goals, they need to find ways to satisfy client wants in a way that rivals their competitors' offerings (1984). So, companies may reap several benefits by measuring efficiency and efficacy through their current supply chain. Assessing the effectiveness of the supply chain has become more difficult due to the lack of a generally acknowledged definition of supply chain management and the imprecise characterization of the supply chain structure (Lambert & Pohlen, 2001). The fact that many supply chain organizations are resistant to sharing information and have made data interchange difficult has added another layer of complexity to an already tricky operation.

However, organizations have utilized different approaches to define supply chain performance. According to Rolstad (2021), when developing a system for supply chain performance measurement, one should keep in mind the following:

- i. A decision-making process requires the system to display relevant information, such as where to take action and what will happen as a result of that action.
- ii. To ensure the attainment of long-term objectives, the system must regulate the effects of strategic plans to adjust.
- iii. The achievement of internal company goals and the needs of many external stakeholders can't be monitored without measurement.
- iv. Prior to a drop in company performance, the system requires analytical features to back up the alert system.
- v. The technique of continuous improvement must incorporate measurement.

Four categories can categorize group performance and performance evaluation, regardless of the uniqueness of each supply chain (Stadler & Kilger, 2002; Gunasekaran et al., 2004; Gökner & Turan, 2010).

1. The effectiveness of delivery influences efficiency in the supply chain and customer buying behavior. Distinguishing between the actual and customer-requested delivery dates is a common way to assess performance. Although several possible measures exist for this performance, the most popular ones include forecast accuracy, on-time delivery, service level, and order fill rate.
2. Flexibility in the supply chain is necessary for supply chains to thrive in any industry since it allows them to adjust to new circumstances. Variants, or alternatives, are a way for a system to show flexibility by responding to new circumstances. Alternate options may involve rethinking the current components of the system or shifting focus to a different area of planning and administration. Also, while considering the service response component, one way to assess flexibility is by looking at how quickly the system can react to changing situations. You may think of it in terms of response time or reaction costs.
3. Working capital - Working capital is the market value of the assets owned by the supply chain, which includes things like receivables, inventory, facilities, and equipment. Common measures for gauging the success of working capital management include:
 - a. The Flow of working capital is defined as the total revenue ratio to the entire working capital.
 - b. The cash flow coefficient is a derived metric that describes the average time required to carry out the cash flow, from the initial investment in raw materials to the final payment made by the end user.
4. Stock – Working capital, including stock, significantly influences the supply chain's effectiveness and efficiency. An in-depth analysis of the stock, its location, function, structure, value, management strategy variables, and expenses is required to determine the optimal quantity of stock in the supply chain.

- a. Stock flow is the ratio of total material consumption over time and the average stock level in the same time interval.
- b. The stock life cycle is the average time the products are kept in stock.
- c. The average stock level is suitable for evaluating supply chain performance across various situations.

2.3 Firms performance

According to Srinivasan, Mukherjee, and Gaur (2011), "firm performance" is the degree to which a company's supply chain functions adequately. Trading partners' ability to work together and make decisions is crucial to a company's performance. Many businesses strive to enhance their cost, delays, flexibility, diversity, and traceability performance. Supply chains must use collaboration techniques to improve performance and encourage partners to communicate information (Sakka & Botta Genoulaz 2009). Due to its importance in laying the groundwork for system knowledge and informing supply chain partners about the outcomes of system activities, effective performance measurement is crucial to business success (Anderson & Reeb 2003). The importance of a company's performance in gaining a competitive edge has been widely acknowledged (Chang, Tsai & Hsu 2013).

2.4 Logistics integration

According to Lai, Wong, Cheng (2010) and Taghipour et al. (2015), logistics integration is all about working together as a team. It means developing products together, exchanging information and using integrated information systems, coordinating across different levels of the network, working together for the long haul, and sharing the risks and rewards of doing business. When a

company's logistics are well-integrated, all parties involved—from suppliers to distributors to customers- work together. According to Eckenhofer (2011) and Lai et al. (2010), logistics integration is vital for businesses because it gives them a competitive edge, leading to lower operating costs and better value generation.

2.4.1 Logistics activities

Transportation, storage, demand management, forecasting, and reverse logistics are the typical scope of logistics operations (Pienaar, Vogt, 2016). The ability to transport raw materials, finished goods, plants, and warehouses to meet the demands of customers is crucial for small and medium-sized enterprises (SMEs) to remain competitive (Matijošius, Vasiliauskas, Vasilienė-Vasiliauskienė, Krasodomsakis, 2016; Bakara, Jaafar, 2016; Silalahi, Handayani, Munajat, 2017).

How small and medium-sized enterprises (SMEs) may better service their clients in the least amount of time is known as the outbound or physical distribution of goods. The actual movement of products, services, and associated data from their place of production to their ultimate users is typically facilitated by transportation, an activity under logistics (Abushaikha, 2018). At its core, transport is all about exceeding customer expectations upstream and downstream in the logistics chain by providing superior service compared to the competition (Yu et al., 2017). Small and medium-sized enterprises (SMEs) that aspire to dominate their industry should familiarise themselves with the significance of transport in fostering customer satisfaction, increasing competition, achieving economies of scale in production, and lowering product prices (Abushaikha, 2018).

Transportation also supposedly improves efficiency for buyers and sellers, cuts down on inventory costs, boosts profits, and guarantees on-time deliveries, all of which benefit small and medium-

sized enterprises (SMEs) (Holl, Mariotti, 2018). Transport is essential to any logistics chain and a business's smooth operation. For instance, according to De Keizer, Akkerman, Grunow, Bloemhof, and Van der Vorst (2017), customers won't care if a product is made at the correct time, has the right quality, and costs the right amount if there isn't a way to get it to them when they need it.

a. Warehousing

"A warehouse is a large building where raw materials or manufactured goods may be stored before their distribution for sale," state Singh, Chaudhary, and Saxena (2018). To achieve the logistical goals of reduced costs, shorter cycle times, and improved customer service, the warehouse has assumed a more strategic position due to the rise of just-in-time, supply chain, and strategic partnerships (Abushaikh, Salhieh, Tower, 2018). SMEs might benefit from efficient storage to mitigate the effects of uncertainty and shifts in demand patterns on their output levels. It enables considerable transportation savings for less-than-truckload (LTL) shipments or combining smaller quantities into more oversized cargo. The placement of the plant and storage is another crucial aspect of logistics. When plants relocate, the time and place links between them and supply points and plants may vary. Transportation costs and services, customer service quality, inventory requirements, and other sectors will all benefit from these changes, according to research by Coyle, Bardi, and Langley (2003).

b. Forecasting and demand management

The danger of product obsolescence might arise from too-optimistic demand forecasts and consumer dissatisfaction from underestimations of future demand (Hart, Lukoszova, Kubikova, 2013). Customers may end up sending products back, which might slow down sales even further (Lui, Mantin, Wang, 2014). An organizational culture that promotes collaboration, well-established procedures, and effective information technology tools are essential for demand

management. Demand management involves converting demand projections into cooperative business strategies (Tiemessen, Fleischmann, Van Houtum, Van Nunen, Pratsini, 2013). Demand forecasting is based on data like medium-term market predictions, customer data reflecting actual consumption, production schedules, inventory status, and marketing activities like promotions that can impact demand (Dietrich, Ettl, Lederman, Petrik, 2012; Hofmann, Rutschmann, 2018).

c. Reverse logistics

Reverse logistics is another competitive logistics method that a company employs. The term "reverse logistics" refers to the practice of organizing the movement of resources (raw materials, processed inventory, completed goods, and associated data) from their final destination back to their point of origin in a way that maximizes efficiency and minimizes waste (Kussing, Pienaar, 2016). To rephrase, it is an example of a backward logistics process. Small and medium-sized enterprises (SMEs) have avoided the difficulty of reverse logistics for a long time.

For businesses looking to get an edge in the market, reverse logistics—a value-added approach that boosts client relations—is a must-have (Jack, Powers, and Skinner, 2010). Developing competencies in reverse logistics is crucial for improving customer service and staying competitive. The abilities encompass stock selection, transportation, centralized collecting, data gathering, refurbishment or remanufacturing, and disposition as outlined by Morgan, Richey Jr, Autry (2016) and Hansen, Larsen, Nielsen, Groth, Gregersen, Ghosh (2018). SMEs should integrate supply chain management features to centralize data from manufacturers and retailers, create invoices and credit records, manage accounts receivable, produce management reports, and strategically utilize the gathered information to streamline internal operations (MellatParast, Spillane, 2014). This may lead to competitive benefits such as enhanced information management

systems, reduced costs, increased product and service quality, outstanding customer service, and higher returns on investment and assets (Pal, 2017).

2.5 Small and Micro Enterprises in Kenya

After the Mombasa-Lake Victoria railway's completion, Indian laborers remained behind and established entrepreneurs in Kenya, originating from MSEs. To create their goods, several MSEs used Indian technology (Bigsten et al., 2004). When Kenya gained independence, the government instituted policies aimed at "Africanization" to encourage company ownership by Africans living in Kenya (Ronge et al., 2002). This led to the first boom in the industry. MSEs have grown in part because of rural-urban migration. Development discussions have centered on the sector since an International Labour Organisation (ILO) study from 1972 pushed it to the forefront (Mullei and Bokea, 2019).

Equally, most Kenyan MSEs operate informally, with 88.6% not having a company registration and 60.7% not having a license, according to data from the 2019 National MSE baseline study. When liberalization and structural adjustment programs had their full impact on Kenya in the 1960s and 1970s—leading to a large population boom, a stagnant economy, rising unemployment, and a shrinking public sector—the informal sector, often known as the Jua Kali industry, grew at an unprecedented rate. Low demand, weak infrastructure, a lack of human capital, and bad governance contributed to the formal sector's inability to absorb the expanding labor force. (Bigsten et al., 2004).

There was a common belief that the informal sector, a more traditional industry, would eventually disappear due to rapid economic and industrialization (Chen, 2003). After several "employment missions" to different countries began tackling the problem of unemployment, the informal sector

finally received proper recognition in 1972 during one of these trips to Kenya (ILO, 2002). The official report of this expedition highlighted how important the informal sector is becoming. 5 Using the more favorable word "informal sector" instead of "traditional sector," the report seemed to emphasize that this was not a fad but rather an integral part of society. There have been three primary schools of thinking about the informal sector throughout the years, and the one that the International Labour Organisation (ILO) follows is known as the dualist approach.

Also, according to dualists, the informal sector does not exist because of inherent weakness in the formal sector but because of factors such as rapid population growth, sluggish economic development, and a lack of available formal jobs (Chen et al., 2004). Two more theoretical traditions are the legalists and the structuralists. Structuralists see the informal sector as a small business network that supplies labor to more prominent formal companies. Also, according to legalists, informal sector entrepreneurs operate outside established channels to sidestep expensive and time-consuming government requirements. Legalists hold that individuals choose to work in the informal sector, as opposed to dualists, who think that people operate in the informal sector due to need.

Additionally, the importance of the informal sector in making up for the shrinking formal industry is highlighted by the fact that it has nearly doubled in size over the past 14 years, going from 40% of total employment in 1991 to almost 80% in 2005, while the formal employment share has declined significantly. Kenya wasn't the only country struck by the expansion of the informal economy. In the 1980s, a new trend developed in Europe and North America: production moved to smaller units. When many individuals in Asia lost their jobs in the economic crisis of 1997–1998 and had to turn to the informal sector for work, the informal sector grew (ILO, 2002). The informal sector has grown and continues to grow in many emerging and transitioning nations. It

has become a contemporary, expanding, capitalist subsector (Chen et al., 2004). In India, 93% of the workforce is employed in the informal sector, contributing 60% to the GDP (Chen, 2003). In Kenya, 77% of the workforce was employed in the informal sector in 2006 (Government of Kenya, 2007). Table 2.1 provides regional employment figures for the informal sector. Formally launching a business in Kenya is an arduous and time-consuming process. This can be one explanation for why MSEs prefer to do business informally. In 2017, starting a business in Kenya required 12 processes, which took an average of 44 days, according to the Doing Business report (World Bank, 2007).

2.5.1 Composition of Small and Medium scale enterprises activities

Kenya is home to many small and medium-sized businesses, most of which are involved in commerce. Nearly three-quarters of all businesses are in rural regions, with a further quarter running their operations out of open fields, Jua Kali sheds, or markets. A whopping 57% of these businesses own or rent their physical locations. Portable, sometimes hastily constructed, buildings comprise around 36% of MSEs. When working on open land or temporary worksites, MSEs have less access to public services and amenities like water and power, which limits their technical capabilities.

a. Size and ownership

Most of Kenya's small and medium-sized businesses are sole proprietorships (72%), while a smaller percentage are partnerships, cooperatives, or corporations. As a result, micro-enterprises (employing 1-10 people) make up the vast majority of Kenya's SMEs (99 percent). Roughly 0.7% of Kenya's small and medium-sized businesses employ 11–50 people (CBS et al., 2019). Kenya's industrial system has both giant formal firms and micro enterprises. Most of Kenya's workers are

employed by giant and micro-enterprises, whereas small and medium-scale businesses are in short supply. (Bigsten et al., 2004) This characterizes the 'missing middle' phenomenon. According to Kahuthu (2005), certain big businesses in Kenya benefit from industrial policies that provide them with more financing, export prospects, support services, market intelligence, subsidies, price restrictions, etc. Another factor contributing to micro-enterprises' growth is the relative simplicity with which they may be started and run.

b. Markets and marketing

The official sector and government do not adequately cater to the market sectors of small and medium-scale firms, such as garbage collection services. These marketplaces tend to be modest and tailored to cater to distinct local preferences (Fafchamps, 2020). Insufficient market knowledge and research in the industry result in ineffective marketing services for small and medium-scale firms (Moyi et al., 2006).

c. Technology

Productivity and technology utilization in small and medium-scale firms in Kenya are inadequate. According to the National MSE Baseline Survey (2019), 93.1% of MSEs do not own machines. Those who utilize machines employ obsolete machinery and traditional or intermediate technologies.

d. Labor force

Small and medium-scale firms often have a workforce with low labor expenses consisting primarily of inexperienced individuals because most operators of these enterprises are self-employed. Small and medium-scale firms can utilize family members and young, unskilled individuals seeking to gain experience willing to work for minimal or no wages (Fafchamps, 2020). 65% of small and medium-scale firm owners have not pursued formal education beyond

elementary school, and 58% have not had additional training in management, technical skills, marketing, or counseling. Financial and income statuses According to the National MSE Baseline Survey (2019), just 3.2% of SMEs maintain a comprehensive set of accounting records. Most individuals (64.2%) fail to keep accurate company documents, making them unappealing to credit facilities. That's likely why just 10.6% of the credit sources come from commercial banks. Family and entrepreneur finances are the main source of capital, accounting for 90.7%. Micro and small enterprises encounter significant limitations due to insufficient financing (CBS et al., 2019).

Additionally, in 2019, the average salary for Kenyan businesses was Ksh 6,008 per month (CBS et al., 2019). According to the National MSE Baseline Survey data, more than half (59.1%) of small and medium-scale firms earned a monthly net income of Ksh 3,000 or less. Income generated by Micro and Small firms (MSEs) is sometimes inadequate for poverty alleviation, predominantly when these firms are driven by need. Overall, most small and medium-sized firms in Kenya are tiny, operate informally, possess low levels of technology and management skills, have restricted market access, and have financial constraints. They are predominantly undeveloped, engaging primarily in survivalist endeavors. Many micro and small enterprises (MSEs) have a high closure rate, often starting and remaining tiny (Liedholm, 2011).

Furthermore, small and medium-sized firms in Kenya often expand horizontally rather than vertically. Moyi (2015) defines horizontal expansion as the establishment of new small and medium-scale firms and vertical growth as the progression of small enterprises to medium-scale enterprises. Small and medium-scale firms face a vicious cycle where their features and operations hinder their ability to access resources and possibilities for growth and expansion.

2.6 Review of some empirical studies

Logistics integration and the consequences of demand uncertainty have been the focus of several research studies that examine the connection between SCM and the performance of SMEs. Taking organizational capacity into account, Lee (2021) studied how Korean SMEs' operational performance was affected by supply chain management. The subjects of recent research were three hundred Korean manufacturing SMEs that used supply chain management strategies. The correlations among the variables were examined using structural equation modeling. According to the findings, a company's success is heavily impacted by its supply chain management strategies and organizational capabilities.

This research examined the connection between Supply Chain Management (SCM) strategies and company performance and how organizational skills influence that link. The results showed that operational performance, rather than financial success, was impacted by the relationship between supply chain management strategy and organizational competency. The study's strengths are research and development, technology commercialization, manufacturing capacity, and marketing capabilities, demonstrating that supply chain management (SCM) techniques enhance company success. Small and medium-sized businesses (SMEs) may achieve sustainable economic gains by integrating supply chain management (SCM) techniques with organizational capabilities. To identify the most influential supply chain management (SCM) solutions for SMEs to boost their performance, Kerekes & Felföldi (2020) studied a variety of methods. Analysis, surveys, books, journals, and individual experiences were all secondary data used in their study. At the end of the research, the authors offered suggestions for improving Supply Chain Management based on the possibilities and challenges they had found.

The efficacy and application of supply chain management (SCM) was investigated in a medium-sized construction firm by Singh R.K., Maharaja R.K., and Shankar R. (2012). Using a Situation-

Actor-Process (SAP)-Learning-Action-Performance (LAP) paradigm, they examined the SCM issues faced by this company. Appropriate steps are taken to enhance the organization's performance after SAP analysis. The study's primary goal was to find a way to measure how well supply chain management (SCM) works for a specific company. The report suggests that businesses should prioritize product customization, waste reduction, housekeeping, and IT applications to make construction supply chains (CSC) more efficient and less prone to delays.

Research by Omoruyi (2018) on logistics integration in SMEs demonstrated the importance of logistics as a management strategy that may affect a company's bottom line, market share, and operational efficiency. The study used SPSS (25.0) and SMART-PLS (3.0) for statistical analysis after collecting data through surveys. Based on three measuring constructs—delivery competitiveness, price/cost, and quality—the study reveals that small and medium-sized enterprises differ in their competitiveness in logistics operations.

Ayman Bahjat Abdallah (2019) investigated the effects of several supply chain management strategies on the efficacy and efficiency of supply chain performance. The study's authors looked at how different degrees of competition affected the relationship between SCM strategies and SCM outcomes. Data was collected from 104 Jordanian manufacturing enterprises to test the hypothesized linkages and analyzed using hierarchical regression. According to the research, supply chain efficiency performance is positively affected by internal integration, information sharing, and delay methods, while supplier and customer integration has no effect. The strength of competition affects the relationship between supply chain efficiency performance, internal integration, supplier integration, and customer integration.

Small and medium-sized companies (SMEs) comprise over 90% of enterprises in Kenya; therefore, Kennedy O. & Moenga K. decided to study their supply chain management strategies

and the issues they faced in 2016. To boost the sustainability and competitiveness of SMEs in the long run, they highlighted crucial concerns that need fixing. This study used document analysis, semi-structured interviews, and a structured questionnaire to gather data from 48 participants. According to the survey, small and medium-sized enterprises (SMEs) value effective supply chain management strategies but have not yet used them. Relationships with suppliers in the sector tend to be short-lived. Increasing operational expenses, unfavorable weather patterns, and an unstable labor market were just a few of the threats to the sector's future development and viability. The focus of this study is on Kenya's small-scale tea industry.

2.6.1 Gap in literature

The studies above analyzed the performance of Small and Medium-sized Enterprises (SMEs) across many study fields and their strategies for managing supply chains. The researchers could not determine a correlation between additional factors influencing or moderating current connections. Thus, this study examines supply chain management approaches and logistic integration, distinguishing it from previous studies. Also, the study analyses the influence of demand uncertainty on the relationships and their effect on the overall performance of small and medium enterprises in Kenya. This research is innovative and covers several issues, necessitating diverse discussions.

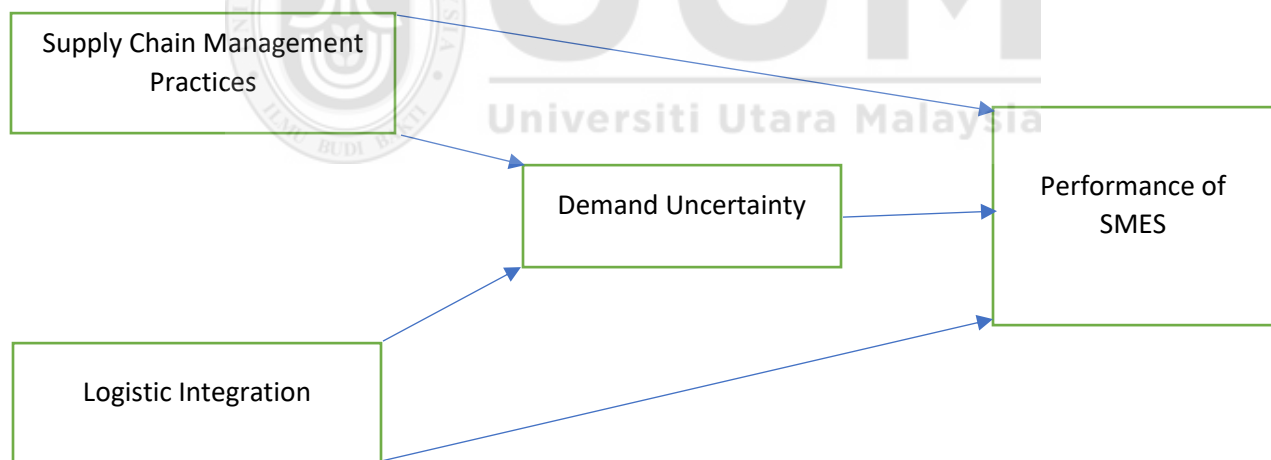
2.7 Theoretical framework

This study may be connected to several theories, such as the resource-based view, dynamic capacity theory, decision-making theory, and stakeholder theory. The stakeholder theory proposed by Freeman in 1984 has been utilized for this study. This notion posits that an organization's success is determined by its interactions with other partners in advancement. The concept is based

on the idea that corporate organizations should prioritize the interests of different stakeholders when making strategic decisions. The idea explains the interconnected link between a business and its community, groups, and individuals that share a shared objective and are impacted by their activities. This theory posits that businesses cannot thrive independently. Companies producing or distributing goods and services must establish a conducive environment for all stakeholders to benefit, leading to profitability for all involved. The performance of one entity will impact others in the industry.

2.8 Research Framework

This study's research framework depicts the relationship between supply chain management practices, logistic integration, and the moderating effect of demand uncertainty on the performance of SMEs in Kenya. We shall present the research framework diagrammatically below.



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter covers gathering and interpreting, which have aided in developing findings and inferences for the study. Also, the chapter discusses the research design, population, sample size of the study, sources of data, and the instrument of data collection and analysis as illustrated below,

3.2 Research Design

Collins and Hussey (2015) identified several study strategies such as descriptive (correlational, survey, evaluative, meta-analysis), exploratory, and causal-comparative. This study utilized a descriptive correlational research strategy for research purposes. Descriptive research provides information about the current state of phenomena. It describes existing variables or conditions in a specific situation, while correlational research predicts relationships through correlations or statistical methods (Creswell, 2014). This study utilized a descriptive correlational technique to investigate various variables and their interrelationships to demonstrate the level of connectedness between situations in a given setting. This research was selected for this study due to its appropriateness for its specific qualities and environment. The main data source for the research includes small- and medium-scale companies across Kenya. The research strategy will enable us to get a representative sample of the vast population of small- and medium-scale companies in Kenya. This study included questionnaires to collect replies and comments from small and

medium-sized organizations about their supply chain management strategies and firm performance.

3.3 Population of the study

The Government of Kenya Nairobi County Council records show 10,259 registered SMEs in Nairobi, 7,819 in Baringo, 98,612 in Narok, and 6,539 in Nakuru, for a total of 126,229 according to the Federal Government of Kenya. The study focused on owner-managers of SMEs operating for over a year when the survey was conducted. The target demographic comprised small and medium-sized enterprises (SMEs) from various sectors such as general trade, transport and communication, agriculture, hospitality, professional and technical services, education, entertainment, and manufacturing. The population distribution is presented in the table below.

S/N	Classification of SMEs	Population
1	General trade	22,300
2	Transport and communication	15,067
3	Agriculture	17,078
4	Hospitality	10,095
5	Professional and technical services	11,043
6	Education	13,046
7	Manufacturing	37,587
	Total	126,129

Source: Council records

3.4 Sampling Design and Procedure

The sampling design for this study is the descriptive research design. The essence of this research design is that it enables the researcher to obtain a subset of a research population while maintaining the exact qualities of the same population. The sample size for this study is 384, determined using the Krcmar and Morgan sample size table. The study utilized the Bourne's sampling approach, which distributed samples to different population segments according to their overall population size. The population size is the essential tool used to generate the sample size of each classification so that each is equally represented based on its population. The essence of this is to guarantee good and proportional representation of all the SMEs as classified. This is presented in the table below.

Sample size table.

S/N	Classification of SMEs	Percentage sample size	Sample size
1	General trade	$22,300 \times \frac{126129}{100} = 18$	69
2	Transport and communication	$15,067 \times \frac{126129}{100} = 10$	38
3	Agriculture	$17,078 \times \frac{126129}{100} = 13$	50
4	Hospitality	$10,095 \times \frac{126129}{100} = 8$	31
5	Professional and technical services	$11,043 \times \frac{126129}{100} = 9$	34
6	Education	$13,046 \times \frac{126129}{100} = 10$	38
7	Manufacturing	$37,587 \times \frac{126129}{100} = 30$	115

Total

126,129

384

Source: Council records

3.5 Source of Data

This study collected data from both primary and secondary sources. The primary data was gathered through a questionnaire distributed to the management staff of selected small and medium-scale enterprises. The secondary data was obtained from reports and publications from the government and the small and medium-scale enterprises. The secondary data will support and validate the data collected from the first source.

3.6 Validity and Reliability

The researcher adopted a pilot study using a sample of 57 respondents, with 8 respondents from each sector, to test the reliability and validity of the questionnaire developed. The sample comprised managers of SMEs drawn from different trade areas, as seen above. This was done to determine the validity of the instrument and establish whether the instrument was reliable. The researcher modified the earlier questionnaire based on the pilot study and developed a new set of questions to ensure its effectiveness. This was done using Cronbach's alpha and construct validity, where a Cronbach's alpha of above 0.7 was deemed acceptable.

3.7 Method of Data Presentation

This study presents and analyzes our data descriptively and inferentially. Descriptively, we shall present the responses of our respondents in tables showing the opinions of the respondents in frequencies and percentages. Inferentially, we shall adopt the use of regression analysis to aid us in testing the earlier formulated hypothesis. The study shall adopt the usage of SPSS version 2.4 for the analysis.

3.8 Research Instrument

The structured questionnaire is the essential instrument used in generating data for this study. Through these, both qualitative and quantitative data were captured. The questionnaire was justified based on its reliability, convenience, anonymity preservation, and lower rate of reactivity. The questionnaires will be divided into two Sections (A and B). Section 'A' consists of questions relating to the respondent's data, including Gender, Age, Educational Qualification, and Length of Service. Section 'B' of the questionnaire consists of questions about the hypotheses formulated earlier. In line with the above, Ary et al. (2010) argue that a researcher can either formulate his research instrument, adopt an instrument, or adapt an instrument.

Our research questionnaire was developed using a mixed method; some items were adapted while the researcher developed others. Assessment of the effectiveness of supply chain management practices items was adapted from the study of Owiti (2014), who assessed the supply chain management practices of SMES in Kenya, also the study of Mansarya A (2018), who evaluated the supply chain management practices and operational performance of SMES in Nairobi. For the determinants of logistic integration, we adapted variables from the study of Omoruyi (2018), who looked at competitiveness through the integration of logistic activities in SMEs, also the study of

Madzimume (2019), who assessed the influence of strategic networks and logistic integration on firms performance among SMEs.

Items for firms' performance were adapted from the study of Lee (2021), who looked at the effect of supply chain management strategy on operational and financial performance, and finally, the study by Pipram et al. (2020), who assessed supply chain integration and finally the study of supply chain performance in SMEs by Singh & Kumar (2012). Finally, the researcher developed demand uncertainty items from the myriads of literature review.



CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter focuses on presenting and analyzing data derived from primary sources. The information gathered from surveys is shown in tables, and the analysis involves using frequency counts and percentages. Three hundred eighty-four questionnaires were delivered to the respondents, constituting the study's sample size. Two hundred ninety-six questionnaires were collected from respondents, accounting for 77.6% of the total questionnaires distributed. The researcher analyzes data and tests hypotheses using the obtained questionnaire. The researcher employed regression analysis to evaluate all of our possibilities.

4.2 Data Analysis

4.2.1 Respondents Profile

Biodata of Respondents

Table 4.1: Sex Distribution of Respondents

Sex	Frequency (No.)	Percentage (%)
Male	163	55
Female	133	45
Total	296	100

Source: Researcher's Survey (2024)

The table above shows that the majority of the respondents are male, with a frequency of 163, representing 55%, while the females are 133 in number, representing 45%. There is a comprehensive representation of females in the leadership of SMEs in Kenya.

Table 4.2: Age Distribution of Respondents

Age Range	Frequency (No.)	Percentage (%)
18-25	36	12
26-35	71	24
36-45	113	38.9
46-above	127	37.1
Total	296	100

Source: Researcher's Survey (2024)

Table 4.2 shows the age distributions of the respondents. There were 36 responders aged between 18 and 25. In the 26-35 age bracket, there are 71 respondents, accounting for 24% of the sample. The most significant number of respondents, 133 individuals representing 38.9% of the sample, fall into the 36-45 age category. One hundred twenty-seven respondents, or 37.1% of the sampled population, were in the age category of 46 years and above. The responses in Kenyan SMEs demonstrate maturity and experience.

Table 4.3: Marital Status of Respondents

Status	Frequency (No.)	Percentage (%)
Married	260	88.3
Single	12	3.5
Divorced	12	3.5
Widowed	15	4.7
Total	296	100

Source: Researcher's Survey (2024)

Due to the predominantly family-oriented nature of Small and Medium Scale Enterprise operations, it was essential to inquire about the marital status of the respondents as they were answering the questions.

Table 5.4 shows that the majority of respondents, 260 individuals, are married, accounting for 88.3% of the sample. The respondents have some expertise in small- and medium-scale enterprise

operations, making them capable of providing an impartial and knowledgeable response to the questionnaire.

There are 12 single respondents, accounting for 3.5%, and 12 divorced respondents, representing 3.5%. There are 15 widower respondents, accounting for 4.7%.

Table 4.4: Academic Qualification of Respondents

Qualification	Frequency (No.)	Percentage (%)
Secondary Cert	26	8.8
Diploma	36	12
First Degree/HND	227	77.8
Postgraduate Degree	6	1.4
Total	296	100

Source: Researcher's Survey (2024)

The table above shows the respondents' highest academic credentials. 26 respondents, constituting 8.8%, possess a secondary school certificate, while 36 respondents, making up 12%, hold a diploma. 227 respondents, accounting for 77.8%, have either first degrees or HND, making up the majority of the respondents. 6 individuals, constituting 1.4%, hold postgraduate degrees. Most respondents are considered well-educated, ensuring their replies are valuable and contribute to the study's significance.

Table 4.5 Our firm ensures effective decision-making in its supply chain management

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	23	7.7	7.8	7.8
	Disagree	70	23.5	23.6	31.4
	Undecided	43	14.4	14.5	45.9
	Agree	110	36.9	37.2	83.1
	Strongly Agree	50	16.8	16.9	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The table indicates that 23 respondents, accounting for 7% of the total responses, strongly disagree with the assertion that their companies guarantee efficient decision-making in their supply chain management. Additionally, 70 respondents, representing 23% of all responses, disagree with the statement. 43 respondents were indifferent, accounting for 14% of the response. 110 respondents, 36% of the total, agree that their firms ensure effective decision-making in supply chain management. Additionally, 50 respondents, 17% of the total, strongly agree with this statement. The report concurs with most replies indicating that their companies prioritize effective decision-making in supply chain management. This demonstrates that companies prioritize efficient decision-making in their supply chain management.

Table 4.6 We have a reliable outsourcing medium.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	22	7.4	7.4	7.4
	Disagree	72	24.2	24.3	31.8
	Undecided	45	15.1	15.2	47.0
	Agree	102	34.2	34.5	81.4
	Strongly Agree	55	18.5	18.6	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The table indicates that 22 respondents, accounting for 7% of the total responses, strongly disagree that their firms have a reliable outsourcing medium in their supply chain management. Additionally, 72 respondents, representing 24% of the total responses, disagreed with the statement, while 45 respondents, making up 15% of the total responses, were indifferent. Of the 102 respondents, 34% agree that their firms have a dependable outsourcing medium in supply chain management. Additionally, 55 respondents, 18%, strongly agree with this statement. Given that the majority of replies confirmed the presence of a dependable outsourcing channel in their supply chain management, the research concurs. This demonstrates that companies prioritize efficient decision-making in their supply chain management.

Table 4.7 We have an effective lean practice.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	22	7.4	7.4	7.4
	Disagree	70	23.5	23.6	31.1
	Undecided	30	10.1	10.1	41.2
	Agree	112	37.6	37.8	79.1
	Strongly Agree	62	20.8	20.9	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

Table 4.7 shows that 22 respondents, accounting for 7% of the total responses, strongly disagree that their firms have an effective lean practice in supply chain management. Additionally, 70 respondents, representing 23% of the total responses, disagreed with the statement, while 30 respondents, making up 10% of the total responses, were indifferent. 112 respondents, 37% of the total, agree that the Firm has an effective lean practice in its supply chain management. Additionally, 62 respondents, 20%, strongly agree with this statement. The analysis concurs with most replies, indicating that the Firm demonstrates a successful lean approach in its supply chain management.

Table 4.8 An effective supplier relationship.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	30	10.1	10.1	10.1
	Disagree	75	25.2	25.3	35.5
	Undecided	37	12.4	12.5	48.0
	Agree	101	33.9	34.1	82.1
	Strongly Agree	53	17.8	17.9	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The table indicates that 30 respondents, constituting 10% of the total responses, strongly disagree with the effectiveness of supplier relationships in their firms' supply chain management. Additionally, 75 respondents, accounting for 25% of the total responses, disagreed with the statement, while 37 respondents, representing 12%, were indifferent. 101 respondents, accounting for 33% of the total responses, agree that their firms have an effective supplier relationship in supply chain management. Additionally, 53 respondents, representing 17% of the responses, strongly agree with this statement. The survey concurs with most replies indicating that their companies maintain an efficient supplier connection in their supply chain management. This demonstrates that the companies maintain an efficient supplier connection in their supply chain management.

Table 4.9 We have an effective inventory management practice.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	39	13.1	13.2	13.2
	Disagree	70	23.5	23.6	36.8
	Undecided	30	10.1	10.1	47.0
	Agree	92	30.9	31.1	78.0
	Strongly Agree	65	21.8	22.0	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The table indicates that 39 respondents, accounting for 13% of the total responses, Strongly disagree on the effectiveness of inventory management in their supply chain. 70 respondents, including 23% of the total responses, disagreed with the statement. Thirty respondents, representing 10%, were indifferent in their opinion. Also, of the total 92 respondents, 31% agree that their firms have effective inventory management practices in supply chain management. Additionally, 65 respondents, 21%, strongly agree with this statement. The report concurs with most replies indicating that their companies had efficient inventory management techniques in their supply chain management. This demonstrates that the companies have efficient inventory management procedures in their supply chain management.

Table 4.10 Our firm adopts technology in its supply chain management

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	44	14.8	14.9	14.9
	Disagree	65	21.8	22.0	36.8
	Undecided	37	12.4	12.5	49.3
	Agree	90	30.2	30.4	79.7
	Strongly Disagree	60	20.1	20.3	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The table indicates that 44 respondents, accounting for 14% of the total responses, strongly disagree with the assertion that their companies implement modern technology in their supply chain management. Additionally, 65 respondents, representing 21% of the total responses, disagreed with the statement, while 37 respondents, making up 12% of the total responses, were indifferent. 90 respondents, 30% of the total, agree that their firms use modern technology in supply chain management. Additionally, 60 respondents, 20%, strongly agree with this statement. The report concurs with most replies indicating that their companies utilize current technologies in their supply chain management. It has been demonstrated that companies are using advanced technologies in their supply chain management.

Table 4.11 Our firm ensures a mutual understanding of its members in its supply chain management.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	17	5.7	5.7	5.7
	Disagree	73	24.5	24.7	30.4
	Undecided	47	15.8	15.9	46.3
	Agree	104	34.9	35.1	81.4
	Strongly Agree	55	18.5	18.6	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The table shows that 17 respondents, accounting for 6% of the total responses, strongly disagree with the statement regarding their firm's mutual understanding of supply chain management. Additionally, 73 respondents, representing 24% of the total responses, disagreed with the statement, while 47 respondents, making up 15% of the total responses, were indifferent. 104 respondents, 34% of the total, agree that their firm ensures mutual understanding among members in its supply chain management. Additionally, 55 respondents, 18%, strongly agree with this statement. The study concurs with the majority of replies, indicating that businesses prioritize mutual understanding among members in their supply chain management, demonstrating that firms indeed assure mutual understanding among all members in their supply chain management.

Table 4.12 Our firm ensures effective communication in its supply chain management.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	30	10.1	10.1	10.1
	Disagree	78	26.2	26.4	36.5
	Undecided	30	10.1	10.1	46.6
	Agree	105	35.2	35.5	82.1
	Strongly Agree	53	17.8	17.9	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The chart indicates that 30 respondents, or 10% of the total responses, strongly disagree with their businesses ensuring good communication in supply chain management. Additionally, 78 respondents, representing 26% of the responses, disagree. 30 respondents were indifferent, constituting 10% of the total responses. 105 respondents, 35% of the total, agree that their firms ensure effective communication in supply chain management. Additionally, 53 respondents, 18%, strongly agree with this statement. The report concurs with most respondents who stated that their companies prioritize good communication in supply chain management. This demonstrates that companies prioritize efficient communication in their supply chain management.

Table 4.13 Our firm effectively manages the organization's internal factors in its supply chain management.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	15	5.0	5.1	5.1
	Disagree	75	25.2	25.3	30.4
	Undecided	26	8.7	8.8	39.2
	Agree	99	33.2	33.4	72.6
	Strongly Agree	81	27.2	27.4	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The table shows that 15 respondents, accounting for 5% of the total responses, strongly disagree with the statement regarding their firm's management of internal factors in supply chain management. Additionally, 75 respondents, representing 25% of the responses, disagree with the statement. 26 respondents were indifferent, accounting for 8% of the total responses. 99 respondents, 33% of the total, agree that their firm effectively manages internal factors in supply chain management. Additionally, 81 respondents, 27%, strongly agree with this statement. The study concurs with most responses, indicating that firms effectively manage the organization's internal factors in supply chain management.

Table 4.14 Our firm transport delivery system is reliable.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	30	10.1	10.1	10.1
	Disagree	50	16.8	16.9	27.0
	Undecided	29	9.7	9.8	36.8
	Agree	109	36.6	36.8	73.6
	Strongly Agree	78	26.2	26.4	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The table indicates that 30 respondents, accounting for 10% of the total responses, strongly disagree with the statement regarding their firms ensuring a reliable transport delivery system in Logistic Integration. Additionally, 50 respondents, representing 16% of the total responses, disagreed with the statement, while 29 respondents, making up 9% of the total responses, were indifferent. One hundred nine respondents, 36% of the total, agree that their firms have a reliable transport delivery system in Logistic Integration. Additionally, 78 respondents, 26%, strongly agree with this statement. The survey concurs with most replies indicating that enterprises prioritize having a dependable transport delivery system in their Logistic Integration.

Table 4.15 Our firm transport delivery system is flexible.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	22	7.4	7.4	7.4
	Disagree	60	20.1	20.3	27.7
	Undecided	29	9.7	9.8	37.5
	Agree	97	32.6	32.8	70.3
	Strongly Agree	88	29.5	29.7	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

According to the table, 22 respondents, accounting for 7% of the total responses, strongly disagree with the assertion that their companies maintain a flexible transportation delivery system in their logistic integration. 60 respondents, including 20% of the total responses, disagreed with the statement, while 29 respondents, representing 9%, were indifferent. 97 respondents, 32% of the total, agree that their firms have a flexible transport delivery system in Logistic integration. Additionally, 88 respondents, 29%, strongly agree with this statement. The survey concurs with most replies indicating that their companies use a flexible transportation delivery system for logistics integration. The companies have demonstrated their commitment to maintaining a versatile transportation delivery system inside their logistic integration.

Table 4.16 Our firm transport delivery system is timely.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	21	7.0	7.1	7.1
	Disagree	64	21.5	21.6	28.7
	Undecided	26	8.7	8.8	37.5
	Agree	99	33.2	33.4	70.9
	Strongly Agree	86	28.9	29.1	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The table indicates that 21 respondents, accounting for 7% of the total responses, strongly disagree with the timeliness of their firms' transport delivery system. Additionally, 64 respondents, representing 21% of the total responses, disagreed with the statement, while 26 respondents, making up 8% of the total responses, were indifferent. Ninety-nine respondents, 33%, believe their company's transport delivery system is prompt. Additionally, 86 respondents, 28%, strongly agree with this statement. The study concurs with most respondents who confirmed that their businesses' transport delivery system is prompt, validating its timeliness.

Table 4.17 Our firm warehousing is effective.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	23	7.7	7.8	7.8
	Disagree	62	20.8	20.9	28.7
	Undecided	24	8.1	8.1	36.8
	Agree	103	34.6	34.8	71.6
	Strongly Agree	84	28.2	28.4	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

According to the table, 23 respondents, accounting for 7% of the total responses, strongly disagree that their organization has an effective warehousing system. 62 respondents, including 20% of the total responses, disagreed with the statement, while 24 respondents, making up 8%, were indifferent. Of the 103 respondents, 34% believe their organization has an effective warehousing system. Additionally, 84 respondents, 28%, strongly agree with this statement. The analysis concurs with most replies, indicating that the organization had an efficient storage system in its logistic integration.

Table 4.18 Our firm engages in reverse logistics

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	15	5.0	5.1	5.1
	Disagree	65	21.8	22.0	27.0
	Undecided	28	9.4	9.5	36.5
	Agree	106	35.6	35.8	72.3
	Strongly Agree	82	27.5	27.7	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

Table 4.18 shows that 15 respondents, accounting for 5% of the total responses, strongly disagree with the statement about their firms participating in reverse logistics in logistic integration. Additionally, 65 respondents, making up 21% of the total responses, disagreed with the statement, while 28 respondents, representing 9% of the total responses, were indifferent. 106 respondents, accounting for 35% of the total responses, agree that their firms incorporate reverse logistics into their logistic integration. Additionally, 82 respondents, representing 27% of all responses, strongly support this statement. The survey concurs with most respondents who said their organizations include reverse logistics within their logistic integration. This demonstrates that companies participate in reverse logistics as part of their logistic integration.

Table 4.19 Our firm engages in forecasting and demand management

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	36	12.1	12.2	12.2
	Disagree	62	20.8	20.9	33.1
	Undecided	23	7.7	7.8	40.9
	Agree	96	32.2	32.4	73.3
	Strongly Agree	79	26.5	26.7	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The table indicates that 36 respondents, accounting for 12% of the total responses, strongly disagree with the statement regarding their firms' involvement in forecasting and demand management in logistic integration. Additionally, 62 respondents, representing 20% of the total responses, disagreed with the statement, while 23 respondents, making up 7% of the total responses, were indifferent. 96 respondents, 32% of the total, agree that their firms are involved in forecasting and demand management in logistic integration. Additionally, 79 respondents, 26%, strongly agree with this statement. The survey concurs with most replies indicating that enterprises participate in forecasting and demand management as part of their logistic integration.

4.2.2 Assessing the Performance of SMEs.

Table 4.20 Your firm has generally reduced time wastage.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly Disagree	39	13.1	13.2	13.2
	Disagree	62	20.8	20.9	34.1
	Undecided	20	6.7	6.8	40.9
	Agree	115	38.6	38.9	79.7
	Strongly Agree	60	20.1	20.3	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The table indicates that 39 respondents, accounting for 13% of the total responses, strongly disagree with the notion that their firms have reduced time wastage to enhance organizational performance. Additionally, 62 respondents, representing 20% of the responses, disagree with the statement. 20 respondents were indifferent, accounting for 6% of the total responses. 115 respondents, 38% of the total, agree that their firms have reduced time wastage to enhance performance. Additionally, 60 respondents, 20%, strongly agree with this statement. The analysis concurs with most replies, indicating that companies have decreased time wastage to enhance their organizational efficiency. It has been demonstrated that businesses have reduced time inefficiency to strengthen their organization's effectiveness.

Table 4.21 Your firm has generally reduced the defect rate of the product.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	18	6.0	6.1	6.1
	Disagree	86	28.9	29.1	35.1
	Undecided	21	7.0	7.1	42.2
	Agree	111	37.2	37.5	79.7
	Strongly Agree	60	20.1	20.3	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The table shows that 18 respondents, accounting for 6% of the total responses, strongly disagree that their firms have reduced product defect rates to enhance performance. Additionally, 86 respondents, representing 28% of the total responses, disagreed with the statement, while 21 respondents, making up 7% of the total responses, were indifferent. Of the 111 respondents, 37% agree that their firms have reduced product defects to enhance performance. Additionally, 60 respondents, 20%, strongly agree with this statement. The study concurs with most respondents who reported that their companies had decreased the defect rate in goods to enhance performance, thereby confirming the firms' efforts to increase performance by reducing product defects.

Table 4.22 Your firm has generally shortened the time of product development

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	48	16.1	16.2	16.2
	Disagree	55	18.5	18.6	34.8
	Undecided	13	4.4	4.4	39.2
	Agree	123	41.3	41.6	80.7
	Strongly Agree	57	19.1	19.3	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The table indicates that 48 respondents, accounting for 16% of the total response, strongly disagree with the notion that their firms have reduced product development time to enhance performance. Additionally, 55 respondents, representing 18% of the total response, disagreed with the statement, while 13 respondents, making up 4% of the total response, were indifferent. 123 respondents, 41% of the total, agree that their firms have reduced product development time to enhance performance. Additionally, 57 respondents, 19%, strongly agree with this statement. The survey concurs with most respondents who reported that their companies had reduced the duration of product development to enhance performance. Firms have reduced product development time to enhance performance, as demonstrated by research.

Table 4.23 Your firm has generally increased efficiency.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	25	8.4	8.4	8.4
	Disagree	66	22.1	22.3	30.7
	Undecided	20	6.7	6.8	37.5
	Agree	125	41.9	42.2	79.7
	Strongly Agree	60	20.1	20.3	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The table indicates that 25 respondents, constituting 8% of the total responses, strongly disagree with the notion that their firms have generally improved efficiency. Additionally, 66 respondents, accounting for 22% of all responses, disagreed with the statement, while 20 respondents, representing 6% of the total responses, were indifferent. 125 respondents, 42% of the total, agree that their firms have generally increased efficiency. Additionally, 60 respondents, 20%, strongly agree with this statement. The survey concurs with most replies, indicating that organizations successfully facilitate efficient decision-making in their supply chain management, improving efficiency.

Table 4.24 Your firm has generally increased efficiency.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	52	17.4	17.6	17.6
	Disagree	31	10.4	10.5	28.0
	Undecided	26	8.7	8.8	36.8
	Agree	127	42.6	42.9	79.7
	Strongly Agree	60	20.1	20.3	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The table indicates that 23 respondents, accounting for 7% of the total responses, strongly disagree with the notion that their firms have generally improved efficiency. Additionally, 70 respondents, representing 23% of the total responses, disagreed with the statement, while 43 respondents, making up 14% of the total responses, were indifferent. 110 respondents, accounting for 36% of the total responses, agree that their firms have generally increased efficiency. Additionally, 50 respondents, representing 17% of the responses, strongly agree with this statement. The survey concurs with most respondents who reported that their organizations prioritize effective decision-making in supply chain management, indicating an overall improvement in efficiency.

Table 4.25 Your firm has generally experienced business expansion

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	19	6.4	6.4	6.4
	Disagree	57	19.1	19.3	25.7
	Undecided	30	10.1	10.1	35.8
	Agree	119	39.9	40.2	76.0
	Strongly Agree	71	23.8	24.0	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The table indicates that 23 respondents, accounting for 7% of the total responses, strongly disagree with the statement regarding their firms' business expansion. Additionally, 70 respondents, representing 23% of the total responses, disagreed with the statement, while 43 respondents, making up 14% of the total responses, were indifferent. Of the 110 respondents, 36% agree that their firms have experienced business expansion. Additionally, 50 respondents, 17% of the total, strongly agree with this statement. The survey concurs with most respondents who said their businesses had grown, confirming that the enterprises have experienced business development.

Table 4.26 Your firm has generally experienced profitability

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	27	9.1	9.1	9.1
	Disagree	51	17.1	17.2	26.4
	Undecided	32	10.7	10.8	37.2
	Agree	118	39.6	39.9	77.0
	Strongly Agree	68	22.8	23.0	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The table shows that 23 respondents, accounting for 7% of the responses, strongly disagree that their firms have experienced profitability. Additionally, 70 respondents, representing 23% of the total responses, disagreed with the statement, while 43 respondents, making up 14% of the total responses, were indifferent. Of the 110 respondents, 36% agree that their enterprises have been profitable. Additionally, 50 respondents, 17% of the total, strongly agree with this assertion. The survey concurred with most replies indicating that their companies enjoyed profitability.

Table 4.27 Your firm has generally experienced effective customer service

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	21	7.0	7.1	7.1
	Disagree	49	16.4	16.6	23.6
	Undecided	38	12.8	12.8	36.5
	Agree	121	40.6	40.9	77.4
	Strongly Agree	67	22.5	22.6	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The table indicates that 23 respondents, constituting 7% of the total response, strongly disagree with the statement about their firms' effective customer service. Additionally, 70 respondents, representing 23% of the total response, disagreed with the statement, while 43 respondents, accounting for 14% of the total response, were indifferent. Of the 110 respondents, 36% agree that their firms have generally experienced effective customer service. Additionally, 50 respondents, 17% of the total, strongly agree with this statement. Most replies indicated that their organizations have typically had effective customer service; thus, we will concur with them, confirming that effective customer service has been commonly encountered.

Table 4.28 Your firm has experienced a reduction in management cost

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	44	14.8	14.9	14.9
	Disagree	49	16.4	16.6	31.4
	Undecided	31	10.4	10.5	41.9
	Agree	119	39.9	40.2	82.1
	Strongly Agree	53	17.8	17.9	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The table indicates that 23 respondents, accounting for 7% of the total responses, strongly disagree that their firms have experienced a reduction in management costs. Additionally, 70 respondents, representing 23% of the total responses, disagreed with the statement, while 43 respondents, making up 14% of the total responses, were indifferent. 110 respondents, 36% of the total, agree that their firms have reduced management costs. Additionally, 50 respondents, 17% of the total,

strongly agree with this statement. Considering that most replies indicated decreased management expenses for their companies, we concur with their assessment. It has been demonstrated that the companies have encountered a decrease in management expenses.

Table 4.29 Your firm has recorded an increase in sales

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	23	7.7	7.8	7.8
	Disagree	45	15.1	15.2	23.0
	Undecided	29	9.7	9.8	32.8
	Agree	111	37.2	37.5	70.3
	Strongly Agree	88	29.5	29.7	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The table indicates that 23 respondents, accounting for 7% of the total responses, strongly disagree that their firms have seen a rise in sales. Additionally, 70 respondents, representing 23% of the total responses, disagreed with the statement, while 43 respondents, making up 14% of the total responses, were indifferent. 110 respondents, 36% of the total, confirmed a rise in sales at their businesses. Additionally, 50 respondents, 17% of the total, strongly agreed with this assertion. The survey concurs with most respondents who reported that their organizations facilitate good decision-making in supply chain management, leading to improved sales.

Table 4.30 Your firm is flexible in product design changes and production fluctuations.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	19	6.4	6.4	6.4
	Disagree	72	24.2	24.3	30.7
	Undecided	31	10.4	10.5	41.2
	Agree	111	37.2	37.5	78.7
	Strongly Agree	63	21.1	21.3	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The table indicates that 23 respondents, accounting for 7% of the total responses, strongly disagree with the statement regarding their firms' flexibility in product design changes and production fluctuations. Additionally, 70 respondents, representing 23% of the total responses, disagreed with the statement, while 43 respondents, making up 14% of the total responses, were indifferent. 110 respondents, 36% of the total, agree that their firms are flexible in product design changes and production fluctuations. Additionally, 50 respondents, 17% of the total, strongly agree with this statement. The survey concurs with most respondents who indicated that their organizations are adaptable to changes in product design and production variations, demonstrating flexibility in these areas.

Table 4.31 Your firm has generally experienced increased quality

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	30	10.1	10.1	10.1
	Disagree	79	26.5	26.7	36.8
	Undecided	28	9.4	9.5	46.3
	Agree	108	36.2	36.5	82.8
	Strongly Agree	51	17.1	17.2	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The data in the table show that 23 people (or 7% of the total) strongly disagree that their companies have typically seen a quality improvement, and 70 people (or 23% of the total) disagree with the statement. On the other hand, fourteen percent of the respondents (or forty-three people) were apathetic. However, 110 people (or 36% of the total) think that their companies have generally seen a quality improvement, which lends credence to the opinion of those who agree; 50 people (or 17% of the total) believe this to be true. Since most respondents said their companies had seen a quality improvement, the survey finds that true. So, it's clear that businesses often see an uptick in quality.

4.3 Assessing the effect of demand uncertainty on SMEs.

Table 4.32 Our firm is affected by seasonality of product usage

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	25	8.4	8.4	8.4
	Disagree	48	16.1	16.2	24.7
	Undecided	31	10.4	10.5	35.1
	Agree	112	37.6	37.8	73.0
	Strongly Agree	80	26.8	27.0	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The table indicates that 23 respondents, accounting for 7% of the total responses, strongly disagree with the statement regarding the impact of product usage seasonality on their firms. Additionally, 70 respondents, representing 23% of the total responses, disagreed with the statement, while 43 respondents, making up 14% of the total responses, were indifferent. 110 respondents, 36% of the total, agree that their firms are affected by the seasonality of product usage. Additionally, 50 respondents, 17% of the total, strongly agree with this statement. Given that most responders said that the seasonality of product consumption impacts their companies, we concur with their assessment. It has been demonstrated that the seasonal patterns of product utilization impact companies.

Table 4.33 Our firm has experienced the effects of external events

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	26	8.7	8.8	8.8
	Disagree	65	21.8	22.0	30.7
	Undecided	20	6.7	6.8	37.5
	Agree	125	41.9	42.2	79.7
	Strongly Agree	60	20.1	20.3	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The table indicates that 23 respondents, accounting for 7% of the total responses, strongly disagree with the statement about their firms being affected by external events. Additionally, 70 respondents, representing 23% of the total responses, disagreed with the statement, while 43 respondents, making up 14% of the total responses, were indifferent. One hundred ten respondents, 36%, believe external events influence their enterprises. Additionally, 50 respondents, 17% of the total, strongly agree with this statement. The report concurs with most replies indicating that external events impact their companies. This demonstrates that external occurrences influence companies.

Table 4.34 Customer behavior/ taste affects our firm's performance.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	20	6.7	6.8	6.8
	Disagree	56	18.8	18.9	25.7
	Undecided	30	10.1	10.1	35.8
	Agree	120	40.3	40.5	76.4
	Strongly Disagree	70	23.5	23.6	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The table indicates that 23 respondents, accounting for 7% of the total responses, strongly disagree that their firm's performance is influenced by uncertainty in customers' tastes and behavior. Additionally, 70 respondents, representing 23% of the total responses, disagreed with the statement, while 43 respondents, making up 14% of the total responses, were indifferent. One hundred ten respondents, 36% of the total, agree that their firm's performance is influenced by uncertainty in customers' tastes and behavior. Additionally, 50 respondents, 17% of the total, strongly agree with this statement. Considering that most replies said their company's success is impacted by the unpredictability of consumers' preferences and actions, we concur with this assessment. This demonstrates that companies' performance is influenced by the unpredictability of consumers' preferences and actions.

Table 4.35 Competition Affects Our Firm

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	28	9.4	9.5	9.5
	Disagree	52	17.4	17.6	27.0
	Undecided	29	9.7	9.8	36.8
	Agree	125	41.9	42.2	79.1
	Strongly Agree	62	20.8	20.9	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The table indicates that 23 respondents, accounting for 7% of the total responses, strongly disagree that their firm's performance is influenced by competition. Additionally, 70 respondents, representing 23% of all responses, disagreed with the statement, while 43 respondents, making up 14% of the total responses, were indifferent. 110 respondents, 36% of the total, agree that their firm's performance is influenced by competition. Additionally, 50 respondents, 17% of the total, strongly agree with this statement. We concur with the majority of responses indicating that their firm's success is influenced by competition. Evidence shows that competition impacts the firm's performance.

Table 4.36 Pricing affects our firm performance.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	33	11.1	11.1	11.1
	Disagree	50	16.8	16.9	28.0
	Undecided	29	9.7	9.8	37.8
	Agree	117	39.3	39.5	77.4
	Strongly Agree	67	22.5	22.6	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The table indicates that 23 respondents, accounting for 7% of the total responses, strongly disagree with the notion that the prices of goods and services influence their firm's performance. Additionally, 70 respondents, representing 23% of the total responses, disagreed with the statement, while 43 respondents, making up 14% of the total responses, were indifferent. 110 respondents, 36% of the total, agree that the prices of goods and services influence their firm's performance. Additionally, 50 respondents, 17% of the total, strongly agree with this statement. The survey concurs with most replies indicating that product and service costs influence enterprises' performance.

Table 4.37 Promotion affects our firm.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	27	9.1	9.1	9.1
	Disagree	46	15.4	15.5	24.7
	Undecided	25	8.4	8.4	33.1
	Agree	124	41.6	41.9	75.0
	Strongly Agree	74	24.8	25.0	100.0
	Total	296	99.3	100.0	
Missing	System	2	.7		
Total		298	100.0		

Source: Researcher's Survey (2024)

The table indicates that 23 respondents, accounting for 7% of the responses, strongly disagree that promoting goods and services influences their firm's profitability. Additionally, 70 respondents, representing 23% of the total responses, disagreed with the statement, while 43 respondents, making up 14% of the total responses, were indifferent. 110 respondents, 36% of the total, agree that their firm's profitability is influenced by promoting goods and services. Additionally, 50 respondents, 17% of the total, strongly agree with this statement. Given that most replies said that advertising products and services influence their companies' profitability, the study concurs. This demonstrates that the advertising of goods and services influences the profitability of enterprises.

4.4 Test of Hypotheses

4.4.1 Hypotheses one

H_{01} : Supply chain management practices are positively related to the performance of small and medium-scale enterprises in Kenya.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.977 ^a	.955	.955	.273

a. Predictors: (Constant), SCMP

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	468.604	1	468.604	6.296E3	.000 ^a
	Residual	21.883	294	.074		
	Total	490.486	295			

a. Predictors: (Constant), SCMP

b. Dependent Variable: performance of SMEs

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.146	.046		-3.201	.002
	SCMP	1.019	.013	.977	79.346	.000

a. Dependent Variable: Performance of SMEs

Since the result of the t. is -3.2 and a significance of .002, which is $P \leq 0.05$; *** $P \leq 0.02$, the study accepts the hypothesis that Supply chain management practices are positively related to the performance of small and medium-scale enterprises in Kenya.

4.4.2 Test of Hypotheses Two

H₀₂: Logistic Integration is positively related to the performance of small and medium-scale enterprises in Kenya.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.953 ^a	.908	.907	.400

a. Predictors: (Constant), Logistic Integration

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	462.799	1	462.799	2.893E3	.000 ^a
	Residual	47.035	294	.160		
	Total	509.834	295			

a. Predictors: (Constant), Logistic Integration

b. Dependent Variable: Performance of SMEs

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.566	.060		9.489	.000
	Logistic Integration	.899	.017	.953	53.785	.000

a. Dependent Variable: Performance of SMEs

The table above also has the R of .953^a and a significance level of .000, which is $P \leq 0.05$; *** $P \leq 0.00$; the study accepts the hypothesis that Logistic Integration is positively related to the performance of small and medium-scale enterprises in Kenya.

4.4.3 Test of Hypotheses Three

H₀₃: demand uncertainty does not moderate the relationships between supply chain practices, logistics integration, and the performance of small and medium-scale enterprises in Kenya.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.971 ^a	.942	.942	.304

a. Predictors: (Constant), InteractionTerm, Performance, Logistic integration

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	440.757	3	146.919	1.591E3	.000 ^a
	Residual	26.960	292	.092		
	Total	467.716	295			

a. Predictors: (Constant), Interaction Term, Performance, Logistic integration

b. Dependent Variable: SME Performance

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.367	.071		5.138	.000
	Demand Uncertainty, Logistic Integration, and Supply chain management	.373	.047	.389	7.932	.000
	SMEs performance	.531	.043	.587	12.472	.000
	InteractionTerm	-.015	.021	-.012	-.720	.472

a. Dependent Variable: Performance

Results in the Table above show that demand Uncertainty significantly mediates between logistics Integration, SCM practices, and the Firm's performance (Logistic Integration β 0.071, $p < 0.05$, supply chain management 0.047, SMEs performance 0.043 respectively. These mediation results indicate that demand uncertainty mediates between Supply Chain Management practices, logistics integration, and the performance of the SMEs.

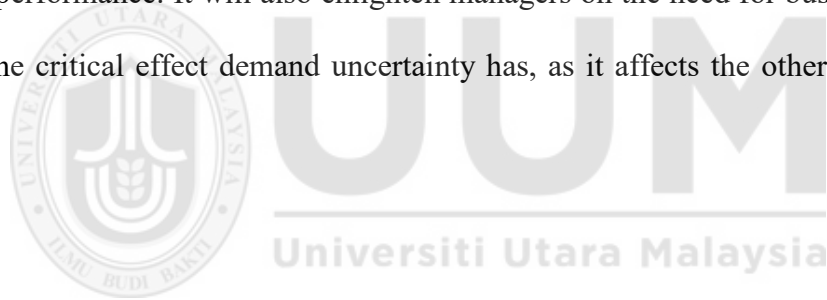
4.5 Summary of major findings

The following findings are established from the data generated and tested using regression analysis.

- a. It was revealed that the studied organizations adopt some supply chain management practices; those more pronounced are supply chain collaboration, supply chain benchmarking, effective inventory management practice, effective communication, and adoption of technology, and it ensures mutual understanding of members in its supply chain management. Finally, it was revealed that the selected small and medium-scale enterprises have effective supply chain management practices.
- b. As revealed by the study, the Logistics integration practices practiced by the studied organizations are warehousing, forecasting, demand management, and reverse logistics. Kenya's small and medium-scale enterprises have an effective logistic integration practice.
- c. It was further revealed that supply chain management practices positively affect the performance of small and medium-scale enterprises in Kenya.
- d. Logistic integration adopted by small- and medium-scale enterprises positively affects their performance.
- e. Demand uncertainty significantly moderates the relationship between supply chain management practices, logistics integration, and the performance of small and medium-scale enterprises in Kenya. Issues that influence the uncertainty of demand among the small and medium-scale enterprises in Kenya are seasonality of product usage, taste and choices of customers, competition, pricing, and promotion.

4.6 Research Contribution

This study has discussed interrelated issues of supply chain management, logistic integration, the performance of small and medium-scale enterprises, and how demand uncertainty affects the above variables. This study has been an instrument for establishing a strong connection between supply chain management, logistic integration, and the performance of small- and medium-scale enterprises in Kenya. Limited studies looked at these issues holistically; most of those studies either looked at a single variable or two variables; this study is, therefore, a pioneer study. This study will also serve as an instrument of enlightenment on the critical nature or the need for business organisations to take priority in its supply chain management and logistic integration to guarantee their performance. It will also enlighten managers on the need for business enterprises not to neglect the critical effect demand uncertainty has, as it affects the other variables of the study.



CHAPTER FIVE

SUMMARY CONCLUSION AND RECOMMENDATION

1.1 Summary

The performance and profitability of most business initiatives depend on many factors. This research examines supply chain management techniques. This study has successfully linked the importance of the relationship between supply chain management practices, logistic integration, and demand uncertainty in influencing the performance of SMEs. In the preceding chapter of this research, we provided an introduction that included a concise backdrop to the investigation, the problem, the aims, the research hypotheses, and the relevance of this study concerning previous studies. We examined the literature, selected a suitable hypothesis, designed a survey research approach, and collected data from primary sources. The study found that supply chain management methods impact the success of small and medium-sized enterprises (SMEs), and logistic integration also influences SMEs' performance. The study demonstrated that supply chain management methods and logistic integration impact the performance of SMEs, with demand uncertainty values positively moderating them.

1.2 Conclusion

This study has found that supply chain management practices such as decision-making, outsourcing, lean practices, inventory management, technology utilization, internal factors, and effective communication positively impact the performance of small and medium-sized enterprises (SMEs). Additionally, logistic integration variables, including an effective, flexible, and timely transportation system, forecasting, and reverse logistics, are crucial for SME performance in the area under study. Factors such as demand unpredictability, seasonality, consumer behavior, price,

competition, and other external influences also have a strong relationship with supply chain management, logistic integration, and the overall performance of the organizations. To this end, therefore, we can agree that the supply chain management practices and logistic integration positively affect the performance of SMEs in Kenya, and the level of demand uncertainty in the economy is moderating them.

5.3 Recommendations

Based on the findings of this study, the following recommendations are being developed.

- i. As revealed by this study, managers of firms, especially those within the SMES sector, should emphasize and condole no compromise on the supply chain management practices adopted since they are critical to the organization's success. Emphasis should also be made to ensure its efficiency.
- ii. Equally, the movement and storage of a firm's product are also critical to its success; managers must emphasize the effectiveness of logistic integration, which could make or mar the organization's profitability.
- iii. It is also recommended that managers while making decisions on business success, should ensure that they incorporate the factors in the business environment; these factors could range from the buyers, sellers, competitors, government policy, or the entire business environment.
- iv. Finally, it is recommended that the interplay between Supply Management Practices, Logistics Integration, SME Performance, and the Moderating Effect of Demand Uncertainty cannot be ignored; hence, careful consideration must be given to ensure these relationships are being modified and converted to the organization's good.

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Appendices

School of Technology Management and
Logistics (STML)

Dear Respondent,

Research Questionnaire on Supply Management Practices, Logistics Integration, and the Moderating Effect of Demand Uncertainty on SME's Performance in Kenya

I am an (MSC) Student from the Department mentioned earlier, researching Supply Management Practices, Logistics Integration, and the Moderating Effect of Demand Uncertainty on SME Performance in Kenya. You happen to be our selected respondent because your objective response is required to help develop some findings in the research work.

Your personal and objective views will be highly appreciated and valued. I also wish to assure you that your contribution and response will be treated confidentially and solely for this research.

Yours Faithfully,

(Name) **Abdisamad Elmi Abdishakur**

Matric Number.....831457...

QUESTIONNAIRE

Instruction: Please tick [✓] the opinion that best represents your opinion.

SECTION A:

1. Gender: Male [] Female []
2. Marital Status: Single [] Married [] Divorced [] Separated []
3. Age range:
21-40 [] 40-60 [] 60 and above []
4. Highest Educational Qualification:
First Degree []
Master's Degree []
PhD Degree []
5. Name of Organisation.
6. Position in the Company.....
7. Number of years in operation:
1-10 [] 10-20 [] 20 and above []
8. Number of employees:
1-50 [] 51-100 [] 101 and above []

SECTION B

Scale: SA - *Strongly Agree*
 A - *Agree*
 U - *Undecided*
 D - *Disagree*
 SD - *Strongly Disagree*

S/N	Effectiveness is the ease of doing any activity and the reduction in cost and time spent doing something. Supply Chain Management Practices are the activities engaged by organizations to ensure that there is a constant inflow and outflow of materials, services, logistics, finance, and information between the producer and the final consumer of goods and services.	SA	A	U	D	SD
1	Our firm ensures effective decision-making in its supply chain management					
2	We have a reliable outsourcing medium.					
3	We have effective lean practices.					
4	We have an effective supplier relationship.					
5	We have an effective inventory management practice.					
6	Our firm adopts technology in its supply chain management.					
7	Our firm ensures mutual understanding of members in its supply chain management.					
8	Our firm ensures effective communication in its supply chain management.					
9	Our firm effectively manages the organization's internal factors in its supply chain management.					
	Determining the effectiveness of Logistic Integration Logistic integration is the network of relationships within a firm and between other firms to ensure constant inflow and outflow of materials, services, and information.					
10	Our firm transport delivery system is reliable.					
11	Our firm transport delivery system is flexible.					

12	Our firm transport delivery system is timely.					
13	Our firm warehousing is effective.					
14	Our firm engages in reverse logistics.					
15	Our firm engages in forecasting and demand management.					
	Assessing the Performance of SMEs. Performance refers to the ability to meet production targets with minimal production cost and in good time.					
16	Your firm has generally reduced time wastage.					
17	Your firm has generally reduced the defect rate of products.					
18	Your firm has generally shortened the time of product development.					
19	Your firm has generally increased efficiency.					
20	Your firm has generally increased efficiency.					
21	Your firm has generally experienced business expansion.					
22	Your firm has generally experienced profitability.					
23	Your firm has generally experienced effective customer service.					
24	Your firm has experienced a reduction in management costs.					
25	Your firm has recorded an increase in sales.					
26	Your firm is flexible in product design changes and production fluctuations.					

27	Your firm has generally experienced increased quality.					
	Assessing the effect of demand uncertainty on SMEs Demand uncertainty refers to uncertainty in the nature, quality, quantity, and pattern of effective demand.					
28	Our firm is affected by product usage seasonality.					
29	Our firm has experienced the effects of external events.					
30	Customer behavior/ taste affects our firm's performance.					
31	Competition affects our firm.					
32	Pricing affects our firm performance.					
33	Promotion affects our firm.					

