SUPPLIER RELATIONSHIP MANAGEMENT AND SUPPLY CHAIN PERFORMANCE OF FLOUR MILLING COMPANIES IN NAIROBI COUNTY, KENYA

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A PROJECT SUBMITTED TO THE SCHOOL OF BUSINESS, ECONOMICS AND TOURISM IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION (PROCUREMENT AND SUPPLY CHAIN MANAGEMENT), KENYATTA UNIVERSITY

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DECLARATION

I hereby affirm that this research represents my own work originality and has not been previously submitted for the purpose of obtaining a degree or any other form of recognition at any academic institution. It is strictly prohibited to reproduce any portion of this project with no explicit authorization of the author and/or the affiliated university.

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Declaration by the Supervisor

This project is presented for evaluation with the endorsement of my university supervisor.

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DEDICATION

I dedicate this work to My Mum and Dad, my husband Laban and My three Daughters Lexie, Maisie and Lainey who all have been great support systems to my education.

ACKNOWLEDGEMENT

I take this gratitude to the Almighty God for His sufficient grace, love and care as I partake a higher level of education.

Am conveying my special appreciation to my supervisor Dr. Wambui Chege for her tremendous support ensuring that my work is correct and satisfactory.

Being able to get time to finish my project in time, is because of the unwavering support and encouragement from my Parents and Siblings.

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ABBREVIATIONS AND ACRONYMS

GDP	Gross Domestic Product
KAM	Kenya Association of Manufacturers
NACOSTI	National Council for Science, Technology and Innovation
RBV	Resource Based View
SPSS	Statistical Packages for Social Sciences
SRM	Supplier Relationship Management
UN	United Nations

OPERATIONAL DEFINITION OF TERMS

Flour Milling Companies Flour milling companies are firms who are engaged in the conversion of grains related products into flours through the use of technological aided gadgets and platforms for the satisfaction of customers related needs.

Information Sharing Information sharing refers to data exchange between people and organizations, people and people, business to business, through the use of technological platforms. This was measured by accessibility to private data, exchange of information and reliable information.

Supplier Collaboration Supplier collaboration is the synergy among a chain of members/people doing certain tasks together to create an advantageous competition via information sharing jointly that benefits them thereby culminating into customers satisfaction and hence, greater profitability. This was measured by strategic alliance, product development and supply chain integration.

Supplier Relationship Management Supplier relationship management (SRM) is the strategic coordination of suppliers activities through managing, developing and enhancing a chain of command that improves organizational performance through quality delivery of services and products. Trust-based relationship management, supplier collaboration, information sharing

	and supplier quality were the SRM practices considered in this study
Supplier Quality	It involves the certification of quality, quality improvement advice and technical assistance of suppliers on products manufactured. This was measured by signed contract, supplier audit and supplier technical assistance
Supply Chain Performance	Refers to firm's state of competitiveness that is attained through a certain level of productive efficiency of their supply chain with the view of market sustainability. This was ascertained via increased sales, customer satisfaction, growth and efficiency.
Trust-based Relationship Management	Trust-based relationship management is the ability of an organizational management to manage potential and existing customers' willingness and vulnerable to organizational actions with respect to expectations on a specific task as it affects performance. This was measured by teamwork, loyalty and commitment.

ABSTRACT

Over time, supply chain performances and managements evolved as a critical business feature which enhances survival in a dynamic business environment. Flour milling company's supply chain performances has been declining as reported by UN reports. The core of the investigation is to ascertain effects of supplier relationship managements on Kenya's Nairobi County's supply chains performances of flour milling businesses. Determining effects of supplier collaboration, trust-based relationship, supplier quality and information sharing on Kenya's Nairobi County's supply chains performances of flour milling firms, were the specific goals. Resource-based view theory, Transaction cost economics theory, social capital Theory, and alongside other relevant literature, served as study's pillars. 16 sampled flour milling businesses in Nairobi County, Kenya, was the population of interest for investigation. This study used a descriptive research approach. Respondents were selected using census sampling technique and consisted of 96 employees of 16 flour milling companies consisting of quality control manager, supply chain manager, supply chain supervisors, and sales manager therefore census approach was utilized. Questionnaires were utilized in collecting quantitative primary data and its validity was ascertained using content and construct validity tests while its reliability was ascertained using pilot study and Cronbach-Alpha internal consistency test. Analysis was done utilizing multiple regression analyses and descriptive statistics (mean, frequency, and standard deviation), with tables and graphs displaying the outcomes. Diagnostic tests comprising of normality test, multicollinearity tests, heteroskedastic test and linearity test were conducted on the study variables. Findings unveiled that the effect of the management of trust-based relationship on the supply chain performance was both insignificant ($\rho = 0.372$) and inverse ($\beta = -0.037$). The survey concludes that trust-based relationship management insignificantly affects the supply chain performance of the firms. The government should encourage flour milling companies in Kenya to shift towards performance-based contracts with their suppliers and other supply chain partners. Supplier collaboration exhibited a positive ($\beta = 0.215$) effect on the supply chain performance, albeit without significance ($\rho = 0.190$). The survey uncovered that collaboration with suppliers is not a primary factor influencing the supply chain performance of these companies. It is therefore recommended that the government of Kenya implement initiatives to improve transparency, visibility, and information sharing among flour milling firms in Kenya. Output detected a positive effect ($\beta = 0.777$) and a significant impact ($\rho = 0.000$) of information sharing on the supply chain performance. A positive ($\beta = 0.156$) but insignificant ($\rho = 0.324$) effect of supplier quality on the supply chain performance of flour milling companies was uncovered. Regarding this, the survey concludes that supplier quality holds insignificant effect on these firms supply chain performance. The government should encourage flour milling companies in Kenya to enhance their supplier evaluation and selection processes.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Supplier Relationship Management has been widely adopted by various organizations to enable a closer supplier's relationship and ensure a higher performance of the Supply Chain. The SRM contrasts with the traditional approach where the philosophy focuses on establishing a key working relationship with key stake holders where opportunities for creating seamless process connectivity can be utilised. (Douglas, A., Gaudenzi, B., & Khan, O. (Eds.). 2020)

The Supply Chain over the years is now more intricate, and there is more competition, therefore demanding businesses to re-establish and restructure their operations. Businesses face tremendous pressure to implement sustainable methods in their supply chain due to agro-industrialization, consumer awareness, the introduction of modern business systems, government programs, and strict requirements to maintain have food quality and safety (Wang & Hue, 2017). In certain countries globally there have been issues surrounding supplier relationships managements and how it influences supply chain performances of manufacturing establishments (Gatobu & Moringe, 2018). In America according to KPMG (2015), the poor supply chains performances of manufacturing companies contributed to the decline of the country's GDP which led to a fall in the gross profits margins from 10.5% to 3.6% in 2015 and these has been traced to be as a result of lack of supplier collaboration (KPMG, 2015). Also, in west Europe and Japan, manufacturing firms have had to form strategic alliances with suppliers in order to enhance the performances of their supply chains as a result of identified challenges with the existing structure (Gatobu *et al.,* 2018).

In Nigeria, the manufacturing firms being the largest domestic market in Africa suffered a declining supply chain performance due to certain problems revolved around elevated production costs, poor infrastructure and increased costs of goods. Particularly, supply chains performances of manufacturing industries are enhanced by understanding and efficient utilization of supplier relationship management in providing strategic relationships between suppliers and firms which then leads to maximum value creation across supply chains (Tangus, Oyugi & Rambo, 2015). In response to the COVID-19 pandemic, grocery stores in South Africa had to adapt and restructure their operations to ensure continued service to customers. Similar to historical events like World War I, World War II, Great Depression, and Great Recession, epidemics pose significant economic challenges and threaten global food security. COVID-19 pandemic, in particular, has significantly impacted food supply chain and various business activities in South Africa, persisting beyond the immediate crisis (Njomane & Telukdarie, 2022).

Given Kenya's position as a regional trade and commerce hub and its rapidly growing economy, supply chain management significance has increased to meet demands of dynamic market (Murumba & Ngari, 2020). Furthermore, in Kenya, supply chain performances in manufacturing companies contributed 50% of employment opportunities to the citizens in 2013 (Mumelo, Selfano & Onditi, 2017). The marketing and supply chain sectors have been particularly affected by the difficulties presented by the COVID-19 pandemic. In Kenya, the public sector encounters various hurdles, such as inefficiency, inadequate oversight and openness in procurement and supply chain processes. These issues can significantly impact the effectiveness and reliability of public sector operations (Kagondu, 2023). Otieno and Obondi (2018) argue that the inefficiencies observed in the Kenyan government's supply chain and procurement system, such as delays, high costs, and corruption, can be largely attributed to the crude and inefficient

procurement process. These issues arise due to factors like insufficient awareness and inadequate infrastructure.

Supplier relationship management can tremendously improve their supply chain performance as it is effective in providing firms with an edge by reducing direct and indirect costs, improving profits at the bottom-line, while enabling firms understand what is being bought (and from which individual or firm), minimizing supply chain disruption and selection of best supplies for purposes of gaining competitive advantage (Mandiyambira, 2012). Effective SRM further functions in streamlining of the process of supply chain performance and management through collaboration while ensuring that assets are given priority, working with business divisions across the company and handled by the most critical supplier(s).

1.1.1 Supply Chain Performance

Supply chain management (SCM) has been shown to be a new innovation that can improve level of competition between businesses and overtime it has evolved as a critical business feature which enhances survival in a dynamic business environment (Najmi, Mohamed & Mukhtar, 2018). The definition of supply chain performances by Njogu and Moronge (2018) entails a firm's state of competitiveness that is attained through a certain level of productive efficiency of their supply chain with the view of market sustainability. Similarly, Martins (2015) viewed supply chainsperformances in terms of firms' supply chain ability to operate profitably and maintain high competitiveness in the business environment. The measurement of supply chainsperformances across organizations has been debated upon by different scholars. In this case, it is referred to as state of gainful supply chain advantage of an organization over competitors that reflects the level of profit or loss accruing to investors' share value. Mumelo *et al* (2017) defined supply chains performances on the kind of relationship between suppliers and

producers of good and services stressing that a good supplier relationship enhances supply chain performances.

The term supply chain performance measurement refers to information regarding processes and product outcomes that allows for comparisons with other processes, products, as well as goals, patterns, and previous performance. It involves assessing and evaluating various metrics and indicators to gauge effectiveness and efficiency of supply chain (Lehyani, Zouari, Ghorbel & Tollenaere, 2021). Agami, Saleh and Rasmy (2012) measured supply chain performance using Function- based, Generic, Efficiency-based, dimension-based, SC Balanced Scorecard, Hierarchical-based, Perspective-based, SC Operations reference model and interface-based systems. Similarly, Salaheen, Habib and Hanafi (2018) using Function- based, Generic, Efficiency-based, dimension-based, SC Balanced Scorecard, Hierarchical-based, Perspective-based, SC Operations reference model and interface-based systems measured supply chains performances. Some researches indicates that many firms rely solely on expenses as a performance indicator for SC. This tendency arises from the ease of measuring performance using a single indicator. However, there is a growing emphasis on establishing a clear link between SC performance indicators and the strategic goals of the organization (Lehyani, Zouari, Ghorbel & Tollenaere, 2021). For this study, supply chain performance was assessed in terms of increased sales, customer satisfaction, growth and efficiency.

1.1.2 Supplier Relationship Management

Supplier relationship management, a subset of supply chain management has over time been a common practice among several industries used for improving supply chain performance (Dubey, Gunasekaran, Childe, Papadopoulos & Helo, 2019). Mumelo, Selfano and Ondini (2017) explained supplier relationship management using information exchange and lead time.

Furthermore, Supplier Relationship Management (SRM) encompasses strategies aimed at influencing supplier behaviour and promoting sustainability practices within an organization. By engaging in collaborative efforts with suppliers, organizations can address various sustainability aspects. These initiatives encompass efforts such as reducing packaging waste, improving working conditions in warehouses, using fuel-efficient transportation methods, and encouraging suppliers to engage in environmental and social programs (Adesanya, Yang, Iqdara & Yang, 2020). Through SRM, organizations can effectively drive positive change and foster sustainable practices throughout their supply chain. Amoako-Gympah (2018) measured supplier relationship management using flexibility, operational capability and ownership and stated that supplier relationship management is a medium by which suppliers and buyers aim for competitive advantage by making use of each other's resources in the market places. Oduro, Nyarku and Gbadeyan (2020) examined supplier relationship management using communication, trust, atmosphere and adaptation. According to Walumbe (2016), better organizational results are driven by better collaborative relationship management, trust-based relationship management and information sharing which companies strives to achieve for optimum performance. Thus, this study adopted trust-based relationship management, supplier collaboration, information sharing and supplier quality as representations of supplier relationship management in this study.

Trust-based relationship management is the ability of an organizational management to manage potential and existing customers' willingness and vulnerable to organizational actions with respect to expectations on a specific task as it affects performance (Mahulo, 2015). Trust-based relationship as defined by Buenaventura-Vera and Gudziol-Vidal, (2019) helps in organizational effectiveness with respect to meeting target customers' demands by providing the foundation of greater performance levels and collaboration within organizational set up. Interpersonal

relationship between organizations and customers has remained a critical success for organizational performance, especially in attaining specific goals (Tangus, Oyugi & Rambo, 2015). Effective trust-based relationship management enhances customers loyalty to organizational products and services. Therefore, trust-based relationship management impact significantly on the performance of organizations.

Supplier collaboration is the synergy among a chain of members/people doing certain tasks together to create an advantageous competition via information sharing jointly that benefits them thereby culminating into customers satisfaction and hence, greater profitability. This enhances joint decision making that optimizes organizational performance (Lagat, 2017). The synergy among such group of individuals improves the quality of products as well as increase organizational sales growth for higher profits. This collaboration among suppliers lower cost, improves product quality and transform customers' feedback into new product or service development faster than competitors in the market (Vos & Akkermans, 2009).

Information sharing refers to data exchange between people and organizations, people and people, business to business, through the use of technological platforms. Aladejebi and Adedeji, (2015) observed that information sharing allows for progressive product monitoring as the products goes through the channels of distribution. This is because the channel provides timely, reliable and accurate information on organizational progress (Mahulo, 2015). Businesses and partners facilitate organizational progress through information sharing which allows for better decision making upon which greater business feasibility and viability is envisaged (Amin, 2012). In order to manage supplier relationships, information sharing is essential as it constituted the five pillars of supply chain management (Kazi, 2012). Team works in any organization is

enhanced through sharing of data. This enables better understanding among organizational members in meeting customers' satisfaction via market changes.

Supplier quality involves the "certification of quality, quality improvement advice and technical assistance of suppliers on products manufactured" (Heikkila, 2011). It is a form of suppliers' relationships managements practices that improves supply chain performances. Supplier quality is quite important because it helps manufacturing companies gain competitive advantage thereby fostering their growth (Walumbe, 2016). Supplier quality can also be explained as buyers' dependency on the recommendation of suppliers. This is however based on trust and true collaboration set on a common goal (Stuart, 2011). Quality is important and also has an international standard trademark in which buyers can be confident about a particular product (Walumbe, 2016).

For supply chain performance to improve Jeans, Parmeteu and Ismail (2018) established it is crucial to cultivate long-term partnerships, strengthen certain aspects of supplier development, and foster collaboration, communication, and overall performance among suppliers to aid the regional administration. The assertion underpins the relevance of the various elements of Supplier Relationship Management (SRM) in ensuring that supply chain is optimized.

1.1.3 Flour Milling Companies in Nairobi City County

Flour milling companies are firms who are engaged in the conversion of grains related products into flours through the use of technological aided gadgets and platforms for the satisfaction of customers related needs. This is an emerging industry that uses high technological platforms and traditional skills for the conversion of different flours. These flours from wheat meal, maize meal, finger millet meal sorghum meal and Pearl millet meal are used for the production of different flour related products such as cakes, biscuit, bread and other related products.

Companies for flour milling in Kenya are under the umbrella of The Kenyan Food and Beverage Industry, the flour milling companies provides raw materials for making snacks, delicacies and other dishes. The flour milling companies also provide employment opportunities to Kenya thereby contributing to its economic growth (KAM, 2015). The flour milling companies is however characterized by supply chain problems.

In Nairobi, there exist a range of 16 millers, 9 of which has large capacity utilization, followed by the medium and small millers respectively. Lagat (2017) observed that millers' capacity utilization is estimated at about 1.77 million tons per annum with such dominated by the large mills production/output sold in the local market. With this estimation, Nairobi has only 16 of these millers located within its region with Unga Holdings Ltd as oldest and largest grain miller in Kenya. This miller has large operational powers which cut across maize, wheat, animal feeds and commercial porridge production. Also, Nairobi Flours Mills Limited is one of the pronounced millers located in the city center with all the millers having an association that protects its interest.

Mutua and Kirui (2020) explained that flour milling companies in Kenya experiences a reduced profit margin due to the high cost burden. The prominent issue is responsible for manufacturing flour's persistent declining trend from the year 2015 which made a lot of companies to fold up due to the very destitute strategic supply chain managements. Due to use of ineffective supply chain management's techniques, profitability of flour milling enterprises in Kenya has deteriorated. Mukabi (2020) assessed that in Kenya, The sector is currently facing major issues because of terrible roads, including an increase in both energy and labour costs, fuel costs, and transportation. Counterparty risk, fluctuating prices and profitability margins have also been identified as challenges faced by the Kenyan milling industries.

1.2 Statement of the Problem

Given an economy with agriculture as the main based of the Kenyan economy, flour production has continued to rise due to the income generated from such milling activities as grains harvested are being converted to flour (Njogu & Moronge, 2018). A number of the flour milling companies closed down their subsidiary firms which include Mombasa maize and Kitui flour mills (The Cereal Millers Association, 2017) due to the flour milling industry being characterized by inadequate suppliers, competition and poor supply chain performance. Some certain flour milling companies such as Mombasa maize milling company and Kitui flour mills have been affected by poor supply chain performance which ultimately led to certain branches in Kenya being closed down (The Cereal Millers Association, 2017).Supply chain management practices account for a minimum of 50% profits and performance of organizations. According to UN reports (2015), there has been a decline in the supply chain performances of flour milling companies in Kenya's loss which was at 0.3 million tons each year or 23% of the yearly production. Additionally, according to The Cereal Millers Association (2017), flour milling companies like Mombasa Maize Company and Kitui flour mills have had to close down their subsidiary companies due to low sales.

However, the flour milling companies has suffered a declining trend of supply chain performance due to competition, high cost of production, high prices of goods, lack of supplier collaboration, information sharing and other supplier relationship management practices (UN reports, 2015).Flour mills companies' performances in Nairobi context has been affected due to utilization of obsolete supply chains managements practices as well as technology characterized by weak institutional framework, inadequacies in supply chain innovation, poor state of physical infrastructure, inadequate technical and entrepreneurial skills as well as limited research and

development capabilities (Mutua, 2020). Empirical studies have documented linkages between supplier relationship management and performance.

Tangus, Oyungu and Rambo (2015) examined consequences of suppliers' relationships management strategies on productivity of manufacturing companies in Kisumu County, Kenya. It has been shown that expanding supplier relationships management techniques resulted in enhanced performance. Okello (2017) conducted research on how supply chain management methods affected effectiveness of private hospitals in Nairobi, Kenya, and found favorable effects. In their study, Mumelo *et al.* (2017) discovered that performance of small-scale businesses in Bungoma Town, Kenya, is positively impacted by supplier relationships. Mutua and Kirui (2020) reported from their analysis of flour milling firms' supply chain management procedures and operational results in Nairobi County, Kenya that there exist significant relationships. Notably, most of empirical researches which have linked supplier relationship management with performances of Nairobi County, Kenya's flour milling businesses were singled out, and effectiveness of supply chain was not emphasized. Furthermore, some of the studies focused on institutions that are different from flour milling enterprises hence leaving institutional contextual gap. By assessing impacts of supplier relationship managements on supply chain performances of flour milling enterprises in Nairobi County, Kenya, this study aims to close these gaps.

1.3 Objectives of the study

1.3.1 General Objective

Majorly, this survey assessed supplier relationship management effect on flour milling companies supply chain performance located within Nairobi County, Kenya.

1.3.2 Specific Objectives

The study encompassed distinct objectives, which were as follows:

i) To explore how trust-based relationship management impacts the supply chain performance of flour milling companies located in Nairobi County, Kenya.

ii) To assess the effect of supplier collaboration on supply chainperformance of flour milling companies in Nairobi County, Kenya.

iii) To determine the effect of information sharing on supply chain performance of flour milling companies in Nairobi County, Kenya.

iv) To determine the effect of supplier quality on supply chain performance of flour milling companies in Nairobi County, Kenya

1.4 Research Questions

The research inquiry encompassed the following interrelated questions:

i) What is the effect of trust-based relationship management on supply chain performance of flour milling companies in Nairobi County, Kenya?

ii) What is the effect of supplier collaboration on supply chain performance of flour milling ccompanies in Nairobi County, Kenya?

iii) What is the effect of information sharing on supply chain performance of flour milling companies in Nairobi County, Kenya?

iv) What is the effect of supplier quality on supply chain performance of flour milling companies in Nairobi County, Kenya?

1.5 Significance of the Study

The investigation would provide sufficient and useful information to the Kenyan government as this would help the government in providing regulations that would open other investment opportunities in the industry. This would provide take off basis for improved investment opportunities to attract new investors toward the enhancement of economic growth and development of Kenya. This would boost the economy of the country and as such prevent effects of covid-19and other further recessions.

Management of the procurement companies would find the study important as it would provide strategies/guide in enhancing operational efficiency for optimum performance. This would offer the management of these companies the requisite knowledge on how to improve on their supplier relationship management as it affects customers' satisfaction. This would also assist the management in the area of information sharing to enhance optimal performances of industries in Kenya.

The research would provide basis upon which other researchers would extend their investigation. This was done through creating theoretical postulations that would explain better, the linkage between suppliers' relationship managements and flour milling industries in Nairobi and Kenya at large. This would widen the scope of researchers' knowledge by adding to existing body of knowledge.

1.6 Scope of the Study

The survey focused on supplier relationships managements and performances of supply chain of Nairobi County's flour milling companies in Kenya. This study area is informed by the growing utilization of flour products giving the growing population of the country and such covid-19 effect on industrial productivity in the country. The study institutions to be used for analysis

comprised of 16 flour mills in Nairobi County. Theoretically, the investigation was anchored on transaction cost economics, social capital as well as resource-based view theories. The independent variables were trust-based relationship management, supplier collaboration, information sharing and suppliers' qualities while the dependent variable was supply chain performances. Methodologically, the study adopted descriptive research design.

1.7 Limitations to the Study

Primary study was done with respect to this topic. Employing questionnaire for data collection, the fear of issuing out information is embedded in the minds of the respondents which may hinder the authenticity of the research outcome/information. This issue was tackled by addressing the intent and purpose of the investigation to the respondents by ensuring all information given by the respondents was addressed with utmost good faith. Distance between the various companies in Nairobi may also constitute another issue to the study which was addressed through the use of research assistants.

1.8 Organization of the Study

The organization of research was divided into three chapters with chapter one comprising of background of investigation, problem of investigation, investigation's objectives, questions for investigation, study significance, scope of investigation and limitation confronting investigation. Hypothetical investigation of related studies was documented in second chapter of the study. In order to arrive at findings, procedure and processes in attaining study outcomes were evaluated in chapter three. The chapter four of the survey discussed the outcomes alongside its interpretations and discussion of the outcomes. The last chapter is the fifth detailed the summary of the outcomes, provided conclusion as well as suggestions that emanated from the outcomes of the survey.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter offered adequate insights regarding theories and studies related to the study. The theories to be employed are transaction cost economics, social capital and resource-based view theory while the studies to be reviewed were based on trust-based relationship, supplier collaboration, information sharing, supplier qualities and supply chain performance.

2.2 Theoretical Review

Transaction cost economics theory which is main theory in addition to social capital theory and resource-based view were reviewed in this section.

2.2.1 Transaction Cost Economics Theory

Transaction cost economics theory was initially introduced by Coase (1937) and modified by Williamson (1975). Transaction cost economies theory is founded on the concept that organizations consist of various stakeholders with differing purpose and objectives. It emphasizes that the structure of an organization determines the allocation of various resources and assets which further determines the price and production process (Dietl, 1991). Transaction cost is defined as the cost needed when creating and distributing products and services in an organization (Hobbs, 1996).

The transaction cost economics theory further opines that management of firms are opportunist as they seek to manipulate transactions based on their own selfish interests (Williamson, 1996). It further posits that transaction should be carried out based on the consciousness of the cost in carrying it out (David & Han, 2004). According to Dietl (1991), transaction costs economics

theory involves the cost of information, communication and other factors which varies from the pre-production stage to the production stage and then to the distribution and management stage.

Williamson (1975) criticized transaction cost economics theory which is focused on the fact that transaction costs as not only about managing costs of supply chain but also about managing relationships that revolves around the whole supply chain process. According to transaction cost economics theory, purchases of products are high when the transaction cost is low. Thus, depending on transaction costs, a supply chain's layout is determined (Bremen, Oehmen & Alard, 2008). Grover and Mathora (2013) asserted that a low transaction cost enhances and builds performance and sales thereby strengthening management supplier relationship and supply chain practices while a high transaction cost favours' the government.

The transaction cost economics theory establishes how performances are derived through cost and how supply chain performance can be enhanced through transaction cost. Also supply chain managers are able to recognize and execute areas in need of betterment measures to increase efficiency by taking into account factors such as knowledge asymmetry and contract uncertainty. This can include establishing effective governance, building sustainable relationships and strategic planning. The concepts of business costs and economics provide valuable insights for relationship management and performance optimization in supply chain. The theory supports supply chain performances and was used to underpin dependent variable of this study which is supply chain performances.

2.2.2 Social Capital Theory

The social capital theory was modified by Bourdieu in 1983; it dwells on the importance of social relationships. It posits that social relationships provide access to quality resources of an organization (Bourdieu, 1983). Paxton (1999) however stated that the objectives of the social

relationships need to be aligned and also based on mutual trust in order to get the best out of the relationships.

Bodin and Crona (2009) stresses that the structure of a social relationship, in this case, a supplier relationship often foster access to quality resource management and performance. Putnam (2000) noted that social capital takes two forms, it can be exclusive such that it depends on inward attributes and traits that sustains the relationship bond such as homogenous relationship present in a family setting while the second form is inclusive which is based on outward attributes and thus weaker due to various background of people coming together to form a relationship. However, in most cases, both inclusive and exclusive forms of social capital are always established alternatively.

According to Brown (2008), social capital theory is a medium through which information is distributed to members of a group in other to foster effective decision making. It also has a positive influence on the health behavior of a group of people, Thus, providing psychological support and physical support to members of an organization. Social capital theory is built on the basis that colleague, friends, family and business partners are vital assets to be depended upon and used as leverage (Putman, 2000).

Social capital theory has been criticized as not being social and it has been acclaimed as being impossible to measure and not objective, also it has been stated to be ambiguous and has a rigid application (Tristan, 2021). Fischer (2005) stated social capital is explanatory and not easy to understand. Haynes (2009) observed that the social capital theory concept is abstract and does not directly explain other aspects of social relationship.

The theory offers an understanding framework on how trust develops and contributes to the development of strong, lasting relationships where cooperation, cooperation, and shared values thrive. Trust-based relationships also contribute to the accumulation and enhancement of social capital by promoting opportunities for collaboration, knowledge sharing, and improving performance. The effort of the theory in establishing the importance of relationship makes it relevant as a secondary findings source as it supports trust-based linkage and supplier collaboration and was used to underpin them in the study.

2.2.3 Resource Based View Theory

The Resource Based View theory (RBV) was earlier introduced by Bain (1968) and Porter (1985). The view was formulated to establish concept of supply chain. RBV emphasizes on essence of resources and assets owned by an organization (Barney 1991). RBV theory opined that resources help companies to gain competitive advantage over their colleagues which therefore improves their performance (Dyer & Sighn, 1998). The need for adequate and quality resources necessitates the need for supplier collaboration in making sure that the resources would be efficient in meeting the companies' market and financial needs. Thus, it is essential that firms' partner with one another in establishing their increased performances (Barney 1991). According to Sari (2008), RBV asserted that resources owned by firms are reflections of supply chains capabilities and performances of firms.

Gills, Combs and Ketchen (2014) opined that resources and firm capabilities are quite different. Capabilities are seen as a special kind of resources which drives the productivity and efficiency level of all means owned by organizations, while means are available factors of production owned and managed by an organization. RBV further stated that resources are responsible for the quality-of-service delivery. Examples of resources are firms' assets, IT capabilities, supply chain

processes and they are all responsible for the enhancement of a firm's productivity and performance (Bain, 1968). Paulraj (2011) stated that the combination of resources and capabilities produces a better result thereby maintaining that the resources need to be valuable. Collaboration and effective relationship among members in a supply chain provides improved supply chain performance and greater competitive advantage (Kotzab, Teller, Grant & Friis, 2015).

According to Priem and Butler (2001), RBV does not emphasize on managerial implications and does not highlight ways in which organizational performance can be improved through the influence of managers. In addition, RBV does not incorporate operations of smaller firms (Connor, 2002). This assertions by the RBV theory relating to the importance of resources and supplier collaboration made it relevant for underpinning trust-based relationship management, supplier collaboration, information sharing and supplier qualities in this study.

2.3 Empirical Review

Studies related to trust-based relationship management, supplier collaboration, information sharing, supplier qualities and supply chain performance were reviewed in this segment.

2.3.1 Trust-based Relationship Management and Supply Chain Performance

Kalatya and Moronge (2017) examined influences of relationships built on trust on the success of Kenyan logistics companies. The target group for the survey's descriptive approach included 400 procurement managers from Kenya's 80 logistics companies. The main was gathered through a survey, and it was examined using statistical description, regression analyses, and correlation evaluation on the SPSS platform. Online communities and the tendering process were used to gauge trust-based relationships. The outcome of the regression study showed that trust-based relationships have substantial beneficial effects on performances of logistics companies. A

similar association between trust-based relationships and logistics company success may be seen in findings of the analysis of correlation. Despite its positive findings, prior study did not consider other supplier relationship practices, which current study would investigate to assess impacts of managing supplier relationships on performances of supply chains of flour milling businesses in Nairobi County, Kenya.

Mwangi (2017) examined relationships between suppliers' relationships managements and operational performances of sugar firms in Kenya. Trust-based relationship was assessed by team effort and dedication, sharing of information, and collaboration between suppliers. The study's foundations included theories of social capital, limits, and commitment and trust. 13 sugar businesses in Kenya's supply chain departments' personnel were the study's target audience using descriptive approach. Questionnaires were utilized to gather primary data, and it was then examined using methods of regression analysis, analysis of variance, and descriptive statistical methods. According to the investigation, trust-based relationships have advantageous effects on success of Kenyan sugar companies. The earlier study, however, was centered on Kenya's manufacturing industry and concentrated on sugar companies there. The manufacturing industry was the focused of the current study, with Kenya's flour milling businesses serving as case survey.

Lagat (2017) examined supplier relationship management strategies effect on procurement performance. Trust based relationship was measured as trust and commitment. Almasi Beverages Limited was the case study as the target population was 426 workers at the company. 126 respondents as sample size were strategically selected. Questionnaire was primary data collection instrument as its validity was tested through expert's opinion and reliability tested through test-retest technique. Primary data gathered was descriptively analyzed which includes

mean, frequency, standard deviation etc. According to the data, trust-based relationships built have enormous effects on how well procurement process works. It is crucial to note that while exploring how supplier linkage management affects the supply chain performance of flour milling companies in Nairobi County, Kenya was the survey point, the previous survey focused on procurement performances.

Ghondaghsaz and Engesser (2022) concentrated on identifying the concept of trust along with its contributors and results in interactions between organizations in collaborative mobile supply chains (MSCs). The research began by doing an extensive review of the literature to glean relevant trust-related components as well as results. Secondly, informal interviews were done by the researchers in German chemicals and drugs firms. These entities stood forward as innovators in the MSC approach having successfully built partnerships with a range of p A logical framework that expands on the essence of trust, their components, as well as the effects for encouraging trustful participants cooperation was also constructed according to the findings. The investigation finds two effects arising from shared confidence in addition to six criteria or methods for fostering trust. The survey was conducted using qualitative analysis, this survey was conducted using quantitative analysis.

Gwaltu and Mrisho (2023) evaluated how trust affected supply chain performances in operation. The study made the argument by focusing on relational exchange theory along with social exchange theory. Four hypotheses serve as the foundation for the paper: H1: Trust and supply chain performance have positive and substantial link. H2: Efficiency of the supply chain and process innovation is positively and significantly correlated. H3, trust and process innovation have favorable and strong link. A number of 262 of the highest-ranking executives from 128 enterprises that export produce from agriculture in Tanzania participated in the investigation and

provided survey responses. Link among factors in question was evaluated using inferential statistics. Results indicate that supply chain effectiveness is positively and significantly impacted by mutual trustworthiness as well as process innovations. The study mainly concentrated on trust on supply chain performances, this study examined effects of supply relationship managements where truth-based relationship management, supplier collaboration, information sharing and supplier quality are parameters.

2.3.2 Supplier Collaboration and Supply Chain Performance

Apopa (2018) performed research on how supplier partnership practices affected the Kenyan government ministry performance. The independent variable was supplier collaboration as measured by supply chain integration, information exchange, and supplier strategic partnerships. Target population was 1372 employees from 20 federal ministries using stratified random selection technique and cross-sectional study method. Descriptive and inferential statistical techniques were employed, together with primary and secondary quantitative data. According to findings, supplier collaboration significantly affects performances of Kenya's 20 government ministries, and there is correlational positive link concerning the two. The previous survey concentrated on Kenyan government ministries, whilst the existing thesis incorporated other SRM practices, such as trust-based relationship management, dissemination of information, and supplier characteristics, in addition to supplier collaboration, in order to figure out effects of SRM on supply chain performances of flour enterprises for milling in Nairobi County, Kenya.

In county legislature of Vihiga, Kenya, Ojiambo, Miroga, and Otinga (2021) evaluated impacts of collaboration among supply chains on performances of supply chain. The investigation used a descriptive methodology as well as included eighty-two participants from the County Assembly of Vihiga, including supply chain directors, accounting professionals, and financial officers.

Eighty-two participants were incorporated in the research because a census sample method was employed. Closed-ended questionnaires were utilized in getting the input of the participants. Before gathering real-life information, the questionnaire underwent testing to make certain it was legitimate and dependable. Using the incorporation of means, standard deviation, correlation, as well as regression estimation, SPSS was employed for analyzing the responses received the people who participated. Figures and tables of information both aided in the presenting of the findings. According to descriptive findings, the County Legislature of Vihiga implemented supplier collaboration to a considerable extent. The management of supplier relationships substantially clarified over 50 percent of the disparity in supply chain efficiency, according to inferential analysis. The Assembly of Vihiga's supply chain performance is significantly influenced most favorably by supplier collaboration. However, previous study focused on county legislative, recent study focused on Nairobi County millers

Jianlan *et al*. (2022) examined fit theory-based interactive impacts and collaborations between internal and external parties on supply chain performances. The partial least-squares SEM, polynomial estimation, along with response surface methods was utilized to evaluate the predictions using data gathered from 205 Chinese companies. The findings show the existence is an interaction use, or fitting among internal and external collaboration on supply chain performances, which is a trend that was formerly underappreciated. The findings show that certain businesses that utilize internal and external collaboration are successful in achieving their objectives. The most effective supply chain performance is capable of being achieved whenever the capacity as well as equilibrium between each component are comparable, and it ranges from an average to high levels; after an ideal level of internal and external collaboration has been reached, any further improvement in these two areas resulted in a decrease in the performances

of supply chain. However, the aforesaid survey was performed in Chinese companies; present study was conducted within Kenya mainly on companies for milling in Nairobi City County.

Goal of the study by Andalib, Soltan mohammadi and Seuring (2022) was to ascertain degree to which supplier and customer collaboration accounts for performances of green supply chain. The study drew upon institutional and stakeholder theories as its theoretical foundation. Empirical data were collected through self-administered surveys, with participations from Iranian industry managers. The study utilized Smart-PLS (partial least squares) analysis to test hypotheses proposed in conceptual model. Results showed that supplier collaboration benefits from customer collaboration, which benefits environmental and economic performances. That supplier's collaboration however, has positive effects on environmental performances and no effect on economic performances. The study was based on green supply chain which differs from flour mill supply chain the focus of this study.

Tera (2023) investigated how supplier collaboration affects the productivity of Indonesian production firms, with particular emphasis on West Java-based firms. A questionnaire was carried out on a representative group of 150 manufacturing organizations, as well as quantitative methodologies were implemented to assess the results. The findings demonstrated that the productivity of the firm was significantly and favorably impacted by supplier collaboration. Nevertheless, the study's dependent factor was performance, while this progressive survey investigated supply chain performance as its regressand.

2.3.3 Information Sharing and Supply Chain Performance

Okello (2017) conducted research on how supply chain managements' strategies affect effectiveness of private hospitals in Nairobi, Kenya. Performance is the dependent variable, whereas information sharing as measured by lead time and information sharing is the

independent variable. Using descriptive study methodology, structured questionnaires were employed for gathering primary data. The 53 private hospitals in Nairobi that employed procurement managers were the intended audience. Utilizing descriptive and regression analyses, data collected was examined. Findings revealed information exchange improves performances of private hospitals in Nairobi, Kenya. However, case study for aforementioned study was centered on health sector and utilized private facilities, which makes results peculiar to health sector. With Nairobi, Kenya's flour milling enterprises as target population, current study was nevertheless connected to the impacts of supplier relationships with supply chain performances.

Performance of small-scale businesses in Bungoma Town, Kenya was subject of research by Mumelo *et al.* (2017). Lead time and information exchange, as measure of information sharing, were independent factors, and performance was dependent variable. With 1011 owners of small businesses in Bungoma town, Kenya, as population of interest, correlation design was used in research. Data from primary and secondary sources gathered via semi-structured questionnaires, pertinent records, and publications of firms. Representative sample of 287 respondents was chosen with stratified random selection. To examine data gathered, descriptive statistics were used, including distribution of frequencies tables, regression analysis, and correlation analysis. It was determined that information sharing has significant positive link with and beneficial impacts on performances of small-scale enterprises. Results of aforementioned study are unique to small scale business in Bungoma town because it was focused on that area of Kenya. Because of this, the survey concentrated on Nairobi County's flour milling firms in Kenya.

In their investigation, Mutua et al. (2020) determined impacts of management of supply chain procedures on operations of Kenya's Nairobi County's flour milling firms. Purposive sampling was used to choose sixteen (16) Kenyan flour milling enterprises in Nairobi was target

population. Combination of multiple regression and analysis of correlation were utilized to examine primary data. Investigation showed that information sharing has considerable suitable benefit on performance and that there is positive linkage concerning information shared and performance. Previous study tried to determine how information sharing affected performances of Nairobi County's flour milling enterprises in Kenya, but it neglected to take idea of supply chain performances into account. By investigating impacts of supplier relationship managements on performances of flour milling enterprises' supply chains in Kenya's Nairobi County; this study filled the knowledge gap.

Ma, Shi and Kang (2022) employed empirical analysis to investigate function of information exchange and effects of digitization of information on performances of sustainable supply chains. Objective was to effectively oversee digital transformation progress within pharmaceutical supply chain and attain sustainable supply performances. Survey was conducted among managers of supply chain from 298 pharmaceutical Chinese companies. Analysis was via structural equation employed to analyze collected data. Findings indicated information sharing has limited influences on performances of sustainable supply chains. However, digital transformation has significant and positive impacts on sustainable supply chain performances. Moreover, the survey suggests that traceability and information sharing, although separate factors, can interact and jointly affect effectiveness of sustainable supply chain. The study was focused on pharmaceutical companies which is a different from flour mill sector which is focus of this study.

Kankam *et al.* (2023) discussed connections between interactions between buyers and suppliers and information exchange, information accuracy, and supply chain performances. Questionnaire was distributed to vendors of large industrial firms functioning in manufacturing business in

order to collect data empirically. The analysis employed confirmatory factor analysis and structural equation modelling (CB-SEM) as the chosen statistical techniques. Data showed 20 manufacturers recognized mediation's contribution to information sharing. Research demonstrates that nexus concerning quality of information and supply chain performances satisfaction is partially mediated by information sharing. There are other aspects besides information exchange and information quality that might impact supply chain performances, which was study's main focus. As a result, effectiveness of supply chain was examined with supplier collaboration and trust-based relationships' managements.

2.3.4 Supplier Quality and Supply Chain Performance

Rucha and Abdallah (2017) attempted to clarify how supply chains in humanitarian organizations relate to supplier relationship management. It utilized World Food Programme (WFP) in Somalia, an organization that has been active in the country since 1967 and is primarily engaged in rural agricultural development and school feeding programs. The sample consisted of 7 members from the WFP's food supplier family and 87 WFP staff members. Response rate of 72% was achieved, with 63 respondents completing and returning questionnaires. Multiple regression analyses were utilized. Results indicated significant relationships between supplier quality and supply chain performances within World Food Programme (WFP). As a result, WFP has implemented measures to continuously train its staff members in the supply chain department and has established systems to ensure that suppliers comply with quality requirements. These initiatives are aimed at maintaining and enhancing the overall performances of supply chain within WFP, with a specific focus on supplier quality managements. Prior study was carried out in Somalia which has different economic outlook to Kenya.

To determine impacts of supply chain and procurement methods on organizational performances of Nyamache Tea Factory, Kisii County, Kenya, Maroma (2017) carried out a survey. Organizational performance was dependent variable and supplier relationship, supplier quality, and organizational capacity were independent variables. Target group consisted of 90 people who worked at Nyamache Tea Factory in Kisii County, Kenya, including 3 managers, 6 operational officers, 8 financial officers, 3 procurement officers, and other staff members. Information from tea factory's records and constructed questionnaires was utilized to collect primary and secondary data. Investigation demonstrated tea company's improved organizational performances are facilitated by supply chain and procurement procedures. Previous study's focus was on a particular tea firm; as a result, outcomes of the survey cannot be generalized, which is important to keep in mind while determining research gaps. However, current study investigated the impacts of supplier relationship managements on supply chain performances of flour milling operations in Nairobi County, Kenya.

Salimian, Rashidirad and Soltani, (2020) studied effects of Supplier Quality Management practices on internal quality performances and supply chain. In accordance with contingency theory, research employed a survey-based approach was applied on 518 manufacturing firms in United Kingdom. By utilizing survey instrument, study sought to obtain valuable insights and empirical evidence from representative sample of UK manufacturing firms. Findings showed organizations with good supplier quality management are more able to foster higher levels of dedication, trust, and organizational compatibility, which leads to better supply chain and internal quality performances. Data was drawn from manufacturing firms in UK which differs from context of this study which is Nairobi County, Kenya.

Impacts of Supplier Quality Management (SQM) initiatives on internal quality performances were examined by Hamid, Mona, and Ebrahim (2021) using idea of contingency theory. 518 UK manufacturing companies were surveyed. Research revealed firms with strong SCO values have greater probability to have greater degrees of support from management as well as institutional reliability, trust, and commitment. Successful supplier integration and advancement projects, therefore, appear to be associated with higher levels of quality assurance performances. Results showed SCO culture has moderating effects on relationships between internal quality performances and suppliers' quality assurance. Despite the fact that this survey was performed in UK, Kenyan County in Nairobi was the conduct of the survey.

Nag and Ferdausy (2021) studied how supply chain managements practices and supply chain performances relate to each other in Bangladesh's manufacturing sectors. This study followed a quantitative approach and utilized questionnaire-based survey methodology. To measure supply chain management practices, questionnaires developed by Li, Nathan, and Rao (2006) were adapted and modified. Additionally, the study employed supply chain performance indicators from Ambe's (2013) research to measure supply chain performances. Data were sourced from 203 executives who were actively engaged in supply chain activities within various industrial businesses located in major cities of Bangladesh, namely Dhaka and Chittagong. Convenience sampling technique was employed to select participants. The data underwent analysis through the utilization of descriptive statistics, bivariate correlation, and regression analyses. Findings revealed positive correlations between supplier quality and supply chain performances. This demonstrate that levels of higher supplier quality were linked with improved overall supply chain performance.

2.3.5 Supply Chain Performance

To discover how supply chain practices affects supply chain performances, Maroma (2017) did a study. Customer happiness and efficiency were used as proxies for supply chain performance. Kenyan tea industries were the target demographic. Utilizing information from tea factory financial reports and designed questionnaires, this investigation utilized primary combined with data that is secondarily sourced, enabling a thorough investigation into the efficacy of supply chain management techniques. The findings unveiled how supply chain practices shape the overall performance of the supply chain of tea manufacturers, thus substantiating their practical application.

In their study, Mutua *et al.* (2020) explored the linkage of management of supply chain methods with flour milling firms supply chain efficiency of Kenya's Nairobi County. The explained factor was the efficiency of the supply chain as considered by customer satisfaction and improved revenue, whereas the independent variables were dissemination of information, management of client relationships, and outsourcing. Purposive sampling was used in the survey, and sixteen (16) Nairobi's flour milling firms in, Kenya, served as targeted population. Primary data was used, and a variety of regression and correlation analysis were performed on it. The investigation showed that management of supply chain strategies impacts supply chain performance.

The study by Aityassine, Soumadi, Aldiabat, Al-Shorman, Akour, Alshurideh and Al-Hawary (2022) aimed to explore how these factors contribute to overall performances of supply chain. By investigating relationships between supply chain resilience and performances, the thesis provided realization into effective strategies and practices for enhancing supply chain performance. Collected data was then analyzed using SmartPLS 3.0 software. This analytical approach allowed for examination of relationships and patterns within data, enabling

comprehensive understanding of factors and variables related to study's objectives. Findings demonstrated primary aspects of supply chain resilience, collaboration and agility had considerable impacts on performances of supply chain, but supply chain flexibility had negligible impacts. The study focused on chemical industrial companies where as this research was centered on flour mill enterprise.

For manufacturing and related enterprises quoted on Kenyan stock exchange (NSE), Karumba, Mburu, and Kiai (2022) evaluated impacts of Total Quality Management on supply chain performances. The study specifically aimed to determine how strategy quality planning, relations with suppliers' management, management dedication, as well as client emphasis affected supply chain performances. Leading assumptions were Goldratt Theory of Constraints, Deming's quality improvement theory, and Supply Chain Operations Reference (SCOR) Model. The investigation's methodology was descriptive surveys study strategy. Primary data gathering benefited from utilization of questionnaire that was partially structured. Document review guide was used to examine secondary data, however. Financial years 2013/2014 through 2017/2018 were time frame for data collecting. We used both qualitative and quantitative assessment methods. Statistical methods that are quantitative include both inferential and descriptive statistics. Multiple regression analysis in particular helped to test hypothesis. Findings of regression study depicted total quality management considerably and favorably impacts supply chain performances. The study examined total quality managements on supply chain performances; this survey examined supply relationships managements on supply chains performances.

2.4 Summary of Literature Review and Research Gaps

Table 2.1 Summary of Literature Review and Research Gaps

Author/Year	Research Focus	Key Findings Related to the Variable of Interest	Knowledge Gaps	Focus of the Current Study
Lagat (2017)	Examined effects of supplier relationship management strategies on procurement performance.	From the analysis, it was reported that supplier relationship management has great effects on procurement performances	It is important to note the aforesaid research was on procurement performance	This present study explored effects of supplier relationship managements on supply chain performances of flour milling companies in Nairobi County, Kenya.
Mumelo *et al.* (2017)	Conducted research on effect of supplier relationship on the performance of small-scale enterprises in Bungoma Town, Kenya.	From the survey, it was established that information sharing has a significant positive relationship with the performance of the small-scale enterprise and also a positive effect on their performance.	The previous study was centered on small scale enterprise in Bungoma town, Kenya thereby making the results specific to small scale enterprise in Bugoma town.	Focused on flour milling companies in Nairobi County, Kenya.
Okello (2017).	Carried out a research study on the influence of supply chain management practices on the performance of private hospitals in Nairobi,	From the study findings, it was reported that information sharing positively impacts the performance of the private hospitals in Nairobi, Kenya.	The previous study was however on health sector using private hospitals as the case study which makes the findings	The current study linked the effect of supplier connection with supply chain performance using the flour

	Kenya		gathered from the study unique to the health sector.	milling companies in Nairobi Kenya as the target population.
Maroma (2017)	determine the effect of procurement and supply chain practices on the organizational performance of Nyamache Tea Factory, Kisii County, Kenya.	The analysis revealed that procurement and supply chain practices facilitate the enhanced organizational performance of the tea company	The focus of the previous study was on a tea company. Thus, the results of the study cannot be generalized.	This present study explored the effect of supplier relationship management on supply chain performance of flour milling companies in Nairobi County, Kenya.
Mwangi (2017)	Examined the relationship between supplier relationship management and operational performance of sugar firms in Kenya.	From the analysis, it was reported that trust-based relationships positively affects the performance of the sugar firms in Kenya.	However, the previous study was based on the manufacturing sector in Kenya, but focused on sugar firms in Kenya.	This present study also focused on the manufacturing sector using flour milling companies in Kenya as the case study.
Kalatya *et al.* (2017)	effect of procurement practices on the performance of logistics firms in Kenya.	The result of the regression analysis exposed a strong positive effect of procurement practices on the performance of the logistics firms	Despite the results of the previous study, it failed to incorporate supplier relationship practices.	This present study explored the effect of supplier relationship management on the supply chain performance of flour companies for milling in Nairobi County, Kenya.

Apopa (2018)	Conducted a study on the effect of supplier collaboration practices on performance of government ministries in Kenya.	From the results, it was revealed that supplier collaboration has a significant influence on the performance of the 20 government ministries in Kenya and also that there is a positive association between supplier collaboration practices and performance of the government ministries.	The previous study was focused on government ministries in Kenya	The present study incorporated other supplier relationship management practices such as trust-based relationship management, information sharing and supplier qualities in addition to supplier collaboration as it sought to determine management of supplier relationship effect on flour milling companies supply chain performance Kenya's Nairobi County
Mutua *et al.* (2020)	Determined the effect of supply chain management practices on performance of flour mills companies in Nairobi County, Kenya.	From the analysis, it was revealed that there exists a positive correlation between information sharing and performance and also that there is a significant positive effect of information sharing on performance	Despite the previous study's effort in determining effects of information sharing on performances, it failed to incorporate the concept of supply chain performance.	Thus, this present study bridged the research gap by exploring supplier relationship management effect on supply chain performance of flour industries for milling in Nairobi County, Kenya.

Source: Researcher (2023).

2.5 Conceptual Framework

It depicts visual relationships between independent variables (Trust-based Relationship Management, Supplier Collaboration, Information Sharing and Supplier Quality) and dependent variable (Supply Chain Performance).

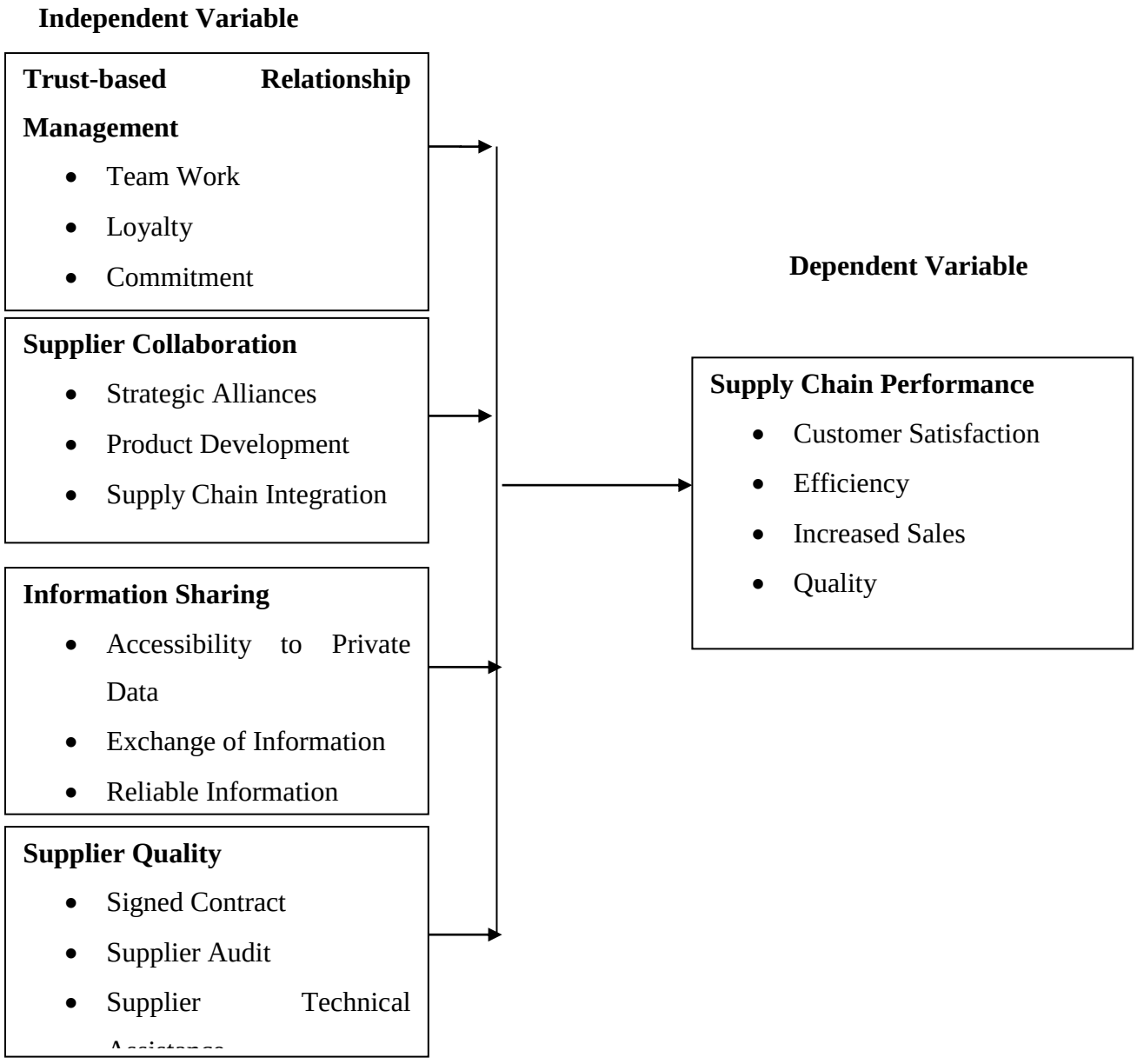

Figure 2.1: Conceptual Framework
Source: Researcher (2023)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The section went into details about study's methods. Population being studied, sampling strategy, data gathering tool, research validity and reliability of tool, procedure for gathering information, data examination and presentation, and considerations that are ethical.

3.2 Research Design

Research design entails the road map which guided the conduct of a research study (Cooper & Schindler, 2013). Descriptive research design has the ability to thoroughly and accurately report a phenomenon, examine connections and patterns, develop hypotheses, facilitate decision making, and serve basis for further investigation (Mugenda & Mugenda, 2013). It captures the traits and actions of a group or phenomenon, aids in the discovery of trends and connections, and creates a reference point for comparison. Thus, the survey utilized descriptive design in establishing effects of supplier relationships managements on supply chain performances of Nairobi County’s flour milling companies in Kenya.

3.3 Target Population

Population is known as group of element or entities utilized for a given study (Chaponda, 2014). Target population is specific group of elements drawn from a given population based on some given properties (Mugenda & Mugenda, 2013). Research objectives and characteristics or criteria relevant to the study are used to determine the target population. This can be a demographic group, niche users, people who meet certain criteria or have certain conditions, or any specific group related to the question being studied. The target populations for this study are16 flour milling companies in Nairobi City County.

3.4 Sampling Design

Sampling design refers to method and technique through which samples are drawn from a given target population for a study (Cooper & Schindler, 2014). Census approach technique was appropriate when a researcher intends to utilizes all members of the population especially due to its small sample size (McCleod, 2018). Census approach was used because the study covered all the 16 flour milling companies and then purposive sampling was further applied based on 96 employees of the 16 flour milling companies consisting of 16 supply chain managers, 32 quality control staff, 16sales manager and 32 supply chain supervisors.

Table 3.1: Sample size

Respondents	Total Number
Supply Chain Manager	16
Quality Control Personnel	32
Sales Manager	16
Supply Chain Supervisors	32
Total	96

Source: Researcher (2023)

3.5 Data Collection Instrument

Primary data was collected and collection instrument was structured questionnaire because it provides adequate information in less time and cost from large sample of individuals (McCleod, 2018). Structured questionnaire was used because they allow respondents to choose from a variety of alternatives and can be answered quickly and also, they are quite easy to answer and little or no skills are required during conduction of interviews (Hyman & Sierra, 2016). Questionnaire was divided into two sections using 5-point Likert scale. First section provided demographic characteristics of respondents while second section was structured in relation to relationships between trust-based relationship management, supplier collaboration, information sharing, supplier quality and Supply chain performances. Content and statements of

questionnaire are guided by previous literature relating to supplier relationship management and supply chain performance.

3.6 Validity and Reliability of Research Instrument

Before proceeding to use questionnaire, its reliability and validity was examined.

3.6.1 Validity

Validity of research instrument is done to determine how valid measurement of questionnaire is and to measure its authenticity (Chaponda, 2014). Validity of questionnaire was measured through content validity and construct validity (Grove and Burns, 2003). Researcher sought input from experts including management faculty and thorough examination of theoretical and empirical literature was conducted to achieve content and construct validity, which was regarded pertinent to collection of research variables. This serves as basis for research instrument's revision and adjustment, improving its relevance to set of research variables in this study. This served as the foundational basis for the revision and enhancement of the research instrument, thereby contributing to its increased validity.

3.6.2 Reliability

Sabour (2018) defined reliability as measure of consistency of results of research instrument. The study utilized pilot study which involves distributing questionnaire to 10 employees of 16 flour milling companies who are not included in population to ascertain its reliability. In addition, Cronbach-Alpha internal consistency coefficient was utilized (Field, 2009). It has the following rule of thumb according to Castillo (2009) in which alpha value >0.9 means it is excellent, >0.8 means it is good, >0.7 means it is acceptable, >0.6 means it is questionable, >0.5 means it is poor and <0.5 means it is unacceptable. Threshold of 0.70 for ascertaining reliability of questionnaire was utilized.

3.6.3 Pilot study

Piloting aids in resolving any instrumentation issues that may arise with the data collection techniques (Babbie, 2007). Due of Kiambu County's proximity to Nairobi City County and reasonable travel costs, the pilot study was conducted there at a single milling company. Mugenda and Mugenda (2003) pointed that, 1–10% of sample size can be utilized for piloting, so gathering responses was accomplished by using 5% of the total sample size and 10 employees from one milling company in Kiambu County (convenient and affordable). Additionally, Babbie (2007) noted that participants in pilot project are members of general public who share characteristics with research participants.

3.7 Data Collection Procedure

The researcher actively pursued approval from the Graduate School of Kenyatta University and also collect letter of authorization from NACOSTI, in addition, approval was collected from management of the 16 flour milling companies. Researcher explained instructions to be followed for completing the questionnaire and assure them of confidentiality. Drop and pick data collection technique was utilized which was considered effective for the research.

3.8 Data Analysis and Presentation

To provide essential indicators for assessing the tendencies of the primary data, descriptive statistics were employed. The relationship between supply chain performance, supplier collaboration, information exchange, and supplier quality were analyzed using multiple regression techniques. The justification is attributed to the objective of the study which is to establish the effect of the independent variables on dependent variable. Analysis findings were presented in tables, figures, and a multiple regression model to be used is shown below. A regression analysis made reference to a multiple regression model. Through matching an

equation based on linearity to the data that was observed, it constructed a model that connected the response parameter Y to many predictor parameters X1, X2, X3, and X4. There was an integer of the dependable variable Y for each of the values of the variables that are independent X. The corresponding coefficients of the ensuing least squares fit is going to be particularly inaccurate if the predictor variables can be strongly related. The SPSS program was employed to evaluate if the fit includes all of the predictor variables or only a subset of them.

$$\mathbf{Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon}$$

Y = Supply Chain Performance

β_0 = Constant

X_1 = Trust Based Relationship Management

X_2 = Supplier Collaboration

X_3 = Information Sharing

X_4 = Supplier Quality

ε = Error term

3.10 Diagnostic Test

3.10.1 Normality Test

To perform individual or combined testing regarding the model variables, the normalcy assumptions is necessary (Brooks, 2008). Shapiro-Wilk testing for normalcy was used to see if information has normal distribution. Shapiro-Wilk test's null hypothesis stipulates no discernible difference between information's probability and the distribution of normality. Notion that disruptions are not randomly distributed was tested in this study. Null of normalcy at the level of

five percent is accepted if value of the p-value is below 0.05. If it is determined that elements have normal distribution, data was converted to natural logarithms rather than values that are absolute.

3.10.2 Multicollinearity Test

The investigation looked for multicollinearity utilizing VIF, and extreme multicollinearity is defined as VIF>10. Inability to take into consideration imperfect multicollinearity leads to infinite standard deviations as well as undefined regression coefficients, whereas perfect multicollinearity causes huge errors. Significant standard errors affect precision and accuracy of dismissing or failing to verify null hypothesis. When estimating multicollinearity, problem is not if it exists but how bad it is. Thus, a VIF greater than 10 indicates diagnosis of multicollinearity.

3.10.3 Heteroscedasticity Test

The study used a cross-section of enterprises as its data, which poses questions concerning the possibility of heteroscedasticity. The error term is assumed by the CLRM to be homoscedastic, or to have a constant variability. The data are heteroscedastic if the error variance does not remain stable. Unbiased variable estimations can be achieved by using a regression model that incorporates heteroscedasticity. We'll use the Breusch-Pagan/Godfrey test to determine whether there is heteroscedasticity. The homoskedasticity of false variance is the study's null hypothesis. If null hypothesis is accepted and it is established that information in panel contains heteroscedasticity, then applying a FGLS modelling made up for this.

3.2 Operationalization of Variables

Table 3.2 Operationalization of Variables

Type	Variable	Operationalization of variables
Independent Variable	Trust-Based Relationship	Team work, Loyalty and Commitment
Independent Variable	Supplier Collaboration	Strategic Alliances, Product development and Supply chain integration
Independent Variable	Information Sharing	Accessibility to private data, exchange of information and Reliable information
Independent variable	Supplier Quality	Signed contract, supplier audit and Supplier technical assistance
Dependent Variable	Supply Chain Performance	Customer satisfaction, Efficiency, Increased sales and Quality

Source: Author (2023)

3.12 Ethical Considerations

Ethical considerations according to Adams and Pimple (2005) are norms and values which researcher is expected to adequately follow in conduct of research problem. The study was based on ethics of privacy, respect and confidentiality. Researcher obtained research authorization from NACOSTI and endorsement letter from graduate school at Kenyatta University and also assure respondents of confidentiality and privacy in relation to their responses. Additionally, researcher treated respondents with utmost respect during course of data collection.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

This chapter of the investigation provided details of the survey's assessment of the data collected on the field. This entails results presentation, interpretation and findings discussion. These outputs cut across sample characteristics presentation, descriptive presentation of results, inferential results interpretation as well as discussion of the survey outcomes.

4.2 Sample Characteristics

This section offered a summary of the response rate along with the demographic details of the contributors involved.

4.2.1 Response Rate

Drawing upon the comprehensive dataset provided in Table 4.1, the survey encompassed both respondents and non-respondents to evaluate the survey's rate of response. By meticulously analyzing the received responses relative to the total population contacted, the researcher adeptly ascertained the proportion of actively involved participants who willingly shared their valuable perspectives and contributions.

Table 4.1: Response Rate

Rates	Frequency	Percent
Response	79	85.9%
Non-Response	13	14.1%
Total	92	100

Source: Field Survey (2024)

As displayed by Table 4.1, 85.9% of the total respondents provided a response, while 14.1% did not respond. This information is crucial in understanding the completeness of the data and the

level of engagement or participation among the respondents. The high response rate of 85.9% indicates that a significant majority of the participants actively participated in the survey process. A high response rate is beneficial as it provides a more representative sample and increases the collected data reliability and validity. It allows for more accurate findings analysis and interpretation, which contributes to sound executive and planning within the supply chain.

4.2.2 Demographic Information

To uphold the precision of the survey's data analysis, an extensive collection of personal information was undertaken. The objective of this endeavour was to acquire indispensable particulars such as gender, age, educational attainment, participants' positions, and years of experience at flour milling companies. By obtaining this critical information, the survey sought to establish a robust framework for evaluating the respondents' data, thereby ensuring the dependability and credibility of the collected data.

4.2.3 Gender of the Respondents

Gender diversity brings a range of perspectives and experiences to the organization. Men and women often have different viewpoints, problem-solving approaches, and communication styles. By having a diverse workforce that includes individuals of various genders, organizations can tap into a wider pool of ideas, insights, and innovative solutions. The outcome of the participants gender is illustrated in Table 4.2.

Table 4.2: Distribution of the Participants' Gender

	Frequency	Percent
Male	38	48.1
Female	41	51.9
Total	79	100.0

Source: Field Survey (2024)

The outcome displayed that the majority of the respondents, accounting for 51.9%, were identified as female. This indicates that there is a relatively balanced representation of genders within the companies. This means that a diverse gender representation can contribute to a more inclusive and equitable work environment, fostering different perspectives, creativity, and innovation within the chain of supply. The male respondents accounted for 48.1%. While slightly lower in number, the male representation still signifies a significant portion of the workforce. Therefore, it is important to note that gender diversity extends beyond the binary classification of male and female, and organizations should strive to embrace and support individuals across the gender spectrum.

4.3 Participants' Age

The age of staff in an organization can influence supply chain performance in several ways. Older employees often bring a wealth of experience to their roles. They may have spent a significant amount of time working in various positions within the supply chain or related fields. This experience equips them with a deep understanding of industry practices, processes, and challenges. In the given context, Table 4.3 unveiled the outcome.

Table 4.3: Participants Age Distribution

	Frequency	Percent
25-30	26	32.9
30-34	17	21.5
35-40	9	11.4
40-45	15	19.0
45 and above	12	15.2
Total	79	100.0

Source: Field Survey (2024)

The provided result in Table 4.4 demonstrated that many of the participants' falls within the age range of 25-30, accounting for 32.9%. This indicates that a significant portion of the

organization's workforce belongs to this age bracket. The outcomes also noted that 21.5% falls within 30-34 age. This suggests a substantial number of employees who have gained a few more years of experience compared to the previous age group. The age group 35-40 constitutes 11.4% of the respondents. Employees in this range typically have accumulated a moderate level of experience and have likely progressed to more senior roles within the organization. The age group 40-45 represents 19.0% of the respondents. This group comprises employees who have accumulated a significant amount of experience in their careers. The "45 and above" age group accounted for 15.2% of the respondents. This category includes employees with extensive experience and often holds senior leadership positions within the organization. Therefore, a mix of different age groups enables the organization to leverage a broad range of capabilities, as well as the dynamism of younger employees, the experience and leadership of mid-career professionals, and the wisdom and strategic mindset of more senior individuals.

4.4 Educational Qualification

The educational qualifications of staff in an organization significantly impact performance of supply chain. Higher levels of educational attainment, such as Master's degrees and PhDs, often indicate a deeper understanding of theoretical concepts, industry best practices, and advanced analytical skills. The categories of educational qualifications are depicted in Table 4.4.

Table 4.4: Participants' Educational Qualification

	Frequency	Percent
Bachelor's Degree	8	10.1
Master	31	39.2
PhD	28	35.4
Others	12	15.2
Total	79	100.0

Source: Field Survey (2024)

The outcome presented unveiled that the largest group of respondents (39.2%) holds a Master's degree. This suggests that a significant portion of the workforce within the organization has completed postgraduate education, indicating a higher level of specialization and advanced knowledge in their respective fields. Employees with Master's degrees often bring valuable expertise and critical thinking skills to their roles, which can positively impact supply chain performance. The next most common level of educational qualification among the respondents is a PhD, accounting for 35.4%. This indicates a considerable number of individuals with doctoral degrees, signifying a higher level of academic achievement and expertise. Employees with PhD qualifications often possess advanced research and analytical skills, which can contribute to innovative problem-solving, research-driven decision-making, and a deeper understanding of complex supply chain dynamics. Eight respondents (10.1%) reported having a Bachelor's degree as their highest educational qualification. While this group may have a relatively lower level of formal education, they still bring foundational knowledge and skills to their roles. Bachelor's degree holders often provide operational support, contribute to essential tasks, and can benefit from on-the-job training and development opportunities to further enhance their supply chain performance. The "Others" category accounts for 15.2% of the respondents. This category may include individuals with diverse educational backgrounds, such as vocational certifications, associate degrees, or specialized industry training. While the specific qualifications are not specified in the data, it suggests that the organization values a range of educational backgrounds and recognizes the importance of practical skills and expertise.

4.5 Position of the Respondents

The positions of staff within an organization can significantly impact supply chain performance. Higher-level positions, such as Supply Chain Managers, often have the responsibility of strategic

planning and decision-making related to the supply chain. Their decisions can shape the direction, structure, and supply chain operational strategies. Effective decision-making at this level can lead to improved efficiency, cost reduction, and better alignment with organizational goals. The outcome resulting from this are noted in Table 4.5.

Table 4.5: Current position of the Respondents

	Frequency	Percent
Supply Chain Manager	12	15.2
Supply Chain Supervisor	28	35.4
Quality Control Personnel	26	32.9
Sales Manager	13	16.5
Total	79	100.0

Source: Field Survey (2024)

The result tabulated 4.6 provides information about the distribution of individuals in different positions within the organization. The output displayed that the largest group of respondents (35.4%) holds the position of supply chain supervisor. This suggests that within the organization, there is a significant number of individuals responsible for overseeing and managing the daily operations of the supply chain. The next most common position among the respondents is quality control personnel, accounting for 32.9%. This indicates that quality management and control are significant aspects of the supply chain operations. Supply chain managers represent 15.2% of the respondents. This position typically involves higher-level responsibilities, such as strategic planning, decision-making, and overseeing the overall supply chain performance. Sales managers account for 16.5% of the respondents. While not directly involved in supply chain operations, sales managers play a vital role in demand management and forecasting. Their involvement suggests that sales-related activities and customer demand are considered important factors in supply chain decision-making within the organization.

4.6 Experience Duration

Experience impacts on performance of supply chain within an organization. More years of experience typically correlate with supply chain processes understanding, industry dynamics, and best practices. Employees with extensive experience have likely encountered various situations and challenges, gaining valuable insights and expertise along the way. The outcome regarding the experience is disclosed in Table 4.6.

Table 4.6: Years of Experience

	Frequency	Percent
Less than 5 years	29	36.7
6-15 years	30	38.0
Above 15 years	20	25.3
Total	79	100.0

Source: Field Survey (2024)

The outcomes presented in 4.6 Table illustrate the distribution of experience that comes with years within the organization. The outcome noted that majority of respondents (38.0%) had work experience ranging from 6 to 15 years. This suggests a significant portion of the workforce has acquired a substantial level of experience within the organization. Additionally, 36.7% of respondents had less than 5 experience years, indicating a considerable number of relatively new employees. This might imply a degree of workforce turnover or recent hiring activities within the organization. The remaining 25.3% of respondents had over 15 years of experience, indicating a group of long-tenured employees who have accumulated extensive knowledge and expertise within the organization. These individuals likely possess a deep understanding of the company's operations, processes, and culture. The outcome identified areas where the organization have a concentration of expertise or areas where additional training and development initiatives might be beneficial. This helps in understanding the experience levels which aid in succession

planning, talent management, and fostering a knowledge-sharing environment within the organization.

4.7 Descriptive Results

The descriptive results obtained from the research were provided in the survey. The outcome are provided in line with the survey's specific objectives detailing the percentages of the participants, mean and standard deviations of the statements that agrees of disagrees with the views of the participants.

4.7.1 Trust-Based Relationship Management

Trust forms the foundation for effective collaboration and communication between supply chain partners. When trust exists, partners are more expected to openly share information, exchange ideas, and work together towards common goals. This collaborative environment promotes proactive problem-solving, quick decision-making, and seamless coordination, leading to improved performance. The results derived from the survey are in Table 4.7.

Table 4.7: Descriptive Statistics on Trust-Based Relationship Management

Statement	N	Percentage					Mean	Std. Deviation
		SD	D	I	A	SA		
Organizational management are able to manage potential and existing customers' willingness and vulnerable	79	1.3	6.3	3.8	25.3	63.3	4.4304	.92934
Loyalty of suppliers improves customer satisfaction	79	0	7.6	3.8	24.1	64.6	4.4557	.88864
The firm provides the foundation of greater performance levels and collaboration between them and other firms	79	0	6.3	5.1	25.3	63.3	4.4557	.85930
Commitment improves supply chain in terms of increased sales and customer satisfaction	79	0	3.8	6.3	27.8	62.0	4.4810	.78219
Commitment and truth encourage firm supply	79	0	6.3	3.8	25.3	64.6	4.4810	.84521
Average Score	79						**4.4607**	**0.8609**

Source: Field Survey (2024)

Organizational management are able to manage potential and existing customers' willingness and vulnerable outcome revealed that 1.3% of the participants strongly disagree with assertion as 6.3% of the interviewees disagreed. It was unveiled that 3.8% were indifferent. The majority of participants comprising (Agree= 25.3%; Strongly Agree= 63.3%) noted that organizational management are able to manage potential and existing customers' willingness and vulnerable. The distribution of the outcome is affirmed by a score mean of 4.43 and deviation from the mean of 0.92. This suggests that organizational management are able to manage potential and existing customers' willingness and vulnerable. With regard to the statement that loyalty of suppliers improves customer satisfaction, both absolute disagreement and disagreement has only 7.6%

responses with only 3.8% been indifferent. A significant proportion of respondents (88.7%) agrees or strongly agrees that loyalty of suppliers improves customer satisfaction. The evaluation of the statement is arrived at using 4.45 mean and 0.88. This indicates that there is a consensus among the participants that loyalty of suppliers improves customer satisfaction.

With no participant associated with strong disagreement and 6.3% disagreed with the claim that the firm provides the foundation of greater performance levels and collaboration between them and other firms as only 5.1% were indifferent. Conversely, the firm provides the foundation of greater performance levels and collaboration between them and other firms showed 88.6% participants agrees or strongly agrees that the firm provides the foundation of greater performance levels and collaboration between them and other firms. The confirmation of these responses aligned with the score mean value of 4.45 and 0.85 deviations on standard. This implies that the firm provides the foundation of greater performance levels and collaboration between them and other firms. The considerable proportion of respondents who expressed a strong agreement (62%) indicates a robust conviction concerning the affirmative impact of commitment on supply chain performance in terms of increased sales and customer satisfaction. Additionally, 27.8% of participants agreed that commitment contributes to enhanced supply chain outcomes in these areas. Conversely, the dissenting viewpoint was expressed by 3.8% of respondents, further reinforcing the notion of commitment's favorable effect on performance. The remaining 6.3% of participants maintained a neutral stance. The distribution of responses yielded a mean score of 4.48, with a deviation of 0.78 on standard, indicating a noteworthy height of consensus about the beneficial effects of commitment to the chain supply performance in conditions of increased sales and customer satisfaction.

Respondents' significant percentage strongly agree (64.6%) with the assertion that commitment and truth encourage firm supply. Furthermore, 25.3% of participants agree with the statement, supporting the notion that commitment and truth encourages firm supply. However, it is worth noting that a small (6.3%) percentage of participants either disagree or disagreed strongly that commitment and truth encourages firm supply. 3.8% of the participants remain indifferent regarding the assertion that commitment and truth encourages firm supply. The outcome was affirmed by a mean score of 4.48 and 0.84 deviations from standard. Holistically, the agreement of the participants was confirmed to a score of the mean of 4.46 and 0.86 deviation on a standard implying that trust-based relationship management plays a key task in the performance of chain supply. The outcomes aligned with Kalatya and Moronge (2017) who uncovered that those trust-based relationships have substantial beneficial effects on performances of logistics companies. Mwangi (2017) noted that trust-based relationships have advantageous effects on success of Kenyan sugar companies. Gwaltu and Mrisho (2023) indicated that supply chain effectiveness is positively and significantly impacted by mutual trustworthiness as well as process innovations.

4.7.2 Supplier Collaboration

Collaborative relationships between suppliers and supply chain partners promote effective communication. Open lines of communication facilitate the information sharing. This real-time exchange of information helps suppliers better understand customer requirements, align their production schedules, and optimize their processes accordingly. The results stemming from the survey findings are documented in Table 4.8.

Table 4.8: Descriptive Statistics of Supplier Collaboration

Statement	N	Percentage					Mean	Std. Deviation
		SD	D	I	A	SA		
The company has created a strategic alliance with companies they supply	79	0	7.6	5.1	24.1	63.3	4.4304	.90133
Strategic alliances help the firm increase in sales	79	0	6.3	3.8	24.1	65.8	4.4937	.84540
The firm develop various new product to increase diversity and more patronage	79	0	7.6	3.8	26.6	62.0	4.4304	.88699
Supply chain integration is been applied by the firm for better product delivery	79	0	3.8	0	21.5	74.7	4.6709	.67409
Development of diverse product boost efficiency and profit	79	0	0	3.8	38.0	58.2	4.5443	.57284
Average Score	79						**4.5139**	**0.7761**

Source: Field Survey (2024)

The outcome noted that 63.3% of the interviewees strong agreement that the company has created a strategic alliance with companies they supply with similar views by 24.1% of the interviewees. Neutrality of the participants was confirmed by 5.1% with none of the participants strongly disagreeing as only 7.6% disagreed that the company has created a strategic alliance with companies they supply. The score of 4.43 mean designates that the respondents agreed that the company has established strategic alliances with the companies they supply. The relatively low standard of 0.96 deviations advocates a limited inconsistency in answers, signifying a constant level of agreement regarding the existence of strategic alliances between the company and its supply partners. Strategic alliances helps the firm increase in sales demonstrate a distribution of 65.8% strong agreement with 24.1% agreement with the claim. The outcome displayed that none of the participants was in strongly disagreed as only 6.3% and 3.8% of the

participants were in disagreement and indifferent with the assertion that strategic alliances helps the firm increase in sales. The mean score of 4.49 and 0.84 suggests that strategic alliance helps the firm increase in sales.

The claim that the firm develop various new products to increase diversity and more patronage had 7.6% disagreement with none disagreeing strongly and neutrality gulped 3.8% responses. The percentage indicates that 26.6% of respondents agreed that the firm develop various new product to increase diversity and more patronage. The outcome also observed that 62% of the interviewees strongly settled that the firm develop various new products to increase diversity and more patronage. The mean 4.43 and deviation from the standard of 0.88 suggests agreement of the participants to the firm develop various new product to increase diversity and more patronage.

Furthermore, supply chain integration is been applied by the firm for better product delivery as a statement was aligned strongly by 74.7% while 21.5% agreed. Indifference of the participants is linked to none whereas 3.8% by the participants observed disagreement that supply chain integration is been applied by the firm for better product delivery. The score mean of 4.67 and standard from deviations 0.67 suggests that supply chain integration is been applied by the firm for better product delivery. Development of diverse product boosts efficiency and profit which 58.2% of the participants concurred strongly with 38% agreeing to the claim. 3.8% of the interviewees were indifferent as disagreement recorded none with the claim that development of diverse product boost efficiency and profit. The score of 4.54 mean and deviation of 0.57 standard suggests that the development of diverse product boost efficiency and profit

The outcome revealed a composite mean score of 4.51 and 0.77 standard that deviates from the central mean. This outcome implies that supplier collaboration play a decisive part in the determination of performance of supply chain in Nairobi County, Kenya. The outputs aligned with Apopa (2018) who concluded supplier collaboration significantly affects performances of Kenya's 20 government ministries, and there is positive correlation between the two. Vihiga et al. (2021) discovered that supply performance chain is significantly influenced most favorably by supplier collaboration. Similarly, Jianlan *et al*. (2022) revealed that that certain businesses that utilize internal and external collaboration are successful in achieving their objectives.

4.7.3 Information Sharing

Effective sharing of information facilitates coordination and collaboration among supply chain partners. When relevant shared information is timely and accurately mannered, it enhances visibility and transparency across the supply chain. In connection with this, the results derived from the perspectives of the participants are in Table 4.9.

Table 4.9: Descriptive Statistics of Information Sharing

Statement	N	Percentage					Mean	Std. Deviation
		SD	D	I	A	SA		
The firm makes sure that private data cannot be easy accessible to avoid replication from other firms	79	0	0	0	17.7	82.3	4.8228	.38429
Exchange of information among employees and managers improves good work flow	79	0	1.3	0	30.4	68.4	4.6582	.55206
Exchange of information is necessary for productivity	79	0	0	0	29.1	70.9	4.7089	.45719
Reliable information helps the information	79	0	0	1.3	19.0	79.7	4.7848	.44350

sharing to be easy and smooth								
Reliable information improves efficiency	79	0	3.8	0	27.8	68.4	4.6076	.68720
Average Score	**79**						**4.7164**	**0.5048**

Source: Field Survey (2024)

Regarding information sharing as shown in Table 4.9, given the claim that the firm makes sure that private data cannot be easily accessible to avoid replication from other firms, 82.3% of the interviewees agreed strongly, 17.7% agreed with none of the participants falling within the options of neutrality, disagreement strongly and disagreement. These outcomes were deep-rooted by a value mean of 4.82 and a standard of 0.38 deviations implying that the firm makes sure that private data cannot be easily accessible to avoid replication from other firms. The distribution of the responses had 68.4% strongly agreed that exchange of information among employees and managers improves good work flow with 30.4% agreeing to the claim. The percentage of the respondents with disagreement is 1.3% as none falls under the categories of strong disagreement and indifferent that exchange of information among employees and managers improves good work flow. More so, the statement that exchange of information among employees and managers improves good work flow was confirmed by the value of 4.65 mean and deviations of 0.55 standards affirming that exchange of information among employees and managers improves good work flow.

The outcomes from the responses indicated that 70.9% of the participants had strong agreement and agreement with the claim that exchange of information is necessary for productivity. The respondents 29.1% had agreement that exchange of information is necessary for productivity. None of the participants were in disagreement or remained neutral to the claim that exchange of information is necessary for productivity. The respondents noted with agreement that exchange

of information is necessary for production as disclosed by the value score of 4.70 mean and standards of 0.45 deviations. In the distribution of the responses 79.7% of the participants observed with strong agreement that reliable information helps the information sharing to be easy and smooth with further confirmation from and 19% indicating agreement. In terms of disagreement, none of the participants observed that reliable information helps the information sharing to be easy and smooth with only 1.3% of the participants been neutral to the claim that reliable information helps the information sharing to be easy and smooth on the statement that reliable information helps the information sharing to be easy and smooth, the affirmation of a mean value of 4.78 and 0.44 deviation from standard was observed.

The affirmed response distribution of by 68.4% participants noted with strong agreement that reliable information improves efficiency with only 27.8% agreeing that reliable information improves efficiency. 3.8% of the participants disagreed with the claim reliable information improves efficiency with none showing strong disagreement and indifference. Reliable information improves efficiency as uncovered by the value of 4.60 mean and deviation of 0.68 standard. Therefore, considering the composite mean and deviation standard on information sharing, the interviewees largely approved the declarations as exposed by the 4.71 mean and deviation of 0.50 standard unveiling an insignificant variation across the whole statements noting the relevance of sharing of information in the companies' performance of supply chain. The results converge with Okello (2017) who revealed information exchange improves performances of private hospitals in Nairobi, Kenya. Mumelo *et al.* (2017) disclosed that sharing of information has significant positive link with and beneficial impacts on performances of small-scale enterprises. Mutua et al. (2020) showed that information sharing has considerable suitable

benefit on performance and that there is positive association concerning information shared and performance.

4.7.4 Supplier Quality

Supplier quality is vital in performance of chain supply as it directly impacts the whole efficiency and effectiveness of the chain supply. High supplier quality ensures that the raw materials, or finished goods availed by suppliers meet the required standards and specifications. Hence, data was collected, and the processed exposed in Table 4.10.

Table 4.10: Descriptive Statistics of Supplier Quality

Statement	**N**	**Percentage**					**Mean**	**Std. Deviation**
		SD	D	I	A	SA		
Signed contract with suppliers ensures better flow of service delivery	79	0	0	1.3	26.6	72.2	4.7089	.48442
Supplier audit encourages quality service	79	0	6.3	11.4	30.4	51.9	4.2785	.90493
To maintain Supplier quality technical assistance is required especially to buyers	79	1.3	0	1.3	24.1	73.4	4.6835	.63133
Signed contract with sellers and buyers are necessary for quality delivery	79	0	1.3	1.3	25.3	72.2	4.6835	.56714
Supplier quality is important to firm it so as to gain competitive advantage	79	0	0	0	24.1	75.9	4.7595	.43012
Average Score	79						**4.6227**	**0.6035**

Source: Field Survey (2024)

With regards to supplier quality, 72.2% of the participants agreed strongly that signed contract with suppliers ensures better flow of service delivery. The survey unfolded that 26.6% of the

respondents agreed that signed contract with suppliers ensures better flow of service delivery. The outcome exposed that none of the participants disagreed that signed contract with suppliers ensures better flow of service delivery as neutrality of the participants is tied to 1.3%. To further strengthen the respondents' level of agreement, the survey disclosed mean of 4.70 and 0.48 standard deviations hence, signed contract with suppliers ensures better flow of service delivery. The outcome noted that 51.9% of the strongly informants affirmed the claim that supplier audit encourages quality service. The survey identified that 30.4% agreed that supplier audit encourages quality service. Some factions of the respondents (6.3%) are either in strong disagreement or disagreed that supplier audit encourages quality service. Furthermore, 11.4% of the participants were indifferent that supplier audit encourages quality service. The mean figure of 4.27 and standards of 0.90 deviations connotes that supplier audit encourages quality service.

Also, the output displayed that 73.4% of the interviewees strongly agreed that to maintain Supplier quality technical assistance is required especially to buyers, 24.1% of the interviewees concurred with the aforementioned declaration. In line with this, 1.3% of the respondents disagreed strongly and remain indifferent each with none been in disagreement that to maintain Supplier quality technical assistance is required especially to buyers. The result was further affirmed the level of conformity with a score mean of 4.68 and deviation on standard of 0,63 noting that to maintain Supplier quality technical assistance is required especially to buyers. Concerning signed contract with sellers and buyers are necessary for quality delivery, 72.2% of the participants vehemently decided. Similarly, 25.3% of the respondents agreed with the claim that signed contract with sellers and buyers are necessary for quality delivery. However, 1.3% of the participants are neutral as well as disagreed with the claim that signed contract with sellers and buyers are necessary for quality delivery as none vehemently opposed the claim. Affirmation

of the claim was attributed to a score mean of 4.68 and standard of 0.56 deviations meaning that signed contract with sellers and buyers are necessary for quality delivery.

The outcome unveiled that a significant respondent's number, specifically 75.9%, agreed strongly that supplier quality plays a decisive role in enabling firms to expand competitive advantage. Additionally, 24.1% of the participants expressed agreement with this statement. Strong disagreement was tied to none of the respondents, were undecided, or expressed disagreement with the notion that supplier quality is important for firms to achieve competitive advantage. To further consider the level of acceptance among the respondents, the survey unveiled a score mean of 4.75 and a deviation of 0.43 standard. These statistical measures indicate a high degree of harmony among the participants, providing conclusive evidence that supplier quality is indeed considered important for firms to gain a competitive advantage.

The collective mean score of 4.62 emphasized the strong consensus among the respondents regarding the vital role played by supplier quality in these firms' performance. This clustering response was further supported by a standard of 0.60 on deviations, indicative of the degree of agreement among the participants. These outputs align with a prior study conducted by Rucha and Abdallah (2017), which also highlighted significant linkage concerning supplier quality and supply chain performance within the World Food Programme (WFP). Salimian, Rashidirad and Soltani, (2020) showed organizations with good supplier quality management are more able to foster higher levels of dedication, trust, and organizational compatibility, which leads to better supply chain and internal quality performances. Hamid, Mona, and Ebrahim (2021) unveiled that firms with strong SCO values have greater probability to have greater degrees of support from management as well as institutional reliability, trust, and commitment. Nag and Ferdausy (2021)

noted that higher levels of supplier quality were associated with improved overall supply chain performance.

4.7.5 Supplier Chain Performance

Flour milling companies rely on a steady supply of raw materials, such as wheat, to maintain uninterrupted production. Efficient supply chain performance ensures that raw materials are delivered on time, minimizing production delays and ensuring consistent product availability in the market. The participants' views are documented in Table 4.11.

Table 4.11: Descriptive Statistics of Supplier Chain Performance

Statement	**N**	**Percentage**					**Mean**	**Std. Deviation**
		SD	D	I	A	SA		
Increased sales	79	0	6.3	1.3	25.3	67.1	4.5316	.81391
Efficiency has increased	79	0	0	0	25.3	74.7	4.7468	.43760
Firms products has increased and are of good quality	79	0	1.3	0	19.0	79.7	4.7722	.50509
Customer satisfaction increase	79	0	0	3.8	24.1	72.2	4.6835	.54407
Average Score	92						**4.6835**	**0.5752**

Source: Field Survey (2024)

The outcomes revealed that overwhelming respondents, specifically 76.1%, agreed strongly that there has been an increase in sales. Additionally, 25.3% of the respondents expressed agreement with this claim. Conversely, a small percentage of 6.3% and 1.3% indicated strong disagreement or indifference, respectively, regarding the increase in sales. These results demonstrate a high level of consensus among the respondents, with a score of 4.53 mean and a deviation of 0.81 standard, affirming that sales have indeed experienced a significant increase. Similarly, a

significant majority of 74.7% of the contributors agreed strongly that efficiency has improved, with an additional 25.3% expressing agreement. None of the participants disagreed or disagreed strongly with the claim of increased efficiency, and there were no undecided responses. The survey's analysis revealed a score average of 4.74 and related deviations of 0.43 standards, further reinforcing the conclusion that efficiency has indeed shown a notable improvement. Thus, relating to the survey outcome it is inferred confidently stated that both sales and efficiency have experienced considerable increases, as indicated by the strong agreement among the respondents and the statistical measures supporting these claims.

Likewise, significant proportions of respondents, specifically 79.7%, agreed strongly with the statement indicating that the firms' products have witnessed an increase in quantity and are of commendable quality. Additionally, 19% of the participants expressed agreement with this assertion. Only 1.3% of respondents disagreed with the information regarding the increase in product quantity and quality, while none of the participants were indifferent. The high level of agreement among the respondents was further supported by scores of 4.77 mean and a deviation of 0.50 standard, providing evidence that indeed the firms' products have experienced an increase in quantity and is of good quality. Furthermore, the outcomes highlighted that a considerable number of 72.2% of the interviewees agreed strongly that customer satisfaction has increased, with an additional 24.1% expressing agreement. None of the participants were on the side of disagreement with the notion that customer satisfaction has increased, and only a small percentage (3.8%) remained indifferent. The analysis of the survey data confirmed these outcomes, with a score of 4.68 mean and standards of 0.54 deviation. Overall, the aggregate mean of 4.68 and a deviation of 0.57 standards signify that supply chain performance indicators effectively facilitate the tracking of the companies' progress in their chain of supply. These

results demonstrate a strong consensus among the respondents regarding the increase in product quantity and quality, as well as improved customer satisfaction, as supported by statistical measures.

4.8 Inferential Results

This survey segment concentrated on the examination and interpretation of information to draw meaningful conclusions and make inferences about the population or phenomenon of interest. This plays a crucial role in generalizing findings from the field data that is converted to meaningful outcomes. This demonstrates the statistical significance and practical significance of research findings.

4.8.1 Correlation Analysis

This part of the survey discusses the strength and direction of the factors utilized in the survey. This quantifies the strength and direction of the linkage concerning factors. The outcome drilled from correlation analysis is demonstrated in Table 4.12.

Table 4.12: Correlation Results

		SCP	TBRM	SC	IS	SQ
SCP	Pearson Correlation	1				
	Sig. (2-tailed)					
TB RM	Pearson Correlation	.152	1			
	Sig. (2-tailed)	.183				
SC	Pearson Correlation	.197	.914**	1		
	Sig. (2-tailed)	.082	.000			
IS	Pearson Correlation	.749**	-.009	.005	1	
	Sig. (2-tailed)	.000	.940	.962		
SQ	Pearson Correlation	.661**	.061	.121	.765**	1
	Sig. (2-tailed)	.000	.591	.288	.000	

Source: Field Survey (2024)

The outcome demonstrates that the correlation coefficient between trust-based relationship and supply chain performances of the firms is 0.152. This positive correlation suggests a weak association between these variables, but the correlation is not significant at a 2-tailed of 0.05 ($p = 0.183$) significance. The outcome is not in agreement with Gwaltu and Mrisho (2023); Mwangi (2017) and Kalatya and Moronge (2017) who all established that trust-based relationships substantial connect with performances of the firms. It unveiled the correlation coefficient concerning supplier collaboration and chain performance of supply as 0.197. This positive correlation indicates a weak association concerning collaboration of supplier and supply performance of the chain. The correlation coefficient is insignificant at a 2-tailed 0.05 ($p = 0.082$) significance threshold. This output is not in alignment with Tera (2023) and Apopa (2018) who demonstrated that the productivity of the firm was significantly and favorably impacted by supplier collaboration. Furthermore, it was unveiled that sharing of information and supply performance of chain has 0.749 coefficients. This strong positive correlation suggests a significant association relating to information sharing and supply chain performance. The outcome is highly significant at a 2-tailed 0.05 ($p < 0.001$) threshold significance. The outcome is consistent with Mutua *et al* (2020); Mumelo *et al.* (2017) who unravelled that information sharing has significant positive link with performances of enterprises. Pertaining to supplier quality and chain performance supply, the coefficient is 0.661 of correlation. This strong positive correlation indicates a significant association relating to supplier quality and supply chain performance. The output is highly significant at a 2-tailed threshold significance 0.05 ($p < 0.001$). The findings corroborate Rucha and Abdallah (2017); Karumba, Mburu, and Kiai (2022) and Nag and Ferdausy (2021) who revealed positive correlations concerning supplier quality and supply chain performances.

4.8.2 Diagnostic Tests

To certify the reliability and accuracy of the survey results, a diagnostic test was performed to verify that none of the assumptions associated with the least squares regression approach were violated. This step was crucial as violating any of the fundamental assumptions of classical linear regression, as pointed out by Montgomery and Chatterjee (2015), raises concerns about the reliability of the derived conclusions. In this study, various diagnostic techniques were employed to evaluate key factors such as normality, multicollinearity, heteroscedasticity, and serial correlation.

4.8.3 Normality Test

The Shapiro-Wilk test outcome, presented in Table 4.12, assessed the residual normality in the model. The outcome displayed that the factors exhibited insignificant probability values, which indicated conformity to the conventional assumption of normality. In Table 4.12, it was stated that a z p-value above 0.05 signifies normality, while a p-value below 0.05 suggests non-normality.

Table 4.12: Normality Test Results

Variable	Obs	W	V	z	Prob>z
Supply Chain Performance	79	0.77490	15.293	5.972	0.00000
Trust Based Relationship Management	79	0.82247	12.061	5.452	0.00000
Supplier Collaboration	79	0.85452	9.883	5.016	0.00000
Information Sharing	79	0.91759	5.598	3.771	0.00008
Supplier Quality	79	0.87875	8.237	4.617	0.00000

Source: Field Survey (2024)

The outcome disclosed that supply chain performance, trust-based relationship management, supplier collaboration, information sharing and supplier quality have probability less than 0.05. In this case, the extremely low probabilities designates that the null claim of normality is discarded for all factors. Therefore, it is arrived that the distributions of the factors are significantly non-normal. However, the large sample size of the factors survey provided evidence that the assumption of normal distribution for the residuals was met. The substantial size of the sample ensured that the central limit theorem applied, which notes that the mean of a suitably large sample tends to adhere to normal distribution, in spite of of the shape of the original population distribution (Woolen, 1997).

4.8.4 Heteroscedasticity Test

Heteroskedasticity refers to the condition where the residuals variability is not uniform across different levels of the independent factors. The information provided pertains to the outcomes of the Breusch-Pagan/Cook-Weisberg test, which was employed. The null hypothesis (Ho) of this test assumes constant variance, indicating the absence of heteroskedasticity. The outcome of the test is tabulated in 4.13.

Table 4.13: Heteroscedasticity Test Results

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of SCP
chi2(1) = 18.43
Prob > chi2 = 0.0000

Source: Field Survey (2024)

The computed chi-square statistic of 18.43 adheres to the corresponding p-value for the test is determined as 0.0000, indicating an extremely low probability of obtaining a chi-square statistic as extreme as the calculated value, assuming constant variance. Consequently, the null

hypothesis of constant variance is rejected. These findings provide evidence for the incidence of heteroskedasticity. In view of this outcome, the survey employed robust standard errors to eradicate this issue.

4.8.5 Multicollinearity Test

The information presented includes the values of Variance Inflation Factor (VIF) for a specific set of variables. VIF serves as a metric for evaluating multicollinearity, which quantifies the extent to which the estimated coefficients variance is inflated due to intercorrelations among the independent factors. The reciprocal of the VIF (1/VIF) is also included for reference. The survey deployed a VIF threshold of 10 and the report is contained in Table 4.14.

Table 4.14: Variance Inflation Factors Results

Variable	VIF	1/VIF
Trust Based Relationship Management	6.23	0.160519
Supplier Collaboration	6.23	0.156986
Information Sharing	2.48	0.403804
Supplier Quality	2.55	0.392352
Mean VIF	4.41	

Source: Field Survey (2024)

The outcome displayed that trust-based relationship management has a VIF of 6.23, supplier collaboration has a VIF of 6.23, information sharing has a VIF of 2.48 and supplier quality has a VIF of 2.55. The mean VIF for all variables is calculated as 4.41. These values indicate the varying level of collinearity among the variables. Generally, a VIF value above 10 is considered high, suggesting a potential issue with multicollinearity. In this case, all the variables indicate less collinearity as obtained from the mean VIF of 4.41.

4.8.6 Autocorrelation Test

The survey employed the Breusch-Godfrey test in a rigorous manner to explore the possibility of the model's autocorrelation. The hypothesis of null of the test assumed the absence of

autocorrelation. 0.05 threshold significance was utilized to evaluate the test results. The comprehensive results obtained from this investigation are presented in Table 4.15, offering detailed insights into the outcomes of the survey.

Table 4.15: Autocorrelation Results

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	0.015163	Prob. F(1,73)	0.9023
Obs*R-squared	0.016406	Prob. Chi-Square(1)	0.8981

Source: Field Survey (2024)

The test was performed to examine the existence of serial correlation. The calculated F-statistic, which gauges the significance of the test, is determined as 0.015163. In this instance, the associated p-value is 0.9023, surpassing the significance threshold of 0.05. Therefore, there is no significant serial correlation evidence in the model based on this test. This suggests that the assumption of no serial correlation is reasonable for the given data.

4.8.7 Interpretation of Regression Results

The survey hypotheses were evaluated using a regression methodology to evaluate the explanatory factors effect on the supplier chains of the companies' performance. The outputs concerning these specific factors effects on supplier chain performance in these companies tabulated in 4.16.

Table 4.16: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.781[a]	.610	.589	.27740

Source: Field Survey (2024)

The reported results focus on the goodness-of-fit statistics for the regression model that examines the supply chain performance of flour milling companies in Nairobi County, Kenya. The

correlation coefficient (R) is found to be 0.781, indicating a strong linear relationship between the independent variables—trust-based relationship management (TBRM), supplier collaboration (SC), information sharing (IS), and supplier quality (SQ)—and the dependent variable, which is supply chain performance. This value suggests a moderately strong positive correlation. Additionally, the coefficient of determination (R Square) is calculated at 0.610, meaning that about 61% of the variation in supply chain performance can be explained by these independent variables included in the model.

The adjusted R Square is calculated to be 0.589. This figure refines the R Square by taking into account the number of predictors and the sample size, offering a more conservative estimate of how much variance is explained by the independent variables. In this case, it indicates that roughly 59% of the variability in supply chain performance can be attributed to these independent variables, while considering the number of predictors and the sample size. The standard error of the estimate is reported as 0.27740, which reflects the average difference between the actual values of the dependent variable and the values predicted by the regression model. A smaller standard error suggests a better fit of the model to the data. Overall, these statistics demonstrate that the regression model, which includes the specified independent variables, explains a significant portion of the variability in the supply chain performance of flour milling companies in Nairobi County. The model summary offers insights into the data analysis performed, and to evaluate the model's significance, an analysis of variance (ANOVA) was conducted, with detailed results available in Table 4.17.

Table 4.17: Analysis of Variance

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	8.894	4	2.224	28.896	.000[b]
	Residual	5.694	74	.077		
	Total	14.589	78			

Source: Field Survey (2024)

The ANOVA table summarizes the sources of variation in the data and assesses the overall significance of the regression model. The results show a calculated F-statistic of 28.896, which compares the variation explained by the regression model to the variation that remains unexplained. This statistic tests the null hypothesis that all regression coefficients are equal to zero. The significance value associated with this F-statistic is reported as 0.000, indicating that it is statistically significant. The ANOVA table thus highlights the overall significance of the regression model, confirming that it is significant (p-value = 0.000). This suggests that the independent variables—trust-based relationship management (TBRM), supplier collaboration (SC), information sharing (IS), and supplier quality (SQ)—together have a meaningful impact on explaining the variability in the supply chain performance of flour milling companies in Nairobi County, Kenya. The specific influence of supplier relationship management on the performance of these companies' supply chains was also analyzed, with the results detailed in Table 4.18.

Table 4.18: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Robust Std. Error	Beta		
1	(Constant)	-.507	.564		-.898	.372
	TBRM	-.037	.103	-.072	-.360	.720
	SC	.215	.163	.240	1.319	.190
	IS	.777	.128	.626	6.070	.000
	SQ	.156	.157	.158	0.994	.324

Source: Field Survey (2024)

The outcome disclosed that the constant term has a coefficient of (-0.507) which represents supply chain performance when TBRM, SC, IS, and SQ are zero. Trust-based relationship management revealed an inverse (-0.037) effect on supply chain performance. This signifies that, for each unit enhancement in TBRM, the supply chain performance of flour milling companies is expected to decrease by 0.037 units. However, effect is not significant (p-value = 0.720 > 0.05), suggesting that TBRM is insignificant predictor of chain performance supply. The output exposed that supplier collaboration positively (0.215) affected the supply performance chain. This illustrates that, for each unit increase in supplier collaboration, the supply chain performance of flour milling companies is likely to rise by 0.215 units. However, the effect is insignificant (p-value = 0.190 > 0.05), indicating that SC is an insignificant predictor of Nairobi County's supply chain performance.

In addition, information sharing disclosed positively (0.777) its effect on the firms supply performance chain. This unveiled that, any improvement in information sharing, the supply chain performance of flour milling companies would be enhanced by 0.777 units. The effect of information sharing is significant (p-value < 0.001), suggesting that sharing of information is significantly predicted on chain performance supply. Higher levels of information sharing among flour milling companies in Nairobi County are linked to improved supply performance chain. The outcome unveiled that supplier quality has positive (0.156) effect on supply performance of chain. This intimates that, on average, for each unit increase in supplier quality, the supply chain performance is expected to increase by 0.156 units. The effect is however insignificant (p = 0.324 > 0.05), indicating that supplier quality is not a significant predictor of supply performance chain.

4.9 Discussion of Findings

The survey put forward a number of objectives which it tested on Kenya's Nairobi County's flour milling firms supply chain performance. The survey investigated trust-based relationship management effect on the supply performance chain. Nonetheless, the survey's findings revealed a negative and statistically insignificant effect of management of trust-based relationship on the chain performance supply of flour milling companies. This means that the implementation of trust-based relationship management practices did not result in improved supply chain performance for the flour milling companies in the region. The conclusion suggests that despite the emphasis on building trust-based relationships with suppliers and other partners in the supply chain, the implementation of trust-based relationship management did not lead to tangible improvements in the performance of the supply chain. The results can be traced back to a lack of focus on nurturing trust-based relationships with suppliers and other partners in the supply chain. This absence of connection has hindered the potential for meaningful improvements in the performance. The outcome is not in alignment with Gwaltu and Mrisho (2023) who uncovered that supply chain effectiveness is positively and significantly impacted by mutual trustworthiness as well as process innovations. Mwangi (2017) unravelled that trust-based relationships have advantageous effects on success of Kenyan sugar companies. Kalatya and Moronge (2017) showed that trust-based relationships have substantial beneficial effects on performances of logistics companies. Studies conducted at different points in time may yield varying results, reflecting the evolving nature of trust dynamics and the time required for its effects to manifest.

The survey was to analyze supplier collaboration effect on the flour milling firms' performance of supply chain in Kenya's Nairobi County. The survey outcomes unfolded a positive and insignificant effect of supplier collaboration on the supply chain performance of flour milling

firms. This illustrates that while there exist positive linkage concerning supplier collaboration and chain performance supply, the observed effect was not significant. This could be credited to the low collaboration with suppliers which did not translate into significant improvements in supply chain performance for the firms. The outcome is not in consonant with Tera (2023) who demonstrated that the productivity of the firm was significantly and favorably impacted by supplier collaboration. Apopa (2018) uncovered that supplier collaboration significantly affects performances of Kenya's 20 government ministries, and there is positive correlation between the two. The varying outcomes could have been as a result of the utilization of different samples of companies, which could have contributed to variations in findings.

The survey investigated sharing of information effect on the performance of supply chain. The outcomes revealed positively significant effect of information sharing on the chain performance supply. This implies a strong and major linkage concerning sharing of information practices and the supply performance of the chain. The outcome could be linked to the active sharing of information among partners of supply chain, such as suppliers, manufacturers, distributors, and retailers which impact beneficial on the performance of the firms. The output is consistent with Mutua et al. (2020) who showed that information sharing has considerable suitable benefit on performance and positive link concerning information shared and performance. Mumelo *et al.* (2017) unravelled that information sharing has significant positive link with and beneficial impacts on performances of small-scale enterprises. Contrarily, Ma, Shi and Kang (2022) who indicated information sharing has limited influences on performances of sustainable supply chains. The variation in the outcomes could be linked to the differences in how sharing of information and supply performance chain is ascertained and operationalized leading to conflicting results.

The survey evaluated supplier quality effect on the Kenyan performance of Nairobi County's supply chain of flour milling firms. The uncovered output noted that supplier quality positively and insignificantly affects the supply performance chain. This suggests that while there is a positive nexus concerning supplier quality and chain performance supply, the observed effect was not significant. The outcome could be as a result of suppliers who consistently deliver low-quality inputs, non-adhere to specifications, and inadequacy in meeting quality standards which insignificantly affect supply chain performance. The outcome dis-aligned with Rucha and Abdallah (2017) who indicated significant relationships between supplier quality and supply chain performances within World Food Programme (WFP). Karumba, Mburu, and Kiai (2022) depicted total quality management considerably and favorably impacts supply chain performances. Nag and Ferdausy (2021) revealed positive correlations relating to supplier quality and chain performances supply. The outcome variation could be due to the different industries which may have unique characteristics and supply chain dynamics that influence the connection concerning supplier quality and chain supply performance.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter effectively and concisely presented the key results, overall understanding, recommendations, and future research possibilities. The summary was structured based on the study's initial objectives, providing a cohesive framework. The conclusions and recommendations were drawn from the valuable insights gained through the survey outcomes.

5.2 Summary of the Study

Over time, the evolution of supply chain performance and management has become a critical business feature that enhances survival in a dynamic business environment. However, recent UN reports have indicated a declining trend in the chain supply performance of flour milling companies. The core investigation objective was to ascertain the effects of supplier relationship management and supply chain performance on the flour milling companies in Nairobi County in Kenya. The specific goal was to determine the effects of trust-based relationships, supplier collaboration, information sharing, and supplier quality on the chain supply performance of flour milling firms. The study's theoretical framework is grounded in transaction cost economics, social capital theory, and the resource-based view. The data analysis involved correlation and multiple regression analyses as well as descriptive statistics with the outcomes summarized therein.

5.2.1 Trust-based relationships and Supply Chain Performance

Primarily this investigation scrutinized the effect of trust-based relationship management (TBRM) on the supply chain performance of the firms. The study's findings revealed that the

influence of management of trust-based relationship on the supply chain performance of flour milling companies was both insignificant and adverse. Consequently, the implementation of TBRM practices did not yield enhanced supply chain performance outcomes for the flour milling companies operating within the region.

5.2.2 Supplier Collaboration and Supply Chain Performance

The primary research endeavour explored supplier collaboration influence on the chain supply performance. The survey's outcomes unfolded collaboration of supplier exhibited positively impacted on the supply chain performance, albeit without statistical significance. This implies that although a favourable link exists relating to supplier collaboration and chain supply performance, the observed effect did not reach a level of statistical significance.

5.2.3 Information Sharing and Supply Chain Performance

The survey evaluated sharing of information effect on the performance of supply chain of firms situated in Kenya's Nairobi County. The findings of the study unveiled positive and substantial influence of sharing of information on the chain supply performance. This suggests the presence of a robust and significant nexus concerning the practices of sharing information and the overall supply performance of the chain for flour milling companies in the region.

5.2.4 Supplier Quality and Supply Chain Performance

The survey explored supplier quality effect on the performance of Nairobi County's supply chain flour milling companies in Kenya. The study's outcomes revealed a positive but statistically insignificant influence of supplier quality on the supply performance chain. This indicates that although a favourable association exists relating to supplier quality and supply chain performance, the observed effect did not reach a level of statistical significance.

5.3 Conclusion

The survey primarily assessed how supplier relationship management influences the performance of Nairobi County's supply chain flour milling companies in Kenya. With specific reference to the objectives, the conclusions are discussed therein.

5.3.1 Trust-Based Relationship Management and Supply Chain Performance

Stimulated by the quest to unravelled trust-based relationship management effect on the performance of Nairobi County's supply chain flour milling companies in Kenya, the outcome uncovered an inverse and lack of significant effect. In view of this, the survey concludes that trust-based relationship management has an insignificant effect on the supply chain performance. Therefore, the implementation of trust-based relationship management practices did not lead to significant improvements in the overall performance of the supply chain for flour milling companies in the region.

5.3.2 Supplier Collaboration and Supply Chain Performance

In line with its objectives, the survey also investigated the effect of supplier collaboration on the Nairobi County's performance of flour milling firms supply chain in Kenya. The outcome associated with this objective unveiled a positive and insignificant effect. In accordance with the study's findings, it was concluded that supplier collaboration is not a key determinant of supply chain performance of the firms. Therefore, any alteration in the collaboration of the supplier would amount to insignificant effect on the overall supply chain performance of the flour milling companies.

5.3.3 Information Sharing and Supply Chain Performance

In pursuit of its objectives, impact of sharing information was analyzed on the supply chain performance of these Nairobi County's firms. Consistent with the study's goals, the survey

findings unequivocally established that information sharing exerts a noteworthy and positive influence on the chain supply performance. The survey therefore concludes that information sharing is critical to the performance of supply chain of the firms. This implies that actively sharing relevant and timely information among supply chain partners, such as demand forecasts, inventory levels, production schedules, and market insights, positively influences coordination, decision-making, and ultimately leads to improved supply chain performance. Technology plays a big role in information sharing such as the Electronic Resource planning, Electronic Data Interchange would thus increase supply chain performance.

5.3.4 Supplier Quality and Supply Chain Performance

With the objective of examining supplier quality impact on the supply chain performance of flour milling companies in Nairobi County, Kenya, the study unfolded positive and insignificant effect relationship. The survey concludes that supplier quality holds no important effect on the firms' chain supply performance hence, not a key factor in determining chain supply performance. This suggests that while having high-quality suppliers is important, it may not be a significant driver of supply chain performance in this specific context.

5.4 Policy Recommendations

The recommendations of the survey were drawn from the unique outcomes of the survey. The government should encourage flour milling companies in Kenya to shift towards performance-based contracts with their suppliers and other supply chain partners. Performance-based contracts emphasize measurable performance metrics, such as delivery time, quality standards, and cost efficiency, rather than relying solely on trust-based relationships. The government can provide guidelines and support in developing and implementing such contracts to ensure fairness and transparency.

The government ought to encourage efforts that boost transparency, visibility, and information sharing among flour milling companies in Kenya. This could include embracing technological advancements like supply chain management systems and data-sharing platforms, which would allow partners in the supply chain to exchange information in real-time. By improving visibility and sharing critical information, companies can make more informed decisions and optimize their supply chain processes.

The government should encourage flour milling companies in Kenya to enhance their supplier evaluation and selection processes. This can be achieved by providing guidelines, best practices, and training programs on effective supplier assessment methods. Emphasize the importance of evaluating factors beyond just quality, such as reliability, responsiveness, delivery performance, and overall supply chain compatibility.

5.5 Contribution to Knowledge

The survey's outcomes have significantly expanded our comprehension of the intricate interplay between supplier relationship management and the supply chain performances of Kenyan flour milling firms situated the County of Nairobi. The survey has made a commendable contribution to the advancement of theoretical concepts, practical applications, and policy formulation in this domain. By extending the fundamental principles of transaction cost economics, social capital, and the resource-based view, the analysis has augmented the pertinence and practicality of these theoretical frameworks within the specific context of supply chain performance in Nairobi County's flour milling industry, thereby enriching our understanding of the subject matter.

Through the utilization of an empirical model to examine the proposition that trust-based relationship management, supplier collaboration, information sharing and supplier quality have a

diverse effect on Nairobi County's supply chain performance in Kenya, the analysis has brought forth fresh perspectives. Consequently, the existing pool of knowledge pertaining to the empirical connection concerning supplier relationship management and supply chain performance has been enriched.

5.6 Suggestion for Further Research

Owing to the survey, further research can be conducted to examine why trust-based relationship management, supplier collaboration, and supplier quality have insignificant effect on the supply chain performance of flour milling companies in Nairobi County, Kenya. Also, other survey can be performed on other firms (agriculture, insurance, banks) aside flour milling companies.

APPENDICES

Appendix I: Letter of Introduction

Mercy Chenangat

P.O BOX 222-30600

KAPENGURIA

chenangatmercy19@students.ku.ck.ke

School of Business, Economics and Tourism
Kenyatta University,
Nairobi,
Nairobi City County
Kenya.

August 7, 2023.

Dear Respondent,

RE: Support on MBA project

I am an MBA candidate at Kenyatta University. I am required to do research for my project work by my school. I chose to investigate impacts of supplier relationship managements on supply chain performances of flour milling companies in Nairobi County, Kenya, in order to fulfill prerequisites for my Master's degree. I humbly ask for your help in completing the enclosed questionnaire as a result. Your accuracy and positive response will be essential to attaining the research's objective. I want to reassure you that all of your information will be kept completely private. The study's findings will only be used for academic purposes, yet will ideally help your company expand its operations. I appreciate you for taking the time to complete this job. In case of any clarification please contact me through 0718659662 or email:chenangatmercy19@students.ku.ac.ke .

Yours sincerely,

Mercy Chenangat

Appendix II: Questionnaire

This questionnaire is created in an effort to get your unfiltered opinion about impacts of supplier relationship managements on performances of supply chains of flour milling businesses in Nairobi City County, Kenya. As a result, I would greatly appreciate your assistance and readiness to give thoughtful responses to the questions given in the form below. This questionnaire will only be used for research and academic reasons, and all replies will be kept anonymous.

SECTION A

RESPONDENT'S PERSONAL DATA

Instruction: Please tick ( ) the column that best represents your response appropriately

Sex: Male ( ) Female ( )

Age: 25 – 30 ( ) 30 -34 ( )35 -40 ( )40 – 45 ( ) 45 and above( )

Educational Qualification: Bachelor's Degree ( ) Masters ( ) PhD. ( ) others ( )

Current Position in the Organization: Supply Chain Manager ( )Supply Chain Supervisor( ), Quality Control Personnel ( )Sales Manager ( )

Years of Work Experience in the Organization: less than 5 years ( ), 6 – 15 years ( ),above 15years ( )

SECTION B

TRUST BASED RELATIONSHIP MANAGEMENT

Please select your most preferred response using criteria below: Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree. ₦

No	Statement	(1) Strongly Disagree	(2) Disagree	(3) Indifferent	(4) Agree	(5) Strongly Agree
1	Organizational management are able to manage potential and existing customers' willingness and vulnerable					
2	Loyalty of suppliers improves customer satisfaction					
3	The firm provides the foundation of greater performance levels and collaboration between them and other firms					
4	Commitment improves supply chain in terms of increased sales and customer					

	satisfaction					
5	Commitment and truth encourages firm supply					

SUPPLIER COLLABORATION

Please select your most preferred response using criteria below: Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree.

No	**Statement**	**(1) Strongly Disagree**	**(2) Disagree**	**(3) Indifferent**	**(4) Agree**	**(5) Strongly Agree**
1	The company has created a strategic alliance with companies they supply					
2	Strategic alliances helps the firm increase in sales					
3	The firm develop various new product to increase diversity and more patronage					
4	Supply chain integration is been applied by the firm for					

	better product delivery					
5	Development of diverse product boost efficiency and profit					

INFORMATION SHARING

Please select your most preferred response using criteria below: Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree.

No	**Statement**	**(1) Strongly Disagree**	**(2) Disagree**	**(3) Indifferent**	**(4) Agree**	**(5) Strongly Agree**
1	The firm makes sure that private data cannot be easy accessible to avoid replication from other firms					
2	Exchange of information among employees and managers improves good work flow					
3	Exchange of information is					

	necessary for productivity					
4	Reliable information helps the information sharing to be easy and smooth					
5	Reliable information improves efficiency					

SUPPLIER QUALITY

Please select your most preferred response using criteria below: Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree.

No	**Statement**	**(1) Strongly Disagree**	**(2) Disagree**	**(3) Indifferent**	**(4) Agree**	**(5) Strongly Agree**
1	Signed contract with suppliers ensures better flow of service delivery					
2	Supplier audit encourages quality service					
3	To maintain Supplier quality technical assistance is required					

	especially to buyers					
4	Signed contract with sellers and buyers are necessary for quality delivery					
5	Supplier quality is important to firm it so as to gain competitive advantage					

SUPPLY CHAIN PERFORMANCE

Please select your most preferred response using criteria below: Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree.

No	**Statement**	**(1) Strongly Disagree**	**(2) Disagree**	**(3) Indifferent**	**(4) Agree**	**(5) Strongly Agree**
1	Increased sales					
2	Efficiency has increased					
3	Firms products has increased and are of good quality					
4	Customer satisfaction increase					

Appendix III: Flour Mills in Nairobi, Kenya

- Alpha Grain Millers Ltd
- Alta Flour Improvers, Nairobi
- Baraka Flour Mills, Nairobi
- Kabansora Millers LTD
- Kirinyaga Flour Mills LTD
- Maisha Flour Mills LTD, Nairobi
- Mombasa Maize Millers (NRB) LTD
- Nairobi Flour Mills, Nairobi
- Osho Grain Millers, Nairobi
- Pembe Flour Mills Ltd, Nairobi
- Premium Flour Mills Ltd
- Spice World LTD, Nairobi
- Uchumi Grain Millers EA Ltd. Nairobi
- Unga Limited, Commercial Street, Industrial Area
- United Millers Ltd
- Winnie's Pure health, Mombasa Road

Appendix IV: Approval of Research

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 810901 Ext. 4150

Internal Memo

FROM: Executive Dean, Graduate School

DATE: 20th February, 2024

TO: Mercy Chenangat
C/o Management Science Dept.

REF: D53/OL/CTY/26084/2019

SUBJECT: APPROVAL OF RESEARCH PROJECT PROPOSAL

This is to inform you that Graduate School Board at its meeting of 14the February, 2024 approved your Research Project Proposal for the M.B.A Degree Entitled, "Supplier Relationship Management and Supply Chain Performance of Flour Milling Companies in Nairobi County, Kenya."

You may now proceed with your Data Collection, Subject to Clearance with Director General, National Commission for Science, Technology and Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking Forms per semester. The form has been developed to replace the Progress Report Forms. The Supervision Tracking Forms are available at the University's Website under Graduate School webpage downloads.

Also, please ensure that you publish article(s) from your project before submitting it to Graduate School for examination as per the Commission for University Education and Kenyatta University guidelines.

Thank you.

ANNBELL MWANIKI
FOR: EXECUTIVE DEAN, GRADUATE SCHOOL

c.c. Chairman, Management Science Department.

Supervisors:

1. Dr. Wambui Chege
C/o Department of Management Science
Kenyatta University

Appendix V: Research Authorization

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 8710901 Ext. 57530

Our Ref: D53/OL/CTY/26084/2019

DATE: 20th February, 2024

Director General,
National Commission for Science, Technology
and Innovation
P.O. Box 30623-00100
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR MERCY CHENANGAT – REG. NO. D53/OL/CTY/26084/2019

I write to introduce Mercy Chenangat who is a Postgraduate Student of this University. He is registered for M.BA degree programme in the Department of Management Science.

Mercy intends to conduct research for a M.BA Project Proposal entitled, "Supplier Relationship Management and Supply Chain Performance of Flour Milling Companies in Nairobi County, Kenya."

Any assistance given will be highly appreciated.

Yours faithfully,

PROF. ELISHIBA KIMANI
EXECUTIVE DEAN, GRADUATE SCHOOL

AM/mo

Appendix VI : NACOSTI

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **656424**

Date of Issue: **04/March/2024**

RESEARCH LICENSE

This is to Certify that Ms.. MERCY CHENANGAT of Kenyatta University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: SUPPLIER RELATIONSHIP MANAGEMENT AND SUPPLY CHAIN PERFORMANCE OF FLOUR MILLING COMPANIES IN NAIROBI COUNTY, KENYA for the period ending : 04/March/2025.

License No: **NACOSTI/P/24/33603**

656424

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

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See overleaf for conditions