

**ASSESSMENT OF SUPPLY CHAIN PERFORMANCE ON PROCUREMENT  
MANAGEMENT IN BARINGO COUNTY, KENYA**

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**A Project Submitted in Partial Fulfilment of the Requirement for the Award of  
Master Degree in Procurement and Supplies Management of Mount Kenya  
University**

**APRIL, 2025**

## DECLARATION

This Research project is my original work and has not been submitted for the award of a degree in any other University or Institution of higher learning.

Signature:  \_\_\_\_\_

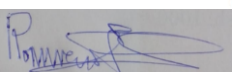
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## Approval

This research project has been submitted for examination with my approval as the university supervisor.

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## DEDICATION

This research project is dedicated to my Wife, Caroline and Children, Ruth Faith and Joy.

To my classmates thank you for your moral support.



## ACKNOWLEDGEMENT

I would like to extend my heartfelt gratitude to everyone who has supported and encouraged me throughout my research journey. First and foremost, I thank the Almighty God for blessing me with good health, life, and the strength needed to complete this study. I am especially grateful to my supervisor, Dr. Obuba, for his invaluable guidance, support, and direction during this process. I truly appreciate the confidence that everyone who assisted me has shown in my work, and I believe this research reflects that trust.



## ABSTRACT

Procurement practices play a vital role in enhancing the efficiency and performance of both public and private organizations globally. In Kenya, county governments continue to experience financial losses due to inefficiencies in procurement processes. Additionally, the reliance on traditional procurement methods has contributed to persistent inadequacies in procurement management. This study aimed to examine the impact of supply chain performance on procurement management, focusing on Baringo County. The specific objectives were to determine the effect of supplier management on procurement management, assess the influence of transport logistics, and evaluate the role of storage logistics in procurement management within the county. The research was guided by the Social Network Theory, Game Theory, and the Stochastic Inventory Model. A descriptive research design was employed, targeting 67 county officers directly involved in procurement activities. A census approach was used to include all 67 officers in the study. Data was collected using structured questionnaires and analyzed using the Statistical Package for Social Sciences (SPSS) version 22. Correlation analysis was conducted to establish the relationship between supply chain performance and procurement management. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize the data. The findings were presented in frequency tables and graphs for ease of interpretation. The study established that supplier management, transport logistics, and storage logistics significantly contribute to improving procurement management in Baringo County, as demonstrated by both descriptive and inferential statistical analyses. Supplier management showed a Pearson correlation of 0.518 and a regression coefficient of 0.433, indicating its significant contribution to cost savings and operational improvements. Transport logistics exhibited an even stronger correlation of 0.563 and a regression coefficient of 0.220, underscoring the importance of timely deliveries and efficient fleet management. Storage logistics, with a correlation of 0.449 and a regression coefficient of 0.432, was found to be crucial in ensuring adequate inventory control and reducing inefficiencies. The study's R-squared value of 0.463 indicates that these three variables together explain 46.3% of the variation in procurement management. Conclusion of the study is that procurement management in Baringo County is heavily influenced by supplier management, transport logistics, and storage logistics. Based on these findings, it is recommended that Baringo County focus on strengthening supplier relationships, adopting modern transport and storage technologies, and investing in ongoing training for procurement personnel to enhance performance and efficiency.

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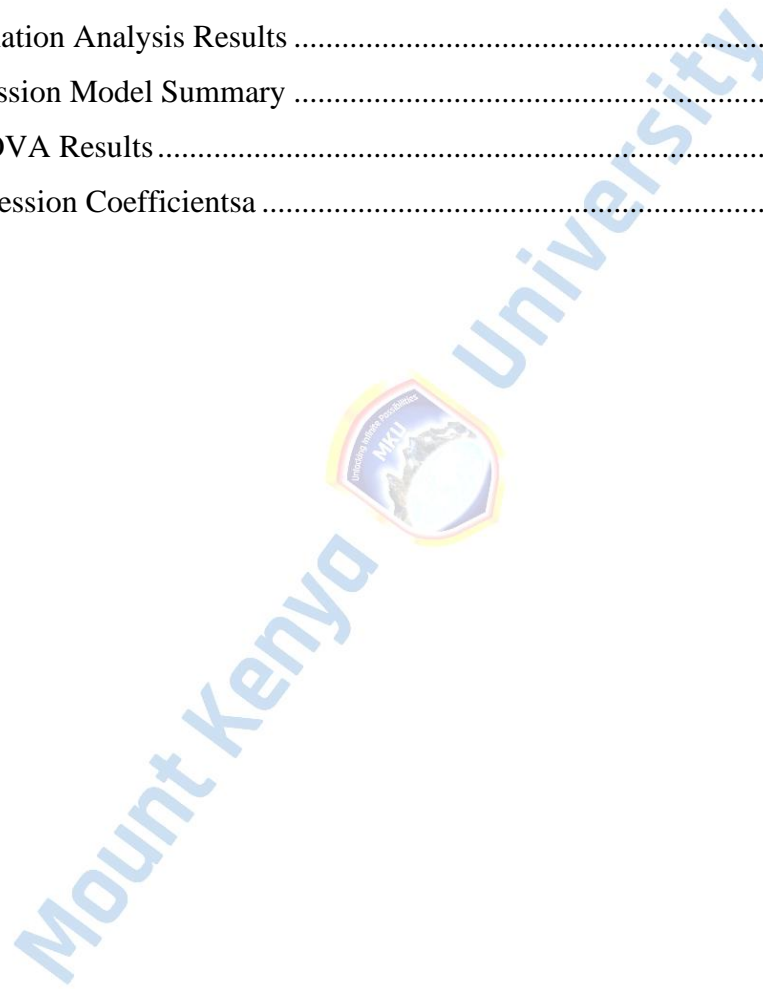
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## LIST OF ABBREVIATIONS AND ACRONYMS

<b>CPAR:</b>	Country Assessment Review (CPAR)
<b>CRM:</b>	Customer relationship management (CRM)
<b>FMCG:</b>	Fast-moving consumer goods (FMCG)
<b>ICT:</b>	Information communication and technology
<b>GDP:</b>	Gross Domestic Product (GDP),
<b>KENGEN:</b>	Kenya Electricity Generating Company Limited (KENGEN).
<b>KPI:</b>	Key performance indicators (KPIs)
<b>NACOSTI:</b>	National Commission for Science, Technology, and Innovation)
<b>PPOA:</b>	Public procurement oversight authority
<b>SCM:</b>	supply chain management (SCM)
<b>SCOR:</b>	Supply Chain Operations Reference (SCOR)
<b>SPSS:</b>	Statistical Package for Social Sciences (SPSS)

# CHAPTER ONE

## INTRODUCTION

### 1.0 Introduction

This chapter provides an overview of the research study by laying the foundation for understanding the topic under investigation. It introduces the subject matter and outlines the key components that structure the research. The chapter begins with the background of the study, which sets the context and highlights the existing gaps or issues the research seeks to address. It then presents the problem statement, followed by the objectives of the study and the corresponding research questions. Additionally, the chapter outlines the justification and significance of the study, establishing its relevance to stakeholders. The scope, limitations, and delimitations are also discussed to define the boundaries of the research. Finally, key terms used throughout the study are defined to ensure clarity and consistency.

### 1.1 Background of the Study

In the supply chain management (SCM) process, management serves as the final stage. However, it should not be considered separately, as monitoring activities typically occur alongside other SCM components. The management process involves reviewing past actions to determine whether proper procedures were followed and if the intended results were achieved (Duncombe, 2017). For SCM to function effectively, organizations must establish a management system that aligns with departmental policies, operational procedures, and relevant legal frameworks.

In supply chains, managers often pursue multiple goals simultaneously without fully accounting for the trade-offs involved. For example, efforts to reduce procurement costs may lead to compromised product quality, extended lead times, or challenges related to

supplier location (Aghazadek, 2018). If cross-departmental objectives are not aligned and key operational performance indicators (KPIs) do not support the broader strategic goals of the organization, companies may face inefficiencies, counterproductive decision-making, and potential product recalls (Koumanakos, 2019).

To measure performance within supply chain and logistics operations, various indicators have been developed. Selecting the most appropriate metrics can be complex, as focusing exclusively on one area—such as cost reduction—may improve that aspect while negatively affecting overall supply chain efficiency (Arrowsmith & Quinot, 2018). A comprehensive performance evaluation model includes four key indicator categories: quality, time, financial, and productivity (Lyson, 2018). These indicators must be analyzed collectively to provide a complete view of SCM effectiveness.

Among these, quality indicators are relatively easy to track and measure, offering insights into specific operational activities. A common logistics metric in this category is accuracy, which includes order accuracy, inventory accuracy, and picking accuracy. Time-based indicators, on the other hand, assess the duration of various activities and help identify potential inefficiencies in the supply chain (Lyson, 2018).

Financial indicators assist managers in identifying cost drivers within the supply chain and working towards more efficient management. Productivity indicators evaluate the effective utilization of resources. For instance, maximizing vehicle capacity instead of dispatching half-empty vehicles can reduce costs and enhance efficiency. However, it is important to note that solely focusing on one type of indicator may have unintended consequences on product availability. For example, a decision to send fully loaded vehicles on distribution runs could lead to stock shortages at subsequent levels unless inventory policies are adjusted accordingly. It is crucial to take a holistic view of these indicators,

ensuring they are coordinated and not conflicting with each other, and to recognize the trade-offs necessary to strategically improve overall supply chain performance (Nicosia, 2019).

Supply chain performance plays a significant role in competitive strategy, enhancing the productivity and profitability of state corporations. The importance of these measures and metrics cannot be overstated as they impact strategic, tactical, and operational planning and control. In devolved governments, supply chain performance is a key economic activity, encompassing income redistribution through taxation and spending, provision of public goods and services, and establishment of a legal framework to facilitate economic activities (OECD, 2017). To establish comparable county government procurement practices across various public organizations, it has become essential to design formal government procurement codes containing standardized rules and regulations across different countries, both developed and developing (Khan & Mohammadi, 2018).

Measuring supply chain performance is crucial for evaluating the effectiveness and efficiency of current systems or comparing alternative options (Lyson, 2018). These measurements provide valuable feedback on growth, enhanced communication, and problem identification (Cooper & Schindler, 2018). By gaining a better understanding of the supply chain, these measurements contribute to overall performance improvement (Shepherd & Gunter, 2016). Performance measures for each firm's supply chain are conducted differently and tailored to specific organizational needs. Three common approaches for measuring supply chain performance are the Supply Chain Operations Reference (SCOR) model, benchmarking, and the Balanced scorecard (Matton, 2017). The SCOR model enables managers to address, improve, and lead supply chain management operations among all stakeholders (Cooper & Schindler, 2018).

In Europe, Koul, Kumar, Watering, and Verma (2017) examined the impact of procurement management on supply chain management performance. They found that aligning procurement activities resulted in improved performance over time. In Malaysia, the government mandated the adoption of electronic procurement systems to enhance supply chain performance. Awang, Kaliannan, and Raman (2018) discovered that the Malaysian public sector was rapidly adopting ICT technology.

In China, Huawei Technologies leverages purchasing goods and services as part of its supply chain practices to enhance organizational performance. According to Kannan (2018), effective purchasing improves the quality of the organization's output, which directly impacts performance, such as increased profitability. To enhance performance, Huawei Technologies carefully selects suppliers through an evaluation process to ensure they can deliver high-quality goods and services. Purchasing enables the organization to document instances of poor supplier performance and use this information to determine eligibility for future tender bids (Cooper & Schindler, 2018). By engaging in strategic purchasing, Huawei Technologies gains access to a portfolio of high-quality suppliers, thereby improving their supply chain management practices.

In numerous African countries, public procurement constitutes a significant portion of fiscal expenditures, making it essential for both sound public financial management and inclusive growth to implement effective procurement methods (Nyeko, 2017). In South Africa, public procurement reforms were introduced to uphold the principles of good governance, including the implementation of a preference system by the National Treasury to address socio-economic objectives. These reforms were driven by disparities in policy enforcement, a lack of accountability, uncoordinated procedures, and the need for a standardized implementation framework. A study conducted by the Joint Country Assessment Review (CPAR) and the World Bank in 2011 highlighted these challenges

(Pawlak & Malysset, 2016). In response to governance shortcomings, inconsistencies in interpretation, and inefficiencies in executing the Preferential Procurement Policy Framework Act (PPFA) Act No. 5 of 2000, the adoption of Supply Chain Management (SCM) as a regulatory mechanism in the public sector was considered essential (Gunasekaram, 2018)

In Uganda, Uganda Clays leverages purchasing as a fundamental aspect of supply chain management to enhance enterprise performance by utilizing supplier selection provisions to acquire high-quality products. Within the regional context of supply chain management, the availability and implementation of robust purchasing practices play a vital role. Therefore, to improve performance, it is crucial for organizations to adopt a selection matrix that enhances supply performance by more than 20% (Sari, 2016). Having a well-defined purchasing model ensures that Uganda Clays enters into contracts with suppliers capable of meeting the contractual expectations, thereby providing enhanced visibility into supplier performance, reducing costs, and increasing profitability levels. Purchasing is considered a critical component of supply quality management as it ensures organizations have access to high-quality products that lead to improved customer satisfaction (Orina, 2018).

In Tanzania, Azam Bakhresa Group enhances its manufacturing performance through the adoption and implementation of supply chain distribution. Well-designed organizational systems and policies create a platform for effectively planning and coordinating supply chain systems (Ogembo, 2019). This facilitates the improvement of technical aspects within supply chain management systems. Distribution policies for inventory management enable the organization to focus on enhancing supply chain processes, ultimately improving company performance. Proper disposal policies contribute to operational

efficiency by providing efficient and ethical means of product disposal, maximizing the organization's value and benefits (Silver, 2019).

In Kenya, the Public Procurement and Disposal Act of 2015 outlines the processes through which both county and national governments operate and spend public funds (cherotich et al, 2018). Public procurement accounts for over 10% of Kenya's Gross Domestic Product (GDP), making it a significant market for suppliers and contractors (Rolfstam, 2018). Due to the substantial resources involved, public procurement is particularly vulnerable to corruption (International Transparency, 2020). Consequently, it is crucial to establish safeguards to prevent corrupt practices in public procurement (PPOA, 2019). Assessing the performance and capabilities of current and potential suppliers individually becomes necessary to improve their performance for the benefit of the buying organization (CIPS Knowledge, 2021).

### **1.1.1 Procurement Management**

Extensive research on procurement management has been conducted globally, yielding diverse insights. A study by Schmidt (2017) in the Netherlands established a strong relationship between procurement management and project design. Similarly, Tallari and Gardner (2019) highlighted the significance of well-defined key performance indicators and a skilled procurement team in enhancing procurement processes in England. Kumar and Markeset (2017), in their study on performance-based service strategies in India's oil and gas sector, identified a direct link between procurement strategies and organizational performance. Transparency International's assessment of Hong Kong's large-scale projects indicated that stringent anti-corruption measures contributed to their timely completion within budget and with minimal corruption cases (Cho & Pucick, 2015).

In Africa, research findings reflect unique challenges in procurement management. Mutangili (2019) examined procurement inefficiencies in Tanzania and attributed them to a shortage of skilled professionals. He recommended hiring procurement managers with industry-specific expertise to enhance efficiency. Marco (2018) noted that contract management is often treated as an independent process, with procurement-related decisions frequently made by individuals outside the procurement function, leading to misalignment with procurement guidelines. Oluka and Basheka (2017), in their Ugandan study, identified key factors affecting procurement management, including inadequate political commitment to contract supervision, poor project management competencies, weak stakeholder oversight, and concerns over credibility in the procurement cycle. These insights contribute to ongoing efforts to improve procurement policies and practices.

In a study conducted in Kenya, Kariuki and Paul (2019) concluded that the rules and framework of purchase policies are crucial for successful contract implementation in government agencies, although they had the least impact compared to other components in their research. The study also highlighted the importance of stakeholder management techniques in enhancing service marketplaces and improving procurement efficiency in public agencies. Kimundu and Moronge (2019) found a strong link between training, motivation, and procurement management success, emphasizing the need for staff to possess the necessary skills and knowledge. The study concluded that effective contract management is essential for all public sector agencies, regardless of their size or objectives, and that effective policy frameworks are necessary to achieve this.

### **1.1.2 County Governments of Kenya**

Kenya's counties are administrative units established under the 2010 Constitution as part of a decentralized governance system. Their roles and functions are defined in Articles

191 and 192 of the Constitution, along with the fourth schedule and the County Governments Act of 2012. Each county is represented by a senator in the Kenyan Senate and has designated female representatives in the National Assembly. Following the 2013 general elections, Kenya was divided into 47 counties, each with distinct boundaries based on previously recognized districts.

The shift to a devolved government structure aimed to achieve two primary objectives. Firstly, it sought to enhance citizen participation in governance, allowing for better oversight and policy implementation at the local level. The county government system is composed of two main branches: the county assembly and the county executive. The county assembly is tasked with passing county-level legislation, overseeing the executive, and approving development plans and policies for effective resource management. Democratic principles are upheld through elected ward representatives, with provisions for nominations to ensure inclusivity for women, minority groups, and persons with disabilities. The assembly is led by a County Speaker, who, as per legal requirements, is not an elected member of the assembly.

Meanwhile, the county executive is responsible for executing executive functions, implementing county laws, and ensuring smooth administration within the county. This structure enables counties to manage their affairs more effectively while aligning governance with local needs and priorities (Muhalia et al., 2021).

## **1.2 Statement of the Problem**

The efficiency of development expenditure is closely tied to the effectiveness of public procurement systems. Government budgets are converted into practical initiatives through the acquisition of goods, services, and infrastructure projects. Public procurement plays a crucial role in economic development, accounting for approximately 18.42% of the global

Gross Domestic Product (GDP) (World Bank, 2018). In developing nations, it contributes between 9% and 13% of GDP, emphasizing its significance in public administration. Despite its importance, public procurement is often plagued by challenges that undermine its effectiveness.

Kenya's county governments were established to enhance service delivery and drive regional development. They were expected to become strong institutions capable of implementing policies and projects that benefit local communities (Cherotich et al., 2018). However, the effectiveness of county administrations has been hindered by issues such as poor-quality work, substandard goods and services, inefficiency, corruption, and a lack of professionalism. These shortcomings have led to the misallocation and wastage of public resources (Wanyama, 2015). Audit reports highlight the severity of these issues; for instance, the Auditor General's report for the 2014/2015 financial year revealed that Embu County lost Ksh 60 million due to irregular procurement practices. Similarly, Bungoma County suffered a 40% loss in the 2012/2013 fiscal year due to the mismanagement of public funds (PPRA, 2018).

An OECD report (2018) identified county governments as critical areas for reform, particularly in addressing corruption and financial mismanagement. Many county administrations lack proper oversight and effective management controls, creating opportunities for fraud, theft, and inefficient resource utilization. These challenges hinder service delivery and compromise long-term sustainability. To enhance efficiency, county governments must adhere to their constitutional obligations as outlined in Articles 47 and 113 of the Kenyan Constitution. These provisions require the development of performance management systems to monitor and evaluate service delivery and the implementation of county programs.

Globally, various studies have examined procurement practices and their impact on financial performance. Pollock (2017) found that procurement expenses constitute between 73% and 84% of a company's total costs, and organizations could potentially reduce annual procurement expenditures by up to 20% through the adoption of effective procurement strategies. In Kenya, the UNHCR (2018) conducted a study on procurement trends, noting that the agency's procurement volume in the country increased from \$84 million to \$146 million within a year, representing a 50% rise. However, the study highlighted a disparity between the increased expenditure and the actual quality of procured goods and services, attributing this gap to poor procurement practices among professionals.

Given the ongoing challenges in procurement and supply chain management, this study seeks to evaluate the impact of supply chain performance on procurement management in Kenya, with a specific focus on Baringo County. By analyzing key procurement issues, inefficiencies, and potential areas for reform, this research aims to contribute to the development of more effective procurement strategies that enhance service delivery and resource utilization in county governments.

### **1.3 Purpose of the Study**

The purpose of the study was to assess the effect of supply chain performance on procurement management in Kenya; A case of Baringo County

### **1.4 Objectives of the Study**

The study was guided by three specific objectives;

- i. To establish the effect of supplier management on procurement management in Baringo county.

- ii. Examine the effect of transport logistics on procurement management in Baringo County.
- iii. To analyze the effect of storage logistics on procurement management in Baringo county.

### **1.5 Research Questions**

- i. What is the effect of supplier management on procurement management in Baringo County?
- ii. How does transport logistics affect procurement management in Baringo County?
- iii. What is the relationship between storage logistics and procurement management in Baringo County?

### **1.6 Significance of the Study**

The impact of supply chain performance on procurement management in Kenya is valuable knowledge for policymakers in the public sector. It is expected assist the government in formulating policies that address procurement practices in the country. Additionally, the study may provide significant benefits to county management and employees by offering insights into procurement management. This understanding may promote the adoption of effective procurement practices and contribute to the long-term performance improvement of the supply chain in counties.

Furthermore, this study has the potential to benefit a wide range of stakeholders, including procurement professionals, industry practitioners, academic institutions, government agencies, policymakers, and suppliers engaged in procurement activities. By providing relevant and up-to-date insights into best practices, challenges, and limitations within procurement management, the study serves as a valuable resource for improving procurement efficiency and effectiveness. The findings of this research offer practical

recommendations that stakeholders can apply to enhance procurement decision-making, streamline processes, and ensure transparency and accountability. Industry professionals can use the study's insights to refine procurement strategies, reduce inefficiencies, and optimize resource allocation. Institutions and training bodies may also leverage the findings to develop training programs that equip procurement personnel with essential skills and knowledge to navigate complex procurement environments effectively.

Moreover, suppliers and contractors can benefit from understanding the best procurement practices and regulatory requirements, enabling them to align their operations with industry standards and government policies. The study's recommendations can also support policymakers in formulating and enforcing policies that promote ethical procurement practices, reduce corruption, and enhance compliance with procurement regulations.

Lastly, future researchers may benefit from this study as it may contribute to the body of knowledge in the field of procurement. It may serve as a reference and guide for researchers interested in exploring similar topics. By building on the findings of this study, future research can deepen the understanding of critical issues related to procurement management.

### **1.7 Scope of the Study**

The Study seeks to investigate the effects of supply chain performance on procurement management in Kenya; A case of Baringo County. The target population was all the 15 procurement officers in the 15 departments, chief officers and 15 accounting officers from the 15 ministries in the county, 7 finance officers and 14 procurement requestors. The study has three independent variables which are; Supplier management, Transport logistics and

storage logistics and one dependent variable which is procurement management in the county government of Baringo. The study was based on three theories; social network theory, game theory and Stochastic Inventory Model. The study was carried out in a period of three months starting from the month of September up to December 2024

### **1.8 Assumptions of the Study**

The study assumed that respondents answered the questionnaires truthfully. The study also assumed that the administration of the county government of Baringo allowed easy access into their premises during data collection.

### **1.9 Limitations of the Study**

The study acknowledges the potential challenge of respondents being reluctant to share information they perceive as sensitive or confidential due to concerns about possible repercussions from their superiors. To address this issue, the researcher presented an introduction letter from the university, emphasizing that the study was purely for academic purposes and assuring respondents of the confidentiality of their responses. Additionally, some participants delayed in completing and returning the research instruments within the expected timeframe. To mitigate this, the researcher collected the respondents' contact details and sent regular reminders, encouraging them to complete and submit the research instruments. These follow-ups were aimed at improving the response rate and ensuring comprehensive data collection for the study

### **1.10 Delimitation of the Study**

The study is delimited to Baringo County, Kenya, and does not encompass other counties or regions within the country. The study focuses on six months' time frame. The research concentrates on the effect of supply chain performance on procurement management within Baringo County. It does not extend to other aspects of supply chain management, such as logistics or distribution.

## 1.11 Operational Definition of Key Terms

**Supply Chain Management (SCM):** Supply Chain Management refers to the coordinated management of all activities related to the flow of goods, services, information, and finances from the initial supplier to the ultimate customer.

**Procurement Management:** Procurement Management is the systematic process of acquiring goods, services, or works from external sources, including suppliers and vendors, to meet the needs of an organization.

**Supplier Management:** Supplier Management involves the systematic and strategic management of relationships with suppliers or vendors.

**Transport Logistics:** Transport Logistics, also known as transportation logistics, pertains to the planning, execution, and management of the physical movement of goods or people from one location to another.

**Storage Logistics:** Storage Logistics, often referred to as warehousing or inventory management, deals with the efficient handling, storage, and distribution of goods within a facility or warehouse.

**Supply Chain Performance:** Supply Chain Performance measures the effectiveness and efficiency of all processes and activities involved in the supply chain, from procurement to production, logistics, and distribution.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

This chapter provides a comprehensive review of existing literature relevant to the study's purpose. The content is structured according to the specific research objectives to maintain a clear focus on addressing the research problem. The literature review aims to examine previous studies and other secondary sources that contribute valuable insights to the research. Additionally, it establishes the foundation for the study's conceptual framework by exploring key theories related to each variable, explaining their significance, and outlining appropriate methods for measuring them.

#### **2.1 Empirical Review**

##### **2.1.1 Supplier Management and Procurement Management**

Bashuna (2022) conducted a study to assess the factors influencing the effective management of the procurement function in the Nakuru North Sub County Procurement Unit. The study targeted departmental heads from all 30 Ministry departments within the procurement units, using a census approach. The findings revealed that the management of the procurement function was only moderately effective, largely due to challenges related to project financing, accountability, the adoption of information and communication technology (ICT), and internal control systems. While these factors were crucial, the study did not delve deeply into how specific departments performed under these constraints, indicating a gap in exploring department-level nuances and the effectiveness of procurement reforms across different ministry units.

Njeru (2021) researched the factors affecting the successful implementation of procurement practices in Kenya's tertiary public training institutions. The study employed a descriptive correlational research design, targeting 40 tertiary public training institutions.

Findings showed that supplier management, procurement policies, and staff training were the major factors influencing the effective implementation of procurement practices. Despite identifying these key factors, the study lacked focus on the role of technology in procurement practices and did not explore how these institutions can address challenges in supplier management more innovatively.

Kosgei and Gitau (2021) analyzed the impact of supplier relationship management on the performance of Kenya Airways Limited. Using Kenya Airways as the case study, the research emphasized that managing the supply chain effectively, particularly through robust buyer-supplier relationships, could give the company a competitive edge. Trust and commitment in these relationships were found to significantly enhance competitive advantage, profitability, and overall organizational performance. However, the study did not address how external factors like market dynamics or international suppliers might affect supplier relationships, which presents an area for further investigation.

Kamau (2019) explored the influence of buyer-supplier relationships on the performance of large manufacturing firms in Kenya. The study used a cross-sectional survey design targeting manufacturing firms in Nairobi. The results indicated a strong correlation, with buyer-supplier relationships explaining 72.3% of the variation in organizational performance. The study's high coefficient of determination pointed to the importance of these relationships, but it did not explore the long-term sustainability of these partnerships or how changes in supplier practices might affect performance over time.

Tangus, Oyugi, and Rambo (2020) investigated the impact of supplier relationship management on the performance of manufacturing firms in Kisumu County. Descriptive and inferential statistics were used to assess the data. Information sharing was found to have a significant positive effect on organizational performance, while supplier segmentation and development had a minimal impact. However, the study did not address

how different types of supplier development programs could potentially improve the low influence noted in the findings, suggesting the need for more in-depth research on tailored supplier development strategies.

Wairimu and Waiganjo (2020) examined the effect of customer relationship management (CRM) strategies on customer behavior in Nairobi's Safaricom Club. The study concluded that CRM strategies had a significant and positive impact on customer behavior, emphasizing the importance of strategic customer relationship management. Despite this, the research did not investigate how evolving technology in CRM tools could further enhance customer behavior and experience, leaving room for future studies to explore the potential of digital CRM strategies.

Wachiuri, Waiganjo, and Oballah (2020) studied the role of supplier development in improving organizational performance, focusing on East African Breweries Ltd. The study adopted a descriptive case design and found that financial support, rewards, and active firm involvement in supplier development had a significant effect on the brewery's performance. While the research highlighted key elements of supplier development, it did not evaluate how varying economic conditions might influence these relationships, suggesting a need for research into external economic impacts on supplier development practices.

Gumboh and Gichira (2021) explored barriers to collaboration in supply chains among Kenyan SMEs. The study identified trust issues, cultural differences, and relationship challenges as major barriers to effective collaboration. These findings are critical for understanding supply chain dynamics; however, the study did not propose specific

solutions or frameworks to overcome these barriers, leaving an opportunity for further research into overcoming collaboration hurdles in SME supply chains.

Makau and Muturi (2019) conducted a study on buyer-supplier relationships and their impact on procurement performance among supermarkets in Kisii. Using a descriptive survey design, the study revealed that commitment, trust, communication, and cooperation were key factors that significantly improved procurement performance. However, the study did not examine the role of modern procurement technologies in facilitating these relationships, highlighting a gap in exploring how technological integration could enhance buyer-supplier dynamics in the retail sector.

Omondi (2020) conducted a study examining the effect of e-procurement on the performance of state corporations in Kenya. The research employed a descriptive research design, targeting procurement officers in 50 state corporations. The findings indicated that the adoption of e-procurement systems significantly improved procurement efficiency, transparency, and cost savings. However, the study highlighted that most corporations faced challenges in fully implementing e-procurement due to insufficient infrastructure and limited staff capacity in handling new technologies. The research did not delve into how these corporations could address these challenges, indicating a gap in exploring the strategies required for full e-procurement adoption.

Mwangi and Kiarie (2021) investigated the influence of green procurement practices on the performance of manufacturing firms in Thika, Kenya. Using a cross-sectional survey research design, the study targeted 60 manufacturing firms. The results showed that firms adopting green procurement practices, such as environmentally friendly sourcing and waste reduction strategies, reported improved performance, especially in terms of cost reduction and compliance with environmental regulations. Nevertheless, the study found

that only a small percentage of firms had fully embraced green procurement, primarily due to cost concerns and lack of awareness. This points to a gap in understanding how firms can be incentivized to adopt sustainable procurement practices more broadly.

Mutua (2022) examined the impact of procurement policies on the efficiency of procurement processes in county governments in Kenya, with a focus on Mombasa County. The study adopted a descriptive survey design targeting procurement officers, with a sample size of 100 respondents. The findings revealed that procurement policies significantly influenced the efficiency of procurement processes, especially when policies were well-communicated and adhered to. However, the study noted that many officers faced challenges in understanding and implementing complex procurement regulations. The research failed to explore the role of continuous training and capacity building in enhancing policy implementation, leaving a gap for future studies to investigate the effect of training on procurement efficiency.

### **2.1.2 Transport Logistics and Procurement Management**

Njeri (2022) conducted a study to explore the impact of oil transportation on the performance of oil marketing companies in Rwanda. The research adopted a descriptive survey design and utilized questionnaires, administered through personal interviews, to gather data from a target population of 54 employees involved in the restructuring of 18 oil marketing companies. Stratified random sampling was employed to ensure that each segment of the target population was adequately represented. The findings revealed a strong relationship between transportation and company performance, with transportation accounting for 94.0% of the variation in performance metrics of the oil marketing companies in Rwanda. This underscores the critical role transportation plays in determining the success of these companies.

Rhone (2018) studied the influence of transport logistics on the performance of dairy farms in Thailand's central region. Using a descriptive survey design, data were collected from 1,034 dairy farms on milk yield, bacterial score, milk fat, bulk tank somatic cell count (BTSCC), and milk price records. A questionnaire was also used to capture educational experiences and farm management practices. The study revealed that transport logistics significantly impacted dairy farm performance, with transportation mode and order processing emerging as key factors that influenced productivity and profitability in the region.

Muchori (2020) examined the effect of road traffic congestion on freight logistics efficiency at the port of Mombasa in Kenya. Through a descriptive survey design, 150 respondents from a pool of 10,450 employees were sampled. The study found a positive correlation between traffic congestion and increased transport costs, which negatively impacted the efficiency of freight logistics operations. This inefficiency had far-reaching implications for the overall logistics performance at the port, including delays and increased operational expenses.

Similarly, Mukolwe and Wanyoike (2020) assessed the impact of transport management practices on operational efficiency at Mumias Sugar Company. The research, utilizing descriptive and inferential statistics, highlighted that effective transport management and physical distribution practices were vital for the cost-effective flow of raw materials and finished goods. These practices, in turn, positively influenced operational efficiency, showcasing the importance of efficient logistics management in enhancing productivity.

In a related study, Mwangangi (2021) analyzed how logistics management affects the performance of manufacturing firms. The study used both primary and secondary data sources, including employee feedback and existing records. Multiple regression analysis

indicated that transport management systems were significant predictors of firm performance, revealing that better logistics management could enhance operational efficiency and competitiveness.

Gitahi and Ogollah (2021) investigated the influence of fleet management practices on service delivery to refugees under the UNHCR program in Kenya. Using a descriptive research design, 117 employees from a target of 390 contributed data. The study concluded that effective fleet management practices, such as fuel consumption monitoring, vehicle allocation, and usage tracking, were critical in improving service delivery to refugees, emphasizing the need for comprehensive fleet management systems in humanitarian aid programs.

Ndubi, Iravo, and Ochiri (2020) conducted a study to assess how variations in lead time influence the efficiency of inbound logistics at Safaricom Limited. By utilizing a linear regression model, their findings revealed that key factors, including production lead time, shipping duration, customs clearance processes, and the speed of goods inspection, had a substantial impact on the overall performance of inbound logistics. These elements influenced delivery time, cost efficiency, and the overall quantity of goods received, highlighting the importance of minimizing lead time variability to enhance logistics performance.

Kamble, Gunasekaran, and Gawankar (2021) conducted a study on Sustainable Performance in Agriculture Supply Chains and explored the role of transport logistics in procurement management within agricultural supply chains. The study targeted 112 companies and found that real-time tracking and logistics integration significantly improved procurement performance. However, the study mainly focused on agriculture

and did not explore other sectors, such as county governments . The current study aims to extend this analysis to public sector procurement management.

Nguyen and Tran (2020) examined The Impact of Logistics Service Quality on Procurement Efficiency in E-commerce Firms in Vietnam. The study focused on 350 e-commerce firms and found that transport logistics significantly influenced procurement practices, leading to improved efficiency and customer satisfaction. While the study was comprehensive in its scope, it did not address logistics in the context of public procurement. The current study intends to bridge this gap by exploring how transport logistics affect procurement management in public sector, specifically county governments in Kenya.

Although existing literature focuses primarily on logistics management, with transport being viewed as a component of logistics, there is a gap in understanding the direct impact of transport logistics on the performance of procurements in county governments. This research aims to address this gap by exploring how counties manage transportation and how it influences their overall performance.

### **2.1.3 Storage Logistics and Procurement Management**

Fahad (2019) conducted a study that explored factors influencing supply chain management in oil companies operating in Kenya. The research specifically aimed to assess how limited infrastructure affects supply chain operations in oil marketing companies. The study employed a descriptive research design, with a target population of 1,500 employees across 50 oil marketing firms in Kenya. A sample of 150 respondents was selected, and data was gathered using structured questionnaires. The analysis was conducted using both descriptive and inferential statistics. The findings indicated that the management information systems in the companies were effective, and that their storage facilities were sufficient to support supply chain activities, which in turn enhanced overall

efficiency. While the study provided insights into infrastructure and supply chain management, it did not delve deeply into how specific logistics functions, such as procurement management and storage logistics, interact. The current study aims to bridge this gap by examining the relationship between storage logistics and procurement management in the County Government of Baringo.

Mutai and Moronge (2021) investigated how storage management affects the productivity of state corporations in Kenya, with a particular focus on Kenya Electricity Generating Company Limited (Kengen). Their study explored the relationship between efficient storage practices and overall organizational performance. The study aimed to determine how stock control and distribution planning affected organizational output. A descriptive research design was utilized, and data was collected from 117 respondents using questionnaires that captured both qualitative and quantitative information. The results revealed that both stock control and distribution planning significantly improved productivity within the organization. However, the study was primarily centered on stock control and did not address how storage logistics impact procurement management in public sector entities. The present study seeks to extend this research by investigating the role of storage logistics in procurement management, focusing on the County Government of Baringo.

Kisioya and Moronge (2019) conducted a study to assess how storage management practices influence the performance of large-scale processing firms in Nairobi County, Kenya. Their research employed a descriptive survey design, targeting 355 large-scale manufacturing firms. By applying stratified random sampling, they selected a sample of 188 firms and gathered data through structured questionnaires. The findings, which were presented in tabular form, indicated that storage management practices, including inventory control and optimized storage systems, contributed positively to firm

performance. However, the study primarily focused on the manufacturing sector and did not examine public procurement or government institutions. To bridge this gap, the present study will investigate storage logistics in the context of public procurement within the County Government of Baringo.

Mwebia and Mutua (2021) analyzed the effects of storage logistics and material handling on the profitability of Mastermind Tobacco Company in Migori County, Kenya. The study aimed to provide insights for company staff regarding effective storage and material handling. The research applied system theory and inventory control theory and collected data from 21 respondents using both primary and secondary sources. The data were analyzed using simple statistical methods like percentages and frequencies. The study found that material handling practices positively influenced the company's supply chain efficiency. While this study highlighted the importance of storage and handling in the private sector, it did not explore how these factors might interact with procurement management in a public sector context. The current research aims to fill this gap by focusing on storage logistics and procurement management in Baringo County.

Omondi (2020) carried out an assessment on the effect of effective storage management on physical distribution within Kenya Power Company, specifically in Kisii County. The study sought to evaluate how stock control, distribution planning, and information technology affected organizational productivity. Adopting a descriptive research design, the study sampled 60 respondents and used questionnaires for data collection. The findings showed that both stock control and distribution planning played crucial roles in enhancing organizational productivity. Furthermore, the use of information technology improved communication and efficiency within the organization. While this study emphasized storage management in terms of distribution, it lacked a focus on procurement

management. The present study aims to address this by investigating the integration of storage logistics with procurement management in the County Government of Baringo.

Onyango (2022) explored how fast-moving consumer goods (FMCG) companies in Nairobi County managed their storage logistics. The study examined various inventory management techniques such as just-in-time, vendor-managed inventory, and economic order quantity (EOQ). Using a descriptive research design, the study concluded that these practices positively influenced supply chain performance by reducing inventory holding costs and improving order accuracy. However, the research was focused on the private sector and did not address how such storage logistics practices could influence procurement in government organizations. The current study will bridge this gap by focusing on how these storage logistics practices impact procurement management in a public sector setting like Baringo County.

Nguyen and Huynh (2020) conducted a study on the impact of storage logistics on the efficiency of procurement processes in Vietnam's e-commerce sector. With a target population of 250 logistics managers, the study applied a descriptive design and used questionnaires to collect data. The findings revealed that effective storage practices, such as real-time inventory tracking and optimized warehouse layout, significantly improved procurement efficiency by reducing lead times and costs. Although the study provided valuable insights into e-commerce, it did not explore similar dynamics in the public sector. The current research seeks to extend these findings to the context of procurement management in public infrastructure projects.

Kumar and Singh (2021) explored the role of storage logistics in public procurement efficiency in India's water supply sector. The study focused on 300 government contractors and suppliers and applied a descriptive survey design. The findings showed that inadequate

storage facilities and poor inventory management were major barriers to efficient procurement processes. The study recommended improving storage logistics to enhance procurement performance. However, the research did not specifically investigate how these storage logistics factors relate to procurement in county governments. The current study aims to fill this gap by analyzing how storage logistics affect procurement management in the County Government of Baringo.

## **2.3 Theoretical Review**

This research study was based on social network theory, game theory and Stochastic Inventory Model.

### **2.3.1 Social Network**

The network theory, based on the rational self-interest paradigm proposed by Sociologist James Coleman in 1988, forms the foundation of understanding buyer-supplier relationships and supply chain networks. Proponents of this theory argue that individuals form ties and groups to maximize their own preferences and desires. In the realm of supply chain management, buyer-supplier relationship management can be examined within the framework of supply chain networks, which Zuo and Kajikawa (2017) describe as a new analytic paradigm in supply chain management. Supply network theory allows firms to maintain existing partnerships while identifying potential new cooperation partners. It plays a crucial role in understanding buyer-supplier relationships within the context of supply chain networks.

Supply chains function as interconnected networks, where independent business entities act as nodes linked through relationships that facilitate the production and delivery of goods or services (Hearnshaw & Wilson, 2013). These connections represent contractual agreements and business interactions that support supply chain operations.

Network theory is widely used to analyze these interactions by mapping activities, participants, and available resources. It emphasizes the importance of fostering long-term, trust-based partnerships among supply chain stakeholders and has been applied in areas such as supplier relationships, third-party logistics, and managerial roles within supply networks (Gunasekaran, 2018).

An essential component of supplier strategy is establishing strong, collaborative relationships with suppliers. Key elements that contribute to effective buyer-supplier partnerships include trust, reciprocity, transparent communication, openness, and consistent information exchange (Chopra et al., 2010). Research has shown that firms that engage in close collaboration with their key suppliers tend to experience enhanced financial performance, highlighting a direct link between collaboration and business success (Breuer et al., 2013; Chong, 2018). Additionally, fostering cooperation between suppliers and customers enables businesses to manage risks more effectively, streamline operational processes, and enhance the overall supply chain. Such collaboration leads to improved information sharing, reduced uncertainties, enhanced product quality, and higher profitability (Brown, 2013). Aligning business processes—including the flow of materials, information, and finances—results in better supply chain performance and drives sustainable business growth (Mitchell & Nault, 2017).

In supply chain management, the network theory is valuable for analyzing buyer-supplier relationship management and informing supplier strategies and decision-making. It provides an environment for nurturing relationships based on trustful exchanges, enabling continuity in relationships and improving organizational performance (Vinodh et al., 2014; Chaplin & O'Rourke, 2014).

Furthermore, social network theory can assist devolved systems of governance in Kenya in analyzing and exploring relationships between supply chain members at both

upstream and downstream levels. It can validate the importance of supplier management practices in supply chains and highlight the need for proactive measures in procuring goods and services in counties (Lee, 2005; Sarkis et al., 2011). Adopting social networks enables effective implementation of supply chain management practices, with county governments benefiting from their central position to champion and monitor proactive initiatives through material and information-sharing ties (Vurro et al., 2009; Borgatti & Li, 2009). Therefore, devolved systems of governance in Kenya should focus on designing their supply chain configurations using advanced information sharing mechanisms to increase supply chain density and enhance their relationship with suppliers (Vurro et al., 2009).

### **2.3.2 Game Theory**

Game theory was first introduced by John Von Neumann and Oskar Morgenstern in 1944 as a framework for analyzing strategic interactions. However, their initial model did not incorporate the concept of equilibrium. Later, in 1951, John Nash advanced the theory by proving that equilibrium exists in games with a finite number of players and strategies. In modern terms, game theory is the structured study of decision-making in scenarios where multiple participants make choices that affect one another. It is widely recognized as a fundamental approach to understanding both conflict and cooperation in strategic environments (Xu, Pan, & Ballot, 2013).

Game theory is applicable when the actions of different entities—whether individuals, groups, or businesses—are interdependent. It provides a structured way to analyze strategic decision-making in various fields, including inventory control (Dai & Chen, 2012). Xu et al. (2013) classify game theory into two primary categories: cooperative and non-cooperative game theory. Cooperative game theory is used when participants benefit

more from collaboration than from acting independently. According to Mateo and Aghazadeh (2018), cooperative games involve players working together to achieve mutually beneficial outcomes by coordinating their strategies and sharing rewards. In supply chain logistics, for example, managers of different sales points can engage in cooperative game models to reduce excess inventory and ensure fair pricing of products. This approach allows clusters of sales points to coordinate their efforts, align inventory levels with market demands, and optimize trade pricing.

The relevance of game theory in logistics management is further supported by Slimani and Achchab (2014), who highlight its role in solving problems where the decisions of one party influence the outcomes of another. In supply chains, game theory is instrumental in fostering cooperation between retailers and suppliers, particularly in managing transportation and inventory. Cooperative game theory specifically addresses issues related to gain-sharing and provides a framework for optimizing logistics operations within organizations. Effective cooperation plays a critical role in improving global logistics efficiency (Drechsel & Kimms, 2010).

Research has demonstrated that horizontal cooperation in logistics can significantly reduce costs and improve operational performance (Cruijssen, Cools, & Dullaert, 2007; Pan, Ballot, Fontane, & Hakimi, 2012). However, its practical implementation has been limited due to the lack of a structured cooperation decision-making model (Xu et al., 2013). This study adopts a cooperative game-theoretic perspective to analyze logistics efficiency in transportation and its impact on organizational performance. Cooperative game theory provides a framework for understanding interactions among stakeholders, ensuring equitable profit distribution, and fostering stable alliances. This form of collaboration is particularly relevant for businesses operating within the same market segment, as it

necessitates the sharing of logistics resources and information to enhance transportation efficiency, reduce costs, and minimize environmental impact (Drechsel & Kimms, 2010).

Studies suggest that horizontal cooperation in logistics can lead to cost reductions of 10% or more in transportation (Pan et al., 2011). Given these advantages, this study applies game theory principles to procurement and transport logistics, with a specific focus on cost efficiency. The selection of game theory for this research is well-justified, as it provides a structured approach to optimizing supply chain performance through strategic cooperation.

### **2.3.3 Stochastic Inventory Model**

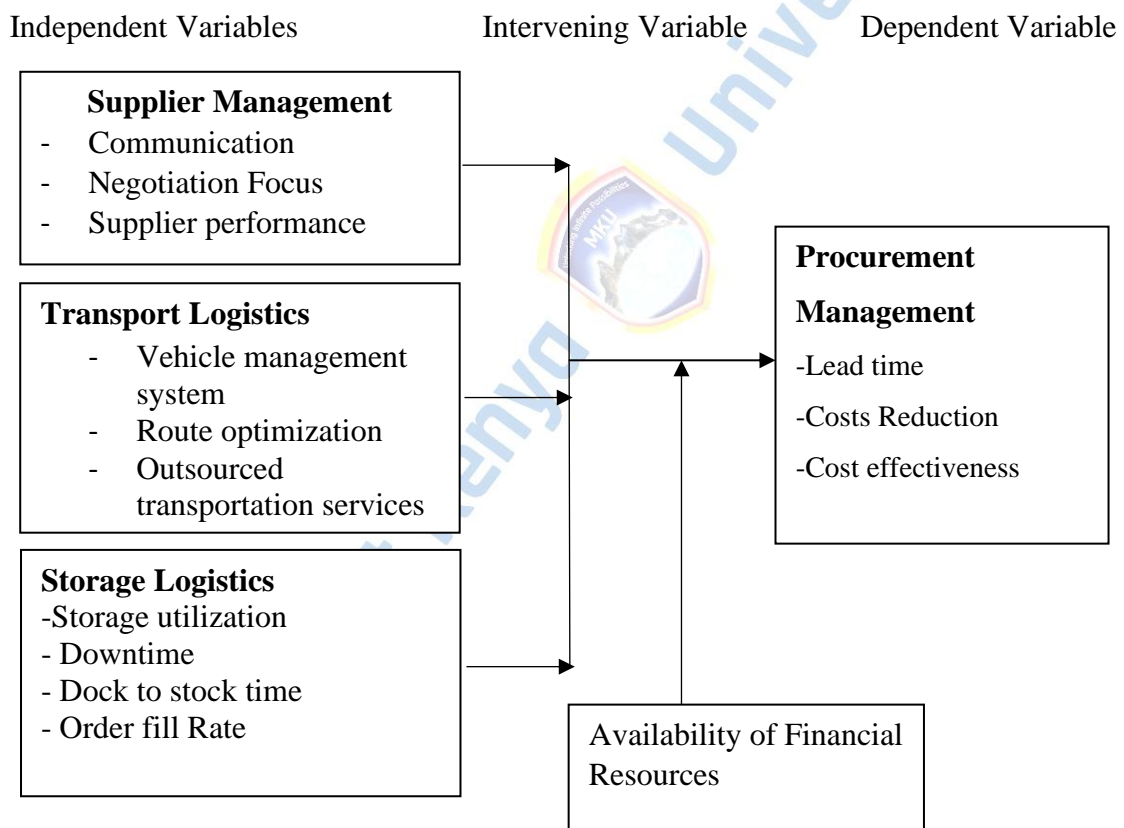
Harris and Marschak (1951) developed the stochastic inventory model to address the management of inventory levels and meet demand for commodities successfully. This model considers the trade-off between ordering frequency and costs associated with buying, storing, and occupying space. While some costs decrease with inventory holding, others increase, resulting in a cost curve that has a minimum value (Lwiki, 2013).

Kalpakam and Sapna (2015) investigated the base stock strategy with a stochastic lead time, which introduces the risk of lost demands and removal of items from the system upon failure or demand. If the probability of being in a future state depends on the current state, the stochastic process is considered dependent and can be analyzed using Markov processes. Serial dependency occurs when certain parameters of the stochastic process are indirectly dependent on the prior system state and the forecast at the moment. This type of analysis is particularly useful for studying time series data, where parameters such as location or spread may exhibit dependencies.

Stochastic inventory modeling is a valuable technique for determining optimal quantities and reducing overall inventory costs. It can be applied to various types of inventory,

including finished goods, work-in-progress, and raw materials. The stochastic inventory theory focuses on establishing safety stock levels and managing stock acquisition and storage to ensure a smooth production flow while minimizing overstocking investments (Kumar, 2016). This modeling technique recognizes that the order of inventory has a significant impact on inventory quality. Therefore, it can help elucidate the influence of storage logistics on procurement management in the county government of Baringo.

## 2.4 Conceptual Framework



**Figure 1: Conceptual Framework**

**Source:** Researcher 2024

## 2.5 Recap of the Literature Review

The empirical literature reviewed encompasses studies investigating various aspects of supplier management, transport logistics, and storage logistics in relation to procurement

management across different sectors and regions. For supplier management and procurement management, findings from Bashuna (2013), Njeru (2015), and Kosgei and Gitau (2016) underscore the significance of effective supplier relationships, training, and procurement policies in enhancing procurement practices. Additionally, studies by Kamau (2013) and Tanguis et al. (2015) emphasize the impact of buyer-supplier relationships on organizational performance, while Wairimu and Waiganjo (2015) highlight the positive effect of customer relationship management strategies on customer behavior. Regarding transport logistics and procurement management, studies by Njeri (2016), Rhone (2018), and Muchori (2015) elucidate the influence of transportation mode, order processing, and traffic congestion on organizational performance. Finally, for storage logistics and procurement management, research by Fahad (2013), Mutai and Moronge (2017), and Kisioya and Moronge (2019) emphasize the importance of stock control, distribution planning, and effective storage management practices in enhancing organizational productivity and supply chain efficiency. These studies collectively highlight the critical role of effective management practices in supplier relations, transport logistics, and storage logistics in optimizing procurement management across various organizational contexts and sectors.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.0 Introduction**

This chapter outlines the research methodology and provides a rationale for the chosen approaches. It includes various sections such as the research design, target population, sampling techniques, sample size, types of data, data collection instruments, data collection procedures, methods of data analysis, and how the findings are presented.

#### **3.1 Research Design**

Research design refers to a structured and systematic approach used to integrate different aspects of a study to effectively address the research problem. It acts as a blueprint for answering research questions (Dunn, 2010). Various research designs exist, including exploratory, descriptive, case study, experimental, and longitudinal designs, among others (Kasomo, 2011). This study adopted a descriptive research design, as it involved collecting both qualitative and quantitative data to examine how procurement procedures impact county government performance, with a focus on Baringo County. According to Neuman (2010), a descriptive survey design is effective in capturing data on the current state of a phenomenon, providing insights into existing variables and conditions. This design was deemed appropriate as it facilitated the collection of accurate and reliable data, allowing for an in-depth understanding of the relationship between the independent and dependent variables. Additionally, it enabled the development of measurable quantitative indicators, which helped establish potential associations among the study variables (Patron, 2012).

#### **3.2 Target Population**

Mugenda and Mugenda (2013) define a target population as the smallest unit of entities that share common characteristics and to which a researcher aims to generalize study findings. Similarly, Kasomo (2011) describes the target population as a complete group of individuals, objects, or instances that possess specific attributes relevant to the research. According to Mugenda and Mugenda (2013), it is essential for researchers to clearly identify and define the target population, sample population, unit of analysis, and unit of observation. In this study, the target population comprised key personnel involved in procurement processes, including heads of procurement, chief officers, finance officers, procurement requestors, and accounting officers from user departments across all twelve ministries within the county, as outlined in the table below.

**Table 1: Target Population**

<b>Stratum</b>	<b>Population</b>	<b>Percentage</b>
Chief officers	15	22.4
Head of procurement	15	22.4
Accounting officers	15	22.4
Finance officers	7	10.4
Procurement Requestors	15	22.4
<b>Total</b>	<b>67</b>	<b>100</b>

**Source :** County Registry 2023

### **3.3 Sample Size determination and Sampling Techniques**

A sample is a selected portion of a population that accurately reflects the characteristics of the whole group (Saunders et al., 2015). Sampling is the process of choosing and examining a limited number of individuals, items, or occurrences to draw conclusions about the larger population (Woods, 2015). According to Gay (2015), a sample size of at least 10% is considered representative, though a larger sample is generally preferred for more reliable results. However, in this study, no sampling procedures was employed as the

data was be collected through a census methodology, which involves gathering information from all elements of the population (Kombo and Tromp, 2013). When the population size is small enough, sampling becomes unnecessary (Kothari, 2014).

### **3.4 Data Collection Techniques**

The primary method of collecting data for the study involved the use of questionnaires, which comprised of closed-ended questions. Questionnaires are effective tools for gathering data as they allow respondents to express a substantial portion of their thoughts and opinions on the topic under investigation (Dempsey, 2013). Kothari (2014) states that data obtained through questionnaires is free from bias and interference by the researcher, leading to reliable and authentic data.

The questionnaire was chosen because it enables participants to provide their thoughts and ideas in a more candid manner. Agresti (2010) emphasizes the benefits of using questionnaires for data collection, highlighting how the structured and unbiased format of questionnaires ensures consistency and facilitates impartial data collection. Questionnaires also ensure participant privacy, confidentiality, and convenience, as respondents can complete them at their own pace (Kasomo, 2011). Therefore, the study gathered data on the impact of supply chain performance on procurement management in Kenya, specifically focusing on a case study of Baringo County, through the administration of questionnaires.

### **3.6 Data Collection Procedures**

According to Neuman (2010), the data collection procedure refers to the process of acquiring the necessary information for a research project. In this study, the researcher obtained a letter from NACOSTI (National Commission for Science, Technology, and Innovation) and the university, which served as an introduction to the county and

complement the data collection forms and instructions. The letter also outlined the expectations and requirements for the research assistants involved in the study. During the pilot phase of the project, the research assistants accompanied the researcher to receive hands-on training on how to utilize the research equipment effectively. Each questionnaire administered to the participants were accompanied by a cover letter that explained the study's objectives and ensured the anonymity of the respondents. This approach aimed to gather the necessary data and information while maintaining confidentiality.

### **3.7 Piloting**

The researcher conducted a pre-test of the questionnaires to assess the reliability and validity of the data. This evaluation aimed to gauge the respondents' level of understanding of the questionnaire's content and determine if the feedback from the pre-test provides the desired information or if any questions are misunderstood. Based on the results of the pre-test, certain questionnaire items were removed, while others were improved. The pilot test serves the purpose of identifying any flaws in the design and equipment, as well as providing preliminary data for the probabilistic sampling procedure (Cooper & Schindler, 2014). Mugenda and Mugenda (2003) suggest that a pre-test sample should range between 1% and 10% of the total sample size. The pilot study was conducted with 10% of the population to evaluate whether potential respondents encountered difficulties in comprehending or interpreting the questionnaire. Additionally, the pilot study aimed to identify any procedural issues, eliminate ambiguity, and address problems related to data recording. The data from the pilot study was analyzed using SPSS to ensure that a minimum Cronbach's alpha threshold of 0.7 was achieved. The findings from the pilot study were utilized to enhance and refine the data collection instrument. This piloting was carried out in Nakuru County where 7 officers were targeted .

### **3.7.1 Reliability of the Research Instruments**

Reliability refers to the degree to which scores obtained from a measurement tool accurately represent what the instrument is intended to measure (Mugenda & Mugenda, 2014). To minimize errors, the study employed a test-and-retest approach in the neighboring county of Nakuru, targeting 7 respondents who are not part of the main study. This process aimed to assess the dependability of the research instruments and identify any unclear or ambiguous questions that may lead to different interpretations by respondents, necessitating revisions. Unclear or confusing questions were rephrased to ensure the desired information is obtained. The internal consistency approach was utilized to determine the dependability of the instruments. This involves comparing the results of individual items with the results of other items within the instrument. The Cronbach Alpha Reliability coefficient was calculated to assess the degree of correlation among the items. An alpha value of 0.7 or higher indicates that the collected data is reliable, as it demonstrates excellent internal consistency and can be generalized to reflect the perspectives of all respondents in the target group.

### **3.7.2 Validity of the Research Instruments**

Validity refers to the degree to which the conclusions drawn from data analysis accurately represent the phenomena being investigated (Mugenda & Mugenda, 2013). To ensure instrument validity, it is essential to ask relevant questions in a clear and concise manner. According to Creswell (2017), validity is the alignment between the researcher's conclusions and the actual reality being studied. There are two types of validity: construct validity and content validity. Construct validity, which assesses the accuracy and meaningfulness of the data in reflecting theoretical concepts, was determined based on the data obtained from the pilot sample. Content validity, on the other hand, was evaluated by professionals in the field, such as university supervisors, who assessed the relevance and

appropriateness of the questionnaire's content. A content validity coefficient value of 0.7 were used to gauge the questionnaire's validity (Orodho, 2018). Additionally, a pre-test and re-test technique was employed prior to the actual study to verify the content validity of the questionnaires (Denscombe, 2015).

### **3.8 Data Analysis and Presentation**

There are various approaches that a researcher can use to analyze data, including descriptive analysis and inferential analysis. In this study, both descriptive and inferential statistics were employed to analyze the quantitative data (Kothari, 2014). Descriptive statistics was used to calculate measures of central tendency, measures of skewness, and measures of variation, which helped identify how independent factors influence the dependent variable (Neuman, 2010). Inferential statistics was utilized to compute confidence levels and analyze the research variables.

The Statistical Package for Social Sciences (SPSS) application version 26 was employed for this purpose. SPSS provides descriptive statistical capabilities that facilitate the comparison of variable responses and clearly display response frequencies. Multiple linear regression analysis was used to establish the relationship between two or more explanatory variables and a response variable by fitting a linear equation to the observed data. This approach was suitable for examining the connections in this research (Ogula, 2015). The coefficient of determination, denoted as R<sup>2</sup>, indicated the proportion of variation in the predicted variable that is explained by the variance in the predictor variables. A higher value of R<sup>2</sup> indicates a better fit (Kombo & Tromp, 2013). The regression model was as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Where: Y it = Procurement Management

$X_1$  = Supplier management

$X_2$  = Transport logistics

$X_3$  = Storage Logistics

$\beta_0$  is the intercept and  $\beta_1, \beta_2,$  and  $\beta_3$  are the coefficients

$e$  = error term

### **3.9 Ethical Considerations**

Ethical considerations was of utmost importance from the initial study design to the actual execution. Strict confidentiality measures were implemented, ensuring that no information about the participants was disclosed to anyone else. The researcher prioritized protecting the privacy of the respondents and took all necessary steps to conceal their identities. Throughout the study, the researcher maintained a high level of integrity, acting honestly and sincerely while remaining focused on the study's main objectives.

Respecting the participants' decisions and ensuring their comfort was key priorities. The researcher adhered to punctuality and employed a respondent-friendly approach during data collection. Furthermore, appropriate permissions and approvals were obtained from relevant authorities, such as Mount Kenya University and the National Commission of Science, Technology, and Innovation. Before agreeing to participate in the study, participants were provided with assurances regarding their safety and well-being.

## CHAPTER FOUR

### DATA ANALYSIS AND PRESENTATION

#### 4.0 Introduction

The main objective of this research was to assess the effect of supply chain performance on procurement management in Kenya, focusing specifically on Baringo County. The study examined three key objectives: to establish the effect of supplier management on procurement management in Baringo County, to examine the effect of transport logistics on procurement management in Baringo County, and to analyze the effect of storage logistics on procurement management in Baringo County. This chapter will include the reliability results, demographic characteristics of the respondents, descriptive statistics, correlation analysis, and regression analysis. The results of the study are presented in the sections below.

#### 4.1 Response Rate

The response rate reflects the proportion of questionnaires that were completed and returned compared to the total number distributed. In this study, 67 employees from the Baringo County government were targeted. As shown in Table 2 below, an impressive response rate of 87% was obtained, indicating that the data collected was sufficient for analysis. According to Mugenda (2013), a response rate of 50% is considered acceptable, while a rate above 80% is regarded as excellent.

**Table 2: Response Rate**

<b>Response Rate</b>	<b>Frequency</b>	<b>Percent</b>
Returned Questionnaires	58	87%
Unreturned Questionnaires	9	13%
<b>Total</b>	<b>67</b>	<b>100%</b>

**Source : (Field Survey ,2024)**

## 4.2 Reliability of Study Variables

The study sought to find out the reliability of the study instrument. This was important to ensure that study findings are reliable.

**Table 3: Reliability Analysis**

Variable	Cronbach's Alpha
Supplier management	0.864
Transport logistics	0.857
Storage Logistics	0.766
Procurement Management	0.814

**Source : (Field Survey ,2024)**

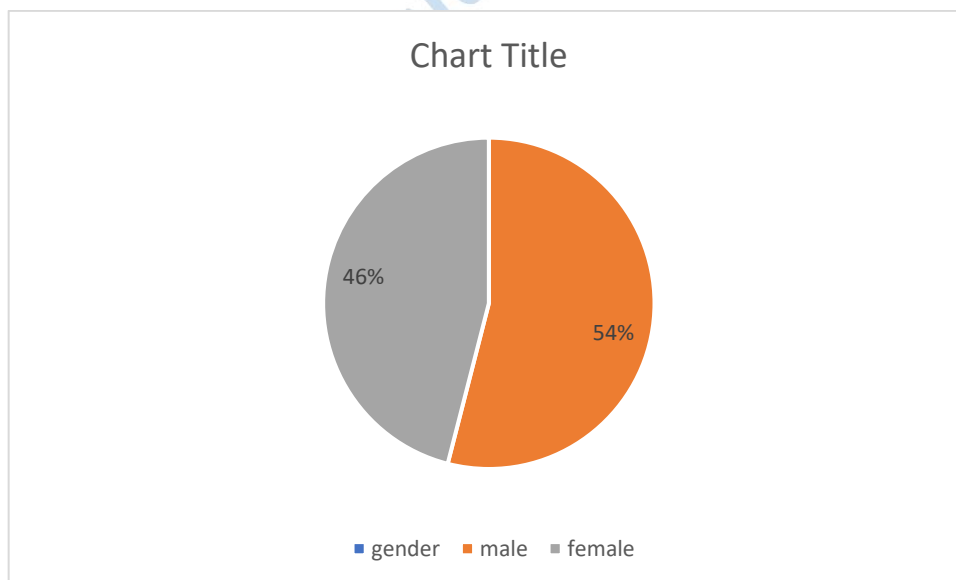
The reliability analysis results, as shown in Table 3, reveal that all variables measured in the study exhibit satisfactory internal consistency, indicated by their Cronbach's Alpha coefficients. Supplier management scored the highest at 0.864, demonstrating a strong level of reliability and suggesting that the items effectively capture this construct. Transport logistics followed closely with a score of 0.857, also indicating high reliability, which is essential for ensuring accurate assessments in procurement management. Storage logistics, while still acceptable with a coefficient of 0.766, suggests some variability in responses and may benefit from further refinement of its measurement items. Lastly, procurement management achieved a reliable score of 0.814, reinforcing the credibility of the measures used. These findings affirm the dependability of the instruments used in this study, bolstering the validity of the research outcomes concerning the impact of supply chain performance on procurement management in Baringo County.

### 4.3 Demographic Characteristics

This section outlines the demographic characteristics of the participants involved in the study. Gathering background information about respondents is crucial in social science research, as it allows for the categorization of individuals into diverse groups. In this study, factors such as gender, education level, age, and work experience were examined and are presented in the following sections

#### 4.3.1 Distribution of the Respondents Based on the Gender

The study aimed to analyze the distribution of respondents based on gender, as understanding this aspect is essential for gaining insights into the gender dynamics of supply chain performance and procurement management. The data illustrated in Figure 2 indicates that 46 percent of the respondents from Baringo County were female, while 54 percent were male. This relatively balanced gender distribution suggests that the findings are applicable to both genders, enhancing the generalizability of the results.

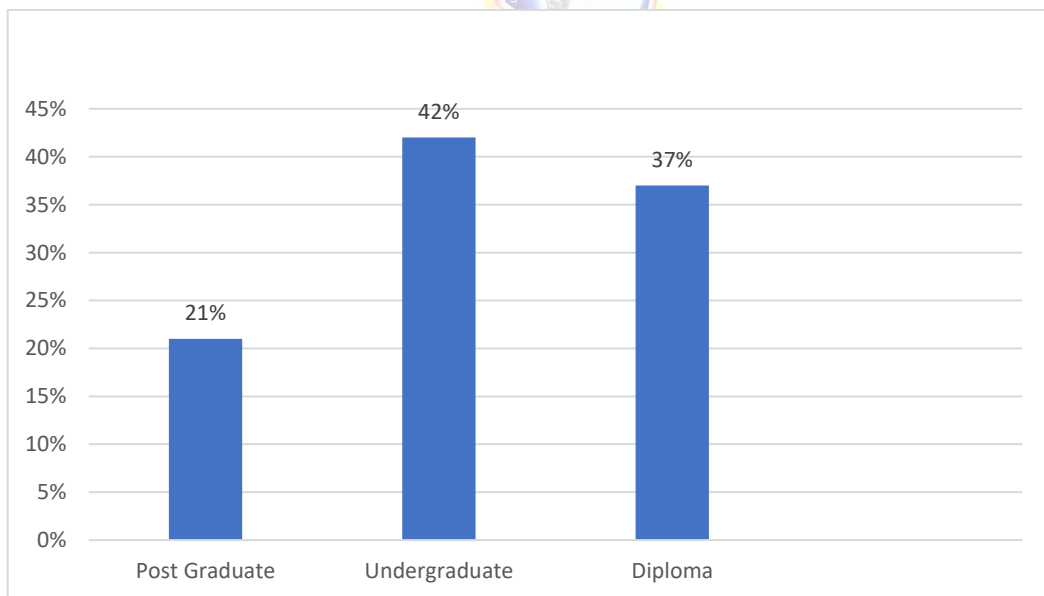


**Figure 2: Gender Distribution**

**Source:** Survey Data (2024)

### 4.3.2 Distribution of the Respondents Based on Level of Education

The study examined the level of education among respondents, which is a critical demographic characteristic as it can influence perceptions and competencies related to supply chain performance and procurement management. The results indicated that 21% of the respondents held a postgraduate degree, while 42% had completed an undergraduate degree, and 37% possessed a diploma. Understanding the educational background of respondents is essential because it provides insights into their knowledge, skills, and ability to engage with complex procurement processes. Higher levels of education often correlate with better analytical abilities and decision-making skills, which can significantly impact procurement outcomes. Additionally, this information helps in tailoring training programs and interventions that cater to the educational needs of employees within the procurement sector, ultimately enhancing overall performance.

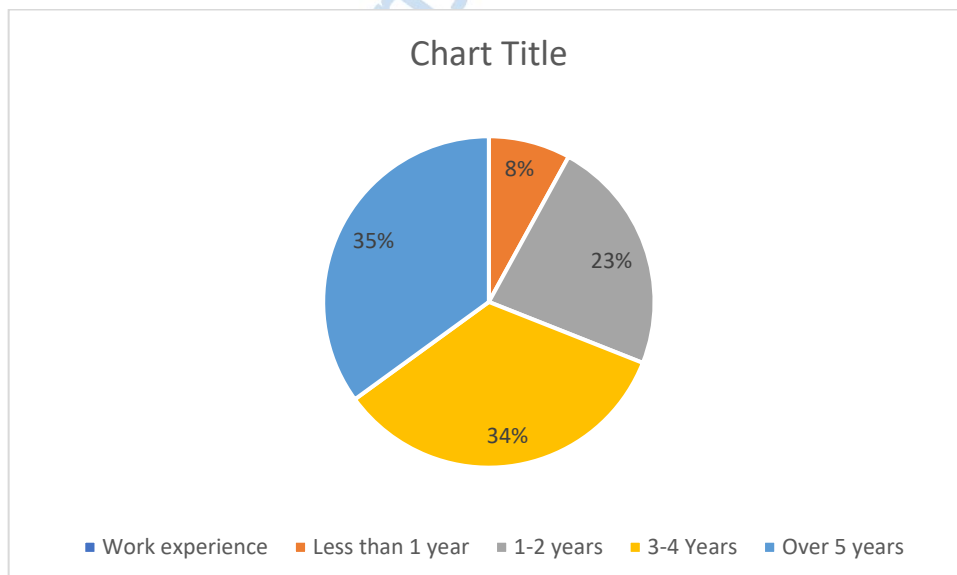


**Figure 3: Level of Education**

**Source:** Survey Data (2024)

### 4.3.3 Distribution of the Respondents Experience

The study also assessed the work experience of respondents, which is an important demographic characteristic that can significantly influence their insights and competencies regarding procurement management. The findings revealed that 8% of respondents had less than one year of experience, 23% had between one and two years, 34% had three to four years, and 35% had over five years of work experience. Understanding the work experience of respondents is crucial because it provides context for their perspectives on supply chain performance and procurement practices. More experienced individuals are likely to have encountered various challenges and developed a deeper understanding of procurement processes, making their feedback more valuable. Additionally, this information can help identify potential gaps in knowledge or skills that may exist within the organization and inform targeted training and development initiatives. Overall, the work experience of the respondents plays a vital role in shaping the effectiveness and efficiency of procurement management strategies.

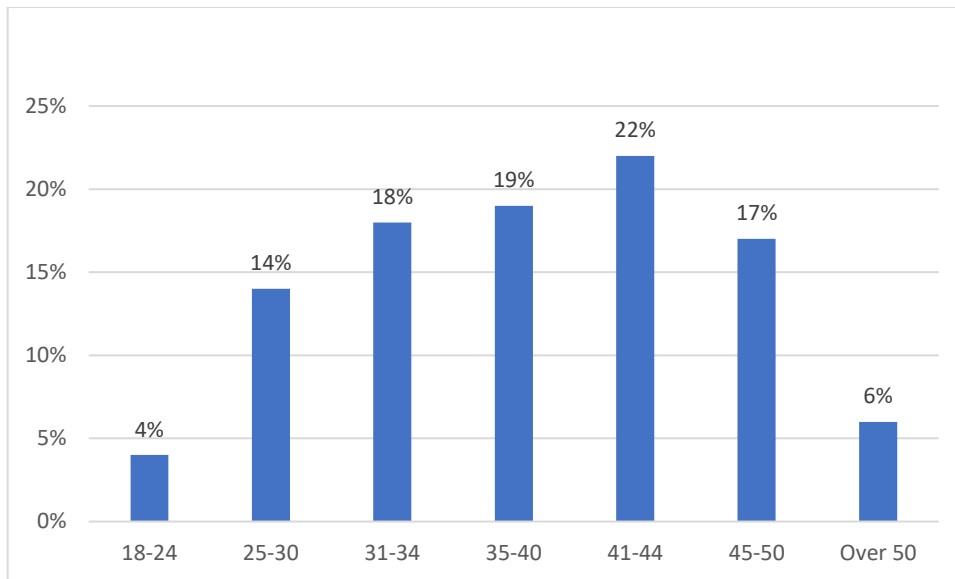


**Figure 4: Work Experience**

**Source:** Survey Data (2024)

### **4.3.3 Distribution of the Respondents Based on Age Bracket**

The study also examined the age distribution of respondents, which is a crucial demographic characteristic that can provide insights into the workforce's experience and adaptability to changes in procurement management. The age brackets were categorized as follows: 4% of respondents were aged 18-24, 14% were aged 25-30, 18% fell within the 31-34 age range, 19% were aged 35-40, 22% were between 41-44 years, 17% were aged 45-50, and 6% were over 50 years. Understanding the age distribution is essential as it can impact various factors, including technological proficiency, openness to new processes, and perspectives on procurement practices. Younger employees may be more comfortable with modern technologies and innovative approaches, while older employees may possess valuable institutional knowledge and experience. By asking about the age of respondents, the study aimed to assess how age-related differences could influence perceptions of supply chain performance and procurement management. This demographic information can help organizations tailor their strategies and training programs to accommodate the diverse needs and preferences of their workforce, ultimately leading to more effective procurement practices. This is shown in figure 5 below.



**Figure 5: Age Distribution**

**Source:** Survey Data (2024)

#### **4.4 Descriptive Findings and Discussions**

This section presents the descriptive findings and discussions pertinent to the study objectives. The results are summarized using measures of central tendency, specifically means, alongside measures of variation, such as standard deviations. The data collected were analyzed based on a five-point Likert scale, where respondents indicated their level of agreement with statements related to supply chain performance and procurement management. The scale ranges from 1, representing "Strongly Disagree," to 5, denoting "Strongly Agree." This approach allows for a clear understanding of respondents' perceptions and attitudes towards the various factors influencing procurement management in Baringo County.

##### **4.4.1 Statements relating to Supplier Management on Procurement management in Baringo County**

The respondents were requested to provide their views on whether supplier management had an impact on project procurement management within the County Government of

Baringo, Kenya. They were asked to assess the extent to which the practices and strategies related to managing suppliers influenced the overall effectiveness and efficiency of procurement management. The results are indicated by Table 4.

**Table 4: Statements relating to Supplier Management on Procurement management**

	N	Min	Max	Mean	Std. Dev.
A positive supplier connection has resulted in the exchange of ideas and feedback, which has helped to improve operations.	58	1	5	4.36	.723
Good supplier ties have resulted in cost reductions	58	1	5	4.04	.718
The County has been able to identify waste causes and solutions to eliminate them thanks to a supplier relationship management platform	58	1	5	4.34	.504
The improvement in communication has resulted from the creation of a positive relationship between the County and the provider	58	1	5	3.89	.912
The supplier relationship management strategy has strengthened the County's supply chain	58	1	5	4.15	.844

**Source:** Survey Data (2024)

The findings in table 5 provide valuable insights into how supplier management influences procurement management in the County Government of Baringo. Each item was rated on a scale from 1 (strongly disagree) to 5 (strongly agree), and the results are summarized using mean values and standard deviations, reflecting overall agreement and the variation in responses.

Regarding the impact of positive supplier connections on the exchange of ideas and feedback, which has helped to improve operations, the mean score of 4.36 indicates that the majority of respondents strongly agreed with this point. This high level of agreement suggests that fostering positive supplier relationships plays a significant role in enhancing operational efficiency. The standard deviation of 0.723 shows relatively consistent views

among the participants. On the question of whether good supplier relationships have resulted in cost reductions, the mean score was 4.04, showing that most respondents agreed with this perspective. The standard deviation of 0.718 reflects a moderate level of consistency, with the majority aligning on the idea that strong ties with suppliers contribute to lowering costs, though some respondents expressed slightly different opinions.

In relation to whether the supplier relationship management platform has enabled the County to identify causes of waste and find solutions, a mean score of 4.34 was observed. This high average highlights that a significant portion of the respondents agreed that these platforms are effective in improving efficiency by addressing waste. The low standard deviation of 0.504 further reinforces that most participants held similar views, showing a strong consensus on the value of such platforms.

When asked about improvements in communication resulting from the creation of positive relationships between the County and its suppliers, the mean score was slightly lower at 3.89. While the majority still agreed, there was greater variation in responses, as reflected by the higher standard deviation of 0.912. This suggests that some respondents were less certain about the extent of improvement in communication brought about by positive supplier relationships. Finally, with a mean score of 4.15, most respondents agreed that the supplier relationship management strategy had strengthened the County's supply chain. The standard deviation of 0.844 shows some variability in responses, though the majority were in agreement that these strategies positively influenced supply chain robustness. The findings suggest that the majority of respondents recognized the benefits of supplier management on various aspects of procurement management, including operational improvements, cost reductions, waste management, and supply chain strengthening. However, there was more variability in opinions when it came to communication improvements. The findings concurs with Wachiuri, Waiganjo, and Oballah (2020) who

identified financial support rewards and firm involvement as crucial elements of buyer-supplier relationships that have the potential to significantly impact the performance of the brewery. Gumboh and Gichira (2021) identified barriers such as lack of trust, cultural differences, and relationship issues as hindrances to effective collaboration among SMEs. Makau and Muturi (2019) also identified commitment, trust, communication, and cooperation as key aspects of customer-supplier relationships that significantly influence procurement performance.

#### **4.4.2 Statements on Transport Logistics and Procurement Management**

Furthermore, the respondents were asked to express their views on whether transport logistics had an impact on procurement management within the County Government of Baringo. They were required to indicate the extent to which transport logistics influenced the effectiveness and efficiency of the procurement management. The responses gathered provide crucial insights into the role of transport logistics in enhancing or hindering procurement operations. The detailed results of these findings are presented in Table 5.

**Table 5: Transport Logistics and Procurement Management**

	N	Min	Max	Mean	Std. Dev.
There is timely delivery of products and services to user department	58	2	5	4.35	.639
The county uses fuel management system to monitor fuel utilization	58	1	5	4.15	.736
The county uses transport management system to plan the routes for distribution	58	1	5	4.28	.549
The county uses transport management system to schedule it flee	58	2	5	4.26	.667
The county use fleet management system to track all product that are transported to user department	58	1	5	4.13	.816

**Source:** Survey Data (2024)

The findings in Table 6 offer an overview of the relationship between transport logistics and procurement management in the County Government of Baringo. Each item was rated by respondents on a scale from 1 (strongly disagree) to 5 (strongly agree), with the mean values and standard deviations providing insight into the level of agreement and consistency in the responses. Regarding the timely delivery of products and services to the user department, the mean score of 4.35 indicates that the majority of respondents agreed or strongly agreed that transport logistics in the county facilitate timely delivery. The relatively low standard deviation of 0.639 suggests that there is consistent agreement among the participants on this aspect of procurement management.

In relation to the use of a fuel management system to monitor fuel utilization, the mean score was 4.15. This suggests that most respondents believe the county effectively monitors fuel consumption to improve logistical efficiency. The standard deviation of 0.736 shows a moderate level of agreement, indicating some variability in respondents' views. For the item on whether the county uses a transport management system to plan distribution routes, the mean score was 4.28. This high mean demonstrates strong

agreement that the system is used effectively to organize distribution logistics. The standard deviation of 0.549 is relatively low, indicating that there is considerable consistency in the respondents' perceptions.

When asked if the county uses a transport management system to schedule its fleet, respondents reported a mean score of 4.26, reflecting a general consensus that this practice is in place and contributing to the efficiency of procurement management. The standard deviation of 0.667 shows some variation, though the overall agreement is still strong. Finally, the use of a fleet management system to track products transported to user departments had a mean score of 4.13, indicating broad agreement that this system is in place and supports effective tracking of goods during transportation. However, the standard deviation of 0.816 suggests a wider range of opinions on this matter, with some respondents possibly less confident about the extent of tracking efficiency. The study reveals that the majority of respondents recognize the role of various transport logistics systems—such as fuel management, transport management, and fleet tracking—in enhancing procurement management in Baringo County.

The consistency in responses highlights a general agreement on the positive impact of these logistical tools, though there is some variability in the views on fuel utilization and product tracking. The findings are in agreement with Rhone (2018) who investigated the influence of transport logistics on the performance of milking farms in Thailand's central region and found that transport logistics significantly influenced the performance of dairy farms in Thailand's central region, with transportation mode and order processing being identified as key factors impacting farm performance. Muchori (2020) indicated a positive relationship between traffic congestion and transport cost, leading to a negative impact on the efficiency of freight logistics. Mukolwe and Wanyoike (2020) revealed that transport

management and physical distribution practices were associated with cost-effective flow of raw materials and goods, thereby positively influencing operational efficiency.

#### 4.4.3 Statements relating to Storage Logistics and Procurement Management

In addition, the respondents were asked to provide their opinions on whether storage logistics influenced procurement management within the County Government of Baringo. They were required to assess the extent to which storage practices, affected the efficiency and effectiveness of procurement processes. This inquiry aimed to identify how well the county manages storage logistics in ensuring the timely availability of products, reducing waste, and optimizing space. The detailed results and insights gathered from the respondents are presented in Table 6.

**Table 6: Storage Logistics and Procurement Management**

	N	Min.	Max.	Mean	Std. Dev.
The county has adequate warehouse/storage space to hold additional stock	58	1	5	4.06	.704
The storage strategies employed by our county ensure effective management of inventory levels	58	1	5	4.25	.729
There is inefficiencies in the store, warehousing processes which leads to downtime	58	1	5	4.12	.669
There is good management of the stores which ensures high order rate to avoid delay in procurement process	58	3	5	4.27	.705
County uses modern techniques of product handling in the stores	58	1	5	4.18	.781

**Source:** Survey Data (2024)

The findings in Table 6 provides insights into how storage logistics affect procurement management in the County Government of Baringo. The responses were measured on a Likert scale from 1 (strongly disagree) to 5 (strongly agree), with the mean values and standard deviations offering a summary of the overall agreement and consistency in responses. Regarding whether the county has adequate warehouse/storage space to hold additional stock, the mean score of 4.06 suggests that the majority of respondents agree that the county has sufficient storage capacity. The standard deviation of 0.704 indicates moderate consistency in responses, meaning most participants share this opinion, though a few may have differing views.

On the question of whether the storage strategies employed ensure effective management of inventory levels, a mean score of 4.25 reflects a high level of agreement among respondents. The standard deviation of 0.729 shows that most participants are aligned in their belief that the county's storage strategies contribute to effective inventory management, with only slight variations in opinion. When asked about inefficiencies in the store and warehousing processes leading to downtime, the mean score of 4.12 indicates that many respondents perceive some inefficiencies in these processes. The standard deviation of 0.669 reveals a relatively consistent view, though a small number of respondents may disagree or have varying experiences with these inefficiencies. For the item on whether good management of the stores ensures high order rates, preventing delays in procurement processes, the mean score of 4.27 shows strong agreement among respondents. The standard deviation of 0.705 indicates that while most participants agree with this statement, there is some variability in responses, suggesting that not all respondents share the same level of confidence in store management.

Finally, with regard to whether the county uses modern techniques for product handling in its stores, the mean score of 4.18 suggests that most respondents agree that the county

employs up-to-date methods. However, the standard deviation of 0.781 reflects slightly more variation in opinion, indicating that while many recognize the use of modern techniques, others may perceive room for improvement. The findings highlight that the majority of respondents view the county's storage logistics positively, particularly in terms of space adequacy, inventory management, and the use of modern handling techniques. However, there are noted concerns regarding inefficiencies in warehousing processes, though these views are moderately consistent across respondents.

These findings are in agreement with Mutai and Moronge (2021) who revealed that increasing both stock control and distribution planning led to increased organizational productivity. Kisioya and Moronge (2019) argued that most storage management practices indicators had a positive impact on the performance of the firms. Mwebia and Mutua (2021) also found a positive influence of material handling practices on supply chain efficiency of tobacco company in Migori, Kenya. Material handling is an indispensable element in most production and distribution systems and has adverse effects on performance of organizations. Mechanical devices and machines are necessary for many materials handling operations

#### **4.4.4 Procurement Management**

The study also aimed to gather the respondents' perspectives on various aspects of procurement management within the County Government of Baringo. This section of the research focused on understanding the effectiveness, transparency, and efficiency of procurement processes in the county. Respondents were asked to evaluate how well the county manages procurement activities. The feedback collected provides valuable insights into the strengths and areas for improvement in the county's procurement systems. The detailed findings of this evaluation are presented in Table 7.

**Table 7: Procurement management**

	N	Min.	Max.	Mean	Std. Dev.
The level of customer satisfaction has increased	58	1	5	4.19	.821
The supply chain practices have improved the quality of services offered at different levels along the supply chain.	58	1	5	3.93	.852
There is flexibility in logistics operations in the organization	58	1	5	4.49	.501
There is improved operating efficiency	58	1	5	4.34	.704
The supply chain practices have reduced costs in the procurement department.	58	1	5	4.03	.897

**Source:** Survey Data (2024)

The findings in Table 7 highlight key aspects of procurement management within the County Government of Baringo, based on respondents' ratings of various procurement practices. The results are summarized using mean scores and standard deviations to reflect the level of agreement and the variation in responses.

In terms of whether the level of customer satisfaction has increased, the mean score of 4.19 indicates that the majority of respondents agree that customer satisfaction has improved as a result of procurement management efforts. The standard deviation of 0.821 suggests some variability in responses, indicating that while most respondents are satisfied, a few may have differing opinions or experiences. For the item on whether supply chain practices have improved the quality of services offered at different levels, the mean score of 3.93 shows that respondents generally agree that service quality has improved, though to a lesser extent compared to other areas. The standard deviation of 0.852 reflects a slightly broader range of opinions, suggesting that while many see improvements, others may feel that there is still room for further enhancement in service quality.

When asked about the flexibility in logistics operations, the mean score of 4.49 demonstrates strong agreement among respondents that the county's logistics operations are flexible and adaptable. The low standard deviation of 0.501 shows a high level of consistency in responses, with most respondents sharing a similar positive view of the county's logistical flexibility. Regarding whether there has been improved operating efficiency, the mean score of 4.34 indicates that a majority of respondents agree that procurement management has led to more efficient operations. The standard deviation of 0.704 suggests moderate consistency, with most respondents aligning on the idea that efficiency has improved, though some variability in views still exists.

Finally, on the issue of whether supply chain practices have reduced costs in the procurement department, the mean score of 4.03 reveals that most respondents agree that cost reductions have been achieved through improved supply chain practices. However, the standard deviation of 0.897 shows more variation in responses, indicating that while many agree, a notable portion of respondents may have differing experiences regarding the extent of cost savings. The findings reveal that the majority of respondents perceive improvements in procurement management, particularly in the areas of logistics flexibility, operating efficiency, and customer satisfaction. However, the findings also indicate some variability in perceptions of service quality and cost reductions, highlighting areas where further optimization may be needed.

#### **4.5 Correlation Analysis**

The researcher undertook a correlation analysis to assess the effect of supply chain performance on procurement management in Baringo County, Kenya. This analysis focused specifically on three key areas: supplier management, transport logistics, and storage logistics, as outlined in the study's objectives. By establishing the effect of supplier management on procurement processes, the researcher aimed to determine how effective

collaboration with suppliers influences procurement outcomes in the county. Additionally, the examination of transport logistics sought to reveal how logistical efficiency and route planning impact the timely delivery of goods and services essential for procurement activities. Lastly, the analysis of storage logistics aimed to uncover the relationship between effective inventory management and overall procurement efficiency. Through this comprehensive correlation analysis, the researcher aimed to provide insights into how enhancements in supply chain performance across these three critical dimensions can lead to improved procurement management practices in Baringo County.

**Table 8: Correlation Analysis Results**

		Supplier Management	Transport Logistics	Storage Logistics
Procurement management	Pearson Correlation	.518**	.563**	.449**
	Sig.(2tailed)	.011	.014	.021
	N	58	58	58

**Source:** Survey Data (2024)

The correlation analysis results presented in Table 8 indicate the strength and significance of the relationships between supply chain performance components specifically supplier management, transport logistics, and storage logistics and procurement management in Baringo County. Supplier Management shows a Pearson correlation coefficient of 0.518, with a significance level of 0.011. This positive correlation suggests a moderate to strong relationship between effective supplier management and procurement management. The significance value indicates that this relationship is statistically significant, meaning that improvements in supplier management are likely associated with enhancements in procurement practices. Transport Logistics has a Pearson correlation coefficient of 0.563,

accompanied by a significance level of 0.014. This correlation is also positive and indicates a strong relationship between efficient transport logistics and effective procurement management. The significance level further confirms that this finding is statistically significant, suggesting that improvements in transport logistics directly contribute to better procurement outcomes.

For Storage Logistics, the Pearson correlation coefficient is 0.449, with a significance level of 0.021. Although this correlation is slightly weaker than the previous two, it still reflects a positive relationship between effective storage logistics and procurement management. The significance level indicates that this relationship is statistically significant as well, meaning that enhancements in storage logistics are likely to positively impact procurement practices, albeit to a lesser extent compared to supplier management and transport logistics. The correlation analysis results demonstrate that all three components supplier management, transport logistics, and storage logistics are positively correlated with procurement management. The significant relationships imply that improvements in any of these areas can lead to better procurement management outcomes in Baringo County, highlighting the importance of optimizing supply chain performance for enhancing overall efficiency in procurement processes.

#### **4.6 Regression Analysis**

Linear regression analysis was conducted to examine the influence of the independent variables supplier management, transport logistics, and storage logistics on the dependent variable, which is procurement management in Baringo County. This analysis aimed to quantify how each of these supply chain performance components impacts procurement practices. The study presents the R-squared value, a statistical measure indicating the degree of closeness between the observed data and the fitted regression line, reflecting

how well the independent variables explain variations in the dependent variable. The results of this analysis are detailed in Tables 9, 10, and 11.

**Table 9: Regression Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.681 <sup>a</sup>	.463	.458	.62786

a. Predictors: (Constant), supplier management, transport logistics, and storage logistics.

b. Dependent Variable: Procurement Management

**Source:** Survey Data (2024)

The regression model summary presented in Table 9 provides a comprehensive overview of the relationship between the independent variable's supplier management, transport logistics, and storage logistics and the dependent variable, procurement management.

The R value of 0.681 indicates a strong positive correlation between the independent variables and procurement management. This suggests that as the components of supply chain performance improve, procurement management also tends to enhance. The R Square value of 0.463 implies that approximately 46.3% of the variance in procurement management can be explained by the independent variables included in the model. This indicates that nearly half of the variations in procurement practices are accounted for by supplier management, transport logistics, and storage logistics, highlighting the importance of these factors in the procurement process.

The Adjusted R Square value of 0.458 adjusts the R Square value for the number of predictors in the model, providing a more accurate estimate of the explanatory power of the independent variables. This value indicates that even when accounting for the number of predictors, about 45.8% of the variance in procurement management is still explained by the model, reinforcing the relevance of the independent variables. The Standard Error

of the Estimate is 0.62786, which reflects the average distance that the observed values fall from the regression line.

A lower standard error suggests a better fit of the model to the data, indicating that the predictions of procurement management based on the independent variables are relatively accurate. The regression model summary indicates a strong and meaningful relationship between supply chain performance components and procurement management, suggesting that improvements in supplier management, transport logistics, and storage logistics are likely to enhance procurement practices in Baringo County.

**Table 10: ANOVA Results**

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.546	3	1.182	14.51	.000 <sup>b</sup>
	Residual	4.387	54	.0813		
	Total	7.934	57			

a. Dependent Variable: Procurement Management

b. Predictors: (Constant), supplier management, transport logistics, and storage logistics

**Source:** Survey Data (2024)

The ANOVA results presented in Table 10 offer a comprehensive analysis of the regression model designed to assess the impact of supply chain performance factors specifically supplier management, transport logistics, and storage logistics on procurement management within Baringo County. The model reveals significant insights into how these independent variables collectively influence procurement outcomes. The Sum of Squares is a critical component of the ANOVA analysis, showcasing the variability within the data. The Regression Sum of Squares, which amounts to 3.546, indicates the amount of variation in procurement management that can be explained by the independent variables included in the model.

This substantial figure reflects the contributions of supplier management, transport logistics, and storage logistics to the overall procurement process, underscoring the importance of effective management in these areas. In contrast, the Residual Sum of Squares, recorded at 4.387, highlights the portion of variation in procurement management that remains unexplained by the model. This discrepancy signifies areas where other factors may be influencing procurement management outcomes beyond those examined. The degrees of freedom (df) calculations further enhance our understanding of the model's robustness. The df for Regression is 3, correlating with the three independent variables considered, while the Residual df is 54, calculated based on the total observations minus the number of predictors and one. This configuration suggests a well-specified model that has sufficient data to validate the findings, allowing for meaningful interpretation of the statistical results.

The Mean Square values calculated for both Regression and Residual provide additional context. The Mean Square for Regression, which stands at 1.182, indicates the average amount of explained variance per degree of freedom, suggesting a strong model fit. Conversely, the Mean Square for Residual is 0.0813, indicating the average unexplained variance, which serves as a critical benchmark when evaluating the overall efficacy of the model. The relationship between these two mean squares culminates in the F-statistic, calculated to be 14.51. This statistic reflects the ratio of explained variance to unexplained variance and serves as an indicator of the overall significance of the regression model. The significance level (Sig.) of 0.000 is particularly noteworthy, as it demonstrates the statistical significance of the regression model. This low p-value strongly suggests that the independent variables collectively have a meaningful impact on procurement management in Baringo County.

This finding emphasizes the importance of supplier management, transport logistics, and

storage logistics in enhancing procurement practices and outcomes. The ANOVA results encapsulate the effectiveness of the regression model in elucidating the relationship between supply chain performance and procurement management. The significant F-statistic, along with the low p-value, indicates that focusing on these supply chain elements is crucial for improving procurement processes within the county. By emphasizing these factors, the county government can potentially enhance its procurement efficiency and effectiveness, leading to better resource allocation and service delivery.

**Table 11: Regression Coefficients**

Model	Unstandardized	Standardized	Coefficients	Sig	Std.
	B	Beta			
(Constant)	1.082	.127		8.529	0.00
Supplier Management	.314	.033	0.433	9.515	0.00
Transport Logistics	.159	.042	0.220	3.786	0.00
Storage Logistics	.313	.033	0.432	9.485	0.00

a Dependent Variable: Procurement Management

Source: Survey Data (2024)

The study employed regression analysis to determine the coefficients that illustrate the relationship between supply chain performance factors and procurement management in Baringo County, represented by the equation:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \epsilon$$

In this equation, Y denotes procurement management, while X1, X2, and X3 represent supplier management, transport logistics, and storage logistics, respectively. The constant  $\beta_0$  indicates the baseline level of procurement management when all independent variables

are held at zero. According to the results in Table 12, the regression coefficients yield the equation:

$$Y = 1.082 + 0.314X_1 + 0.159X_2 + 0.313X_3 + \varepsilon$$

This indicates that the baseline level of procurement management in Baringo County is 1.082, which means that when the supply chain performance factors are not considered, procurement management holds this value. Additionally, the analysis reveals that a one-unit increase in supplier management would result in a 0.314 increase in procurement management, while a one-unit increase in transport logistics would lead to a 0.159 increase, and a one-unit increase in storage logistics would correspond to a 0.313 increase. These results shows the positive contributions of each supply chain performance factor to enhancing procurement management in the county.



Mount Kenya University

## CHAPTER FIVE

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### 5.0 Introduction

This chapter presents a comprehensive overview of the key findings from the study, focusing on the effect of supply chain performance on procurement management in Baringo County. It starts with a summary of the principal discoveries, including both descriptive and inferential results. Following this, the chapter discusses the conclusions derived from the findings, highlighting their implications for procurement practices. Recommendations based on these results are then provided to enhance procurement management within the county. Finally, the chapter identifies potential areas for future research to further investigate the dynamics of supply chain performance and procurement management.

#### 5.1 Summary of the Study

The major study findings are summarized in this section. It outlines the summary of the findings in line with the objectives of the study.

##### 5.1.1 Supplier Management and Procurement Management

The findings on supplier management reveal its critical role in enhancing procurement management in Baringo County. Descriptive statistics indicated a strong positive perception among respondents, with a mean score of 4.36, suggesting that effective supplier relationships lead to improved operations and cost reductions. This shows the importance of cultivating positive connections with suppliers to facilitate smoother procurement processes. The correlation analysis further supports this, demonstrating a significant positive correlation (Pearson correlation of 0.518,  $p < 0.05$ ) between supplier management and procurement management. This finding indicates that as supplier

management practices improve, procurement management also benefits substantially. The regression analysis reinforced this relationship, showing that a one-unit increase in supplier management results in a 0.314 increase in procurement management. This highlights the substantial influence that supplier management has on enhancing overall procurement effectiveness.

### **5.1.2 Transport Logistics and Procurement Management**

The results related to transport logistics underscore its vital importance in the procurement management landscape. Descriptive findings indicated a favorable view of transport logistics among respondents, with a mean score of 4.28. This suggests that timely delivery of products and effective route planning are perceived as crucial components for efficient procurement management. The correlation analysis revealed a strong positive correlation (Pearson correlation of 0.563,  $p < 0.05$ ) between transport logistics and procurement management, indicating that improvements in transport logistics directly enhance the effectiveness of procurement practices in the county. The regression analysis showed a coefficient of 0.159 for transport logistics, suggesting that a one-unit increase in this area corresponds to a 0.159 increase in procurement management. While this reflects the significance of transport logistics, it indicates that its impact is slightly less pronounced than that of supplier management.

### **5.1.3 Storage Logistics and Procurement Management**

The findings on storage logistics also indicate a positive perception among respondents, with a mean score of 4.18. This suggests that the strategies employed for managing storage and inventory levels are seen as effective in supporting procurement management. The correlation analysis revealed a moderate positive correlation (Pearson correlation of 0.449,  $p < 0.05$ ) between storage logistics and procurement management, suggesting that

improvements in storage logistics contribute to better outcomes in procurement practices. The regression results further highlighted the significance of storage logistics, with a coefficient of 0.313. This indicates that a one-unit increase in storage logistics leads to a 0.313 increase in procurement management. These findings illustrate the importance of efficient storage logistics in enhancing procurement processes, contributing to overall supply chain performance in Baringo County.

## **5.2. Procurement Management**

The dependent variable, procurement management, was assessed to understand its effectiveness in Baringo County's governmental operations. The descriptive statistics revealed a mean score of 4.19, indicating a generally high level of perceived effectiveness among respondents. This score reflects increased customer satisfaction and improved operating efficiency within procurement processes. The correlation analysis demonstrated strong positive associations between procurement management and the independent variables supplier management, transport logistics, and storage logistics reinforcing the notion that enhancing these areas contributes positively to procurement outcomes. The regression analysis, with procurement management as the dependent variable, confirmed the substantial influence of the independent variables, as evidenced by their coefficients. Overall, these results highlight the critical importance of effective procurement management for optimizing operational performance within the county government.

## **5.3 Conclusions**

The study drew conclusions in respect of supplier management, transport logistics, and storage logistics on procurement management in Baringo County, Kenya. The findings highlighted the significant influence of these supply chain elements on the effectiveness and efficiency of procurement processes within the county government.

### **5.3.1 Supplier Management and Procurement Management**

The study concluded that supplier management has a significant positive impact on procurement management in Baringo County. Effective supplier management fosters better relationships with suppliers, leading to the exchange of ideas, cost reductions, and the identification of waste reduction strategies. This, in turn, enhances the overall efficiency of the procurement process. Therefore, maintaining positive and structured supplier relationships is essential for improving procurement management in the county.

### **5.3.2 Transport Logistics and Procurement Management**

The conclusions drawn from the study indicate that transport logistics play a crucial role in enhancing procurement management. The timely delivery of products, effective route planning, and the use of transport management systems ensure smoother operations and reduced delays. The correlation between transport logistics and procurement management underscores the importance of improving transportation strategies to achieve better procurement outcomes in Baringo County.

### **5.3.3 Storage Logistics and Procurement Management**

The study concluded that storage logistics significantly affect procurement management. Proper management of storage facilities, effective inventory handling, and modern product-handling techniques were identified as key factors that contribute to the smooth operation of the procurement process. Efficient storage strategies help reduce downtime, prevent stockouts, and minimize delays, thus positively influencing procurement management in Baringo County.

### **5.3.4 Procurement Management**

The overall conclusion of the study is that procurement management in Baringo County is heavily influenced by supplier management, transport logistics, and storage logistics.

Effective supply chain practices in these areas lead to enhanced customer satisfaction, improved service quality, and operating efficiency. The findings indicate that strengthening supplier relationships, optimizing transportation logistics, and improving storage strategies are critical to ensuring effective procurement management in the county.

#### **5.4 Recommendations**

Based on the findings related to supplier management, transport logistics, and storage logistics on procurement management in Baringo County, Kenya, the following recommendations are proposed for policymakers.

##### **5.4.1 Recommendations for Supplier Management**

Policymakers in Baringo County should focus on strengthening supplier management practices to improve procurement efficiency. It is recommended that the county government implement structured supplier relationship management platforms that encourage regular feedback and the exchange of ideas. This will help in reducing procurement costs and addressing potential inefficiencies. Additionally, fostering long-term partnerships with suppliers can lead to better performance and a more reliable procurement process.

##### **5.4.2 Recommendations for Transport Logistics**

To improve procurement management, it is essential for policymakers to enhance transport logistics systems within the county. The county government should invest in advanced transport management systems to ensure efficient route planning, timely delivery, and optimized fuel usage. Policymakers should also consider implementing real-time tracking of deliveries to reduce delays and ensure smooth operations. These steps will contribute to better logistics management and improved procurement outcomes.

### **5.4.3 Recommendations for Storage Logistics**

Policymakers should ensure that the county government invests in modern storage and inventory management techniques to improve procurement efficiency. This includes increasing warehouse capacity and employing advanced technologies for product handling and inventory control. Proper management of storage facilities will help reduce downtime, minimize stockouts, and prevent delays in procurement processes. Emphasizing efficient storage strategies will significantly enhance the county's overall procurement performance.

### **5.4.4 Recommendations for Procurement Management**

To improve overall procurement management, policymakers should prioritize the integration of supplier management, transport logistics, and storage logistics strategies. Continuous monitoring and evaluation of these elements will ensure that the procurement process runs smoothly, reducing costs and improving service delivery. Additionally, implementing modern supply chain practices across these areas will lead to greater efficiency and customer satisfaction in procurement activities within Baringo County.

### **5.5 Suggestions for Further Research**

The findings of this study provide a foundation for further research into procurement management in public sector organizations, particularly in county governments. Several areas have emerged where additional investigation could enhance understanding and lead to improved practices.

Firstly, the impact of technology on procurement management warrants further exploration. As county governments increasingly adopt digital tools, future research could focus on the influence of technologies like blockchain, artificial intelligence, and big data analytics in streamlining procurement processes. Investigating how these technologies can

be leveraged to improve efficiency, transparency, and cost-effectiveness in procurement would offer significant value, especially in the context of public sector supply chains. A comparative analysis of procurement practices across counties could provide insights into regional differences and the varying challenges faced by county governments in Kenya. Such a study would allow for the identification of best practices and highlight the specific procurement strategies that yield the best outcomes. This comparative approach would provide policymakers with a clear understanding of what works in different settings, facilitating the application of successful practices across multiple counties.

Another promising area for research is sustainability and green procurement. With growing global emphasis on environmental responsibility, further studies could explore how county governments in Kenya integrate sustainability into their procurement processes. This would involve investigating how procurement decisions impact environmental and social outcomes, and how counties can adopt green procurement policies that align with sustainable development goals. Further research could also examine the role of human resource skills in procurement management. The effectiveness of procurement officers is often determined by their skills, training, and competencies. Investigating how professional development, training programs, and capacity-building initiatives influence procurement efficiency in county governments could help identify key areas for improvement in the human capital within procurement departments.

Finally, a study on risk management in public sector procurement could offer valuable insights. County governments often face risks such as supplier failure, price volatility, and logistical challenges. Research into how risk management strategies are implemented in procurement, and their effectiveness in mitigating these risks, would provide critical information to strengthen procurement practices and reduce vulnerabilities in public procurement systems

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## APPENDICES

### Appendix I: Consent Form Consent Form For Participation In Research

Dear Participant,

I am inviting you to take part in a research study titled "**Assessment of Supply Chain Performance on Procurement Management in Baringo County, Kenya.**" I am currently pursuing a **Master's Degree in Procurement and Supplies Management** at Mount Kenya University and conducting research as part of my Master's project. The study aims to examine the **effect of supply chain performance on procurement management in Baringo County, Kenya.**

Enclosed is a questionnaire designed to gather relevant information on the study topic. Your participation is entirely **voluntary**, and you may choose not to answer any question or withdraw from the study at any time without consequences. There are **no known risks** involved beyond those experienced in daily life.

Your responses will be **kept confidential and anonymous**. All collected data will be securely stored and only presented in a collective manner. No one apart from the researchers will have access to individual responses.

Completing the questionnaire should take approximately **40 minutes**. While there are no direct benefits to participating, your insights may contribute to a better understanding of supply chain performance and its impact on procurement management, which could benefit future studies and industry practices.

#### Contact Information

If you have any questions regarding this research, please feel free to reach out to:

- **Investigator:** Nixon Kandawala – **0724683470**
- **Supervisor:** Dr. Robert Obuba – **0729709826**

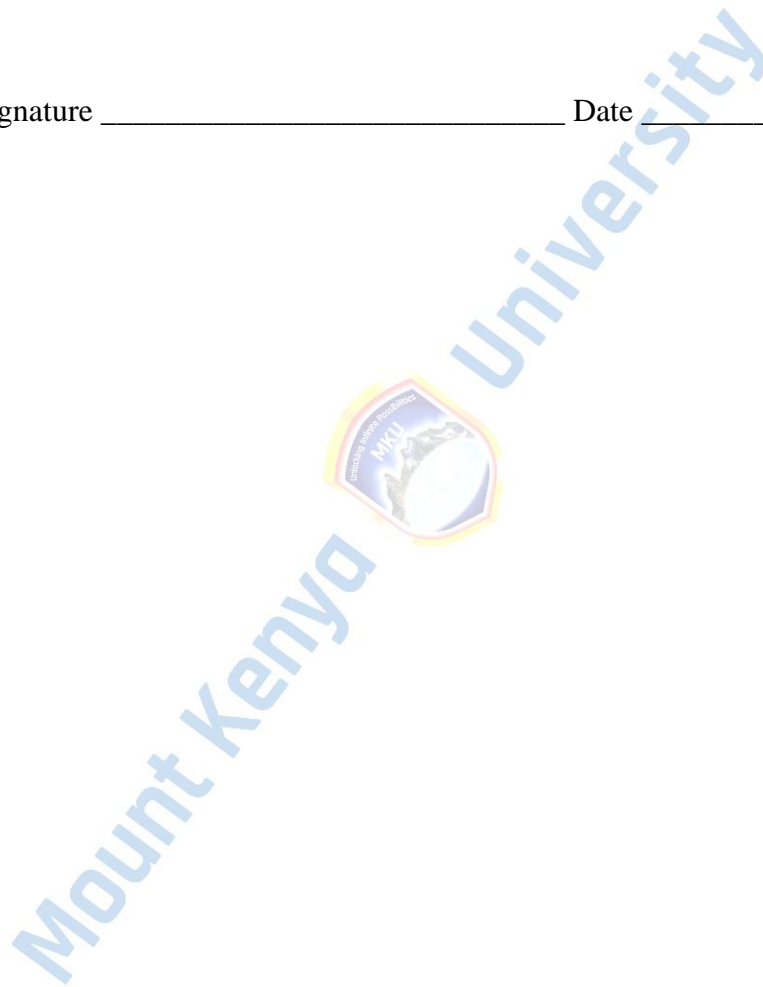
For concerns about your rights as a participant, you may contact the **Chairman, Mount Kenya University Ethical Review Committee, P.O Box 342-01000, Thika.**

## Consent Statement

I have read and understood the information provided about this study. I acknowledge that my participation is voluntary, and I am free to withdraw at any time without giving a reason or incurring any consequences. I also understand that I will receive a copy of this consent form.

Participant's signature \_\_\_\_\_ Date \_\_\_\_\_

Investigator's signature \_\_\_\_\_ Date \_\_\_\_\_



## Appendix II: Questionnaire

This questionnaire is intended to collect information from the employees in the county government of Baringo. The questionnaire will collect information on the influence of Supply Chain Performance on Procurement Management in Kenya; A Case of Baringo County. Be assured that everything you give will remain completely private and confidential.

### Section A: Bio Data

1. **Gender**  Male  Female

2. **What is your highest academic qualification?**

Diploma  Undergraduate Degree  Postgraduate degree

3. **For how long have you served in this county**

Less than a year  between 1-2 years  between 3-4 years  Over 5 years

4. **Your Age bracket**  18-24 years  25- 30 years  31-34 years  35-40 years  
 41-44 years  45-50 years  above 50 years

### Section B : Supplier Management

Indicate your agreement with the questions asked on supplier management in your county. A scale of 1 - 5 is used where 1 implies strongly disagree, 2 means disagree, 3 is Neutral, 4 is agree and 5 implies Strongly agree

	1	2	3	4	5
A positive supplier connection has resulted in the exchange of ideas and feedback, which has helped to improve operations.					
Good supplier ties have resulted in cost reductions					
The County has been able to identify waste causes and solutions to eliminate them thanks to a supplier relationship management platform					
The improvement in communication has resulted from the creation of a positive relationship between the County and the provider					
The supplier relationship management strategy has strengthened the County's supply chain					

### Section C: Transport Logistics

Indicate your agreement with the questions asked on transport logistics in your county. A scale of 1 - 5 is used where 1 implies strongly disagree, 2 means disagree, 3 is Neutral, 4 is agree and 5 implies Strongly agree

	1	2	3	4	5
There is timely delivery of products and services to user department					
The county uses fuel management system to monitor fuel utilization					
The county uses transport management system to plan the routes for distribution					
The county uses transport management system to schedule it flee					
The county use fleet management system to track all product that are transported to user departments					

### Section D: Storage Logistics

Indicate your agreement with the questions asked on storage logistics in your county. A scale of 1 - 5 is used where 1 implies strongly disagree, 2 means disagree, 3 is Neutral, 4 is agree and 5 implies Strongly agree

	1	2	3	4	5
The county has adequate warehouse/storage space to hold additional stock					
The storage strategies employed by our county ensure effective management of inventory levels					
There is inefficiencies in the store, warehousing processes which leads to downtime					
There is good management of the stores which ensures high order rate to avoid delay in procurement process					
County uses modern techniques of product handling in the stores					

### Section F: Procurement Management

Indicate your agreement with the questions asked on procurement management in your county. A scale of 1 - 5 is used where 1 implies strongly disagree, 2 means disagree, 3 is Neutral, 4 is agree and 5 implies Strongly agree

	1	2	3	4	5
The level of customer satisfaction has increased					
The supply chain practices have improved the quality of services offered at different levels along the supply chain.					
There is flexibility in logistics operations in the organisation					
There is improved operating efficiency					
The supply chain practices have reduced costs in the procurement department.					



**Appendix III: Map of the Study Area**



## Appendix IV: MKU Research Authorization Letter



### DIRECTORATE OF GRADUATE STUDIES

MPSM/2021/85405

18<sup>th</sup> June, 2024

National Commission for Science Technology & Innovation (NACOSTI)  
Off Waiyaki Way, Upper Kabete,  
P.O Box 30623- 00100  
NAIROBI, KENYA

Dear Sir/Madam,


**RE: NIXON KANDAWALA- REGISTRATION NO. MPSM/2021/85405**

The purpose of this letter is to introduce the above named student who is pursuing **Master of Science in Procurement and Supplies Management** in the **Department of Management** in the school of **Business and Economics**

The title of the research is "**Assessment of Supply Chain Performance on Procurement Management in Baringo County, Kenya**". It has been cleared by the University's Ethics Review Committee (Certificate attached) and now has to proceed to the field to collect data between **June, 2024 and August, 2024**.

Any assistance accorded to the student will be highly appreciated.

Thank you.

  
Dr. Samuel M. Karenga, Ph.D  
Director, Graduate Studies

Mount Kenya University  
P.O. Box 342 - 01000, THIKA  
Office of the Director,  
Graduate Studies

Enc.

Main Campus, General Kago Road, P.O. Box 342-01000 Thika.  
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Chartered and ISO 9001 : 2015 Certified Institution.  
**Unlocking Infinite Possibilities**

## Appendix V: KUREC Authorization Letter



REF: MKU/ISERC/3816  
TO: NIXON KANDAWALA

Date: 18 June 2024

REG: MPSM/2021/85405

Dear Sir/Madam,

**RE: ASSESSMENT OF SUPPLY CHAIN PERFORMANCE ON PROCUREMENT MANAGEMENT IN BARINGO COUNTY, KENYA**

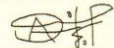
This is to inform you that **Mount Kenya University** has reviewed and approved your above research proposal. Your application approval number is **2860**. The approval period is **18/06/2024 - 17/06/2025**.

This approval is subject to compliance with the following requirements;

- i. Only approved documents including informed consents, study instruments, MTA will be used
- ii. All changes including amendments, deviations and violations are submitted for review and approval by **Mount Kenya University**
- iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to **Mount Kenya University** within 72 hours of notification
- iv. Any changes, anticipated or otherwise that may increase the risks or affect the safety or welfare of study participants and others or affect the integrity of the research must be reported to **Mount Kenya University** within 72 hours
- v. Clearance for export of biological specimens must be obtained from relevant institutions
- vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal
- vii. Submission of an executive summary report within 90 days upon completion of the study to **Mount Kenya University**

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) <https://research-portal.nacosti.go.ke> and also obtain other clearances needed.

Yours sincerely,



**Dr. Alfred Owino, PhD**  
**Chairman, Mount Kenya University ISERC**

Main Campus, General Kago Road, P.O. Box 342-01000 Thika.  
Cell: +254 709 153 000 | +254 709 153 200  
Email: [info@mku.ac.ke](mailto:info@mku.ac.ke), Web: [www.mku.ac.ke](http://www.mku.ac.ke)  
Chartered and ISO 9001 : 2015 Certified Institution.  
**Unlocking Infinite Possibilities**



The National Commission for Science, Technology and Innovation, hereafter referred to as the Commission, was established under the Science, Technology and Innovation Act 2013 (Revised 2014) herein after referred to as the Act. The objective of the Commission shall be to regulate and assure quality in the science, technology and innovation sector and advise the Government in matters related thereto.

**CONDITIONS OF THE RESEARCH LICENSE**

1. The License is granted subject to provisions of the Constitution of Kenya, the Science, Technology and Innovation Act, and other relevant laws, policies and regulations. Accordingly, the licensee shall adhere to such procedures, standards, code of ethics and guidelines as may be prescribed by regulations made under the Act, or prescribed by provisions of International treaties of which Kenya is a signatory to
2. The research and its related activities as well as outcomes shall be beneficial to the country and shall not in any way;
  - i. Endanger national security
  - ii. Adversely affect the lives of Kenyans
  - iii. Be in contravention of Kenya's international obligations including Biological Weapons Convention (BWC), Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), Chemical, Biological, Radiological and Nuclear (CBRN).
  - iv. Result in exploitation of intellectual property rights of communities in Kenya
  - v. Adversely affect the environment
  - vi. Adversely affect the rights of communities
  - vii. Endanger public safety and national cohesion
  - viii. Plagiarize someone else's work
3. The License is valid for the proposed research, location and specified period.
4. The license any rights thereunder are non-transferable
5. The Commission reserves the right to cancel the research at any time during the research period if in the opinion of the Commission the research is not implemented in conformity with the provisions of the Act or any other written law.
6. The Licensee shall inform the relevant County Director of Education, County Commissioner and County Governor before commencement of the research.
7. Excavation, filming, movement, and collection of specimens are subject to further necessary clearance from relevant Government Agencies.
8. The License does not give authority to transfer research materials.
9. The Commission may monitor and evaluate the licensed research project for the purpose of assessing and evaluating compliance with the conditions of the License.
10. The Licensee shall submit one hard copy, and upload a soft copy of their final report (thesis) onto a platform designated by the Commission within one year of completion of the research.
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