

**INFLUENCE OF PROCUREMENT RISK MANAGEMENT PRACTICES ON  
SUPPLY CHAIN PERFORMANCE OF PARASTATALS IN KENYA**

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**MASTER OF BUSINESS ADMINISTRATION (PROCUREMENT AND  
SUPPLIES MANAGEMENT)**

**KCA UNIVERSITY**

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**REG No. 23/02355**

**A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE  
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BUSINESS ADMINISTRATION (PROCUREMENT AND SUPPLIES  
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**JULY, 2025**

## DECLARATION

I declare that this project is my original work and has not been previously published or submitted elsewhere for award of a degree. I also declare that this contains no material written or published by other people except where due reference is made and author duly acknowledged.


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I do hereby confirm that I have examined the master's project of **Adiel David Nashon Odhiambo** and have certified that all revisions that the dissertation panel and examiners recommended have been adequately addressed.

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**Dr. Catherine Gatari**

**Supervisor**

## ABSTRACT

This research explored how influence of procurement risk management plays a role in parastatals' supply chain performance in Kenya. Managing risks in procurement supports efficiency, cuts down on surprises and makes public procurement more economical. Nevertheless, parastatals in Kenya remain affected by long-running issues such as corruption, inefficiency and delays in making purchases which weaken their performance in the supply chain. The project mainly studied four main methods for managing risks in procurement: identifying risks, assessing them, taking action to reduce risks and observing risks. They were appraised against tools used to trace supply chain performance, including economic efficiency, quality and how briskly stocks are processed. According to the Resource-Based View (RBV), Transaction Cost Economics (TCE) and Contingency Theory, I opted for a cross-sectional descriptive design using mixed methods. The study used questionnaires to collect structured quantitative data from 133 procurement professionals at different levels in selected parastatals. Qualitative insights were obtained through semi-structured interviews. The study used descriptive statistics, Pearson correlation, multiple regression analysis and a method known as thematic content analysis on the qualitative side. Data showed that all four risk management activities risk identification, assessment, mitigation and monitoring had a significant and constructive effect on supply chain performance. The strength of risk identification and monitoring was closely linked to how well the supply chain performed and reacted. The research also indicated that managing risks effectively usually meant better control over costs, better-quality products bought and better use of existing stock. Besides, companies that monitored risks carefully and assessed their suppliers' risks thoroughly experienced fewer failures in procurement. The analysis found that excellent risk management within procurement is necessary for strengthening the performance of parastatals in Kenya. The study proposed that policymakers and procurement staff embed advanced tools for assessing risks, strengthen ongoing surveillance methods and coordinate procurement efforts with the current and future needs of the organization and the environment. Such actions could both reduce risks and strengthen supply chain stability, transparency and the purchasing of better-value products. This study gives useful findings and contextual details about risk management in government procurement from the point of view of Kenyan parastatals, supporting both further academic studies and improvements in policy.

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## **DEDICATION**

I dedicate this research project to my family, whose unwavering support and encouragement have been instrumental in my academic journey. Their belief in my potential has been a constant source of motivation.

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## OPERATIONAL DEFINITION OF TERMS

- Parastatals in Kenya** : Government-owned corporations that provide essential services and contribute to socio-economic development, operating under public procurement regulations (Njiru, 2016).
- Procurement Risk Management Practices** : The systematic identification, assessment, mitigation, and monitoring of potential risks in procurement processes to enhance supply chain performance (Owuor, 2020).
- Risk Assessment** : The evaluation of the probability and impact of identified risks on procurement and supply chain operations, informing decision-making for risk management (Njenga & Kinyua, 2019).
- Risk Identification** : The process of recognizing and assessing procurement risks such as supplier failures, regulatory non-compliance, and market fluctuations to minimize disruptions in the supply chain (Mwangi & Wambugu, 2021).
- Risk Mitigation** : Strategies and actions implemented to reduce or control the impact of procurement risks, including supplier diversification, contractual safeguards, and inventory buffering (Giunipero & Eltantawy, 2004).
- Risk Monitoring** : The continuous process of tracking procurement risks through key performance indicators (KPIs), early

warning systems, and compliance audits to ensure supply chain resilience (Mutua & Kiprop, 2021).

**Supply Chain Performance** : The effectiveness and efficiency of procurement activities in achieving cost efficiency, quality of goods, and inventory turnover in parastatals (Bowersox et al., 2013).

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 Background of the study**

Risk management in procurement involves noticing risks connected to procurement jobs and assessing and monitoring them. It is meant for developing strategies that can manage issues or problems that could negatively affect the supply chain. According to Wambui, Namusonge and Sakwa (2020), developing strong practice in risk management helps the supply chain in building relationships with vendors, spending efficiently and delivering supplies. The importance of procurement risk management is greater in Kenyan parastatals since procurement can be quite complex and difficult to handle. In Kenya's public sector, strict and detailed policies make sure transparency and accountability standards are met (Kagiri & Wainaina, 2020). Parastatals face difficulties such as corruption, delays and inefficiency; this clearly shows that robust risk management is necessary.

Due to the growing risks and challenges in modern procurement strategies, internationally, many groups are paying careful attention to risk management in procurement. Because of the speed of globalization of supply chains, businesses are now exposed to potential problems from political upheavals, economic issues, disasters, cyber dangers and failed suppliers. Proper procurement risk management (PRM) should be used to overcome interruptions and ensure the supply chain is reliable (Ivanov, Tsipoulaidis, & Schönberger, 2019).

In more advanced countries, risk management in procurement is a well-known practice, allowing businesses to use AI, data analytics and blockchain to monitor dangers, predict problems and work on backup plans. Corporations such as Apple Inc. and Toyota benefit from using predictive analytics powered by AI to stop disruptions

in their supply chains. Likewise, Siemens and General Electric (GE) have started using blockchain in procurement to increase transparency and traceability which helps decrease the threats of fraud and non-compliant suppliers (Trkman & McCormack, 2019).

The governments of the United States, United Kingdom and Germany have put in place tough rules for procurement to manage risks in their public sector supply chains. Public spending on government contracts in the United States is regulated by the Federal Acquisition Regulation (FAR) which sets guidelines for managing risk. Because of the Public Procurement Regulations, the UK tries to reduce procurement risks in government projects with a strong focus on assessing risks, investigating suppliers and sourcing ethically. Likewise, e-procurement in Germany (eVergabe) makes public procurement more transparent and helps to cut down on fraud (Thai, 2017).

In fast-growing economies, government agencies and organizations owned by the state now see procurement risk management as very important. An example is India's Government e-Marketplace (GeM), introduced in 2016 which uses online monitoring to make procurement transparent and easy (Government e-Marketplace, 2016). The Government Procurement Law (GPL) in China specifies that risk assessments are required in public procurement to deal with supply chain problems (National People's Congress of the People's Republic of China, 2002).

As a result of these factors, the problem of dealing with procurement risks is more severe in Africa, mainly because of political unrest, corruption and poor infrastructure. All these aspects put supply chains at risk and stress the necessity of good risk management practices by organizations in the public sector (Hess, 2017).

Some countries in Africa are taking steps to enhance how risks are managed in the procurement systems meant for government agencies. One example is found in South Africa, where specific policies and strategies include risk management as a main focus (Bolton, 2016). Just like that, Nigeria has introduced arrangements to improve the transparency and accountability of procurement activities in the country (Ezeh & Nwosu, 2018).

As the African Development Bank (2018) states, it is important for African countries to strengthen their procurement systems to minimize problems that occur in their supply chain. The area of interest for the study was choosing policies, organizing training and applying technology so procurement risk management could improve. There are also groups of countries known as Regional Partnerships, like the African Continental Free Trade Area (AfCFTA) which focus on combining trade and procurement policies in Africa to reduce risks and build a more reliable supply chain.

Regional cooperation in addressing problems with procurement has become easier in East Africa thanks to the East African Procurement Forum. Through the forum, people can discuss best approaches to managing risks in purchasing (Kavura, 2020). Even with these initiatives, how well procurement risk management functions often varies and some places need to overcome greater problems. Both public and private sectors in Kenya are now aware of the importance of procurement risk management. The country's procurement process depends on the Public Procurement and Asset Disposal Act, 2015 which follows principles of transparency, accountability and efficiency (Public Procurement and Asset Disposal Act, 2015). Still, some problems have been noted in properly implementing these provisions, as described below; corruption, lack of resources and resistance to making changes.

In Kenya, government-run companies or parastatals, have an important impact on the economy. They work to ensure that vital services are given and government policies are carried out. Efficient recruitment risk management is necessary for parastatals to accomplish their goals and deliver services properly (Mutonyi, 2018). A recent study carried out by the Public Procurement Regulatory Authority (PPRA) in Kenya (2019) underlines the role of risk management in public procurement. The study showed that having risk management processes like assessment, reduction and regular monitoring helped public organizations manage their procurement better. At the same time, it was noticed that lack of resources, awareness and proper guidelines are obstacles to effective risk management in Kenyan parastatals.

### **1.1.1 Procurement Risk Management Practices**

Procurement risk management practices encompass a series of coordinated actions designed to anticipate, assess, mitigate, and monitor risks within procurement activities (Trkman & McCormack, 2019). Best practices include conducting supplier due diligence, market risk analysis, regulatory compliance audits, contractual safeguards, diversification strategies, and the deployment of technology-based risk monitoring tools such as early warning systems and supplier performance dashboards (Ivanov et al., 2019; Zsidisin & Ritchie, 2009). Public procurement standards such as the UNCITRAL Model Law on Public Procurement (2011) recommend the institutionalization of risk registers and risk scoring matrices as integral elements of good governance in procurement.

Procurement risk management aims to assess risks related to the procurement process with the goal of keeping any problems during procurement to a minimum within an organization. For this reason, parastatals need good procurement risk

management to uphold the integrity of their supply chains and ensure public funds are spent wisely (Owuor, 2020).

Identify, evaluate, control and observe risks in procurement and the supply chain is what procurement risk management is all about. A good practice is to detect significant risks like problems with suppliers and increasing prices, then apply answers such as having several suppliers and including clauses in the contract. Continuous monitoring through performance indicators enhances resilience and efficiency (Mwangi & Wambugu, 2021). These techniques help the organization in the early identification of risks that may affect the supply chain, leading to better performance of the supply chain (Njenga & Kinyua, 2019).

Furthermore, risk management process in procurement in parastatals cannot be overemphasized due to risks like supplier's failure, high and fluctuating prices, fraud and non-compliance with regulatory requirements. Effective procurement risk management practices in implementation produces, results in improved supplier communications, cost savings, and enhanced strategic objectives (Giunipero & Eltantawy, 2004). Also, it is essential to manage procurement risks to build the supply chain's robustness since procurement resilience allows an organization to cope with multiple factors in its external environment like economic trends or changes in regulation (Zsidisin & Ritchie, 2009).

### **1.1.2 Supply Chain Performance of Parastatals**

Globally, efficient supply chain performance is considered a key driver of organizational success, with organizations in developed countries leveraging automation, AI, and blockchain to enhance visibility and minimize risks (Christopher & Peck, 2004; Ivanov et al., 2019). Regionally, in Africa, governments are increasingly

adopting e-procurement platforms to mitigate procurement risks and improve transparency (African Development Bank, 2018).

In Kenya, supply chain performance in parastatals is monitored through performance contracting and adherence to the Public Procurement and Asset Disposal Act (2015), yet challenges such as corruption, supplier unreliability, and logistical inefficiencies persist (Mutua & Kiprop, 2021). Supply chain performance is therefore the ability of the different processes in the provision of products and services starting with the suppliers to consumers (Bowersox et al., 2013). In the parastatal organizations where the chain of supply is normally owned or controlled by the government, the performance of a supply chain is a very sensitive issue, particularly due to the fact that parastatals are operating under considerable public accountability and scrutiny (Karanja & Gathenya, 2020).

While the supply chain of a parastatal is similar to that of a 'normal' organization, this is not quite true because parastatals have special issues that are caused by the regulatory framework, the fact that procurement is so complicated and they are compelled to work within the corridors of public procurement legislations and policies (Munyoki & Ogutu, 2018). Good supply chain management in parastatals results in reduced cost, increased quantity and quality of services, and increased organization effectiveness (Nyaberi, 2019). But at the same time, the supply chain can yield poor performance reflected in such consequences as late delivery, higher cost, and public dissatisfaction (Mbae, 2021).

That is the factors of supply chain performance in parastatals include procurement risk management practices, control of suppliers, inventory, and supply chain of logistics. Mugo (2015) posits that, the extent of supply chain operational

performance mostly defined parastatals' procurement risk management capability in relation to key risks including supplier bankruptcy, increase in prices, and new regulations. Similarly, the aspect of technology and the improvement in the procurement and supply chain management practices has also been deemed to promote the improvement in performance of parastatals (Oginda & Bolo, 2020).

### **1.1.3 Parastatals in Kenya**

The parastatals in Kenya, simultaneously established by Acts of Parliament and also referred to as State Corporations or State-Owned Enterprises (SOEs), are organizations owned or controlled by the government of Kenya. These entities play a significant role in the socio-economic growth of the nation, as they provide essential services, generate revenue, and create employment (Njiru, 2016). Parastatals operate in various sectors, including agriculture, transport, energy, and health (Ngugi, 2018).

The legal framework for parastatals in Kenya is anchored in the State Corporations Act, Cap 446 which gives a framework for the formation, operation as well as management of parastatals in the country. The parastatal organizations report to different ministries of government and are supposed to operate in line with the different national development objectives.

Parastatals' performances are reviewed frequently to ascertain whether or not they are performing their organizational mandates efficiently (Njiru, 2008). However, the parastatals in Kenya have suffered numerous failures; these failures include inefficiency, corruption, mismanagement and financially drained parastatals. It is for this reason these challenges have resulted in pressures for changes to increase performance and efficiency of these institutions. The government has over the years tried to remedy this problem of poor performance through matters such as restructuring,

privatization and the introduction of performance contracts as noted by Obong'o (2009). However, despite these foregoing challenges, parastatals are significant in the development of Kenyan economy and are critical in delivery of the department and policies in the country.

This study specifically focused on selected commercial parastatals operating under key sectors including Kenya Power and Lighting Company (KPLC), Kenya Pipeline Company (KPC), Kenya Ports Authority (KPA), National Cereals and Produce Board (NCPB), and Kenya Medical Supplies Authority (KEMSA). These parastatals were chosen due to their significant procurement volumes and direct influence on Kenya's socio-economic agenda.

## **1.2 Statement of the Problem**

The relationship between procurement risk management practices and supply chain performance has been widely debated, with conflicting findings. Some studies suggest that procurement risk management enhances supply chain performance, while others argue that its impact is minimal or dependent on specific conditions. For instance, Wanyonyi and Muturi (2019) emphasize that Production Readiness Review (PRR) can mitigate delays and corruption in Kenyan public organizations. Conversely, Munywoki (2018) highlights that the adoption and implementation of these practices are often ineffective, leading to inconsistencies in supply chain performance. These divergent perspectives underscore the need for further empirical investigation, particularly within the Kenyan public sector.

Parastatals in Kenya continue to face significant procurement challenges, including inefficiencies, delays, and corruption, which hinder optimal supply chain performance. While some studies, such as Wanyonyi and Muturi (2019), focus on

specific risk management practices like PRR, they do not comprehensively assess the broader impact of procurement risk management on supply chain performance. Moreover, Kiage (2019) provides a general overview of procurement practices but lacks empirical evidence on their effectiveness in mitigating supply chain risks. Similarly, Kibet (2020) notes that the absence of empirical data limits policymakers' ability to develop effective risk management strategies tailored to Kenyan public institutions. This study, therefore, seeks to bridge this gap by providing a comprehensive examination of how procurement risk management practices influence supply chain performance in Kenyan parastatals.

Existing research on procurement risk management is often based on studies conducted in developed countries, which may not be directly applicable to Kenya due to differences in socio-economic, political, and regulatory environments. Mwikali and Kavale (2019) argue that procurement models used in developed nations may not be suitable for Kenya, where political interventions and technological limitations significantly impact procurement processes. Additionally, Odhiambo and Kamau (2019) emphasize the unique challenges posed by Kenya's procurement laws, such as those outlined in the Public Procurement and Asset Disposal Act of 2015. Given these contextual differences, localized research is necessary to generate actionable insights that can enhance procurement efficiency and effectiveness in Kenyan public institutions.

Thus, this study sought to answer the research question: How do procurement risk management practices influence the supply chain performance of parastatals in Kenya? By addressing this question, the study aimed to provide empirical evidence that can guide policymakers in improving procurement processes and enhancing overall supply chain performance.

### **1.3 General Objective**

The general objective of this study was to assess the influence of procurement risk management practices on supply chain performance of parastatals in Kenya.

#### **1.3.1 Specific Objectives**

- 1) To evaluate the influence of risk identification practices on the supply chain performance of parastatals in Kenya.
- 2) To analyse the influence of risk assessment practices on the supply chain performance of parastatals in Kenya.
- 3) To assess the influence of risk mitigation practices on the supply chain performance of parastatals in Kenya.
- 4) To examine the influence of risk monitoring practices on the supply chain performance of parastatals in Kenya.

#### **1.4 Research Questions**

- 1) How do risk identification practices influence the supply chain performance of parastatals in Kenya?
- 2) How does risk assessment impact the supply chain performance of parastatals in Kenya?
- 3) What is the influence of risk mitigation practices on the supply chain performance of parastatals in Kenya?
- 4) To what extent do risk monitoring practices influence the supply chain performance of parastatals in Kenya?

## **1.5 Significance of the Study**

This study will offer significant contributions to various stakeholders, including management of parastatals, policymakers, and procurement professionals. The specific benefits to these groups are outlined below:

### **1.5.1 Management of Parastatals in Kenya**

The study will provide valuable insights into how procurement risk management practices can be implemented effectively within parastatals. By focusing on parastatals, management teams can gain a deeper understanding of the specific challenges and opportunities related to procurement risk within their organizations. The findings will help management to make informed decisions on how to enhance procurement strategies, thereby improving overall operational efficiency and aligning with organizational goals such as safeguarding parastatals in Kenya

### **1.5.2 Policy Makers**

The policy makers stand to benefit from the study since the study seeks to establish the relationship between procurement risk management practices and the performance of parastatals. This research shall avail recommendations which could aid in the development of policies on the enhancement of procurement systems in the various institutions. When the specific needs of procurement in parastatals are understood, the policymakers are able to design and implement policies that reduce risks and improve sustainability.

### **1.5.3 Procurement Professionals**

In light of this, personnel specifically involved in procurement foremost professionals in public procurement organizations will be in a unique position to learn from the

study's best practices as well as recommended approaches to manage risks involved in procurement. The study will help identify performance drivers and improvement opportunities towards the procurement specialists' utilization of advanced, more effective risk management processes. It will also improve the efficiency of procurement processes while helping parastatals to meet their other organizational objectives.

#### **1.5.4 Academic and Research Community**

The study will also benefit the academic and research fraternity by developing the theory on procurement risk management in Kenyan parastatals. The present work will make a contribution to the development of the theoretical background of procurement risk management, thus creating the foundation for the further investigation of the issue and presenting new viewpoints on the concerns and coping strategies connected with the analysed field.

#### **1.5.5 The Government of Kenya**

Kenya's government will be in a position to benefit from the study findings on how efficient procurement risk management can affect the performance of parastatals essential in the economic recovery of the country. The outcomes of this research can help enhance the government's priorities for the systematic procurement processes and the optimisation of the public sector's purchasing function, as well as advance the delivery of public services to bolster the fulfilment of development agendas.

To this end, this research seeks to proffer actionable findings that will augment advanced theoretical understanding of procurement risk management but will also propose ways by which the procurement risk management in Kenyan parastatals can be improved.

## **1.6 Scope of the Study**

The focus of this research was to examine the extent to which procurement risk management practices influence the supply chain performance of parastatals in Kenya. Geographically, the study was limited to parastatals operating within the country and was conducted over a two-month period, from March 2025 to June 2025. A mixed-methods approach was employed, combining structured questionnaires for quantitative data and semi-structured interviews for qualitative insights, ensuring triangulation of findings (Creswell & Creswell, 2018).

The target population consisted of 300 procurement, finance, and operations professionals from selected parastatals, stratified into top, middle, and lower management levels. Guided by the structural-functionalist perspective, the study analysed procurement risk management practices across these organizational strata. Data analysis involved both descriptive and inferential statistical methods to draw valid conclusions and offer recommendations on how procurement risk management practices affect supply chain performance.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

The literature review of this chapter was a review of existing literature focusing on the effects of procurement risk management practices on the supply chain performance of parastatals in Kenya. They included the theory review, literature gap, and research theory that guided the study. The layout of the review aimed at analysing the following aspects of the study: Theoretical frameworks, empirical literature in line with the objectives of the study, and definition or measurement of variables.

#### **2.2 Theoretical Review**

This chapter focused on the theoretical frameworks in the assessments of procurement risk management and supply chain performance. The theories include Resource-Based View (RBV) theory, Transaction Cost Economics theory, and Contingency theory.

##### **2.2.1 Resource-Based View (RBV) Theory**

The Resource-Based View (RBV) Theory, developed by Barney (1991), argues that an organization's competitive advantage is derived from its unique resources and capabilities, which must be valuable, rare, inimitable, and non-substitutable. Scholars like Wernerfelt (1984) and Peteraf (1993) extend this perspective by emphasizing how firms with strong knowledge capital and advanced procurement tools can better identify, mitigate, and monitor risks. Critiques of RBV highlight its inward-looking nature, arguing that it does not sufficiently account for external market dynamics or rapid technological changes, which can render internal resources obsolete.

Applying the RBV theory, it is more so feasible since it focuses on the management of risks based on the internal resources that are available within the supply chains of the parastatals. Hence, matters of procurement risk management such as risk identification, risk mitigation, and risk monitoring are all functions that could be improved through effective strategic management of resources in the organization. From the RBV perspective, risk identification capability is an important resource of the organisation. This capability is usually embedded in the firm's knowledge capital, learnings and information, assets (Wernerfelt, 1984). For example, a parastatal with a sound database of previous procurement projects and a qualified team of procurement officers is likely to spot risks faster than other organizations that have the resources. This means the organization can sense what may go wrong and the consequences likely to be faced hence course correction can be taken to protect the supply chain performance of the organization.

According to the RBV theory, protection against risks is one of the organizational capabilities that can become a basis for gaining a competitive advantage (Peteraf, 1993). Innovativeness and formulation of unique risk management strategies that make use of options such as supplier diversity, technology advancement or contingency planning mark the stability of the parastatals' supply chains in Kenya. These are the strategies that isolate high performing organizations from the rest because they are unique as well as very efficient. For instance, a parastatal that has incorporated state of the art procurement software to its system will have enhanced projections on issues such as disruption of supply and will respond quicker and more effectively to potential risks.

In RBV context, the capability for the ongoing risk identification and assessment is considered a valuable and inimitable resource. This capability is

established by incorporation of technology for instance, supply chain analytics and human talent who can analyse and act on the information (Grant, 1991). To the Kenyan parastatals, the factors that help in safeguarding supply chain risks and also be on the lookout for any type of change and then respond to it is instrumental to an effective functioning of the supply's chains. Organisations which have established superior risk management metrics are able to adequately respond to risks and keep operations going.

Thus, the RBV theory aligns well with the works focused on the impact that procurement risk management practices have on the supply chain performance of parastatals in the Kenyan context. The RBV theory also stresses on internal resources like the capability to recognize, control, and monitor risks while suggesting how these elements help in the maintenance of a competitive edge in the public sector. Implying the given peculiarities of parastatals' activity contexts, characterized by scarcity of resources and uncertainty, the use of parastatals' specific resources and capabilities, contributing to the achievement and sustainment of supply chain performance, appears to be vital.

Despite wide acceptance, RBV theory has drawn criticism for being overly inward-looking and static. Critics like Priem and Butler (2001) argue that the theory lacks specificity in identifying which resources truly yield competitive advantage and underemphasizes the dynamic market environment. Nonetheless, supporters such as Grant (1991) and Teece (2007) underscore that risk management capabilities like procurement analytics, knowledge management, and adaptive processes are critical intangible resources in turbulent public procurement environments. This aligns with the current study, as parastatals in Kenya require internally-developed capabilities like structured risk identification and mitigation frameworks to adapt to policy volatility and supplier uncertainty.

### **2.2.2 Transaction Cost Economics (TCE) Theory**

The Transaction Cost Economics (TCE) Theory, championed by Williamson (1975, 1985), focuses on the cost implications of transactions and how organizations minimize risks by managing supplier relationships, regulatory compliance, and market uncertainty. TCE posits that firms should structure procurement processes to minimize opportunism and inefficiencies through contractual safeguards and supplier diversification (Geyskens et al., 2006). A limitation of this theory, as noted by Wang (2020), is its assumption that all transactional risks can be mitigated through governance mechanisms, whereas in reality, uncertainties in procurement extend beyond contract enforceability

In the context of TCE, management of transaction costs is critical concerning the reduction of the likelihood of opportunism by suppliers, poor procurement processes, and/or contractual disagreements (Geyskens *et al.*, 2006). For instance, binding long-term contracts fully integrated with supply chain, effective supply chain management, and open communication can minimize the risks connected to supply chain interruptions and insurance, parties' enforcement costs involved in contract alteration. These strategies can be of great importance to the parastatals in Kenya, such that the procurement practices are safeguarded well against any risks with a view to enhancing the supply chain management (Wang, 2020). TCE stresses that risk management is not just about the minimization of risks but about minimization of the transaction costs for their management.

Risk control can be described as a process in which risks are watched and controlled throughout the procurement process to ensure existing control measures are still efficient. As per TCE theory, supervision is essential to ensure the transactions go

well and the right investment decisions are made, when the risk of mistakes or risky activities is present. For this reason, the review of procurement activities in parastatals should be done regularly, following changes in the environment, the economy, suppliers and laws. Monitoring lets parastatals find out about potential problems in advance, so they can take action before the problems occur (Roehrich et al., 2022).

As a result, setting up careful risk monitoring systems in their procurement, parastatals maintain stable results and are less vulnerable to major cost impacts. The Transaction Cost Economics theory provides a clear way to explain how dealing with risks and following strong practices in procurements, positively impacts parastatals in Kenya. As a result, managing these risks well allows parastatals to lower the expense related to transactions, improve how they work with suppliers and clients and maximize their effectiveness in supply chain management.

Supporters of TCE theory such as Shelanski and Klein (1995) emphasize that well-structured governance mechanisms like contracts and supplier screening reduce procurement vulnerabilities. Williamson (1996) also argues that risk minimization through contract completeness and supplier specificity can lower transaction costs. In relation to the current study, these views reinforce the argument that parastatals must manage procurement risks by enhancing transactional governance particularly when dealing with long-term supplier contracts, public accountability, and the risk of opportunism in state procurement.

### **2.2.3 Contingency Theory**

As described by Fiedler in his Contingency Theory (1964), management strategies should vary depending on current political situations, the state of the economy and the various technological changes happening in the world. In agreement, Donaldson

(2001) and Lawrence & Lorsch (1967) state that procurement risk management should be tailored to each company's needs.

As the above explanation illustrates, this theory is appropriate concerning procurement risk management in parastatals in Kenya. Since these organizations engage in various sectors and environments where risks significantly differ, procurement risk management practices' efficiency depends on many factors, including the types of risks that have been identified, the risk management strategies employed, and, most importantly, the constant monitoring of risks. It has been stated that Contingency Theory holds that risk identification can only be effective depending on the organisation's external environment and internal structure (Donaldson, 2001).

Since most of the parastatals in Kenya are operated within political framework, thus the risk identification methods shall vary with the types of risks. These may include; political risks, regulatory changes or risks, supplier risks, or supplier bankruptcy risks (Mbui 2016). According to the theory, it is mentioned that the conventional approach utilized for the identification of risks cannot be applicable in all the situations; instead, it is argued that every Parastatal has to utilize such risks according to its working environment. This means that, based on the nature and probability of risks identified when applying Contingency Theory, the choice of the mitigation strategies should be made. For instance, a parastatal with high risk factors pertaining to its suppliers because of political influences may opt to either expand and its sources of suppliers or engage local suppliers to reduce such risks (Kanduy, 2017).

According to the theory, it is impossible to use a general approach to minimize risks common for all organizations; each company should build its strategies based on its conditions (Lawrence & Lorsch, 1967). In the Kenyan setting therefore, any given

parastatal has to constantly review its risk management plans to suit the existing fluctuations within the economic and or political atmospheres.

Contingency theory suggests that operational risk management should change its lens according to variations within the firm's environment (Otley 2016). As for the parastatals of Kenya, such constant monitoring is needed because the risks in this area can constantly shift, due to government decisions, fluctuations in the economy, and changes in the market. Contingency Theory provides a much more effective vantage point for understanding the outcomes of implementing procurement risk management practices in the Kenyan parastatals' supply chain. By emphasizing the contingency approach of building the frameworks of risk identification, risk management, and risk monitoring all together, the theory is entirely justified in showing the necessity of aligning procurement risk management frameworks with the characteristics of the organizations. This alignment is crucial when dealing with the supply chain management with an aim of enhancing its efficiency and the state of preparedness of the organization in light of the increasing unpredictability of business environments.

Proponents of the Contingency Theory, such as Donaldson (2001) and Galbraith (1973), advocate that dynamic environments necessitate adaptable organizational strategies, especially in public institutions where regulations and risk conditions change frequently. Critics like Van de Ven and Drazin (1985), however, argue that the theory is difficult to operationalize due to its ambiguous nature and lack of predictive capability. This duality is important to the current study because it supports the view that Kenyan parastatals must tailor procurement risk management practices based on sectoral variability and shifting risk exposure, rather than relying on rigid, one-size-fits-all protocols.

## **2.3 Empirical Review**

An empirical review is then an analysis of empirical literature collected through research studies or databases, which pertain to a certain phenomenon. It involves identifying patterns, trends, and relationship in findings obtained from the study's primary data sources (Creswell, 2014).

### **2.3.1 Risk Identification and supply chain performance**

Wang and Zhao (2018) also done a study to determine the link between risk identification and supply chain performance of manufacturing firms in China. The study used Haire, Wiggins and Rourke procedure of quantitative method, whereby 200 managers from fifteen manufacturing firms were involved. This paper's discovery reveals that risk identification has been positively related to savings in the supply chain while stressing the need for rigorous systematic procedures for risk identification. However, according to the study, there was no linking of risk identification practice to other risk management practices; a factor that could be of importance to parastatals in Kenya.

Another comparative study by Zhang *et al.*, (2019) expanded the comparison of FDI impacts to both developed and developing countries. The study involved 300 supply chain managers; the data was analysed using Structural Equations Modelling to determine the effects of risk identification on supply chain performance. The findings therefore showed that good risk identification frameworks are correlated to increased supply chain velocity and agility. However, the study revealed that differences in practices relating to risk identification within the regions including Kenya may result in varying performances, thus the probable need to form region specific strategies.

In Okello, Ombuki, & Muia's study (2021), the authors investigated the effects of risk identification practices on parastatals' supply chain performance in Kenya. The study focused on procurement managers and supply chain officers from the selected parastatals, through a mixed methods research approach. The targeted population consisted of 100 participants, alongside the selected key informants. The conclusions showed that the accurate identification of the risks improves performance of the supply chain by providing opportunities for action beforehand and, thus, the minimisation of risks. The study nonetheless noted that this is an area where advanced tools for risk identification are absent, so many parastatals rely on conventional methods, which could prove insufficient in the identification of emerging risks.

Mwaura's (2020) research also surveyed the procurement risk management practices within Kenyan parastatals, but more specifically, concerning the identification of risks and their impact on performance. The actual research survey featured 120 procurement officers drawn from various parastatals and the authors also interviewed the respondents with the aim of having qualitative research. Their results revealed that their case organisations had formal routines for risk identification but these were executed with statures of diversification. The research highlighted a huge research gap with regard to the reliability of identification of risks on one hand and the application of the techniques in line with the strategies for supply chain on the other.

The reviewed studies underscore the positive influence of structured risk identification practices on supply chain performance, notably in cost reduction and proactive supply chain management. However, most studies focus on manufacturing and multinational corporations in developed countries, with limited contextualization for parastatal procurement. This creates a gap which the current study addresses by evaluating how Kenyan public institutions integrate supplier risk identification,

regulatory assessment, and market analysis within their constrained institutional frameworks.

### **2.3.2 Risk Assessment and Supply Chain Performance**

Tang and Musa (2019) conducted research on multinational supply chain risk management within American corporations. A total of 200 supply chain managers answered structured questionnaires to generate findings in this quantitative research design. Organizations that use structured risk assessment frameworks achieve a 30% increase in their supply chain efficiency according to research findings. The investigation only examined private corporations which resulted in an important sectoral omission for research on procurement risk management practices.

European logistics firms tested their risk assessment models according to Chopra and Sodhi (2019). The researchers employed mixed methodology to survey 120 logistics firms while conducting case studies on some of those companies. Businesses using being proactive in their risk assessments faced only 40% of supply chain interruptions than companies that relied on reactive approaches. The research analysis only contained private sector companies which limited its ability to study risk management practices within public procurement.

Mutua and Omondi (2019) conducted research on risk assessment procedures in Nairobi's parastatals within Kenya. They used survey research design to reach out to 350 supply chain professionals in various parastatals. The authors discovered that 74% of survey participants did not have access to timely risk assessment tools because of which procurement efficiency declined. The research's restriction to Nairobi parastatals did not include risk assessment practices for parastatals operating across rural Kenya areas.

Wanjiru (2021) conducted an analysis about risk assessment systems in Kenyan public institutions to strengthen supply chain operational resilience. The research design utilized five major parastatal institutions where authors conducted questionnaire surveys and interviews with 100 procurement officers. Institutions which operated automated risk assessment facilities achieved better supply chain outcomes by 25% when comparing them to institutions relying solely on manual risk detection practices. Large parastatals represented the sole units in the research which presented a sectoral limitation because small and medium-sized public enterprises were not included.

From the reviewed literature, it is evident that risk assessment practices enhance supply chain responsiveness and minimize disruptions in various organizational settings, particularly in developed economies and large urban-based institutions. However, a conspicuous gap exists in studies addressing parastatals operating in rural and decentralized Kenyan settings, where procurement environments are often less structured and more susceptible to localized challenges such as logistical inefficiencies and political interference. The current study aims to address this contextual gap by focusing on how risk assessment practices are applied across geographically diverse parastatals in Kenya, with an emphasis on accessibility, technological adoption, and institutional capabilities in both urban and rural procurement settings.

### **2.3.3 Risk Mitigation and supply chain performance**

In a case of global supply chain risk management, Christopher and Peck (2004) investigated the effect of risk mitigation on supply chain performance. The researchers used as a method comparison of data from different industries over the world. The authors identified their method as case research using interviews with a number of supply chain managers, giving a snapshot of risk management strategies and how they

impact supply chain efficiency. Concerning the identified risks, the study established positive correlates with supply chain responsiveness and flexibility through the application of effective risk management practices like cross-organizational relationships with suppliers and supply chain forecasting.

However, Christopher and Peck (2004) agreed with the fact that there is a research limitation concerning general effect of these strategies on performance indicators of supply chains within the emerging economy of Kenya. This gap calls for specific studies to explain how the global practices of risk management can be adopted to and exert effects on supply chains in the various geographical locations

According to Kihoro (2020) in the study that looked at Risk Management Practices, and Performance of supply Chains in Kenyan parastatals. Their research involved a selection of procurement managers and supply chain specialists from different parastatals, and they used descriptive research. Data was collected through structured questionnaires and after that statistical techniques were used to find the impact of risk mitigation strategies on supply chain performance.

Kihoro's study revealed that performance of the supply chain is considerably improved by the risk management practices like supplier diversification and risk assessment leading to a reduction of risks that cause interruption in operations. But also, the practices that such systems entail where the long-term efficiency and sustainability of supply chain networks is concerned were deemed to warrant a further study.

On the same note, Haider and Sultan (2017) conducted research on procurement risk management with special reference to the developing countries of which Kenya is included. Respondents of this research were procurement professionals and this study collected both quantitative survey and qualitative interview data from them. Thus, in

their study, Haider and Sultan have drawn significant attention to the functions of risk management strategies including strategic procurement and risk mitigation planning in improving the performance of the supply chain.

It was pointed out that, overall, the practices of risk management were proving useful, however its relative efficiency depended on the kind of procurement model under consideration and the extent of development of the applied risk management schemes. This study indicated that there is lack of comprehension in as much as the different levels of organizational maturity impact on the supply chain risk mitigation processes.

Empirical evidence consistently affirms the positive role of risk mitigation practices such as supplier diversification, contractual safeguards, and strategic sourcing in improving supply chain stability and performance. Nonetheless, most of these insights stem from corporate or multinational supply chains in global contexts that operate under well-resourced, stable regulatory environments. In contrast, Kenyan parastatals face unique operational hurdles such as bureaucratic inertia, limited supplier markets, and budgetary constraints, which hinder the direct applicability of such global strategies. Therefore, this study seeks to localize the understanding of risk mitigation by exploring how Kenyan parastatals pragmatically adapt or modify these strategies within their specific regulatory, economic, and operational contexts.

#### **2.3.4 Risk Monitoring and Supply Chain performance**

Ellram and Li (2019) analysed the profiles of risk monitoring and their impact on the performance of the supply chain in manufacturing industries of various countries. To address questions one, two and three the study employed a sample of procurement professionals and supply chain managers from a range of industries. Thus, the

quantitative and qualitative data collected in surveys and case studies showed that effective tools for monitoring risk influenced the enhancement of the supply chain's stability and effectiveness. The study pointed out that, the incorporation of the real time data analytics in the process of risk monitoring was pivotal to the process of risk mitigation.

Similarly, a comprehensive study by Carter and Rogers (2020) conducted a systematic review to ascertain the functions of risk oversight in improving supply chain productivity within the international setting of multinationals. The target population was supplying chain managers and risk management personnel. A cross-sectional study was employed to show that organisations with complex risk monitoring mechanisms yielded better performance results indicating less operational interferences and improved suppliers' relations. The authors pointed out a notable research question, which is in exploring how industries incorporate risk monitoring in their strategies concerning the supply chain issues, which should be researched further.

Omondi & Oyugi, (2020) examined the effect of risk monitoring on supply chain performance the case of Kenyan Non-Governmental organizations. Procurement managers and officers of these organizations formed the target population. According to the research design applied by the authors, descriptive research design, surveys and interviews were conducted to gather data on the efficiency of risk monitoring practices. They also established a significant relationship between risk monitoring activities and improvements in the supply chain effectiveness; concerning supply chain costs and supply assurance. The study also established that risk proactivity meant that NGOs were able to detect troublesome factors that may result in disruptions and urged corrective measures, hence, reduce the impact of the disruptions on supply chain management.

Similar to this study, Mutua and Kiprop (2021) examined the moderating role of risk monitoring on the performance of supply chains in the Kenyan public sector, risk. The research involved participants in the procurement phase of parastatals hence focusing on the procurement officers and logistics managers. By using quantitative method of data collection with structured questionnaires, the research established that implementing sound risk monitoring processes contributed to the enhancement of supply chain performance indicators namely lead time and inventory turnover. The authors pointed out that they have not identified enough research in the area in order to determine the precise way through which the processes and determinants of risk monitoring affect these performance outcomes, therefore further research should be aimed at exploring these dynamics in more detail.

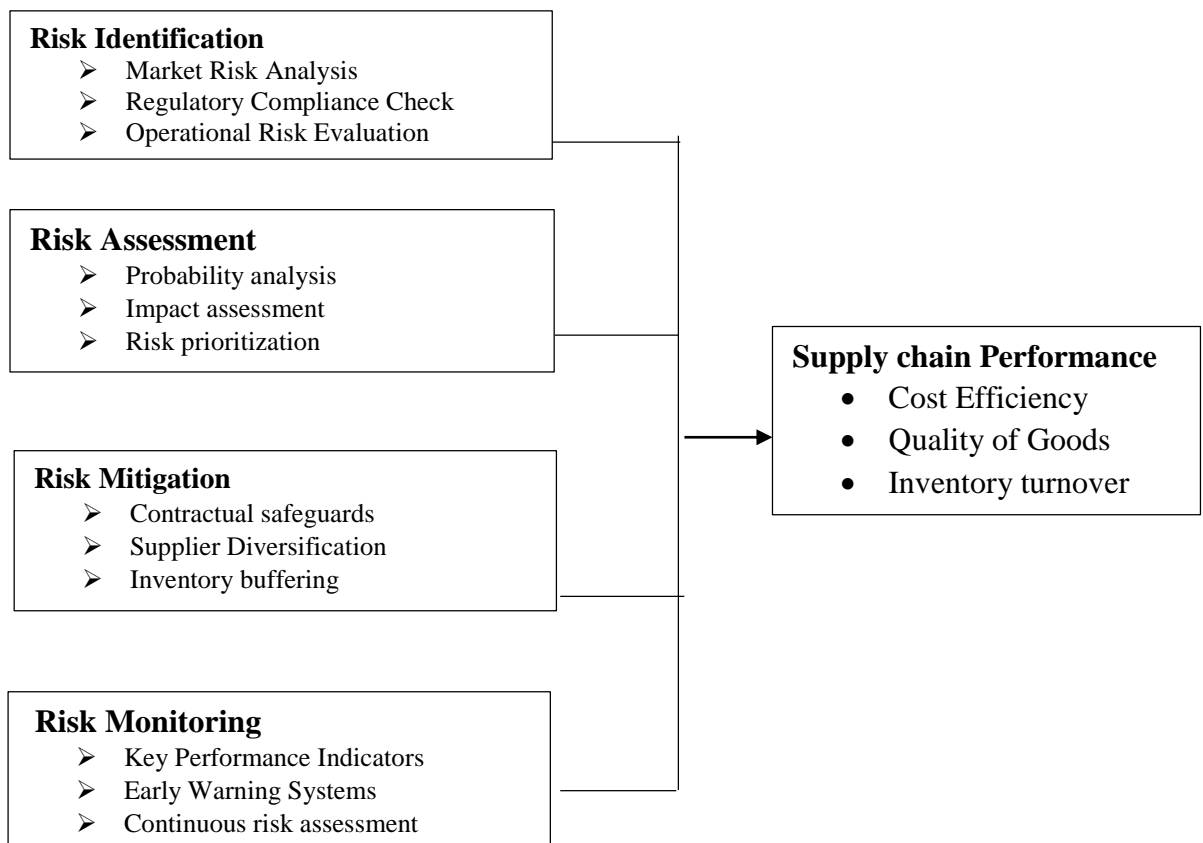
Studies in both private and public sectors demonstrate that proactive risk monitoring especially through advanced data analytics and early warning systems improves supply chain visibility and responsiveness. However, there is limited empirical clarity on the operationalization of risk monitoring within Kenyan parastatals. Specifically, existing literature is largely silent on the practical tools, key performance indicators (KPIs), and accountability structures employed in these public institutions. This study bridges this gap by providing empirical insights into the monitoring mechanisms used by parastatals, the frequency and scope of risk tracking, and their effectiveness in mitigating procurement-related disruptions within the Kenyan public procurement framework.

## **2.4 Conceptual Framework**

In Jabareen's (2009) context, the conceptual framework consists of various theories that intermesh systematically in providing a structure to the study, so that the research indicates the variables to be examined and the hypothesized associations

between them. Miles & Huberman (1994) also emphasize that conceptual framework is a map which connects the constructs and reveals their relations defining the consistency of a study. To test the research objectives, the study was anchored by the following research variables that include: Risk identification, Risk mitigation, Risk monitoring, Risk assessment dependent on the supply chain performance.

**Figure 2.1**  
**Conceptual Framework**



**Independent Variable**

**Dependent variable**

## **2.5 Knowledge Gap**

The empirical review also outlined some of the research gaps that were fulfilled by this study as shown below. First, Okello, Ombuki, and Muia (2021) pointed that, the risk identification practices provided the better supply chain performance in Kenyan parastatals; however, the future identified risks were not identified effectively due to the absence of sophisticated tools. Their work was extended in this study by establishing how different modern techniques of risk identification conform to the dynamic supply chains. Likewise, Mwaura, (2020) noted the reliability drawback in risk identification methods and how they relate to supply chain approaches; this study was fulfilled by exploring how risk identification interrelates with other risk management practices.

Wang & Zhao (2018) affirmed the results of the positive correlation between risk identification and cost reduction in manufacturing companies in China but neglected the connection between risk identification and other phases of risk management. This gap is very important for Kenyan parastatals and this study examined how these links improved the general supply chain performance. Zhang et al. (2019) acknowledged multiregional disparity in risk identifying strategies which show the necessity to pay attention to the regional aspect; thus, the uniqueness of this research is the focus on the Kenyan context.

According to Kihoro (2020), knowledge gap also exists on the long-term sustainability of supply chain risks; in contrast, Haider and Sultan (2017) have noted that different approaches of risk management practices for SCM demonstrate varying efficiency depending on the level of maturity of the organizations. This study addressed these aspects through evaluating the sustainability and dynamism of mitigation measures in Kenyan parastatals. Lastly, the literature on risk monitoring as presented

in Omondi and Oyugi (2020) and Mutua and Kiprop (2021), are silent on the key processes and factors that defined effective risk monitoring. This study sought to address the gap by analysing specific concrete ways of tracking risks in the Kenyan public-sector supply chain.

## 2.6 Operationalization of Variables

**Table 2.1**

### **Operationalization of Variables**

<b>Variable</b>	<b>Indicators</b>	<b>Measurement Scale</b>	<b>Data Collection Method</b>
<b>Risk Identification</b>	Market Risk Analysis	Likert Scale (1 = Strongly Disagree, 5 = Strongly Agree)	Questionnaire, Surveys
	Regulatory Compliance Check	Likert Scale (1 = Strongly Disagree, 5 = Strongly Agree)	Questionnaire, Surveys
	Operational Risk Evaluation	Likert Scale (1 = Strongly Disagree, 5 = Strongly Agree)	Questionnaire, Surveys
<b>Risk Assessment</b>	Probability analysis	Likert Scale (1 = Strongly Disagree, 5 = Strongly Agree)	Questionnaire, Surveys, Interviews

	Impact assessment	Likert Scale (1 = Strongly Disagree, 5 = Strongly Agree)	Questionnaire, Surveys, Interviews
	Risk Prioritization	Likert Scale (1 = Strongly Disagree, 5 = Strongly Agree)	Questionnaire, Surveys, Interviews
<b>Risk Mitigation</b>	Contractual Safeguards	Likert Scale (1 = Strongly Disagree, 5 = Strongly Agree)	Questionnaire, Surveys
	Supplier Diversification	Likert Scale (1 = Strongly Disagree, 5 = Strongly Agree)	Questionnaire, Surveys
	Inventory Buffering	Likert Scale (1 = Strongly Disagree, 5 = Strongly Agree)	Questionnaire, Surveys
<b>Risk Monitoring</b>	Key Performance Indicators (KPIs)	Likert Scale (1 = Strongly Disagree, 5 = Strongly Agree)	Questionnaire, Surveys, Interviews
	Early Warning Systems	Likert Scale (1 = Strongly Disagree, 5 = Strongly Agree)	Questionnaire, Surveys, Interviews

	Continuous Risk Assessment	Likert Scale (1 = Strongly Disagree, 5 = Strongly Agree)	Questionnaire, Surveys, Interviews
<b>Supply Chain Performance (Dependent Variable)</b>	Cost Efficiency	Likert Scale (1 = Strongly Disagree, 5 = Strongly Agree)	Questionnaire, Surveys, Interviews
	Quality of Goods	Likert Scale (1 = Strongly Disagree, 5 = Strongly Agree)	Questionnaire, Surveys, Interviews
	Inventory Turnover	Likert Scale (1 = Strongly Disagree, 5 = Strongly Agree)	Questionnaire, Surveys, Interview

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter described the research method used to establish the impact of procurement risk management practises on the supply chain performance of parastatals in Kenya. Identification of the research design, targeted population, sampling techniques, data collection and analysis, diagnostic tests and ethical issues were also explained in the method section. The purpose was simply to provide a clear guide on how to make the study achieve high standards of validity and reliability of the results obtained.

#### **3.2 Research Design**

The research design that was employed was cross-sectional descriptive research design. This approach enabled cross-sectional comparison of the procurement risk management practices and the supply chain performance, with a view of understanding the current state of each component in procurement risk management of an organization. The study collected both numerical and word data and obtained information and captured all the variables involved, which was made possible by use of mixed research approach (Creswell, 2014).

Questionnaires were used to gather quantitative data as it helped the researcher evaluate the level of procurement risk management and analysed the effects on the supply chain. The researcher used open-ended questions when conducting interviews in order to unveil further details on employees' views and encounters with these practices. Both kinds of data consistencies increased the stability of the research findings according to Johnson and Onwuegbuzie (2004).

### **3.3 Target Population**

The target population for this study comprised employees from selected commercial and strategic parastatals in Kenya that are heavily involved in high-volume procurement activities. Specifically, the study focused on five key institutions: Kenya Power and Lighting Company (KPLC), Kenya Pipeline Company (KPC), Kenya Ports Authority (KPA), National Cereals and Produce Board (NCPB), and Kenya Medical Supplies Authority (KEMSA). These organizations were purposively selected due to their critical role in managing substantial public resources and their frequent procurement cycles, which expose them to significant procurement risks. This makes them appropriate case studies for examining the influence of procurement risk management practices on supply chain performance.

The total target population consisted of 300 employees drawn from the procurement and supply chain management departments within these organizations. To capture diverse perspectives across organizational hierarchies, the population was stratified into three key managerial levels: top management, middle management, and lower management.

Top management comprised senior executives and directors responsible for the formulation of procurement policies and oversight of strategic procurement decisions, including risk management frameworks. Middle management included departmental and section heads tasked with policy implementation and monitoring of procurement operations, ensuring compliance with established risk management procedures. Lower management constituted operational-level staff directly involved in day-to-day procurement activities, including tendering, purchasing, and supplier management, where procurement risks are most frequently encountered.

This stratification approach ensured that the study gathered comprehensive data across all management levels, facilitating a holistic assessment of procurement risk management practices and their impact on supply chain performance (Sekaran & Bougie, 2016).

**Table 3.1**  
**Target Population**

<b>Management Level</b>	<b>Description</b>	<b>Number of Employees</b>
Top Management	Senior executives and policy makers	50
Middle Management	Managers responsible for policy implementation and operational oversight	100
Lower Management	Staff involved in procurement and risk management activities	150
<b>Total</b>		<b>300</b>

### **3.4 Sample Size and Sampling Technique**

To ensure a representative sample, the study used stratified random sampling. This technique divided the target population into distinct strata (top, middle, and lower management) and then randomly selected a sample from each stratum. This approach ensured that all levels of management were proportionally represented in the sample (Kumar, 2014).

The sample size was decided using the formula provided for sample size in finite population by Cochran. Given the target population of 300 employees, the sample size was calculated as follows:

$$n = \frac{N}{1 + \frac{N-1}{Z^2 \cdot P(1-P)}}$$

n= sample size,

N = population size (300),

Z = Z-value (1.96 for a 95% confidence level),

p = estimated proportion (0.5 for maximum variability).

Assuming a 5% margin of error and a 95% confidence level, the sample size is 169.

The final sample were proportionally distributed across the three management levels, as detailed below:

**Table 3.2**

**Sample Size**

<b>Management Level</b>	<b>Target Population</b>	<b>Sample Size (Cochran's Formula)</b>
Top Management	50	28
Middle Management	100	56
Lower Management	150	85
<b>Total</b>	<b>300</b>	<b>169</b>

### **3.5 Data Collection**

Data was collected by two main techniques. Firstly, self-administered and predetermined questionnaires were administered to employees of all the three management cadres. These questionnaires had both the closed questions as well as Likert scale questions. In this study, closed questions collected factual data about

procurement risk management practices, while Likert scale questions assessed perceptions of their effects on supply chain performance. These questionnaires were formal in their format, and the kind of responses they attracted were uniform, and therefore analysed statistically (Dillman, Smyth, & Christian, 2014).

Second, focused interviews were conducted with selected respondents from each management hierarchical level. The format was semi-structured, so researchers asked some planned questions and also had the opportunity to follow new subjects as they arose. During the interviews, conversation was expanded to learn more about managing procurement risks and their effects on supply chain management (SCM). Through allowing participants to discuss their answers, the system helped everyone build a strong understanding of how companies handle risk management. Researchers also used additional questions to get more details, explore main subjects and identify additional topics that came up during the interviews (Yin, 2018).

### **3.6 Data Analysis and Presentation**

The study employed both quantitative and qualitative analytical approaches to comprehensively examine the influence of procurement risk management practices on the supply chain performance of parastatals in Kenya. Qualitative data, obtained through semi-structured interviews, was analysed using Thematic Content Analysis (TCA), a structured method for identifying, analysing, and interpreting patterns (themes) within qualitative data. The analysis followed the six-phase procedure outlined by Braun and Clarke (2006), ensuring methodological rigour and analytical depth.

In the first phase, the researcher familiarized themselves with the data by transcribing interview responses and reading through the transcripts repeatedly to gain

a comprehensive understanding of the narratives. The second phase involved the generation of initial codes; whereby significant statements related to procurement risk management were coded systematically using NVivo software to enhance coding consistency and manageability.

During the third phase, themes were developed by collating related codes into meaningful categories that reflected the study objectives, with a focus on key dimensions of risk identification, risk assessment, risk mitigation, and risk monitoring. The fourth phase consisted of reviewing and refining these themes to ensure they demonstrated internal coherence and clear differentiation from each other, thus enhancing validity.

In the fifth phase, themes were defined and named in a manner that accurately encapsulated participants' insights on procurement risk management practices. The final phase involved producing the report, where the findings were presented thematically in Chapter Four, supported by direct quotations from respondents to provide contextual richness and authenticity. This process ensured validity, reliability, and transparency in the interpretation of qualitative data.

For the quantitative data, the analysis commenced with descriptive statistics specifically percentages, means, and standard deviations to summarize the demographic characteristics of respondents and establish general trends in procurement risk management practices. Inferential statistical analyses were conducted to examine the relationships between the independent variables (risk identification, risk assessment, risk mitigation, and risk monitoring) and the dependent variable (supply chain performance). The study employed Pearson's correlation analysis to determine the strength and direction of associations, and multiple linear regression analysis to

assess the predictive power of the independent variables on supply chain performance. All quantitative data analyses were conducted using the Statistical Package for the Social Sciences (SPSS), Version 25, which facilitated accurate computation and robust statistical interpretation (Saunders, Lewis, & Thornhill, 2019).

The results were presented using tables, charts, and graphs to enhance clarity and enable straightforward interpretation of both descriptive and inferential statistics. Additionally, qualitative thematic responses were integrated into Chapter Four to complement and triangulate the quantitative findings, thereby providing a more comprehensive understanding and reinforcing the credibility of the research conclusions (Yin, 2017)

The regression model equation used was as follows:

$$(Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon): \text{Whereby}$$

**Y = Supply Chain Performance**

**X<sub>1</sub> = Risk Identification**

**X<sub>2</sub> = Risk Assessment**

**X<sub>3</sub> = Risk Mitigation**

**X<sub>4</sub> = Risk Monitoring**

**$\beta_1, \beta_2, \beta_3, \beta_4$  =Regression Coefficients**

**$\varepsilon$  = Error term**

### **3.7 Pilot Test**

A pilot study is a preliminary investigation conducted to assess the feasibility, cost, duration, and reliability of the research instruments prior to the main study. It

serves as an essential step in establishing the clarity, appropriateness, and accuracy of the data collection tools, while also evaluating whether respondents fully comprehend the questions and if the instruments are capable of eliciting the intended data (Creswell & Creswell, 2018).

For this study, the pilot test was conducted at the National Cereals and Produce Board (NCPB), one of the parastatals included in the study population. NCPB was purposively selected due to its well-established and structured procurement department, which provided an ideal environment for testing the instrument's validity and reliability. The pilot sample comprised 30 respondents, proportionately drawn from top, middle, and lower management levels within the procurement, supply chain, and finance departments. The selection of respondents from diverse functional levels ensured the instrument was tested for comprehensibility, relevance, and applicability across different organizational hierarchies and departmental contexts.

Consistent with the recommendation by Mugenda and Mugenda (2003), the pilot study involved 10% of the total target population, which is considered adequate for pre-testing research instruments. The primary objective was to identify and correct any ambiguities, redundancies, or weaknesses in the questionnaire. Based on feedback obtained during the pilot, necessary modifications were made to enhance clarity of instructions, improve question wording, and ensure logical flow and coherence of the instrument. This process significantly contributed to improving the reliability, validity, and overall quality of the data collection tools prior to their administration in the main study.

### **3.7.1 Reliability of Research Instrument**

Reliability refers to the consistency of a research instrument in measuring what it is supposed to measure over time (Saunders, Lewis, & Thornhill, 2016). To assess the reliability of the research instrument, Cronbach's alpha coefficient was used. Cronbach's alpha values of 0.7 and above indicated that the instrument was reliable for this study (Tavakol & Dennick, 2011). The reliability test helped ensure that the results from the study are replicable and consistent when applied to different samples within the same population.

### **3.7.2 Validity of Research instrument**

Validity refers to how accurately a research instrument measures what it is intended to measure (Kothari, 2004). In this study, content and construct validity was assessed to ensure that the instrument accurately captured procurement risk management practices and their influence on supply chain performance. Expert judgment was sought from professionals in procurement and supply chain management at the parastatals to enhance the content validity of the questionnaire (Kimberlin & Winterstein, 2008). Construct validity was ensured by aligning the questionnaire items with the theoretical framework of the study.

### **3.8 Diagnostic Test**

Diagnostic tests are conducted to verify that the assumptions of regression analysis are not violated, ensuring accurate statistical inference. These tests help identify any violations in the data, such as linearity, normality, or multicollinearity, which may affect the reliability of regression results (Hair et al., 2014).

### **3.8.1 Linearity test**

Linearity is the assumption that the relationship between the independent and dependent variables is linear. A linearity test was conducted using scatter plots and correlation analysis to ensure that the relationship between procurement risk management practices and supply chain performance is linear (Field, 2013). Non-linear relationships may lead to biased estimates in regression analysis, compromising the accuracy of the findings.

### **3.8.2 Normality Test**

Normality tests assess whether the data follows a normal distribution, which is a key assumption in regression analysis (Pallant, 2013). In this study, the normality of the data was tested using the Shapiro-Wilk test and by examining histograms. Data that deviate significantly from normality might affect the validity of statistical tests, leading to inaccurate conclusions. If normality is violated, transformations may be applied to the data (Ghasemi & Zahediasl, 2012).

### **3.8.3 Multicollinearity**

Multicollinearity occurs when independent variables in the regression model are highly correlated, leading to unreliable coefficient estimates (Hair *et al.*, 2014). To test for multicollinearity, the Variance Inflation Factor (VIF) and tolerance levels were computed. A VIF value of less than 10 and a tolerance level greater than 0.1 will indicate no multicollinearity issues (O'Brien, 2007). Addressing multicollinearity ensured the accuracy of regression results and the interpretation of the influence of each independent variable on the dependent variable.

### **3.9 Ethical Considerations**

Ethical considerations are paramount in ensuring the integrity and credibility of the research. In that regard, the following measures were implemented; by doing so, all participants were given an option of a written or verbal explanation of the study's aim, plan, and possible dangers. It was necessary to provide the respondents with a written consent on data collection processes. The participants' confidentiality was maintained to the highest level by disguising the responses and keeping the data safe at all times. Non-disclosure agreements were signed to protect any information that might be considered to be of a sensitive nature. Recruitment of subjects in the study was done voluntarily, and each subject had the right to withdraw from the study at any time without any consequences. The research proposal was also presented to a relevant ethical committee for clearance as a measure of observing the set down ethical practices and standards.

## **CHAPTER FOUR**

### **DATA ANALYSIS, FINDINGS AND DISCUSSION**

#### **4.1 Introduction**

This chapter presents a comprehensive analysis of both quantitative and qualitative data, accompanied by corresponding findings and scholarly discussions. Quantitative data are systematically organized and presented using frequency tables, pie charts, and bar graphs to enhance clarity and facilitate interpretation. Qualitative data, obtained through open-ended responses or interviews, are thematically analysed to capture patterns, meanings, and insights. The discussions integrate empirical results with existing literature, thereby deepening the understanding of the research problem and addressing the study's objectives.

#### **4.2 Response rate**

The study targeted a sample size of 169 respondents, corresponding to the total number of questionnaires administered. However, only 133 respondents returned fully completed questionnaires that met the criteria for inclusion in the data analysis. As such, the analysis and interpretation of findings are based on these 133 valid responses. The summary of the response rate, including the number of questionnaires distributed, returned, and analysed, is presented in the table below:

**Table 4.1**  
**Response Rate**

	<b>Issued</b>	<b>Returned</b>	<b>Not Returned</b>
No. of	169	133	36
Questionnaires			
Percentage	100%	78.7%	21.3%

*Source: Field Data (2025)*

According to Babbie (2010), a response rate of 50% is considered adequate for analysis, 60% is good, and 70% and above is very good. Therefore, the attained response rate of 78.7% is considered sufficient and reliable for statistical analysis and interpretation.

#### **4.2.1 Reliability Analysis**

To determine the internal consistency of the research instrument, a reliability analysis was conducted using Cronbach's Alpha coefficient. This was done both during the pilot study and the main survey. Cronbach's Alpha is a widely accepted statistical measure for assessing the reliability of scales, with values above 0.70 generally indicating acceptable reliability (Tavakol & Dennick, 2011).

**Table 4.2**  
**Reliability Statistics for Pilot Study and Main Survey**

<b>Construct</b>	<b>No. of</b>	<b>Cronbach's</b>	<b>Alpha</b>	<b>Cronbach's</b>	<b>Alpha</b>
	<b>Items</b>	<b>(Pilot Study)</b>		<b>(Main Survey)</b>	
Risk Identification	8	0.792		0.813	
Risk Assessment	8	0.756		0.801	
Risk Mitigation	8	0.810		0.832	

Risk Monitoring	8	0.768	0.804
Supply Chain Performance	7	0.787	0.825
<b>Overall Reliability</b>	<b>39</b>	<b>0.803</b>	<b>0.825</b>

Both the pilot and the main studies showed that Cronbach’s Alpha values for all constructs were over 0.70, a common requirement for reliability in research. Risk Identification showed an alpha of 0.792, Risk Assessment an alpha of 0.756, Risk Mitigation an alpha of 0.810, Risk Monitoring an alpha of 0.768 and Supply Chain Performance an alpha of 0.787 in the pilot study. The investigation showed that the questions in the questionnaire could be used reliably for additional data collection.

During the main survey, all parts of the questionnaire were more reliable which confirmed the strength of the survey. The alpha of Risk Identification is 0.813, Risk Assessment 0.801, Risk Mitigation 0.832, Risk Monitoring 0.804 and Supply Chain Performance 0.825. This suggests that there is a strong sense of ‘reliability’ within each construct.

Cronbach’s Alpha overall was found to be 0.825 which highlights that the instrument is highly consistent. This confirms that the research instrument was reliable for assessing the influence of procurement risk management practices on supply chain performance within the context of the selected parastatal organization. These findings provided the necessary statistical justification to proceed with the main data collection and analysis, as the instrument exhibited strong reliability properties.

### 4.3 General Information

Respondents were requested to provide their demographic information to determine whether the study sample was representative of the target population for the purpose of generalization. The results are presented in the subsequent sections.

#### 4.3.1 Gender

The results on the genders of the respondents are as shown in Table 4.3 and figure 4.1

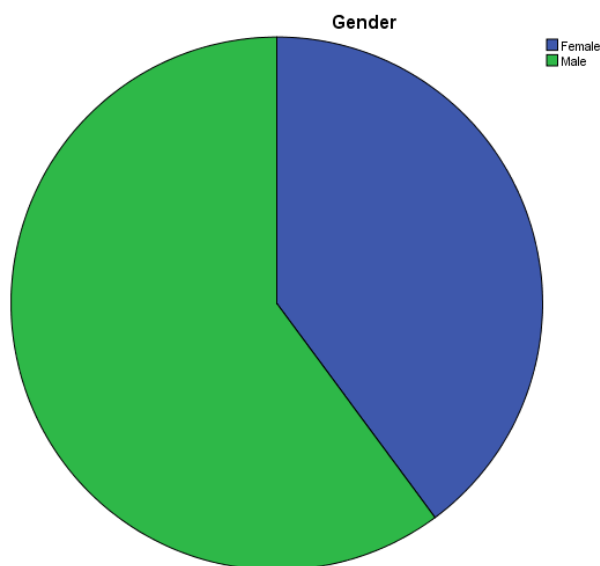
**Table 4.3**

**Gender**

<b>Gender</b>	<b>Frequency</b>	<b>Percent</b>
<b>Female</b>	53	39.8
<b>Male</b>	80	60.2
<b>Total</b>	133	100.0

**Figure 4.1**

**Gender**



The study’s respondents comprised 133 employees from Kenyan parastatals, with males representing 60.2% (80) and females 39.8% (53). This gender distribution reflects a male-dominant workforce in procurement and supply chain roles, common in many public sector organizations. Nonetheless, the significant female representation indicates progress toward gender inclusivity. Understanding this demographic is essential as it provides context for analysing how procurement risk management practices influence supply chain performance across different gender perspectives within these institutions.

### 4.3.2 Age Group

The results of the Age group were presented in table 4.4 and figure 4.2

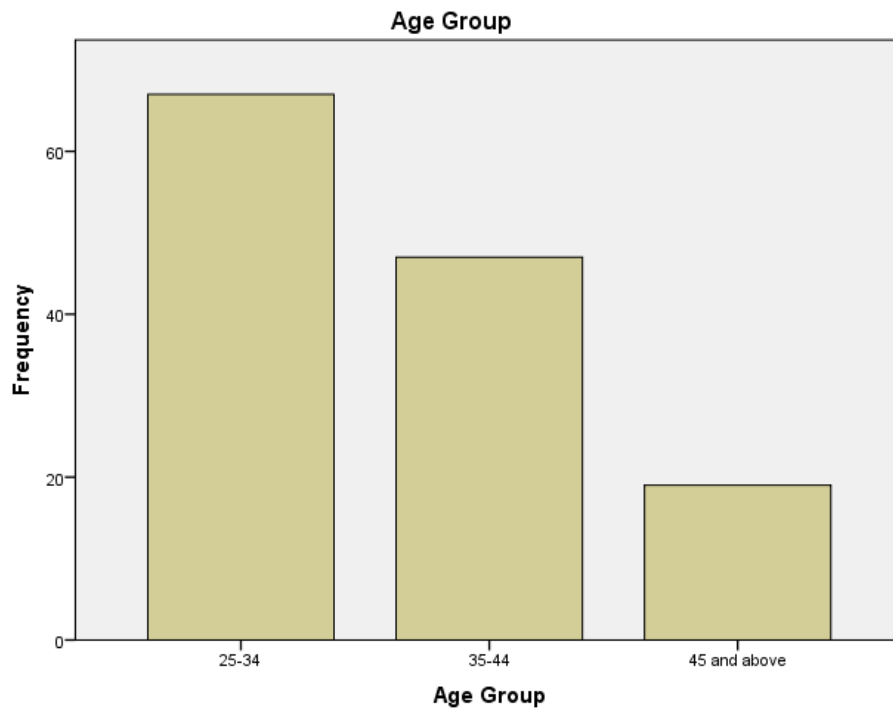
**Table 4.4**

**Age Group**

<b>Age Group</b>	<b>Frequency</b>	<b>Percent</b>
<b>25-34</b>	67	50.4
<b>35-44</b>	47	35.3
<b>45 and above</b>	19	14.3
<b>Total</b>	133	100.0

**Figure 4.2**

**Age Group**



The data presented in Table 4.4 and Figure 4.2 indicate that the majority of respondents were aged between 25 and 34 years, comprising 50.4% of the sample. Those aged 35 to 44 years accounted for 35.3%, while participants aged 45 years and above represented the smallest group at 14.3%. This age distribution highlights that the study primarily engaged younger to middle-aged employees within Kenyan parastatals.

**4.3.3 Educational Background**

The results of the Educational Background were presented in table 4.5 and figure 4.3

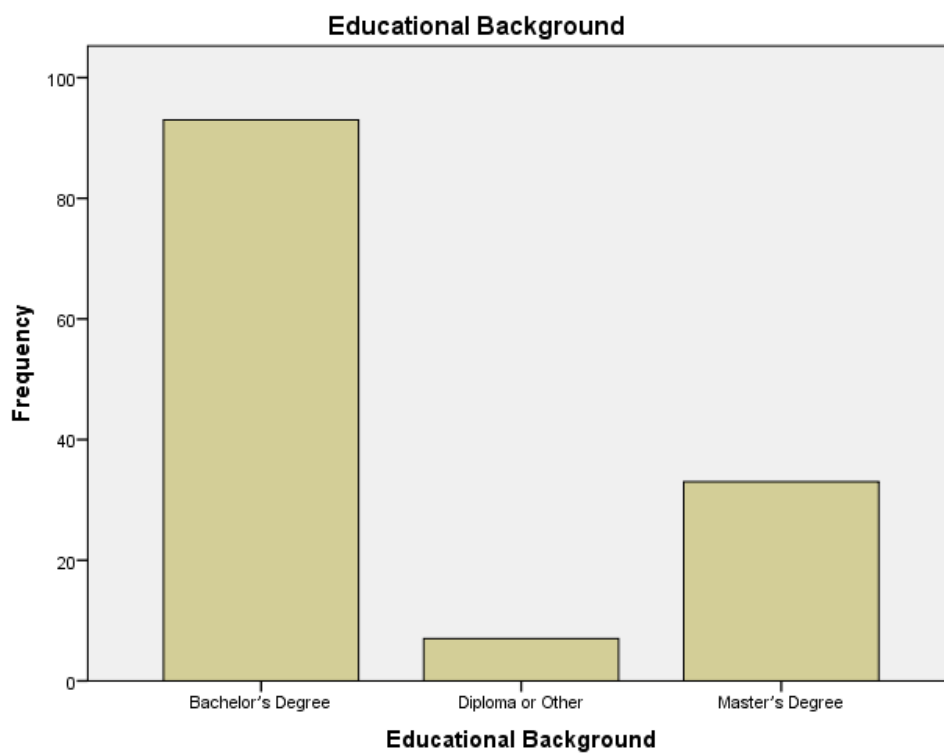
**Table 4.5**

**Educational Background**

<b>Educational Background</b>	<b>Frequency</b>	<b>Percent</b>
Bachelor's Degree	93	69.9
Diploma or Other	7	5.3
Master's Degree	33	24.8
Total	133	100.0

**Figure 4.3**

**Educational Background**



The educational background of the respondents, as illustrated in Table 4.5, reveals that a majority (69.9%) of the participants hold a bachelor's degree, while 24.8% possess a

master’s degree, and only 5.3% have a diploma or other qualifications. This distribution indicates that most of the workforce in parastatals dealing with procurement risk management and supply chain functions in Kenya is highly educated. The predominance of degree and postgraduate qualifications suggests that the respondents likely possess the requisite academic and analytical competencies to implement sophisticated procurement risk management strategies, which can enhance supply chain performance through informed decision-making and risk mitigation.

#### 4.3.4 Work Experience

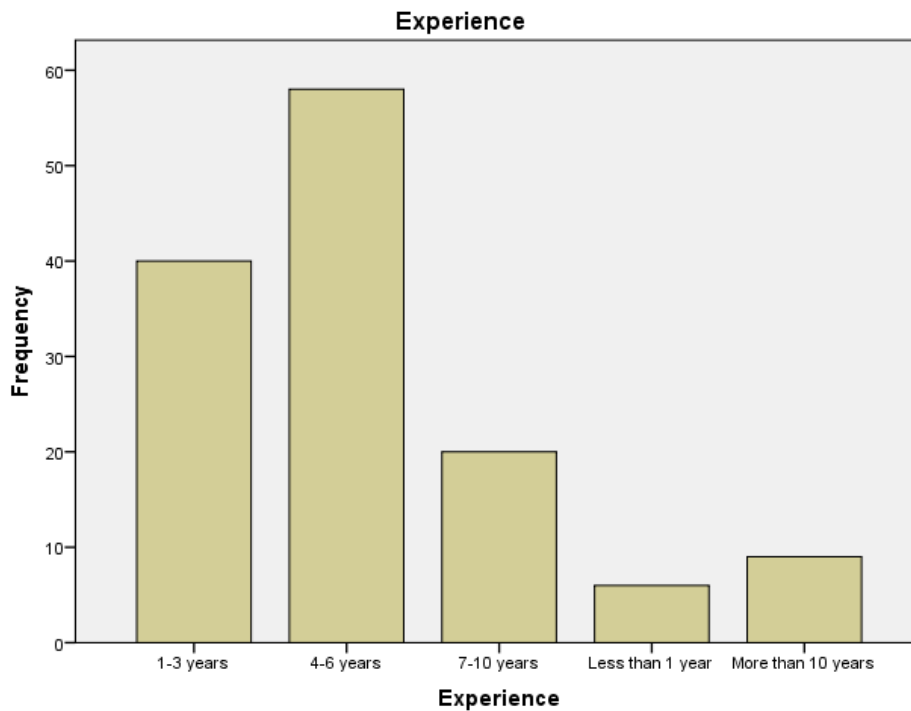
The results of the Educational Background were presented in table 4.6 and figure 4.4

**Table 4.6**  
**Work Experience**

<b>Experience</b>	<b>Frequency</b>	<b>Percent</b>
1-3 years	40	30.1
4-6 years	58	43.6
7-10 years	20	15.0
Less than 1 year	6	4.5
More than 10 years	9	6.8
<b>Total</b>	<b>133</b>	<b>100.0</b>

**Figure 4.4**

**Work Experience**



The data presented in Table 4.6 reveals the distribution of respondents' work experience in procurement functions across Kenyan parastatals. The majority (43.6%) of participants had 4–6 years of experience, followed by 30.1% with 1–3 years. Those with 7–10 years accounted for 15.0%, while a smaller fraction (6.8%) had over 10 years of experience. Only 4.5% had less than one year of experience.

These findings suggest that the bulk of respondents possess moderate experience levels, which is significant for assessing the influence of procurement risk management practices on supply chain performance, as experienced personnel are likely to better understand and implement risk mitigation strategies.

**4.3.5 Position**

The results of the Position in the parastatal were presented in table 4.7 and figure 4.5

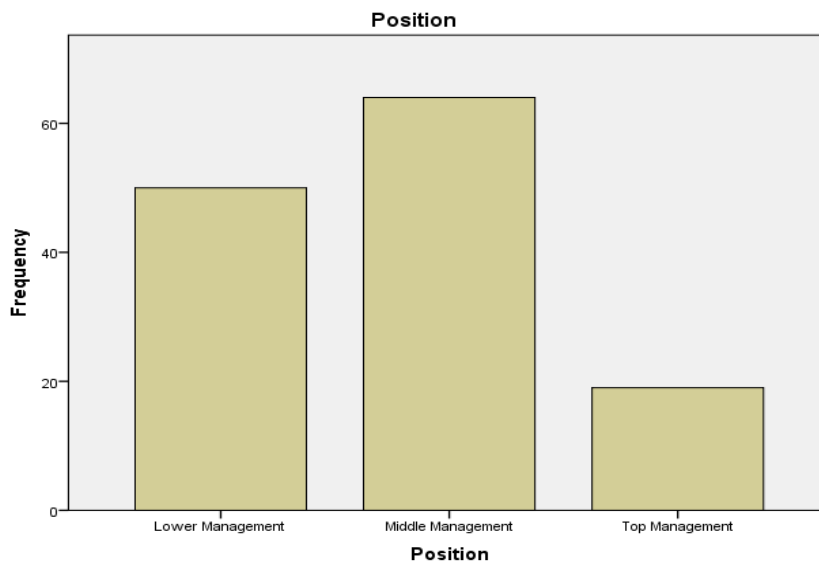
**Table 4.7**

**Position in the Parastatal**

<b>Position</b>	<b>Frequency</b>	<b>Percent</b>
Lower Management	50	37.6
Middle Management	64	48.1
Top Management	19	14.3
<b>Total</b>	<b>133</b>	<b>100.0</b>

**Figure 4.5**

**Position in the Parastatal**



The distribution of respondents by organizational position reveals that middle management constituted the majority at 48.1% (n=64), followed by lower management at 37.6% (n=50), while top management comprised only 14.3% (n=19) of the sample. This stratification implies that the findings regarding the influence of procurement risk management practices on supply chain performance are predominantly informed by

perspectives of mid-level and operational managers, who are typically more involved in the implementation of procurement strategies and daily risk mitigation activities. The relatively limited representation from top management may reflect a strategic oversight viewpoint but suggests that operational insights drive the data's practical relevance.

#### 4.3.6 Department

The results of the department were presented in table 4.8 and figure 4.6

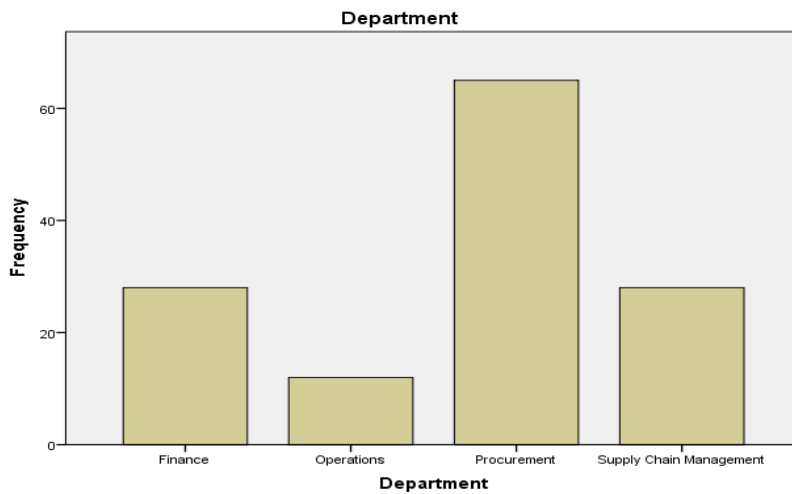
**Table 4.8**

**Departmental distribution in the Parastatal**

<b>Department</b>	<b>Frequency</b>	<b>Percent</b>
Finance	28	21.1
Operations	12	9
Procurement	65	48.8
Supply Chain Management	28	21.1
<b>Total</b>	<b>133</b>	<b>100</b>

**Figure 4.6**

**Departmental Distribution in the Parastatal**



The analysis of departmental distribution in the study on the influence of procurement risk management practices on supply chain performance in Kenyan parastatals reveals that the procurement department accounted for the highest representation, with 65 respondents (48.8%). This dominance underscores the centrality of procurement in risk management and its direct impact on supply chain performance. Finance and supply chain management departments each contributed 28 respondents (21.1%), indicating their complementary roles in resource planning, cost control, and logistics optimization. Operations had the lowest representation at 12 respondents (9%), suggesting a relatively smaller, though still important, role in implementation. The distribution reflects a strategic focus on procurement as the principal node in managing supply chain risks across parastatals.

It is noteworthy that while the target population was stratified by management levels in the methodology, departmental representation emerged during data collection to offer deeper insights into functional roles. Therefore, the analysis incorporated departmental classification (Procurement, Supply Chain, Finance, Operations) to align

responses with the operational realities of procurement risk management. This dual stratification by hierarchy and department enriched the findings by capturing both positional and functional dynamics influencing supply chain performance.

#### 4.4 Descriptive statistics on the main study Variables

The respondents were requested to indicate their extent of agreement on the effect of independent variable on dependent variable. The findings are as shown in subsequent sections

##### 4.4.1 Risk Identification

Several statements on risk identification and supply chain performance of parastatals in Kenya were identified by the researcher. Respondents were asked to indicate the extent of their agreement with each statement. A scale of 1-5 where 1= strongly disagree, 2= disagree, 3= neutral, 4 = Agree and 5 = Strongly agree was used. The findings are as shown in Table 4.8

**Table 4.8**

**Risk Identification and Supply chain Performance**

<b>Statement</b>	<b>n</b>	<b>Mean</b>	<b>Std. Deviation</b>
We regularly assess the risk associated with our suppliers.	133	3.92	.591
Market risk analysis is a routine part of our procurement process.	133	3.95	.649
Our procurement process includes a thorough regulatory compliance check.	133	3.98	.645
We evaluate operational risks associated with our procurement activities.	133	3.96	.644

Supplier risk assessment is conducted at regular intervals.	133	3.87	.633
We analyse market risks before making procurement decisions.	133	3.86	.664
Regulatory compliance checks are integrated into our procurement procedures.	133	3.90	.650
Operational risk evaluation is performed as part of our risk management practices.	133	3.90	.650
<b>Aggregate mean</b>		<b>3.92</b>	<b>0.641</b>

The descriptive analysis of the findings on risk identification and its influence on supply chain performance among Kenyan parastatals reveals a generally positive perception and moderate consensus across the sampled institutions. As per Table 4.8, all eight statements regarding risk identification received mean scores ranging from 3.86 to 3.98, with the overall aggregate mean at 3.92. This suggests that respondents largely agreed with the statements, indicating that procurement risk identification practices are moderately embedded in supply chain management processes.

The highest-rated item was “Our procurement process includes a thorough regulatory compliance check” (M = 3.98, SD = 0.645), reflecting a strong emphasis on legal and regulatory risk identification. Conversely, the lowest-rated item was “We analyse market risks before making procurement decisions” (M = 3.86, SD = 0.664), suggesting that market-related risks may receive slightly less attention.

In terms of dispersion, standard deviations ranged narrowly between 0.591 and 0.664, implying low variability and a high degree of consensus among respondents. The lowest variability was observed in responses to supplier risk assessments (SD = 0.591), suggesting a shared recognition of its importance. The standard deviations being relatively close to each other (aggregate SD = 0.641) suggests that most parastatals follow similar ways to reduce risks related to procurement, boosting the strength of the data. Because the method is consistent, this shows that there is a strong risk identification culture.

However, the risk identification process for the market could still use some improvement. Many people in the survey felt that ongoing reviews and controls help in handling risks well, much like what the research by Okello et al. (2021) and Mwaura (2020) tells us. Practitioners were advised to recognize problems in advance and reports suggest that they did so by emphasizing market risk analysis and review of operating risks.

These findings align with Okello, Ombuki, and Muia (2021), who established that effective risk identification enhances supply chain responsiveness in parastatals by enabling proactive mitigation strategies. Similarly, Wang and Zhao (2018) emphasized the role of systematic risk identification in improving procurement efficiency, which corroborates the positive ratings observed in this study.

#### **4.4.2 Risk Assessment**

The remarks about risk assessment and supply chain performance in Kenyan parastatals. People in the study were asked to choose how much they agreed with each statement using a Likert scale. The numbers meant 1: Strongly Disagree, 2: Disagree,

3: Neutral, 4: Agree and 5: Strongly Agree. The summarized results are presented in Table 4.9

**Table 4.9**  
**Risk Assessment and Supply chain Performance**

<b>Statement</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
Our procurement process includes a detailed probability analysis to assess potential risks.	133	3.68	.764
We regularly evaluate the likelihood of risks occurring in the procurement process.	133	3.75	.782
The impact of each risk on our procurement objectives is consistently assessed.	133	3.77	.852
We conduct impact assessments to determine the potential consequences of procurement risks.	133	3.75	.839
Our procurement team uses a structured method to prioritize risks based on their probability and impact.	133	3.65	.817
We prioritize procurement risks based on their potential to disrupt the supply chain.	133	3.52	.918
The procurement team regularly revisits risk priorities to ensure they remain relevant.	133	3.63	.900
Our procurement team effectively manages risks by focusing on high-priority risks first.	133	3.65	.914

<b>Aggregate Mean</b>	<b>133</b>	<b>3.67</b>	<b>.848</b>
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The descriptive analysis of risk assessment practices and their influence on supply chain performance in Kenyan parastatals reveals a moderately strong positive perception among respondents. Based on responses from 133 participants, the aggregate mean score of 3.67 on a five-point Likert scale indicates general agreement that risk assessment is systematically integrated within procurement processes. The highest mean ratings were attributed to evaluating the likelihood of risks occurring (M=3.75, SD=0.782) and assessing the impact of each risk on procurement objectives (M=3.77, SD=0.852), underscoring the emphasis placed on both probability and consequence dimensions in risk evaluation.

The standard deviations ranging from 0.764 to 0.918 reflect moderate variability in responses, suggesting some divergence in perceptions about specific risk assessment components. For instance, prioritization of procurement risks based on their potential to disrupt the supply chain recorded the lowest mean (M=3.52) and highest dispersion (SD=0.918), indicating less consensus on how effectively risks are ranked by their disruption potential. Similarly, the frequency of revisiting risk priorities (M=3.63, SD=0.900) and management focus on high-priority risks (M=3.65, SD=0.914) showed relatively higher variability, highlighting possible inconsistencies in risk monitoring practices.

Overall, these findings illustrate that Kenyan parastatals have established structured risk assessment frameworks that incorporate probability and impact analyses, yet variability in some practices points to opportunities for enhancing uniformity and robustness in risk prioritization and ongoing review. Such improvements could further optimize procurement risk management and thereby

strengthen supply chain performance. Respondents agreed to handle risks according to how likely and how much they affect the outcomes, as discussed by Wanjiru (2021) and Mutua & Omondi (2019), who noted that using a clear system helps achieve better results in procurement. Studies highlighted that businesses use structured systems for quick risk detection which agrees with findings showing stable risk evaluation methods.

The descriptive results on risk assessment echo the findings of Tang and Musa (2019), who noted that structured risk assessment frameworks lead to a measurable improvement in supply chain efficiency. This is consistent with the current study, where participants confirmed that they regularly evaluate the probability and impact of procurement risks. Chopra and Sodhi (2019) also reported that firms that proactively conduct risk assessments suffer fewer disruptions. The positive perception captured in this section reflects the increasing recognition of risk assessment as a critical enabler of procurement effectiveness in parastatals.

#### 4.4.3 Risk Mitigation

A set of statements addressing risk mitigation and supply chain performance in Kenyan parastatals was formulated by the researcher. Participants were asked to indicate their level of agreement with each item on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The summarized responses are presented in Table 4.10

**Table 4.10**

#### **Risk Mitigation**

<b>Statement</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
We use contractual safeguards to mitigate procurement risks.	133	3.78	.711

Supplier diversification is part of our risk mitigation strategy.	133	3.81	.760
We maintain inventory buffers to manage procurement risks effectively.	133	3.86	.750
Our organization has a supplier development program in place.	133	3.84	.777
We use contractual safeguards to address potential risks in procurement.	133	3.76	.770
Supplier diversification helps us minimize procurement-related risks.	133	3.68	.840
Inventory buffering is utilized to handle supply chain disruptions.	133	3.74	.861
We have a program for supplier development to enhance risk management.	133	3.72	.847
<b>Aggregate Mean</b>	<b>133</b>	<b>3.77</b>	<b>.790</b>

The results presented in Table 4.10 reveal that procurement risk mitigation practices are moderately applied across Kenyan parastatals, with an aggregate mean score of 3.77 and a standard deviation of 0.790. This suggests that respondents generally agree that risk mitigation strategies are in place, though not uniformly across all organizations.

Among the practices, the highest mean ( $M = 3.86$ ,  $SD = 0.750$ ) was for maintaining inventory buffers to manage procurement risks effectively, indicating a relatively strong consensus on its importance and implementation. Similarly, the existence of supplier development programs ( $M = 3.84$ ,  $SD = 0.777$ ) and supplier diversification ( $M = 3.81$ ,  $SD = 0.760$ ) are also commonly practiced. In contrast, the lowest rated item was the role of supplier diversification in minimizing risks ( $M = 3.68$ ,  $SD = 0.840$ ), suggesting varying degrees of effectiveness or emphasis across entities.

The relatively higher standard deviations for some items such as inventory buffering to handle disruptions ( $SD = 0.861$ ) and supplier development for risk management ( $SD = 0.847$ ) highlight a degree of variability in how these strategies are perceived or implemented. This dispersion suggests that while organizations know risk must be managed, the way they do this could depend on their company policies, current capacity or what is prioritized by their sector. It was found that organizations normally use supplier variety and secure contracts, as suggested by Kihoro (2020) and Haider & Sultan (2017), to cut down on operational disruptions. It is also shown in literature that having mitigation techniques helps make supply chains more flexible and sustainable as per industry consensus on keeping extra inventory and working with more flexible suppliers.

These results are in agreement with the study by Kihoro (2020), who found that supplier diversification and contractual safeguards positively affect supply chain performance in Kenyan parastatals. Haider and Sultan (2017) further established that effective mitigation strategies, such as contingency planning, minimize operational disruptions in public procurement systems. The high levels of agreement among respondents in this study suggest that risk mitigation is not only well understood but

also actively applied in practice, reinforcing its role in promoting operational continuity and resilience.

#### 4.4.4 Risk Monitoring

The study tried to understand how respondents rated risk monitoring and how well Kenyan parastatals performed in their supply chains. Each participant answered a list of structured statements using a Likert scale (1 to 5) to record their opinions. The results are summarized in Table 4.11

**Table 4.11**

**Risk Monitoring**

<b>Statement</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
We use key performance indicators (KPIs) to monitor procurement risks.	133	3.83	.691
Early warning systems are implemented to identify potential procurement risks.	133	3.89	.725
Continuous risk assessments are conducted in our procurement process.	133	3.90	.737
Audit and compliance reserves are maintained for managing procurement risks.	133	3.91	.733
We utilize KPIs to assess the effectiveness of our risk management practices.	133	3.80	.746
Early warning systems help in pre-emptively addressing potential procurement issues.	133	3.76	.809

Our procurement process includes ongoing risk assessments.	133	3.83	.790
Compliance reserves are effectively used for managing procurement risks.	133	3.78	.801
<b>Aggregate Mean</b>	<b>133</b>	<b>3.84</b>	<b>.744</b>

The analysis of risk monitoring practices in Kenyan parastatals, as presented in Table 4.11, reveals a generally positive perception among respondents regarding the integration of risk monitoring mechanisms within procurement functions. The aggregate mean score of 3.84 (SD = 0.744) suggests that the majority of respondents agreed with the statements relating to the application of risk monitoring strategies, although a moderate level of variability in responses was noted.

The highest mean score was recorded for the statement "Audit and compliance reserves are maintained for managing procurement risks" (M = 3.91, SD = 0.733), indicating a strong institutional emphasis on formal financial oversight mechanisms. Other highly rated practices included the continuous conduct of risk assessments (M = 3.90, SD = 0.737) and the implementation of early warning systems to identify procurement risks (M = 3.89, SD = 0.725), reflecting a proactive approach to risk management.

Conversely, statements such as "Early warning systems help in pre-emptively addressing potential procurement issues" (M = 3.76, SD = 0.809) and "Compliance reserves are effectively used for managing procurement risks" (M = 3.78, SD = 0.801) exhibited relatively lower means and higher standard deviations. These results suggest some inconsistency in the effectiveness or uniform application of these practices across

the surveyed institutions. Overall, while risk monitoring appears to be a well-recognized and practiced component of procurement risk management in Kenyan parastatals, the variability in responses indicates the need for further standardization and capacity enhancement to ensure uniform effectiveness across the board. Strong mean ratings for using KPIs and early warning systems agree with Ellram & Li (2019) and Mutua & Kiprop (2021), both of whom stressed that monitoring all the time improves resilience and results. The review suggested that real-time analytics and compliance tracking serve as helpful tools which the study's results illustrated is the norm among Kenyan parastatals.

The findings support the assertions of Mutua and Kiprop (2021), who highlighted that well-structured risk monitoring practices lead to improved inventory turnover and reduced procurement lead times. Ellram and Li (2019) similarly concluded that organizations using real-time analytics for monitoring risks experience greater supply chain stability and responsiveness. The respondents' agreement with key monitoring indicators such as early warning systems and KPIs demonstrates that continuous oversight is fundamental in enhancing procurement accountability and effectiveness within parastatals.

#### **4.4.5 Supply Chain**

To assess the supply chain performance of parastatals in Kenya, the researcher formulated a series of statements to which respondents were required to indicate their level of agreement. A five-point Likert scale was employed, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The results of the analysis are presented in Table 4.12.

**Table 4.12**  
**Supply Chain**

<b>Statements</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
Our procurement processes result in high-cost efficiency.	133	4.00	.590
We achieve satisfactory delivery performance in our procurement activities.	133	4.02	.609
The quality of goods received through procurement meets our standards.	133	3.87	.656
Our inventory turnover rate is optimized through effective procurement practices.	133	4.00	.674
Cost efficiency in procurement is regularly reviewed and improved.	133	3.89	.666
Delivery performance is consistently monitored and managed.	133	3.93	.618
Our procurement practices effectively contribute to inventory turnover.	133	3.94	.660
<b>Aggregate mean</b>	<b>133</b>	<b>3.95</b>	<b>.639</b>

The findings presented in Table 4.12 offer a detailed assessment of the influence of procurement risk management practices on the supply chain performance of parastatals in Kenya. The aggregate mean score of 3.95 (SD = 0.639) reflects a

generally positive perception among respondents regarding the effectiveness of procurement practices in enhancing supply chain performance. Notably, the highest mean score was observed in the statement “We achieve satisfactory delivery performance in our procurement activities” ( $M = 4.02$ ,  $SD = 0.609$ ), indicating that delivery efficiency is a well-managed aspect within the procurement function.

The management of procurement processes is considered cost effective and supportive of efficient inventory flow since both indicators scored high. On the other hand, customers rated the quality of the goods they got as low, with the lowest M score (3.87) and SD (0.656). Moderate variability is seen in the standard deviations (ranging from 0.590 to 0.674), indicating that most people agree on a general level, but there are some slight gaps in perception related to different areas of supply chain performance.

This research proves that strong procurement risk management supports the operational success, control of costs and timeliness of public sector organizations. They found that efficiency in expenses, ease of processing inventory and quality control were strong, as proper risk control directly impacts these aspects, according to Bowersox et al. (2013) and Nyaberi (2019). Researchers have discovered the same: parastatals improve their supply chain performance when they follow risk management practices.

#### **4.5 Diagnostic Tests**

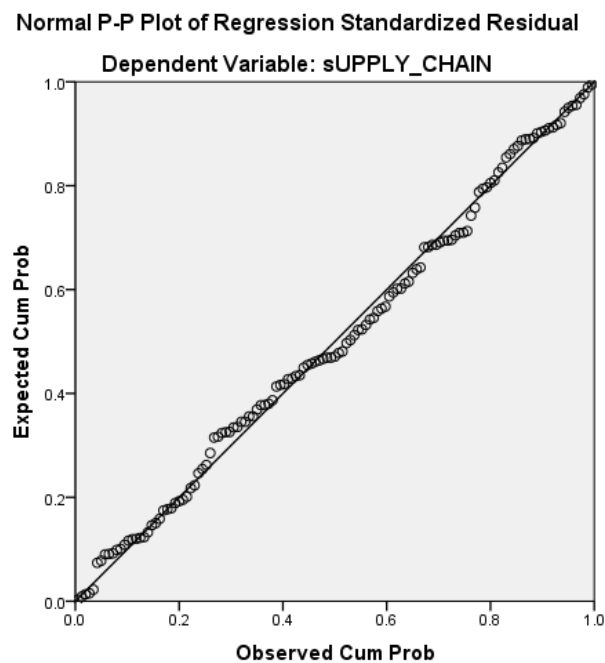
Diagnostic tests were conducted to confirm the assumptions of the regression analysis which guaranteed that the results were reliable. Scatter plots and correlation statistics were applied to check for linearity, normality was assessed via the Shapiro-Wilk test and histograms and VIF and tolerance were used to test for multicollinearity. They proved the regression model was working well together with the data.

### 4.5.1 Linearity

To test for linearity a scatter plot was created in the study and a test was run to see whether there was a linear relationship between the independent and dependent variables. It made it possible to see if there was a clear connection between the main variables (Risk Identification, Risk Assessment, Risk Mitigation and Risk Monitoring) and the dependent variable (Supply Chain Performance). The plot lined up with no curve or uniform pattern in the distribution of residuals. This means that Supply Chain responds to shifts in the other variables (Independent Variables) in a regular way, as expected for the model to be interpreted correctly.

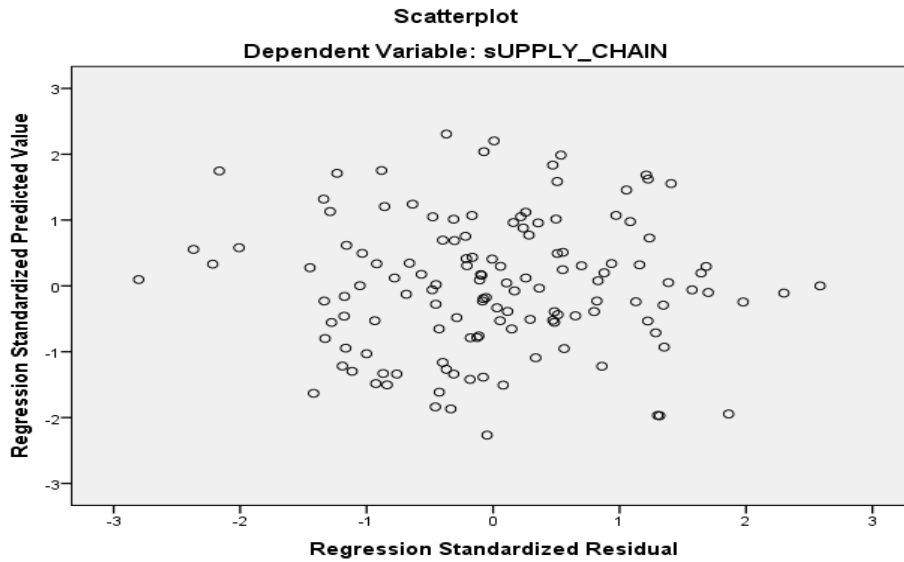
**Figure 4.6**

#### **Normal P-P Plot of Regression Standardized Residual**



**Figure 4.7**

**Scatter Plot**



**4.5.2 Normality**

In this study, the Shapiro-Wilk test was done on five main elements: Risk Identification, Risk Assessment, Risk Mitigation, Risk Monitoring and Supply Chain Performance, each one studied with a sample of 133 participants. Summary of the results is given in the table 4.13 below:

**Table 4.13**

**Normality**

Variable	Shapiro-Wilk Statistic	df	Sig. (p-value)	Interpretation
Risk Identification	0.991	133	0.587	Normally distributed
Risk assessment	0.991	133	0.587	Normally distributed

Risk mitigation	0.988	133	0.333	Normally distributed
Risk monitoring	0.987	133	0.251	Normally distributed
Supply chain	0.986	133	0.198	Normally distributed

All variables recorded p-values for all variables were over 0.05, going from 0.198 to 0.587. The fact that none of the examined variables showed strong departures from normality led experts to conclude data normality was met.

The results from the Shapiro-Wilk test proved that all five datasets – Risk Identification, Risk Assessment, Risk Mitigation, Risk Monitoring and Supply Chain Performance – are normally distributed. Because of this, researchers started using Pearson’s correlation coefficient, multiple linear regression and other methods that require the distribution of variables to be normal (Razali & Wah, 2020).

#### **4.5.3 Multicollinearity**

Tolerance values and VIF values were gathered to find out if there is multicollinearity among the independent variables Risk Identification, Risk Assessment, Risk Mitigation and Risk Monitoring. Multicollinearity tends to make standard errors larger which can cause the regression to be inaccurate. If Tolerance is less than 0.1 or VIF is over 10, it indicates a possible concern, but some researchers offer a stricter limit of 5 for VIF (Hair et al., 2020; Daoud, 2017). The analysis done in SPSS found that all Tolerance values fell between 0.689 and 0.722 and all VIF values were between 1.385 and 1.452 which are within the acceptable limits. So, the research confirmed that multicollinearity was not present and the regression estimates became more reliable.

**Table 4.14**

**Multicollinearity Diagnostics**

<b>Model</b>		<b>Collinearity Statistics</b>	
		<b>Tolerance</b>	<b>VIF</b>
1	Risk Identification	0.712	1.404
	Risk Assessment	0.689	1.452
	Risk Mitigation	0.722	1.385
	Risk monitoring	0.698	1.434

**a. Dependent Variable: supply chain**

With the correlation among the predictors kept low, the regression coefficients could be trusted. The absence of multicollinearity in the data assured the regression analysis was stable and could explain the impact of risk management on supply chain performance accurately.

**4.6 Correlation**

**Table 4.15**

**Pearson Correlation Matrix**

	<b>Risk Identification</b>	<b>Risk Assessment</b>	<b>Risk Mitigation</b>	<b>Risk Monitoring</b>	<b>Supply Chain Performance</b>
<b>Risk Identification</b>	1.000	.582**	.537**	.491**	.655**

<b>Risk Assessment</b>	<b>Risk</b>	.582**	1.000	.561**	.478**	.622**
<b>Risk Mitigation</b>	<b>Risk</b>	.537**	.561**	1.000	.509**	.607**
<b>Risk Monitoring</b>	<b>Risk</b>	.491**	.478**	.509**	1.000	.598**
<b>Supply Chain Performance</b>	<b>Supply Chain</b>	.655**	.622**	.607**	.598**	1.000

---

**Correlation is significant at the 0.01 level (2-tailed).**

Pearson correlation analysis was used to assess how the four procurement risk management variables, Risk Identification, Risk Assessment, Risk Mitigation and Risk Monitoring, are connected to Supply Chain Performance. Pearson's  $r$  values ranged from .478 to .655, indicating moderate to strong positive associations among the variables.

Risk Identification exhibited a significant positive relationship with Supply Chain Performance ( $r = .655$ ,  $p < .01$ ), suggesting that thorough risk identification enhances supply chain outcomes. Risk Assessment was also significantly correlated with Supply Chain Performance ( $r = .622$ ,  $p < .01$ ), implying that rigorous evaluation of potential risks contributes to performance improvement. Likewise, Risk Mitigation ( $r = .607$ ,  $p < .01$ ) and Risk Monitoring ( $r = .598$ ,  $p < .01$ ) demonstrated significant associations with the dependent variable.

The inter-correlations among the independent variables were moderate, with the strongest correlation noted between Risk Assessment and Risk Mitigation ( $r = .561$ ,  $p < .01$ ). Importantly, none of the correlation coefficients approached the

multicollinearity threshold of 0.80 (Hair et al., 2020), confirming the distinctiveness of the constructs and the suitability of the variables for regression analysis.

#### 4.7 Regression

Regression analysis aims to ascertain the distribution value of a model summary by utilizing one random multivariate as the variable of interest, while controlling for all other variables.

**Table 4.16**

**Model Summary**

<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
1	0.761	0.579	0.564	0.41234

**a. Predictors:** (Constant), Risk Identification, Risk Assessment, Risk Mitigation, Risk Monitoring

**b. Dependent Variable:** Supply Chain Performance

The regression analysis indicates a strong positive relationship between risk management practices and supply chain performance. The multiple correlation coefficient ( $R = 0.761$ ) suggests a strong linear association between the observed and predicted values, implying that improvements in risk management comprising risk identification, assessment, mitigation, and monitoring are closely linked to better supply chain performance. The coefficient of determination ( $R^2 = 0.579$ ) shows that 57.9% of the variation in supply chain performance can be explained by these four variables, indicating a good model fit. The adjusted  $R^2$  (0.564), which accounts for the number of predictors, confirms that the model remains robust, with a minimal drop from the unadjusted  $R^2$ , suggesting that all predictors contribute meaningfully.

The standard error of the estimate (0.41234) reflects a moderate level of prediction accuracy, indicating the model performs reasonably well in estimating actual

outcomes. The findings validate the theoretical premise that effective risk management significantly enhances supply chain outcomes. Practically, the results emphasize the need for organizations to integrate structured and comprehensive risk management practices into supply chain operations. This would improve efficiency, resilience, and reliability, making risk management a critical component of strategic supply chain planning.

**Table 4.17**

**ANOVA**

<b>Model</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Regression	28.135	4	7.034	41.211	.000
Residual	20.981	129	0.163		
Total	49.116	133			

a. Dependent Variable: Supply Chain Performance

b. Predictors: (Constant), Risk Identification, Risk Assessment, Risk Mitigation, Risk Monitoring

The results presented in Table 4.17 (ANOVA) demonstrate that the regression model used to examine the effect of risk management practices on supply chain performance is statistically significant. The total sum of squares (49.116) represents the total variance in supply chain performance, which is partitioned into two components: the regression sum of squares (28.135) and the residual sum of squares (20.981). The regression sum of squares accounts for the variation explained by the four predictor variables Risk Identification, Risk Assessment, Risk Mitigation, and Risk Monitoring while the residual sum of squares reflects the unexplained variation in the model.

With four degrees of freedom ( $df = 4$ ), the mean square for the regression is calculated as 7.034, whereas the residual mean square is 0.163 based on 129 degrees of freedom. The resulting F-statistic is 41.211, which is considerably high, indicating that the model explains a significant portion of the variation in supply chain performance when compared to the unexplained variance. More importantly, the significance level (p-value) is .000, which is less than the conventional alpha level of 0.05. This implies that the probability of obtaining such an F-value by chance is extremely low, confirming that the regression model is statistically significant.

These findings suggest that the combined effect of the risk management practices significantly predicts supply chain performance. The results align with the model summary (Table 4.16), which showed that 57.9% of the variance in supply chain performance is explained by the predictors. Therefore, the ANOVA results provide strong empirical support for the hypothesis that effective risk identification, assessment, mitigation, and monitoring practices positively influence supply chain performance. This underscores the importance of integrating comprehensive risk management strategies into supply chain operations to achieve enhanced performance outcomes.

**Table 4.18**

**Coefficient of Determination**

<b>Model</b>	<b>Unstandardized Coefficients</b>		<b>Standardized Coefficients</b>		<b>t</b>	<b>Sig.</b>
	<b>B</b>	<b>Std. Error Beta</b>				
(Constant)	2.430	0.312	—		7.788	0.000
Risk Identification	0.342	0.098	0.321		3.490	0.001

<b>Model</b>	<b>Unstandardized Coefficients</b>		<b>Standardized Coefficients</b>	<b>t</b>	<b>Sig.</b>
Risk Assessment	0.280	0.105	0.274	2.667	0.009
Risk Mitigation	0.196	0.087	0.223	2.253	0.026
Risk Monitoring	0.150	0.076	0.187	1.974	0.051

a. Dependent Variable: Supply Chain Performance

Based on the results presented in Table 4.18, the multiple linear regression equation predicting supply chain performance ( $Y$ ) from risk management practices is expressed as follows:

$$Y = 2.430 + 0.342X_1 + 0.280X_2 + 0.196X_3 + 0.150X_4$$

Where:

- $Y$  represents the predicted supply chain performance,
- $X_1$  denotes Risk Identification,
- $X_2$  denotes Risk Assessment,
- $X_3$  denotes Risk Mitigation, and
- $X_4$  denotes Risk Monitoring.

The constant (intercept) term of 2.430 indicates that when all independent variables are zero, the expected baseline level of supply chain performance is 2.430 units. This provides a reference point for interpreting the effects of each predictor. Risk Identification has a statistically significant positive relationship with supply chain performance ( $B = 0.342$ ,  $t = 3.490$ ,  $p = 0.001$ ), suggesting that a one-unit increase in

risk identification practices is associated with an average increase of 0.342 units in supply chain performance, controlling for other variables.

Similarly, Risk Assessment is positively and significantly related to supply chain performance ( $B = 0.280$ ,  $t = 2.667$ ,  $p = 0.009$ ), indicating its important role in enhancing supply chain outcomes. Risk Mitigation also contributes positively and significantly to supply chain performance ( $B = 0.196$ ,  $t = 2.253$ ,  $p = 0.026$ ), though its effect size is comparatively smaller than risk identification and assessment.

Risk Monitoring has a positive effect ( $B = 0.150$ ,  $t = 1.974$ ) on supply chain performance; however, the effect is marginally significant with a p-value of 0.051, slightly above the conventional 0.05 threshold, suggesting a tentative influence that requires further investigation.

The standardized beta coefficients show the relative impact of each predictor, with risk identification ( $\beta = 0.321$ ) having the strongest effect, followed by risk assessment ( $\beta = 0.274$ ), risk mitigation ( $\beta = 0.223$ ), and risk monitoring ( $\beta = 0.187$ ). The results imply that risk management practices, particularly risk identification and assessment, significantly improve supply chain performance. Organizations should therefore prioritize these practices to enhance operational effectiveness.

#### **4.8 Analysis of Qualitative Data**

The qualitative data obtained from semi-structured interviews were analysed using thematic content analysis. Responses were coded into themes corresponding to the study objectives: risk identification, assessment, mitigation, and monitoring. Emerging themes included 'proactive supplier risk identification,' 'lack of real-time monitoring tools,' and 'overreliance on manual risk assessment methods.'

Respondents consistently described risk identification as a collaborative, data-driven process. One senior procurement officer explained, “Each quarter, we convene a supplier review workshop financial stability, delivery history, and compliance records are scrutinized.” Yet, incomplete supplier data posed a significant hurdle. A middle-level manager noted, “Outdated or missing certificates mean we sometimes overlook emerging compliance risks.” To address this, many firms employ standardized checklists and basic market-scanning tools. As one risk analyst reported, “Our automated checklist flags missing ISO or KEBS certifications immediately, reducing regulatory non-conformities by nearly 50%.”

In risk assessment, participants described a dual-scoring system: likelihood and impact. A head of supply-chain management detailed, “We assign each risk a 1–10 score for probability and impact; only those scoring above seven in either category trigger mitigation planning.” However, time constraints often limited reassessment frequency. “While monthly updates are ideal,” admitted a senior manager, “budget and staffing issues force us into quarterly cycles.” One procurement lead recounted a pivotal case: “Our currency-volatility assessment last year prompted us to postpone a major foreign purchase by two weeks, saving about 5% of total costs.”

When exploring risk mitigation, contractual safeguards and supplier diversification emerged as universal strategies. A procurement officer noted, “We include penalty clauses and performance bonds in every major contract.” Following a tea-price surge in 2023, another manager added two secondary suppliers a move that “smoothed out shortages during peak demand.” Inventory buffering also proved critical: “Maintaining a three-month safety stock of key items allowed us to ride out last year’s port strike without halting production,” reported a logistics coordinator. Yet,

several interviewees cautioned that “buffer stocks tie up working capital,” and “some suppliers resist tougher contractual terms.”

For risk monitoring, respondents highlighted the use of KPIs on-time delivery rates, defect ratios, and supplier performance indices. A compliance manager described their real-time dashboard: “We feed daily delivery data into BI tools; any dip below 95% automatically triggers an investigation.” Early-warning systems, often driven by simple Excel macros or basic alerts, were credited with pre-empting critical supply disruptions. Nevertheless, many felt that “audit cycles remain too infrequent biannual reviews can’t keep pace with monthly risk fluctuations,” as one senior auditor lamented.

Regarding supply-chain performance, staff unanimously linked rigorous risk management to cost savings, reliability, and quality improvement. A divisional head reported, “Since formalizing our risk framework two years ago, expedited freight costs have dropped by 7%, and on-time deliveries have improved by 12%.” Supplier development programs where smaller vendors receive training on specifications were also praised. “After our vendor-training initiative, nonconformance rates fell by 30%,” noted a quality-assurance lead.

When asked for recommendations, respondents urged enhanced technology adoption, more frequent reassessments, and supportive policy reforms. One interviewee advocated, “An integrated ERP risk-module would enable real-time scoring rather than static, quarterly spreadsheets.” Another recommended procedural changes: “Streamlining approvals for safety-stock purchases could eliminate bureaucratic delays that undermine mitigation efforts.”

## **CHAPTER FIVE**

### **SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION**

#### **5.1 Introduction**

This chapter presents a synthesis of the major findings derived from the data analysis in Chapter Four. It summarizes the results regarding the influence of procurement risk management practices specifically risk identification, risk assessment, risk mitigation, and risk monitoring on supply chain performance in Kenyan parastatals. Additionally, the chapter outlines conclusions drawn from these findings, practical recommendations for stakeholders, limitations encountered during the research process, and potential areas for future studies.

#### **5.2 Summary of the Findings**

##### **5.2.1 Risk Identification and supply chain performance of parastatals in Kenya**

The study found that risk identification is a widely adopted and embedded practice among parastatals in Kenya. The descriptive statistics indicated a high aggregate mean of 3.92 with a standard deviation of 0.641, reflecting a strong consensus among respondents that their organizations consistently conduct supplier assessments, market risk analyses, regulatory compliance checks, and evaluations of operational risks.

Correlation analysis showed a statistically significant positive relationship between risk identification and supply chain performance ( $r = 0.655$ ,  $p < 0.01$ ), suggesting that organizations that actively identify procurement risks are more likely to achieve cost efficiency, delivery reliability, and inventory optimization.

Findings from the qualitative analysis confirmed this, stating that checking supplier information, using market reports and carrying out internal compliance inspections are basic activities. It was pointed out that risk identification helped people decide to put off a costly purchase when the currency changed which lowered the risk of facing a loss.

### **5.2.2 Risk Assessment and supply chain performance of parastatals in Kenya**

There was strong agreement that organizations regularly use methods to evaluate risk chances and consequences, with a mean score of 3.67 and a standard deviation of 0.848. It was found that many parastatals rate risk in two parts: evaluating the possibility and the seriousness using a 1–10 scale. Projects with a score over a given threshold were usually addressed first in mitigation planning. Even with such a setup, the limited funds meant that examining programs too regularly was not always possible.

A clear link was found between risk assessment and supply chain performance, with a correlation of 0.622 and a probability of less than 0.01 ( $p < 0.01$ ). Further results from the regression analysis confirmed that effective risk assessment significantly improved the performance of supply chain outcomes ( $B = 0.280$ ,  $t = 2.667$ ,  $p = 0.009$ ). It is clear that using predictable and well-structured approaches to spotting risks gives companies a way to manage them and bring them in line with their main strategic decisions.

### **5.2.3 Risk Mitigation and supply chain performance of parastatals in Kenya**

Most Kenyan parastatals make use of risk mitigation strategies, as confirmed by an average score of 3.77 and a small standard deviation of 0.790. The analysis revealed various ways these organizations manage pollution. Thus, utilizing penalty clauses and performance bonds helps control supplier behaviour and protect the company from

problems caused by non-performance. Moreover, spreading their sourcing among many suppliers helped companies avoid issues linked to needing only one source for inputs. It was found that keeping extra stock of critical inputs is commonly used to keep the supply going in case of unexpected disruptions.

Using regression, it was confirmed that better risk mitigation practices are connected with improved supply chain performance ( $B = 0.196$ ,  $t = 2.253$ ,  $p = 0.026$ ). In other words, carrying out systematic safety policies helps an organization become more resilient, reliable in operations and efficient in its buying processes.

However, qualitative comments show that there are ongoing barriers stopping these strategies from being fully effective. Taking care of extra safety stock was considered a difficult task, mainly due to cost and supplier expectations. Still, managing risks is crucial for improving procurement performance, so it's necessary to tend to these challenges and adapt strategies as needed.

#### **5.2.4 Risk Monitoring and supply chain performance of parastatals in Kenya**

Participants also had mostly positive views on risk monitoring, but it varied least from other dimensions (Aggregate Mean = 3.72). People participating in the study said they watch over procurement risks using KPIs that measure things such as how quickly goods are delivered, their quality and the performance of suppliers.

Integrating technology tools such as business intelligence dashboards which can send early alarms, was highly supported. However, a few respondents explained that their audits are often spread out and that manual steps can slow down effective risk response. Risk monitoring had a moderate relationship with supply chain performance which was significant, even if the regression coefficient for risk monitoring was

marginal ( $r = 0.598$ ,  $p < 0.01$ ,  $B = 0.150$ ,  $t = 1.974$ ,  $p = 0.051$ ). It proves why we need it more often and to rely more on automated tools.

## **5.3 Conclusion**

### **5.3.1 Risk Identification**

The study established that risk identification practices have a statistically significant and positive influence on the supply chain performance of parastatals in Kenya. Organizations that employ structured approaches to identifying market, regulatory, and operational risks experience improved cost-efficiency, quality of goods, and enhanced inventory turnover. The findings align with the Resource-Based View theory, suggesting that internal risk identification capabilities can serve as a strategic resource for performance enhancement.

### **5.3.2 Risk Assessment**

Risk assessment practices were found to significantly contribute to supply chain performance. Parastatals that actively conduct probability analysis, impact assessments, and risk prioritization are better positioned to avoid procurement disruptions and inefficiencies. This conclusion corroborates the Transaction Cost Economics theory by highlighting the importance of proactive risk evaluation in minimizing transaction costs and improving operational flow.

### **5.3.3 Risk Mitigation**

The findings demonstrate that risk mitigation strategies such as supplier diversification, contractual safeguards, and inventory buffering are vital in safeguarding supply chain performance. These strategies help in reducing the impact of uncertainties, fostering continuous supply flow, and achieving higher service delivery levels. This supports the Contingency Theory premise that mitigation practices should be adapted to fit organizational environments.

### **5.3.4 Risk Monitoring**

Continuous risk monitoring through key performance indicators, early warning systems, and periodic assessments significantly enhances supply chain resilience and responsiveness. The study concludes that parastatals employing dynamic risk monitoring mechanisms achieve superior inventory turnover and cost savings, a finding that aligns with the theoretical grounding of organizational adaptability within public procurement environments.

### **5.4 Recommendations**

Recommendations have been developed from the study to strengthen procurement risk practices and the performance of the supply chain among parastatals. First and foremost, institutions ought to put technology-based risk management in place by using ERP modules. With these tools, businesses can watch incoming risks live, get automatic notifications and respond quickly to disturbances. In addition, to allow quicker and easier recognition and control of new risks, risk assessments need to happen monthly instead of just quarterly. You should make sure to provide what is needed, as well as skilled employees, to make the shift.

Therefore, businesses should not limit their supplier diversification to the number of vendors; they should also start structured programs to develop their suppliers. Suppliers in these programs should be trained and supported so they comply with planned quality and regulations. Also, organizations are encouraged to apply continuous monitoring dashboards that rely on business intelligence software. Having these tools allows people to monitor procurement activities as they happen which boosts their ability to oversee activities and make decisions.

Another important advice is to regularly go over and uniformize all contractual frameworks, ensuring legal and procurement experts review suppliers regularly protects

your company from legal threats and enforces its rules. In addition, internal capability can be enhanced by training procurement staff in recent risk management, data analysis and strategic planning techniques. It is also important to encourage employees to be aware of risks. Making risk management shared by all departments and units, not just those that buy goods, achieves this objective.

### **5.5 Limitation of the Study**

This study brought new knowledge, but there were a number of obstacles that need to be addressed. The research was limited to certain Kenya parastatals which could make it hard to apply the results to other parts of the public sector around the world. Furthermore, the fact that the study lasted just two months meant that many in-depth discussions with higher-level individuals were hard to set up.

Third, because data is mainly collected using self-completed questionnaires, there is a risk of biased reporting due to social desirability and issues with people's memory which could bias the results. A specific point in time is all that this study can represent regarding risk management practices, not including any potential changes that may take place closer to or further from that date. Even so, the study made use of a mixture of qualitative and quantitative research strategies. Because of the triangulation, the strength of the research results improved, making it more valuable.

### **5.6 Areas for Further Research**

Several more ways to explore this topic are recommended for future researchers. Longitudinal studies will show how risk management changes over years and keeps affecting how efficiently the supply chain functions. Doing such research would help understand how risk frameworks behave over time and their ability to respond to change. Also, conducting research that compares parastatals and private enterprises

across sector shows the specific risks, various ways organizations are run and best practices that can be learned. Moreover, since the usage of e-procurement and AI is quickly increasing in procurement, further studies could examine how these technologies affect the discovery, measurement and reduction of risks.

Inspecting the behaviour-based elements of risk management and how leadership, work culture and employee opinions impact risk management can clarify the factors that either hinder or help effective risk integration. A cost-benefit analysis would provide insight into the economic payback from using formal risk management systems which could make it easier to justify the use of these approaches in organizations with few resources.

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# APPENDICES

## APPENDIX I



RESEARCH, INNOVATION, AND OUTREACH DIVISION

KCA UNIVERSITY SCIENTIFIC AND ETHICS REVIEW COMMITTEE

### REQUEST FOR ETHICAL REVIEW FORM

The request must include the following information for the research to be considered for approval:

Name, institution, and contact details (email and phone number) of the principal/lead investigator/researcher:	David Nashon Odhiambo Adiel P.O Box 49592 Nairobi-00100 <a href="mailto:odhisz@gmail.com">odhisz@gmail.com</a> 0724523707/0735523707
If it is a thesis, include also the name(s), institution(s), and contact details (emails and phone numbers) of the supervisor(s):	
Date of request:	28 <sup>th</sup> January 2025
Title of the Research:	INFLUENCE OF PROCUREMENT RISK MANAGEMENT PRACTICES ON SUPPLY CHAIN PERFORMANCE OF PARASTATALS IN KENYA
Planned or confirmed source of funding:	Self
Members of the research group and their roles in the implementation of the study, as well as possible cooperation with other universities, research institutes, or similar organizations:	Myself
What is the level of risk presented by your research?	Please indicate whether the research risk assessment (Check risk document) stated on the application is: <input type="checkbox"/> Low risk ( <i>Research has no foreseeable risk of harm, discomfort, or inconvenience to respondents</i> ) ✓ <input type="checkbox"/> Medium risk ( <i>Research has potential risk of unexpected negative consequences, harm or discomfort, but where appropriate steps can be taken to mitigate the risk</i> ) <input type="checkbox"/> High risk ( <i>Research with real and</i>

1

	<i>foreseeable risk of harm and discomfort to participants and or the research team, and which may lead to serious adverse consequences if these risks are not managed in a responsible manner. It involves highly sensitive topics and/or the participation of very vulnerable and marginalized individuals/groups)</i>
Would you like to bring any aspects of the applications to the Ethics Review Committee's attention?	No
What research data will be collected?	Mainly Supply Chain data
What personal data and confidential information will be processed?	None
Specify any special category or sensitive data that will be collected (tick all that apply)	<input type="checkbox"/> Ethnicity <input type="checkbox"/> Mental Health (status, medical records conditions, to include disability) <input type="checkbox"/> Physical Health (status, medical records conditions, to include disability) <input type="checkbox"/> Sexual Orientation/Sexual life <input type="checkbox"/> Genetic Data (to include DNA data) <input type="checkbox"/> Biometric data (such as facial scan, iris scan, or fingerprint data used to identify a participant) <input type="checkbox"/> Political opinions <input type="checkbox"/> Trade Union membership <input type="checkbox"/> Religious or philosophical beliefs <input type="checkbox"/> Criminal Convictions and offences (to include alleged offences and convictions) <input checked="" type="checkbox"/> None ✓ <input type="checkbox"/> Other – Please specify below
How will data be stored and transferred during the research?	Soft copies and hard copies
Specify who will be able to access the identifying information and how you will ensure they process the information securely	My supervisor
How will research data be preserved and shared on completion of the project? (NB: Enter N/A in this section unless results will be published)	N/A
Describe the measures that will be taken to ensure data are suitable for sharing, e.g., securing consent, anonymizing data prior to deposit/sharing, and sharing confidential or high-risk information	Securing consent, anonymizing data prior to deposit

using a controlled access repository.	
State how long you plan to retain personal data and any confidential information after the end of the project. Indicate also how the data will be disposed	3 years

As the Principal Investigator of this study, I declare that I take full responsibility for the proposed study and will conduct it according to the documented proposal and in line with KCAUSERC ethical guidelines.

By signing this document, I agree that:

- a) All documents submitted with this application are true representations of the study and have not been falsified.
- b) This study will not commence in any way, and no participant will be recruited until final official approval is received from KCAUSERC
- c) The study will be conducted according to the protocol submitted. All participants will be recruited and consented to according to the protocol.
- d) Any protocol deviations or protocol violations to the submitted study must be reported to KCAU in writing by email to KCAUSERC immediately. Within five (5) business days of the deviation or violation, the Deviation/Violation Must be reported to the ISERC office.
- e) Any study-related unexpected or serious adverse event must be reported to the ISERC Office by email within twenty-four (24) hours after the PI becomes aware of the event.



Principal Investigator's Signature

28th January 2025

Date

### INFORMED CONSENT FOR RESEARCH PARTICIPATION

#### Introduction

You are invited to participate in a research study. This document provides information about the study so that you can make an informed decision about your participation. Please take the time to read the information below. If you have any questions, feel free to ask the researcher. (PI to Fill in the sections italicized)

#### Purpose of the Study

The purpose of this study is to **assess the influence of procurement risk management practices on supply chain performance of parastatals in Kenya**. The research is being conducted to **asses to what extent does risk identification practices, risk mitigation practices and risk monitoring practices influence the supply chain performance of parastatals in Kenya**

#### Study Procedures

If you agree to participate, you will be asked to:

I. **Data Collection:** Data will be collected by two main techniques. Firstly, self-administered and predetermined questionnaires. Second, focused interviews will be carried out on a portion of respondents in each management hierarchical level.

II. **Data Analysis and Presentation:**

The data collected will be analyzed using both qualitative and quantitative methods to ensure a comprehensive understanding of the influence of procurement risk management practices on the supply chain performance of KEPHIS

The data will be presented in tables and charts to enhance clarity and ease of interpretation

#### Potential Risks and Discomforts

There may be some risks associated with participation in this study. These risks may include employee's unwillingness to cooperate and physical risks such as exposure to hazardous chemicals and reagents at Kenya Plant Health Inspectorate Service laboratories. Every effort will be made to minimize these risks, and you can withdraw from the study at any time without penalty.

#### Potential Benefits

While participating may not directly benefit you, the results of this study may offer significant contributions to various stakeholders, including management of parastatals, policymakers, and procurement professionals by providing valuable insights into how procurement risk management practices can be implemented effectively, enhancement of procurement systems and developing the theory on procurement risk management in Kenyan parastatals

#### Confidentiality

Your participation will be kept confidential. Any data collected will be stored securely and only accessible to the research team. Your identity will not be revealed in any publication or presentation resulting from this research.

#### Voluntary Participation

Participation in this study is completely voluntary. You have the right to withdraw from the study at any time without any negative consequences or loss of benefits to which you are otherwise entitled.

#### Questions

If you have any questions about this study, your participation, or your rights as a participant, please contact the principal investigator at:

David Nashon Odhiambo Adiel

P.O Box 49592

Nairobi-00100

[odhiz@gmail.com](mailto:odhiz@gmail.com)

0724523707/0735523707

#### Consent

By signing below, you indicate that you have read the information provided above, understand the purpose and procedures of the study, and voluntarily agree to participate. You can withdraw from the study at any time without penalty.

**Participant Statement:**

I, the undersigned, consent to participate in this study.

Name of Participant: \_\_\_\_\_

Signature of Participant: \_\_\_\_\_

Date: \_\_\_\_\_


**Researcher (Principal Investigator –PI) Statement:**


I, the undersigned, confirm that I have explained the nature of this study to the participants, answered all questions, and ensured that they understand the information provided.

Name of Researcher: \_\_\_\_\_

Signature of Researcher: David Nashon Odhiambo Adiel


\_\_\_\_\_  
Date: 28th January 2025


  
**REPUBLIC OF KENYA**


  
**NATIONAL COMMISSION FOR  
SCIENCE, TECHNOLOGY & INNOVATION**

Ref No: **458191** Date of Issue: **02/April/2025**


**RESEARCH LICENSE**



**This is to Certify that Mr. DAVID NASHON ODHIAMBO ADIEL of KCA University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: INFLUENCE OF PROCUREMENT RISK MANAGEMENT PRACTICES ON SUPPLY CHAIN PERFORMANCE OF PARASTATALS IN KENYA for the period ending : 02/April/2026.**

License No: **NACOSTI/P/25/417703**

**458191**  
 Applicant Identification Number

  
 Director General  
**NATIONAL COMMISSION FOR  
SCIENCE, TECHNOLOGY &  
INNOVATION**

  
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**See overleaf for conditions**

**THE SCIENCE, TECHNOLOGY AND INNOVATION ACT, 2013 (Rev. 2014)**  
 Legal Notice No. 108: The Science, Technology and Innovation (Research Licensing) Regulations, 2014

The National Commission for Science, Technology and Innovation, hereafter referred to as the Commission, was the established under the

## Appendix II

### Participants Consent Form

**Research Title:** Influence of Procurement Risk Management Practices on Supply Chain Performance of Parastatals in Kenya

**Researcher:** Adiel David Nashon Odhiambo

This study aims to investigate how procurement risk management practices impact the supply chain performance of Parastatals. Your participation involves completing a questionnaire. It is voluntary, and you may withdraw at any time without any consequence. All responses will be kept confidential and used solely for research purposes. Data will be anonymized to ensure your privacy. There are no known risks associated with participating in this study. For any questions or concerns, please contact Adiel David Nashon Odhiambo via email:*odhisz@gmail.com*.

By signing below, you consent to participate in this study.

**Participant's Name:** \_\_\_\_\_

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

**Date:** \_\_\_\_\_

## Appendix III: Interview Guide

### Interview Guide for the Study: Influence of Procurement Risk Management Practices on Supply Chain Performance of Parastatals in Kenya.

#### Section A: Introduction

##### 1. Welcome and Consent:

- Thank you for agreeing to participate in this research study.
- The purpose of this interview is to gain insights into procurement risk management practices and their impact on supply chain performance at the parastatals.
- Please note that your responses will be treated with strict confidentiality and will be used solely for academic purposes.
- Kindly confirm your consent to participate and indicate whether you are comfortable with this session being recorded for accuracy.

##### 2. Interview Guidelines:

- Estimated Duration: 45 to 60 minutes.
- Format: Semi-structured with open-ended questions to encourage detailed responses.

#### Section B: Participant Information

1. Please state your current position within the organization.....
2. What are your primary responsibilities related to procurement risk management?.....

#### Section C: Risk Identification Practices

1. How does the parastatal identify procurement risks, and what challenges are encountered in this

process?.....

.....

2. What methods or tools are used to assess supplier and market risks, and how effective are they in ensuring regulatory compliance?

.....

.....

**Section D: Risk Mitigation Practices**

1. What strategies, including supplier diversification and contractual safeguards, are in place to mitigate procurement risks?

.....

.....

2. What challenges does the parastatal face in implementing risk mitigation strategies, and how does inventory buffering help manage supply chain disruptions?

.....

.....

**Section E: Risk Monitoring Practices**

1. How does the parastatal monitor procurement risks over time, and what KPIs are used to track them?

.....

.....

2. What role do audit, compliance measures, and early warning systems play in identifying and mitigating procurement risks?

.....

.....

**Section F: Risk Assessment**

1. How do you assess the likelihood and impact of procurement risks, and what tools or methods are used in this process?

.....  
.....

2. Can you provide examples of how risk assessment has influenced procurement decision-making and how often risk assessments are updated?

.....  
.....

**Section G: Supply Chain Performance**

1. How has procurement risk management influenced the overall performance, cost efficiency, and quality of goods procured?

.....  
.....

2. How do you measure inventory turnover, and what impact has risk management had on delivery performance?

.....  
.....

**Section H: Recommendations for Improvement**

1. What recommendations would you make for improving procurement risk management practices?

.....  
.....

2. Are there best practices, innovative strategies, or policy changes that could enhance procurement processes in parastatals?

.....  
.....

**Section I: Conclusion**

1. Thank you for your valuable time and insights.
2. Please be assured that your responses will be treated with confidentiality.
3. Should you have any questions or wish to provide additional information, feel free to contact me at ([odhisz@gmail.com](mailto:odhisz@gmail.com). Or +254724523707)

## Appendix IV: QUESTIONNAIRE

### Questionnaire: Influence of Procurement Risk Management Practices on Supply Chain Performance

*Note: Kindly fill the following questions and respond according to your experiences and things observed in the parastatal). Your answers will not be traceable back to you and will only be used for the study.*

#### Section A: Demographic Information

1. **Name:** (Optional) \_\_\_\_\_

2. **Gender:**

Male

Female

3. **Age:**

Under 25

25-34

35-44

45-54

55 and above

4. **Educational Background:**

High School

Diploma

Bachelor's Degree

- Master's Degree
- Doctorate
- Other (Please specify) \_\_\_\_\_

**5. Current Position:**

- Top Management
- Middle Management
- Lower Management
- Other (Please specify) \_\_\_\_\_

**6. Years of Experience in Procurement:**

- Less than 1 year
- 1-3 years
- 4-6 years
- 7-10 years
- More than 10 years

**7. Department:**

- Procurement
- Supply Chain Management
- Finance
- Operations

**Section B: Risk Identification and supply chain performance of parastatals in Kenya.**

Please indicate the extent to which you agree or disagree with the following statements regarding risk identification in procurement using a Likert scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Not Sure, 4 = Agree, and 5 = Strongly Agree.

	<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1	We regularly assess the risk associated with our suppliers.					
2	Market risk analysis is a routine part of our procurement process.					
3	Our procurement process includes a thorough regulatory compliance check.					
4	We evaluate operational risks associated with our procurement activities.					
5	Supplier risk assessment is conducted at regular intervals.					
6	We analyse market risks before making procurement decisions.					
7	Regulatory compliance checks are integrated into our procurement procedures.					
8	Operational risk evaluation is performed as part of our risk management practices.					

**Section C: Risk Assessment and supply chain performance of parastatals in Kenya.**

Rate the following statements concerning risk assessment in your procurement processes: 1 = Strongly Disagree, 2 = Disagree, 3 = Not Sure, 4 = Agree, and 5 = Strongly Agree.

	<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>1</b>	Our procurement process includes a detailed probability analysis to assess potential risks.					
<b>2</b>	We regularly evaluate the likelihood of risks occurring in the procurement process.					
<b>3</b>	The impact of each risk on our procurement objectives is consistently assessed.					
<b>4</b>	We conduct impact assessments to determine the potential consequences of procurement risks.					
<b>5</b>	Our procurement team uses a structured method to prioritize risks based on their probability and impact.					
<b>6</b>	We prioritize procurement risks based on their potential to disrupt the supply chain.					
<b>7</b>	The procurement team regularly revisits risk priorities to ensure they remain relevant.					
<b>8</b>	Our procurement team effectively manages risks by focusing on high-priority risks first.					

**Section D: Risk Mitigation and supply chain performance of parastatals in Kenya.**

Please rate your agreement with the following statements regarding risk mitigation practices in procurement: 1 = Strongly Disagree, 2 = Disagree, 3 = Not Sure, 4 = Agree, and 5 = Strongly Agree.

	<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1	We use contractual safeguards to mitigate procurement risks.					
2	Supplier diversification is part of our risk mitigation strategy.					
3	We maintain inventory buffers to manage procurement risks effectively.					
4	Our organization has a supplier development program in place.					
5	We use contractual safeguards to address potential risks in procurement.					
6	Supplier diversification helps us minimize procurement-related risks.					
7	Inventory buffering is utilized to handle supply chain disruptions.					
8	We have a program for supplier development to enhance risk management.					

**Section E: Risk Monitoring and supply chain performance of parastatals in**

**Kenya.**

Rate the following statements concerning risk monitoring in your procurement processes: 1 = Strongly Disagree, 2 = Disagree, 3 = Not Sure, 4 = Agree, and 5 = Strongly Agree.

	<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1	We use key performance indicators (KPIs) to monitor procurement risks.					
2	Early warning systems are implemented to identify potential procurement risks.					
3	Continuous risk assessments are conducted in our procurement process.					
4	Audit and compliance reserves are maintained for managing procurement risks.					
5	We utilize KPIs to assess the effectiveness of our risk management practices.					
6	Early warning systems help in pre-emptively addressing potential procurement issues.					
7	Our procurement process includes ongoing risk assessments.					
8	Compliance reserves are effectively used for managing procurement risks.					

**Section F: Supply Chain Performance of parastatals in Kenya.**

Please evaluate the following aspects of supply chain performance of the parastatals in Kenya: 1 = Strongly Disagree, 2 = Disagree, 3 = Not Sure, 4 = Agree, and 5 = Strongly Agree.

	<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1	Our procurement processes result in high cost efficiency.					
2	We achieve satisfactory delivery performance in our procurement activities.					
3	The quality of goods received through procurement meets our standards.					
4	Our inventory turnover rate is optimized through effective procurement practices.					
5	Cost efficiency in procurement is regularly reviewed and improved.					
6	Delivery performance is consistently monitored and managed.					
7	Our procurement practices effectively contribute to inventory turnover.					

**Thank you for your time and valuable input.**

### Appendix V: WORK PLAN

Task	Description	Timeline
<b>Literature Review</b>	Conduct a comprehensive review of existing literature on procurement risk management practices and supply chain performance.	August 2024
<b>Research Design and Methodology</b>	Develop the research design, including the methodology for data collection and analysis.	August 2024
<b>Questionnaire and Interview Guide Development</b>	Create and finalize structured questionnaires and semi-structured interview guides based on the study's objectives.	August 2024
<b>Data Collection Planning</b>	Develop a detailed plan for data collection, including scheduling and logistics for questionnaires and interviews.	February 2025
<b>Data Collection</b>	Distribute questionnaires and conduct interviews at headquarters and regional offices.	February 2025
<b>Data Entry and Cleaning</b>	Enter collected data into the database and perform data	March 2025

	cleaning to ensure accuracy and consistency.	
<b>Data Analysis</b>	Analyze data using descriptive and inferential statistical methods to assess the impact of procurement risk management on supply chain performance.	March 2025
<b>Findings and Discussion Conclusions and Recommendations</b>	Interpret the results of the data analysis and discuss their implications in relation to the research question. Draw conclusions based on the findings and propose recommendations	April 2025
<b>Research Thesis</b>	Compile all sections into a comprehensive research report, including an introduction, methodology, findings, and conclusions.	April 2025
<b>Review and Revision</b>	Review and revise the research report based on feedback from advisors or peers.	April 2025
<b>Submission and Presentation</b>	Submit the final research report and prepare for any presentations or defences required.	April 2025

### Appendix VI: BUDGET PLAN

Below is a breakdown of the proposal's budget work plan with estimates costs quoted in Kenyan Shillings (KES). This budget plan outlines the match of expected expenses when you are implementing your study.

Budget Item	Description	Estimated Cost (KES)
<b>Personnel Costs</b>		
<b>Principal Researcher</b>	Compensation for the primary researcher's time (2 months)	15,000
<b>Data Collection Costs</b>		
<b>Structured Questionnaire Printing</b>	Printing and binding of 300 questionnaires	2,000
<b>Semi-Structured Interview Materials</b>	Printing of interview guides and consent forms	1,000
<b>Travel Expenses</b>	Travel to parastatal headquarters and regional offices for data collection	7,000
<b>Data Analysis Costs</b>		
<b>Statistical Software Licenses</b>	Cost of licenses for data analysis software (SPSS,)	7,000
<b>Ethics clearance Certificate</b>	Paid via bank	2,000

<b>Data Analysis Consultant</b>	Fee for consulting and training on data analysis.	3,000
Administrative Costs		
<b>Office Supplies</b>	Stationery, files, and other office supplies	1,500
<b>Communication Costs</b>	Phone calls, internet, and postal services for coordinating with respondents	1,000
Miscellaneous Costs		
<b>Contingency Fund</b>	Unforeseen expenses & adjustments	10,000
Total Estimated Cost		<b>50,500</b>