

**PROCUREMENT CONTRACTING PRACTICES, PROCUREMENT POLICIES AND
SUPPLY CHAIN PERFORMANCE OF ROAD AUTHORITIES IN KAKAMEGA
COUNTY, KENYA.**

Naomy Okinyi, Kemunto

**A Thesis Submitted in Partial Fulfillment of the Requirement for the Award of the Degree
of Master in Business Administration; Masinde Muliro University of Science and
Technology**

2023

DECLARATION

I declare that this thesis is my original work prepared with no other than the indicated sources and support and has never been presented to anywhere for any award or otherwise.

Signature.....

Date.....

Okinyi Naomi Kemunto

MBA/G/01-55016/2017

CERTIFICATION

The under designed confirms that they have read and here by recommends for acceptance by Masinde Muliro University of Science and Technology, a Thesis titled “**Procurement Contracting Practices, Procurement Policies and Supply Chain Performance of Road Authorities in Kakamega County, Kenya**” in partial fulfillment of the requirements for the degree of master’s in business administration (Logistics and Supply Chain Management) of Masinde Muliro University of Science and Technology.

Signature.....

Date.....

Dr. Evans Kwendo

Department of Business Administration and Management Science

Masinde Muliro University of Science and Technology

Signature.....

Date.....

Dr. Kiongera Fredrick N.

Department of Business Administration and Management Science

Masinde Muliro University of Science and Technology

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DEDICATION

I dedicate this Thesis to my husband Jared Okemwa and my children Jed, Janice and Jabez for their tireless motivation and support.

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I owe special thanks to God for His mercies and care throughout the research process. Indeed, this far is because of His grace and strength. The completion of this study could not have been possible without the mentorship and expertise of my supervisors Dr. Evans Kwendo and Dr. Kiongera Fredrick. Their direction, patience, guidance and professional support has seen me this far in this Thesis. I would like to appreciate the panelist since the genesis of the research work who sat and took their time to read and gave remarks that improved my work. My gratitude goes to the School of Business and Economics and the entire community of the Masinde Muliro University of Science and Technology for providing conducive environment for learning.

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ABSTRACT

Implementing and adopting the procurement Contracting process in public institutions have continuously faced the challenges due to its complexity and lack of resources that directly impacts the supply chain performance. Institutions are operating in a competitive business environment that is dynamic and unpredictable. Key to optimal performance is understanding the procurement contracting practices; pre-contracting, contracting and post-contracting. The study focused on the procurement contracting practices, procurement policies and supply chain performance of road authorities in Kakamega county, Kenya. Specifically the study; established the effect of pre-contracting procurement practices on the supply chain performance in road authorities in Kakamega; determined the effect of contracting procurement practices on supply chain performance in road authorities in Kakamega; investigated the effect of post contracting procurement practices on supply chain performance in road authorities in Kakamega and examined the moderating influence of the procurement policies in the relationship between the procurement contracting process and the supply chain performance in road authorities, Kakamega County. The study covered three road authorities with regional offices in Kakamega County, KeNHA, KURA, KeRRA. The study was supported by three theories; the system theory, agency theory and institutional theory. Research design used was causal. The target population was 48 respondents that comprised of supply chain officers, roads officers and accounts officers on the road authorities. Census method was adopted in the study. Structured questionnaires were used as a data collection instruments. Pilot testing was conducted in Vihiga County. Data was analyzed using descriptive and inferential statistics. Data presentation was done diagrammatically by use of tables and figures. Likert scale was used to determine how strongly variables agree or disagree with statements on a five-point scale. Key findings of the study were; pre-contracting procurement practices based on contractor pre-qualification and contractor selection had no significant effect on supply chain performance in the road authorities, Kakamega county. Contracting procurement practices based on contractor monitoring and contractor development were equally not significant drivers for supply chain performance. Post-contracting procurement have a significant influence on supply chain performance in Road authorities in Kakamega County. It was concluded that the KeNHA, KURRA and KeRRA can promote supply chain performance by adopting the procurement contracting process in all their operations. Recommendation that were made from the study were as follows; first, there is need for adoption of procurement contracting process as they have been confirmed to be full predictors of supply chain performance. Secondly, there is need for adopting other procurement contracting process in research to unearth their contributions to supply chain performance in public entities. Thirdly, the study recommends the use of post contracting procurement practices as it poses the biggest contributions to supply chain performance. Lastly, procurement policies should be adopted in moderating the relationship between levels of contracting procurement practices and supply chain performance in road authorities Kakamega county. The study findings gave insight to the supply chain managers, accountants and larger contracting team in effectively managing their procurement practices so as to enhance supply chain performance. Contributions to literature; the study has established how both the levels of contracting and procurement policy affect the supply chain performance of the road authorities in Kakamega county. The study suggested a comparative study to be carried out in other public sectors to see the views of management and employees on contract procurement practices and how they influence supply chain performance.

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LIST OF ABBREVIATIONS AND ACRONYMS

PPRA	Public Procurement Regulatory Authority
KeNHA	Kenya National Highway Authority
AG	Agency theory
AGPO	Access to Government Procurement Opportunity
CIPS	Certified Institute of Purchasing and Supplies
GOK	Government of Kenya
KeRRA	Kenya Rural Roads Authority
KURRA	Kenya Urban Roads Authority
OECD	Organization for Economic Corporation and Development
PPADA	Public Procurement and Disposal Act
PPOA	Public Procurement Oversight Authority
RPPA	Rwanda Public Procurement Authority
SCP	Supply Chain Performance
SCM	Supply Chain Management
ST	System Theory
UK	United Kingdom
CBPP	Chartered Body of Project Profession
CSI	Construction Specification Institute
BOQs	Bill of Quantities

OPERATIONAL DEFINITION OF TERMS

This section captures the terms and their explanations as used in this study. It has provided meaning of the terms as understood by the researcher in line with the study. It has explained their research terms in observable language so that the scholars do not miss the spirit of the study.

- Levels of Contracting** - Stages in the contracting process, which is pre-contracting, contracting and post-contracting.
- Pre-Contracting** -This is the initial stage in the procurement cycle where prequalification and selection of suppliers or contractors is done. These forms the genesis of contracting process.
- Contracting** -Activities performed once contractual agreements are entered upon. Managing the contractual agreements entered upon by the parties. This involves activities such as contract monitoring and contract administration.
- Contract management** - Duty to ensure that the works agreed upon is done and value for money realized by minimizing friction.
- Post Contracting** -The activities done in the grand finale of the procurement process. These are activities of inspection to ensure that the specifications are met. This process starts after the contracting process is over.
- Procurement Practices** -The procurement activities performed by organizations in order to improve supply chain performance and thus

achieve the organizational goal. These activities are like pre-contracting, contracting and post-contracting.

Supply Chain Performance

- The efficient management of the network that integrates activities that links customers to service providers meeting their needs basing on the five purchasing rights.

Road Authorities

- Firms in the road ministry that include KeNHA, KURA, and KeRRA.

CHAPTER ONE

INTRODUCTION

1.1 Study Background

Procurement is becoming a basic component in many business organizations in order to operate beyond the traditional boundaries. Guinipero, (2006) defined procurement as an accession of commodities, skills as well works needed in a firm objectively to meet the five purchasing rights that enables a company achieve its goals. Procurement means “acquisition by purchase, rental, lease, hire purchase, license, tenancy, franchise, or any other contractual means, of any type of works, services or supplies or any combination”, (PPDA2005). The acquisition process begins when the need arises from the user departments and thereafter the procurement requirements are decided on. The entire process involves risk assessment, contractor sourcing and evaluation, contract management, delivery and payment. Waters (2004), asserts that procurement process goes beyond purchase, it extends to the products disposal end-life-cycle.

Globally, public sectors are changing their operating models so as to overcome the market forces but still capitalize in them, (Walter, Kepha & Christopher 2015). Procurement plays a vital role in institutions to help achieve goals and meet unpredictable situations. A study by Thai (2001), indicated that procurement goals are linked to quality, minimization of risks both technical and financial and system integrity. Governmental enterprises are known to be huge consumers of public funds, (Roodhofs & Abdelee 2006). Adoption of the pre-contracting, contracting and post contracting procurement practices have internationally gained popularity in public sectors in the recent years due to the drive for cost minimization and dynamic socio-environmental factors. The use of these procurement practices are inevitable for any government institutions. For instance, in Malaysia, Kahiannan (2009), opined that most public sectors are improving in their end result in chain of supply

because of the deployment of a well-managed management of procurement procedures. However Wee, Rodiah & Normah (2011) reiterated that despite the existence of procurement practices in the government enterprises outlined in the procurement policy, inefficiencies and ineffectiveness in procurement procedures have resulted to poor supply chain performances in organizations. A study conducted by Oathman, Omar, Rehman and Haron (2011) on the Malaysian's procurement issues established that most employees in procurement were held liable due to poor performance of supply chain despite enforcement of pre-contracting, contracting and post-contracting procurement procedures and rules. The non-compliance of the procurement practices resulted to loss of huge money in the government and this affects the countries developmental progress. Public sectors in India, a study conducted by (Ruwel, 2007) established that challenges of fragmented procedures and rules, irregularities and lack of procurement specialist resulted to poor organizational performance. Despite the existence of the procurement practices, the management have not fully embraced this procedure and as a result they still yield poor supply chain performance, (Ruwel,2007). However, OECD (2014) reported that the GDP of India is increasing at the rate 7.9% since the introduction of public procurement practices in the government institutions. Further reported that the India's ministerial and governance structure explores to guarantee management, answerability and efficacious of the countries acquisition process. Public institutions faced challenges of automating the procurement practices so as to improve performance, (OECD, 2013).

Most African countries have enacted policies on procurement so as ensure transparency and accountability in all public sectors. In order to minimize cost, ensure well and timely deliveries, efficiency in procurement processes most African countries have embraced the pre-contracting, contracting and post contracting procurement practices. In Rwanda, for instance, Rwanda Republic Procurement Authority (RPPA) was established under law number 63/2007 to regulate the procurement practices in governmental bodies. Procurement practices have been adopted through the use of government purchasing policy to enhance the system of public procurement in respect to global

requirements (www.rppa.gov.rw). The government of Rwanda has decentralized public procurement to local government to enable comply with the reforms that ensure accountability, transparency and efficiency and also improve the output. A report by Minecofin (2011) showed that approximately 66% of the public funds is attributed to public procurement expenses. This inevitably must have an influence on the chain of supply outcome on parastatals in the road authorities s. Survey done by PPDA (2007) on the compliance and performance indicators for Uganda procurement system and reported that weaknesses in the procurement system is strengthened and poor outcome of supply chain state institutions is as a result of multiple un-coordinated contracting procurement practices.

In Kenya, government through various bodies have enacted laws to govern public procurement. From the self-rule, the executive has strived to standardize acquisition in state entities using various tools, for instance supplies manuals and circulars that treasury issued from one period to another. In 2001, the government issued the exchequer and audit rules so as to do away with the circulars to regulate procurement. These rules were later in 2002 amended to cater for certain concerns. These move was significant to improve supply chain performance though it did not fill the existing gaps in the sector. A number of issues were raised in procurement practices and this paved an avenue for the finance boss to formulate and bring to citizen's knowledge the new regulation of procurement and disposal 2007, (GOK, 2007). This act has since helped in managing the procurement activities and discourage corrupt practices of the players through debarment from the procurement process and heavy penalties. Public Procurement Oversight Authority (PPOA) is a body that regulates and standardizes all the public procurement Kenya. This ensures that performance of this sectors have improved. Since the jubilee government came in power, various reforms have been witnessed in the procurement departments across all the public sectors. For instance, in the Kenyan constitution 2010, article 55, provides percentage of thirty of the tender's opportunities be reserved for female gender, persons aged 18-35 years and people living with disability through the use of AGPO program. These reforms are to enhance competition, transparency in financial matters through the use of e-procurement,

accountability in government sectors. Despite the enforcement of these act and introduction of the reforms, procurement process still faces challenges. The mere adoption of pre-contracting and contracting procurement practices does not ensure superior performance in an institution due to complexity and risks involved in integrating the entire task chain, (Ellram, 2011).

1.1.1 The Concept of procurement contracting practices

Procurement is a process that involves the three levels of contracting. These levels include pre-contracting phase, contracting phase and the post contracting phase. Pre-contracting stage is where tasks in the procurement cycle that leads to contractual engagement are carried out. Pre-contracting procurement phase involves various activities such as planning, communication, need analysis, and sourcing. In this study, the researcher exploited how contractor pre-qualification affects the supply chain performance. Selection of the best contractor that are compliant have both technical and financial capability is key in the procurement process, (Aseka 2010). He further indicated that pre-selection of the contractors results in positive firm performance. Gaylade (2018), opined that in the prequalification of the suppliers/ contractors; technical knowhow, delivery dates, commitment to deliver quality and other qualitative features are critically examined to ensure high performance in firms.

Contracting activities involves contract management, risk management, contractor development and disposal. Contracting phase is where the public institution ensures that the contract is awarded and its execution is monitored. In this phase contractor relationship is key to future competitive advantage. A report by CIPS (2007) indicated that selection of suppliers based on experience, financial capability and technical position does not guarantee efficient thus making contract monitoring vital in order to gain high levels of supply chain performance. Monitoring of the contract implementation by contractors or contractors based on performance indicator is crucial so as to ensure contractual terms are met. The study found out that contract monitoring and contractor development affects supply chain performance in road authorities in Kakamega County.

Post contracting are the activities done in the great grand finale of the procurement process. For the institutions to receive value for money, post contracting process is crucial. In this phase inspection and acceptance is done to ensure that the contract requirements are met. The Whole-of Government contracts and management established a coordinated procurement contracting initiatives that enables institutions enhance on savings and efficiencies. A study by Wanjugu, Kiarie & Marendi (2018) Indicated that management and inspection of contractor or supplier performance ensures desired performance levels are realized. Further posed that the benefit realized extends beyond the active phase of the contract to the final phase of the contract.

According to Sollish and Semanik (2012), procurement practices are the organizational responsibilities performed to enhance the end results in the chain of supply. According to CIPS, (2007) UK procurement practices are the procurement activities performed by the buying firm. There are various variables that impact procurement practices including: management and accountability, understanding of the procurement practices, firm's capability in handling stakeholder's objectives, proper forecasting, supply chain relationships and power balance in the supply chain. A study by Makori (2017) opined that procurement practices may involve adoption of new technologies, contracting activities, building buyer-contractor relationships and team approach to procurement. An observation by Dahwa (2010) indicated that procurement practices include: setting standard specifications for goods needed, contractor prequalification, contract management and order processing. Rono (2017) stipulated that procurement practices greatly improves the supply chain management performance when well managed and integrated. Most organizations are moving towards integrating their pre-contracting and contracting procurement practices so as ensure transparency, accountability and efficiency.

A study by Yusuf (2008), stated that contractor prequalification is an important stage since it will work to reduce risks on the purchasing process and foster buyer contractor relationships. According to Aseka (2010), there is a productive outcome between the selection of contractors and performance in supply chain. In prequalification process, quantitative factors such as contractor technical expertise,

experience, compliance with statutory requirements, quality of supplies and registration of the company are considered. Also qualitative factors are checked to ensure standard supplies such as the willingness to share important information is very crucial to a buying firm. Failure to set quantitative and qualitative criteria in contractor prequalification in most institutions resulted to high losses due to poor supplies, discharge of contracts and damaged reputations, (Beil and Ross 2009). Masiko (2013) did a research on procurement practices and performance of commercial banks, indicated that main procurement practices in banks is contractor selection and contractor relationship management. Manufacturing firms of good performance takes in account the contractor prequalification criteria (Vonder, 2000).

According to Kannan and Tan (2002), institutions in the competitive current environment rely on contractors greatly. This is because contractors if well engaged by institutions creates a competitive advantage and impact the supply chain performance (Jabbour & Jabbour 2009). Contractor development is a way a buying firm adds skills and capabilities to contractors in order to enhance performance level and meet the buying firm's requirements (Krause & Ellram, 1997). This, contractor development, is a strategy used by organizations' in order that contractors are in position to meet the firm's objectives. A study by Effie & Willy (2015) observed that for firms to survive in the competitive market globally, contractor development and relationship management with contractor is crucial. Contractor development is a strategy public institutions can adopt to solve many problems facing firms in today's world. Problems such as; unavailability of capable contractors, low performance levels, inability of available contractors to support firms' growth and none competitive contractor base (Effie & Willy 2015). Risks associated with contractors, for example, delays in delivery, quality management, high cost of products and poor qualities are greatly minimized when the firm takes a step and improve the contractor's capabilities.

Contract monitoring is key to performance. It is a contracting activity that ensures the task assigned to contractors or contract are performed as per the firm's requirements. NASPO state and local

government procurement defines contract management as the "process that public agency uses to ensure that contractors performs in accordance with the specifications". CIPS (UK) defines contracting management as the "process systematically and efficiently manage, execute and analyze for maximum operational, financial performance and minimize risks".

In spite of the increasing attention on having regulations in public institutions operations, execution and delivery of these regulations and more so inspections have received less focus, (Morgan & Yeung 2007). Effectiveness and compliance is not achieved since there is too little attention to how the contract is performed. A study by Morgan (2007), noted that public institutions inspections around the globe are unsatisfactory. He further argued that most inspections create additional costs that burdens the institutions, insufficient clear specifications to be inspected and cost effectiveness is low. This clearly indicates that procurement process cannot be complete without the post contracting activities.

1.1.2 Supply Chain Performance

Performance of any organization is attached to the end results of the supply chain. Chain of supply is a network that integrates various activities from customer to contractor to firm and services (Zigiaris, 2000). Performance of the supply links, according to Warren (2002), are activities extended in the link in meeting the end-user needs that encompasses availability of product, right time delivery and right quality and quantity. Efficient management of supply chains would impact the supply chain performance by ensuring that the five rights of purchasing are met and thus customers' demands are met satisfactorily. According to Kwai (2005), supply chain performance encompasses three components; minimization of cost, customer satisfaction and timeliness in delivery and services. A well-managed supply chain enhances the firm's competitiveness, customer services and the profitability levels. A study done by Azevedo & Cruz (2011) noted that supply chain performance is

crucial and strategic. Most public institution is aware that supply chain management need to be assessed on performance, processes to be organized and controlled.

Businesses must enhance supply chain performance due to growing market demand for quality services in public institutions. Simchi (2008) stipulated that companies that excel in the world wide environment highly is as a result of efficient supply chain and its ability to satisfy the end users. Parties involved in the supply chain when well-coordinated will improve performance and enhance the value of the institution (Adam 2005). Highly competitive environment indicates that supply chain performance need to be improved for any firm to survive in the market. Supply chain is complex and its vital that appropriate performance measures be set for analysis, (Arash & Mohdi 2017). The complexity of the chain is because of the many parties engaged in. Typically, the parties involved in supply chain includes; buyers/ producers, contractors, consumers and distributors.

1.2.3 Road Authorities in Kenya

Kenya's road ministry is one of the acknowledged ministries with significant economic impact on the nation. KRB Act No. 7, an act of the parliament, formed the sector in 1999. The establishment of KRB was crucial to Kenya's road authorities reform. According to Eva & Jana (2013), Road architecture includes different group of roads in different parts of the country that allow people and goods move. Higher employment levels that has seen raise the standard of living among citizens is as a result of road authorities, (Eva & Jana ,2013).

In Kenya, the KRB partners with KeNHA, KURA and KeRRA in order to deliver efficient road network. These sectors are mandated to maintain, construct, upgrade and manage different categories of road. These role requires contractors who are experienced and skilled to perform the task. The KeNHA, KURA and KeRRA have embraced technology in their procurement process in order to enhance efficiency, transparency and accountability.

KeNHA is a statutory body established under Kenya road act 2007 and inaugurated in September 2008. The sectors role is to develop, rehabilitate, manage and maintain of all national trunk road comprising of class S, A and B. KuRA on the other hand is mandated to manage, develop and rehabilitate national trunk road in urban centers. The authority is to provide maintenance to national and county roads in line with article 6(3) of the constitution of Kenya. KeRRA is a statutory body whose role is to construct, upgrade, rehabilitate and maintain rural roads in the country. The road categories are shown in the table below.

CATEGORY	NAME	FUNCTION
Class A	International trunk road	Link centers of international importance-cross international boundaries
Class B	National trunk roads	Link nationally importance roads.
Class C	Primary roads	Link provisionally important centers
Class D	Secondary roads	
Class E	Minor road	Link minor centers
Class U	Unclassified roads	
Class S,W,T,P,R	Special purpose road	Link to sugar roads, wheat roads, tea roads, schools etc
	All public roads and streets	

Source: KRB (2019)

1.2: Problem Statement

To remain competitive in 21st century business environment, institutions must expand their business operations because customer needs are changing. As a result of this factor, leaders in the public authorities must embrace practices that will improve supply chain performance levels. Adoption and implementation of procurement contracting process is deemed as a crucial element in improving supply chain efficiency. A study by Gahorna (2006) found out that organizations that have integrated their procurement contracting process have improved their supply chain performance level tremendously. Because of the direct links between techniques in procurement and outcome of supply chain, it's critical for public sectors to adopt and apply these procurement practices in order to improve output levels. When these procurement contracting process are well implemented by institutions, the primary outcomes are continuous improvement, faster deliveries, lower procurement costs, and lower defect rates. This eventually leads to improved public sector supply chain results.

However, many institutions have failed to implement this practices and the results are still wanting. A study on the effects of public procurement practices on financial management in Kenya conducted by Sindani (2014), discovered poor practices done in procurement resulted in high procurement costs, poor planning, delays in contractor payment and deliveries, and this had a substantial influence on supply chain performance levels. A research study by Kabulanga, Kakwezi & Kayiise (2013) on the effects of practices in procurement on the outcome reiterated that their still existed some weaknesses in the system that affects performance of procurement in public sectors.

A research by Rono (2017), on the “effects of procurement practices on the performance of East African Portland Cement Company”, observed that companies can realize huge savings, quality services to customers, and efficient production when procurement procedures are used efficiently and effectively. This indicates that the companies were just not realizing savings, were not providing quality services, and were failing to implement procurement contracting practices. Kilonzo (2014)

studied “procurement best practices and organizational performance at Cadbury (K) Limited” and unearthed that leadership should address issues of procurement practices in order to reap the benefits directly. Based on the study, management was not addressing procurement contracting practices, and thus supply chain outcome minimal. The study only addressed the manufacturing firms.

Despite of the increasing attention on having regulations in our public institutions, proper contractor prequalification and selection, compliance to contractor monitoring and development, too little is performed, high cost incurred and the work done does not satisfy the principal. Against this stage set, the purpose of study is to bridge study gaps by establishing the effects of procurement contracting practices, procurement policy and supply chain performance in the road authorities in Kakamega County, Kenya.

1.3: Study Objectives

1.3.1 General Objective

The core goal was to establish the effects of procurement contracting process, procurement policy and supply chain performance in the road authorities in Kakamega County, Kenya.

1.3.2 Specific Objectives

The study objectives include:

- i. To establish the effect of pre-contracting procurement process on supply chain performance in road authorities in Kakamega County, Kenya.
- ii. To determine the effect of contracting procurement process on supply chain performance in road authorities in Kakamega County, Kenya.
- iii. To investigate the effect of post-contracting procurement process on supply chain performance in road authorities in Kakamega County, Kenya.

- iv. To examine the moderating effect of procurement policies on the relationship between the procurement contracting process and supply chain performance in road authorities in Kakamega County, Kenya.

1.4 Research Hypothesis

The study was guided by the following null hypothesis:

- H01:** There is no significant statistical effect of pre-contracting procurement process on supply chain performance in road authorities in Kakamega County, Kenya
- H02:** There is no significant statistical effect of contracting procurement process on supply chain performance in road authorities in Kakamega County Kenya.
- H03:** There is no significant statistical effect of post contracting procurement process on supply chain performance in road authorities in Kakamega County, Kenya
- H04:** Procurement policies have no significant statistical moderating effect on the relationship between procurement contracting process and supply chain performance in road authorities in Kakamega County, Kenya.

1.5 Scope of the Study

The research study was conducted in road authorities within Kakamega County; Kenya Rural Roads Authority (KeRRA), Kenya Urban Roads Authority (KURA), and Kenya National Highway Authority (KeNHA) are the three road authorities in the country. The study mainly established the effect of procurement contracting process (pre-contracting, contracting and post-contracting) procurement policies and supply chain performance of road authorities in Kakamega County, Kenya. The study targeted 48 respondents in supply chain officers, Road officers and Accounts officers. The study was confined to the Supply chain officers, accounts officers and Roads officers of the above institutions.

Many roads in Kakamega county are poorly done and this is due to fail in the first step in the procurement contracting practice, pre-contracting. The researcher studied road authorities in Kakamega county that showed contribution of different procurement contracting practice on the outcomes of the institutions.

1.6 Significance of the Study

Procurement managers, finance managers and technical managers will significantly benefit from the study since findings will give insight on the extent to which the pre-contracting, contracting and post contracting procedures in procurement affects the outcome of supply chain on the sectors. The study will act as a starting point for researchers or academics on empirical data pertinent to procurement practices, as well as areas for further research. The study will help the government because it is the shareholder in terms of better supply chain management outcomes. The study findings and recommendations will create value to supply chain performance and how to minimize loop holes in order to achieve goals. The research study will be significant to public sectors since the findings will be used to introduce reforms in the institutions in procurement and also assist in harmonizing performance in the supply chain management.

1.7 Limitations of the Study

The aim of the study mainly looked on the public institutions narrowly in the road ministry in Kakamega county, Kenya. Some institutions are private, public and hybrid (private-public). Therefore, the users of this academic knowledge have to apply the results with reference to Kakamega county in Kenyan context. Otherwise, due to differences in policies, demographic features, and scope, the study's findings may fail to be useful to other countries.

The present study majorly adopted the procurement contracting process among other procurement practices. This is not exhaustive and therefore more procurement contracting practice's need to be

studied. The conceptualization of procurement policy as a moderating variable between the phases of contracting and results supply chain is not exhaustive since other environmental factors need to be appreciated and researched.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter encompasses review of theories, review of past anchored in the study objectives. The chapter also includes the study's conceptual framework and study gaps.

2.2 Theoretical Background

Kumar (2005) reiterated that a good research proposal should have foundation on theories. Otengo (2016) reiterated that the theoretical reviews relate to the reasoned grounds the research is based on and this lays a foundation between ideologies of the theory and the ideal elements of the study questions. The glass to adjudge the world is provided by the review of theories, (Otengo 2016). The theoretical review provides a framework under which the researcher may interpret the results, (Nzambu 2015). The research proposal will employ these theories: system theory (ST) (propounded by von 1950) and agency theory (AT) propounded by Ross and Mitnick (1973).

2.2.1 System Theory

Institutions as systems consists of many units referred to as sub systems that are interdependent to each other. As these institutions develop and bring in more units they become more complex that makes coordination a vital element with each unit (Shane & Von 2003). The theory focuses on the interdependencies of these subsystems in an organization. The theory was propounded by Ludwig Von Bertalaniffy in 1950.

The interrelations and interdependence of the elements in the supply chain is natural. This means that when a subsystem is affected or when it's not performing the other elements are affected by the same measure. Based on the system theory, an organisation is a system where elements are arranged and

interact with each other. With this interrelations, management need to play skillfully to strike a balance so as to optimize performance. Modern organizations face the difficulty in incorporating a specific management style in planning and decision making (Chekere, 2015). The system theory also advocates for a participatory relationship in supply chain planning in to boost performance.

Institutions does not exist in vacuums. These organizations are dependent on the environment both external and internal where the external environment has the larger system (Weihrich, 2008). The theory depicts that the organization as a system is dependent on the environment, organization exchanges information from the external environment and materials. Procurement as a process involves a number of parties that are interdependent. Contractors are dependent to organizations for quick payment and development through trainings whereas the organization for quick deliveries of products that are of good quality and quantity that will enhance performance. In conclusion therefore, the theory gives a good platform for illustrating the connectedness and complex nature of the supply chains.

2.2.2 Agency Theory

The theory of agency explains the relationship between agent and principal. The principal delegates duties to the agent, (Gohlich, 2012). The theory was first propounded by Ross and Mitnick (1973). The theory of agency is seen as a theory of management because it explains the interlinks and objectives of firm. Two issues can arise in such relationships; first conflicting interest between the principal and agent and secondly failure of the principal to ascertain the work being performed by the agent. Studies have been done in regard to agency theory with the aim of creating a universal agent – principal theory that can be applicable in institutions, (Gohlich,2012). For instance, the employer-employee relationship, firm- contractor relationship and principal-agent relationships. The theory of agency is advantageous when dealing with complicated contracting matters. As stipulated by Fayezi,

O'Loughlin, and Zutshi, (2012), unexpected results in a principal agent relationship may occur which the theory of agency implicates.

One of the assumptions of the theory of agency is that the principal at his/her capacity learns about the agent to build a long term relationship in regard of the contract outcome, (Fayezi, O'Loughlin, and Zutshi, 2012). This case is majorly seen in private firms that are less guided by the tendering regulations. The theory is important to the present study since it provides a guideline for the advancement of relationships among parties involved in contracting tasks; entities and contractor development. The Agency theory has a limitation in that an issue can come up between principal in this case might be a government and an agent in this case the state entity since the principals cannot directly keep track the actions of state agencies.

The theory provides a platform helpful in scheming administration and commands in an organization. The theory of agency illustrates very well how parties in a relationship relate in different duties; how principal assigns duties to be performed by agent, (Shchroeder, 2011).

2.2.3 Institutional Theory

Institutions are influenced by other institutions which impacts on their behavior and decision making and thus such pressure gradually creates institutions rules. For example, the government, media and other public associations greatly influence institutions behavior. Institutions seeks survival and growth and therefore conforming to such critical pressures that influence internal operations is vital.

Institution theory came to existence in the late 1970s being propounded by John Meyer and Brian Rowan. The spirit was to explore how organization is shaped by society, state, national and international environment. According to Carvalho, Cuhna and Carstens (2017), The growth of institutional theory is due to the articles done by Dimaggio and Powell (1983) and Rowan (1991). Institutional theory is an add-on of the intellectual revolution that started in 1960 which gave rise to the idea of open system in the study of organizations, (Carvalho, Cuhna & Carstens, 2017).

According to Scott and Davis (2008), institutions consists of cultural cognitive, normative and regulative pieces which together brings stability and purpose of life. These institutions comprise of informal rules that they follow based on the results expected by the society they operate in and this defines their actions thus shaping their processes. The theory stipulates that institutional behavior and decision making is impacted by the external institutional pressures. The institutional behavior stems Coercive isomorphism, mimetic isomorphism, and normative isomorphism are all cases of isomorphism. The coercive isomorphism explains how the government exerts pressure on the institution, influencing its processes. In this case, KeNHA, KURA, and KeRRA are all state-regulated and monitored by the other institution, PPDA (2005), and PPOA.

As observed by Jones and George (2009) procurement in public entities is controlled by a number of formal and informal rules that shapes its functions and behaviors. This ensures efficiency, transparency and effectiveness. The theory therefor explains clearly the relationship between the laws/policies set and the supply chain performance of the public institutions, road authorities. The institutional theory provides an excellent framework of understanding how organizations are shaped by the other external institutions, norms and rules inorder to ensure survival and compliance.

2.3 Conceptual Review of Variables

These section sought to review the variables of the study giving its definition, importance and contribution of studies form other scholars.

2.3.1 Pre-Contracting Procurement Practice.

Pre-contracting stage is where all the activities in the procurement cycle that leads to contractual engagement are carried out. Pre-contracting procurement phase involves various activities such as planning, communication, need analysis, prequalification and selection. According to Chao and Hisiao (2013), prequalification is a process where suppliers are vetted and their fitness for work is ascertained.

Supplier selection is a vital critical phase in decision that greatly impacts the organization in realizing its objectives, (Naibor and Moronge, 2018). It is the extensive evaluation of suppliers based on their work experience, cost, reputation, machinery, financial position, suppliers employee qualification and legal compliance. Evaluation of this criteria's enables arrive at the best choice among thousands options.

According to Beil and Ross (2009), huge losses are incurred by institutions caused by failed deliveries, contract failure and reputational damages due to poor supplier/contractor selection methods. Further added that before award of contract to suppliers, quality standard screening must be done to get competent experienced performing supplier. In achieving high quality works from contractors and attain customer satisfaction, supplier selection process must be well done, (Gonzalez, Quesada & Monge 2004).

Several studies have been done which shows a productive effect of supplier pre-qualification on performance in many contexts. For instance, in china automobiles sectors (Nagao 2012), who observed that supplier pre-qualification is beneficial to the sector, in Thailand (Jens, 2014), Pikonsova and Prusa 2013) in South Africa textile sector, in Kenya manufacturing industry and judiciary, (Naibor & Moronge 2018, Limo, Iravo & Lagat 2017).

It is clear that existing studies on the effect of supplier prequalification primarily focus on manufacturing firms, the judiciary, and others conducted outside of Kenya, where the results may be inapplicable. The research goal was to unearth the effect of supplier preapproval and vendor preference on supply chain efficiency in the road authorities in Kakamega County, Kenya.

2.3.2 Contracting Procurement Practice

A process of managing the contractual agreements entered upon by the parties. This involves activities such as contract monitoring and contract administration. Contracting entails set of operations that relates to monitoring, evaluation of tenders, awards, performance of contracts, developments and

payment computations, (Nyaga & Mwangangi 2019). Contracting focuses mainly on the contracting parties to ensure conformance to the terms and conditions so as to achieve quality and efficiency. This therefore are steps taken in order to realize benefits. Eriksson and Westerberg (2017) opined that most vital component in contracting phase is contract monitoring in that this influences contracting party's relationship and performance.

Contracting activities involves contract management, risk management, contractor development and disposal. Krause & Tyler (2007) defined supplier development as a way the buying entity expands contractor/ supplier capabilities in order to raise the performance levels with an aim of meeting entities short or long term targets. Organization have realized that improved supplier performance raises the firm's performance as well. The government have put measures in place to raise the contractor's capability (Bensau, 2009). This is through the seminars done by National Construction Authority (NCA) on regular basis.

Contracting phase is where the public institution ensures that the contract is awarded and its execution is monitored. In this phase contractor relationship is key to future competitive advantage. A report by CIPS (2007) indicated that selection of suppliers based on experience, financial capability and technical Because capacity does not always translate to actual results, contract monitoring is crucial for achieving elevated amounts of supply chain success. Monitoring of the contract implementation by contractors or contractor based on performance indicator is crucial so as to ensure contractual terms are met. A number of studies have been done indicating that contract management practices greatly impacts performance of various organizations, (Karoki & Mwangangi, 2020, Malanda, 2021).

2.3.3 Post Contracting Procurement Practice

The activities done in the grand finale of the procurement process. These are activities of inspection to ensure that the specifications are met. This process starts after the contracting process is over. For the institutions to receive value for money, post contracting process is crucial. In this phase inspection

and acceptance is done to ensure that the contract requirements are met. The Whole-of Government contracts and management established a coordinated procurement contracting initiatives that enables institutions enhance on savings and efficiencies. A study by Wanjugu, Kiarie & Marendi (2018) Indicated that management and inspection of contractor or supplier performance ensures desired performance levels are realized. Moreover, the benefit realized is not only realized during in the contracting stage, but the value delivery continues throughout the contract's life.

As stipulated by the PPDA 2005, and procedures 2006, inspection of all works and purchases is a mandatory activity in public institutions. This aims to ensure transparent and equitable procurement methods, efficient and economic use of public resources. As stipulated by law, an inspection committee is organized to inspect the contractors work. Oteki (2015) inspection occur so that the public institution confirms that the work performed is within the specified standards. These calls for managers to embrace all the techniques in procurement which will ensure recommendable outcome in the chain of (Mohariry, 2011).

2.3.4 Procurement Policy

Procurement is an area vulnerable to corruption and mismanagement which has necessitated the government to come up with laws and procedures to regulate its operations. Many countries, including Kenya have in the recent past years recognized procurement role in handling the public funds. In an effort to manage its operations, government effort is seen in the formulation of annual procurement plans, (Mahmood, 2010). This is because the government should be careful in handling citizens fund, (Chemoiywo, 2014).

Procurement is a process that starts from need recognition, through contracting to post contracting and finally disposal, (Bolton, 2006). The entire process is guided by rules and procedures that ensures fairness, efficiency, effectiveness, accountability and non-discrimination. For the purpose of regulating public procurement practices across all communal institutions, various organizations have been set up.

For instance, public procurement oversight authority (PPOA) with a duty to ensure compliance to procurement procedures, supervise the systems in procurement assist in implementation and initiate public procurement policy and other autonomous bodies PPAB and PPARB and public procurement regulatory authority (PPRA), (PPOA). The bodies were established to monitor, enforce procurement standards, provide advice and review the public procurement and asset systems and handle complaints from stakeholders.

The procurement process is governed by these bodies to ensure uniform procurement activities across the public entities. As stated by Erridge & Greer, (2002) PPOA is mandated with the task of oversight to ensure procurement process meets the required standards. Despite the existence of these regulatory procedures and bodies to oversee the process, compliance level is still marked to be low in the public institutions in Kenya, (PPOA 2007). According to Chemoiywo (2014), corruption, political interference, inefficient procurement system and poor technology hinder compliance.

2.3.5 Supply Chain Performance

According to Carton (2011), The concept of performance is based on the concept of value adding. An institution is created with a purpose of achieving quality and efficiency in its processes and delivering value to its stakeholders. Supply chain performance is the efficient management of the network that integrates activities that links customers to service providers meeting their needs basing on the five purchasing rights. Entity performance is the end result expected after an organization operation, (Wheele & Hunger, 2012, Vonkatraman & Ramanujam ,2011). Lebens and Euske (2006) asserts end results is a signal for both valuable and non-valuable indicators which communicates levels attained in achieving entity objectives. This therefore, requires skilled and experienced individuals to offer judgement and explanation on entities supply chain performance.

Stakeholders and management evaluate the institutions operations and processes using the outcome. Good performance opens up for more donors and investors and this creates confidence to management.

Since the rise of the concept of performance measurement several metrics have been introduced to help measure performance of institution. For instance, quality management, economic value added, value analysis, (Haar and Spell, 2008). According to Brush (1992) performance can be measured on effectiveness, realized objectives, quality, employee satisfaction, efficiency on operations and time element apart from financial measures. The supply chain performance is measured against quality works, cost efficient processes, timeliness, effectiveness and environmental responsibility, (Adeyemi & Salami 2010). Measuring performance is vital since it enables identify entities weaknesses and strengths, potential risks and opportunity in the operations and therefore corrective measures are taken, (Walker & Rowlinson (2008).

2.4 Empirical Review

2.3.1 Pre-contracting procurement practice and Supply Chain Performance.

Contractor prequalification is a strategic activity that is performed in public institutions. A study by Glotidah (2017) indicated that contractor pre-qualification is an activity undertaken by institutions to identify and shortlist bidders who are compliant to statutory requirements, have good experience, and have both financial and technical capability as well as offers excellent quality services /products that are required. Pre-qualification enables and institution to optimize its returns since these activity fosters competition and accountability. Cost incurred is minimized and corruption cases that affects the institutions reputation is eliminated when contractor pre-qualification is soberly conducted.

A research study on the selected factors of contractor preapproval on organizational end results done by Gaylade (2018), in case study of Danish Refugee Council noted contractor ability to perform, economic status and valuation had a great impact on the organization process. In addition, Gaylade (2018) recommended that further studies should be done to establish how the contractor pre-qualification impacts the organizational performance. By examining how contractor prequalification influences supply chain performance, the present work research tries to fill the knowledge gap. An

investigation done by Shpend, Shahzad, Takala & Liu (2015) “on the evaluation and selection process on contractors through analytical framework: an empirical evidence of evaluation tool in Finland’,” indicated that the main criteria in contractor selection is price, delivery time and product quality. The study focused only on three criteria; price, delivery time and product quality and there is other vital element that cannot be neglected in contractor pre-qualification which the researcher seeks to study on; compliance, experience and consistency in quality. A study on the consequence of cost-based preference of contractor on construction projects outcome by Alaniram (2015) found out that performance problems were directly linked to projects untimeliness and failures to comply with construction standards. The study was done in Australia and employed a survey-quantitative approach. These findings gave a methodological gap which the current study sought to fill.

According to Eyaa and Oluka (2011) on their study on “non-compliance in public procurement in Uganda”, the public sector should engage with other departments to train staff members about public procurement procedures in order to boost supply chain effectiveness levels. Further mentioned the importance of contractor pre-qualification in the state firms. The study omitted discussing the improvement in supply chain performance caused by contractor pre-qualification.

A study by Lowasikou and Iravo (2016) on the effects of contractor selection practices on the service delivery in west Pokot County Government and proven that the processes used in contractor selection and the caliber of services offered are closely related. Additionally, when hiring contractors, it is tainted by corruption and self-interest, the performance of the entire firm suffers. The county government's service delivery was the study's primary area of interest. The current study sought to unearth the expectations in the chain of supply for the public institutions in Kakamega County impacts the choice of contractors.

A study done by Kenneth and Kwasira (2017) on the influence of contractor prequalification criteria on procurement performance at Kenya Rural Roads Authority (KeRRA) in Nyamira County. Findings

proved that contractor selection is not well conducted in the sector and thus have wrong individuals prequalified to perform the contracts. This negatively affected the performance levels. Poor quality supplies, delayed deliveries, lack of technical capacity, lack of technical competence and contractual capacity was noted (Kenneth, 2017). Mwikale and kavake (2012) sought to determine the elements that impact preference of optimal suppliers in the management of procurement and found out that majorly cost is the main element that affects the selection process and performance. These studies notably gave a mixed result that current study sought to refine those results.

A research by Naibor and Moronge (2018) was aimed at understanding how supplier choice standards influenced results in terms of performance manufacturing companies in Kenya. According to the study, contractor preapproval strongly and pleasantly affects the performance of businesses in Kenya. Three important factors—contractor financial condition, technical aptitude, and contractor culture—were the study's primary focus. A study by Onyango (2016) on Perceived influence of contractor selection considerations on timely completion of public works projects in Kisumu County government, Kenya indicated that selection considerations forms the basis for the award of contracts to attain greater outcomes in project works. However, there are many other factors that can affect the contractor selection criteria that cannot be neglected. The current filled the gap by examining how contractors experience, quality of supplies and compliance can affect the supply chain performance of public institutions.

2.3.2 Contracting procurement practice and Supply Chain Performance

Today, many public institutions loss millions of citizen's money through improper procurement management more especially through improper contract management. This is evident in the government institutions due to the increased cases of corruptions, poor product and service delivery and more cancellations of contracts. These therefore shows the need to enact policies that would govern the ministration of contract in the public bodies. Contract Monitoring Kenya Network (2012) indicated

that every institution is supposed to obtain value for money by rendering services or products to citizens and every cost should be accounted for. Contract management of contracts is a crucial duty in the processes of acquisition since it affirms that commodities provision is in accordance with the institution's specifications.

Globally, a report by World Bank (2018) indicated that contract monitoring ensures value for money since there is successful performance of contract and contractual obligations are met. The cost incurred bulk of the United Nations' acquisition of goods and services is alarming due to improper policies and ineffective process in contract management. Kim (2015) endeavored to weigh the contract managers in both public and private sectors in New Jersey perception by investigating financially effective contract management which found that the use of incentives, competitive tenders, fair contract monitoring, and management capacity all led to improved financial performance. The research did not address the issue of how contracting impacts the efficiency of the supply chain.

Amour (2014) conducted a study at the regional level concerning contribution of monitoring of contracts to efficiency of projects for Tanzanian telecommunications businesses. Research study found out that for effective project management, contracting process should be effective. In addition, reduced procurement cost is attributable to recruitment of experienced and qualified personnel assigned to carry out effective contract monitoring. Mchopa (2015) conducted a study on how to incorporate contract management principles into Tanzanian public procurement in order to obtain value for money: Evidence from particular procuring bodies in the Moshi municipality. The study found out that cost controls and effective time management and quality checks in contract management practices resulted to value for money achievements. He further indicated that qualitative measures and close contract supervision is crucial and recommendable. In a study on management of engagements and project outcomes for the road construction in Uganda's Wakiso District, Mayie (2016) discovered a link between performance and efficient contract management. He continued that when more resource is allocated to contract managers, it enables proper evaluation and risk management thus resulting to high

levels of service delivery. The studies majorly focused on the benefits on organization gets when they engage contractors in a contract and failed to consider the effect of contract monitoring, contract awarding practices and contractor development on the outcome of supply chain which the study attempted to fill.

Cherotich (2014) conducted a study on Kenya's state corporations' operational effectiveness and contract management practices. A cross-sectional and descriptive research approach and discovered that effective management of a contract had a productive influence on the state's operational outcome. Joshua, Waiganjo, and Otego (2014) conducted study on the impact of contract management on the performance of outsourced projects in medium manufacturing enterprises in Nairobi County and did find that effective and well-coordinated contracting methods had a good effect on projects' superior end-results.

According to Benard (2018), in his study on the determinants with the goal of understanding the contract condition compliance in the county, it was observed that the construction contract monitoring of some state corporations in Nakuru County that compliance to contractual conditions resulted to effective cost management and positive effect on the procurement contract management. He further noted that failure for the service provider to comprehend the contract document, lot of mistakes results in the project and thus rework cost incurred. This therefore shows the need to place emphasis on the documentation of the contract and contract administration. Benard (2018) in his opinion recommended that the implications of contract management on the general effectiveness of public institutions should be the subject of additional research. A study by Waigwa and Njeru (2016), in the Kenya police service investigated elements shaping the management of procurement tenders in public security agencies. It was found out that there are certain factors such as employee's competence, management styles and technology that if not addressed affects contract management in contract procurement and thus negatively impacts how well the supply chain performs. The study focused solely on a few aspects of contracting and was unable to fully demonstrate how contracting affects institutional performance. By

determining how contracting procurement methods affect the output of supply chain, the study sought to bridge the gap.

Numerous research have been done on the implications of contractor development on performance, and they show that it has a big impact on the firm's overall success, (Carry 2008, Krause 2000, Modi & Mobert 2007). For instance, Carry & Smelter (2009) opined that effective involvement of contractors through communication, training and incentives greatly resulted to higher firms supply chain performance.

A study was conducted by Humphreys, Cadden, Li-wen and Marie (2011) on the Chinese electronic firm to establish how performance is shape by the undertaking of supplier and found out that contractor development was key to organizational performance. Effective communication, contractor involvement and trust proved to be significant in the buyer contractor performance. Rodriquez & Lorente (2005) studied effects on contractor development strides on purchasing outcome and found that contractor development practices are relevant and advantageous for organizations since it improves their supply chain performance. The studies empirically modeled the relationships between the contractor development and performance in firms but failed to successfully conceptualize how these practices will impact supply chain performance in public institutions.

Wachuri, Waiganjo and Oballa(2015) did a case study at East Africa Breweries Limited (EABL) contractor development practices and stated that businesses should provide contractors with both support to boost profitability levels of the firm. Further asserted no connection observed in contractor training and overall organizational effectiveness. However, Kadir, Ali and Tam (2011) conducted a study on the contractor's patterns on learning in the Malaysian automotive industry and established that the buying organization benefits greatly when they develop their contractors through continuous training. These trainings enable the contractors meet the organizations' specifications. The studies

gave a mixed results and thus currently being investigated is the impact of contractor development through contractor training to the overall supply chain performance of an organisation.

Yegon, David, and Lagat (2015) conducted a study to determine effects of contractor development on buyer performance. Did a survey of sugar mill companies in western Kenya. According to the report, providing contractors with technical and financial support is essential for improving the performance of the buyer. In addition, organizations efforts to develop contractors will in great magnitude improve the buyer's performance both in short and long run. To gain superior competitive edge in the current market, it is critical that organizations develop their contractors through trainings and give incentives. The study focused only on the financial and technical elements, however there are other elements that cannot be neglected in contracting which the current study seeks to unearth its impact on performance.

A research study by Mwesigwa and Nondi (2018), on the impact of contractor growth on procurement level of output of world food programme, found out that contractor prompt payment was the key driver for the higher supply chain performance. Training key contractors is vital for the buying firm since it will continually cut down on cost and improve profitability in the long run. Mwesigwa and Nondi (2018) further observed that there is no valid reason to offer financial support to contractors when the firm is in position to pay contractors within the shortest time possible. However, a study on the effects of contractor appraisal on performance of procurement in government ministries in Rwanda a case study of MINIFRA by Munyaneza & Mulyungi (2017), established that many public institutions delayed payments that resulted to delayed deliveries, defective products and services, non-completion of orders were contributed by the buying firm. The study also revealed a strong correlation between procurement effectiveness and contractor development through assessment and timely payment. The study failed to address the question of how specifically contractor development considering contractor trainings impacts performance in the public institutions and major focuses on the prompt payment of contractors. These studies produce inconsistent findings, thus the current study set out to clarify the

findings and determine the impact of contractor development through training and prompt payment on supply chain performance.

Study done by Rich (2017), on late contractor payments leads to low performance, higher costs and observed that due to slow processes in the firm, lack of automation prevented efficient payment procedures to contractors. Due to this, late payment is the result leading to poor contractor performance, poor buyer-contractor relationships, and higher prices to curb penalties and thus low returns to the buying firms.

2.3.3 Post-contracting procurement practices and supply chain performance.

Morgan and Yeung (2007) opined that many countries have sought to reform inspections since 1995 where Mexico started and from then many nations have followed up to latest Italy in 2011. These reforms in inspections are focused on risk, compliance and output. According to Ondiek and Oteki (2015) inspection occur so that the public institution confirms that the work performed is within the specified standards. Business operations is becoming more complex and therefore the institutions strive to enhance their operations to have a competitive advantage and retain customers, (Kabaj 2014). These calls for managers to embrace all the techniques in procurement that will advance the efficiency of the supply chain, (Moharity, 2011). Gituro (2013) observed that about 75% of public institutions in the world does not conduct inspection effectively and thus incur extra cost of rework and poor performance levels. Inspection reduces a lot of risks that an organization can get, (Trepte, 2013). Once the effective inspection is done contractor or contractor complaint is immediately created if the delivered output is not within the specified specifications. This contributes to getting the most for your money and so achieving quality, effectiveness, and efficiency.

About 30% of the procurement performance issues is attributed to contractor inefficiencies (PPOA, 2017). Public procurement is still facing challenges of poor products and services and substandard works (Ahmad, 2011). Lack of the implementation of the enacted procurement policies In real

situation inspection results to poor business operations, high costs of business transactions and poor deliveries (Kumar, 2012).

A study by Njuki (2013), on the importance of inspection of purchases in the management established that an organization's profitability and performance levels are significantly influenced by the inspection and acceptance team. Citizens have raised concern on the procurement process of the public institutions since deliveries are or poor standards. In real situations, inspection is expected to positively influence supply chain performance in public sectors which is not the case. However, Scheele (2013) observed that inspection of purchases inefficiencies is at its highest 93% that leads still to poor supply chain performance.

Despite several studies, lately little information on the effect of inspection on the efficiency of supply chain in public institutions is available. Public institutions have several activities that are performed by contractors or contractors in day to day operations that need to be inspected to avoid unsatisfactory or shoddy works. Lack of effective inspection leads to poor supply chain performance.

2.3.4 Moderating influence of procurement policies on procurement contracting process and supply chain performance in road authorities in Kakamega County.

Public procurement system in Kenya has developed from the treasury circulars in 1969 monitored by the central government then to supplies manuals in 1978, then came the public procurement regulations by then known as the exchequer and audit in 2001, (Juma 2009). Need for a more streamlined and effective body to monitor the public procurement system gave rise to a well-organized and lawfully governed system PPDA 2001. Then PPRA was established under the PPDA2005 on 2007. These reforms are geared towards enhancing public procurement system, (Kagendo 2012).

The Act was established to monitor, enforce procurement standards, provide advice and review the public procurement and asset systems. Poor compliance levels are revealed by the PPRA. The body conducts value for money audits on the public procurement contracts awarded by the public firms and

provide a report to the authority on the performance of the contracts. PPADA (2005) outlines the moral principles that practitioners in procurement serving in public offices are expected to uphold further outlining the conditions that contractors must appease in order to successfully complete the prequalification process, payment procedures, and contract management phases of their work. It provides guidelines and procedures to be used in procurement and contractor selection for public entities so as to ensure efficient and efficient use of public resources, as well as making certain that goals for public procurement, like transparency, fairness and equality are met. Lee (2000) reiterated that regulations promotes government domestic objectives. Those objectives according to Kenney (2003), are quality, efficiency, effectiveness and zero corruption cases. PPRA is vital due to increased complaints cases by citizens on inefficiency in public procurement. Failure of the PPRA to monitor and audit the public procurement practices, execution of the contracts will be sub-standard and the supply chain performance levels will decrease tremendously.

Despite the Public Procurement and Disposal Act's enforcement, very minor achievements have been made in regard to contract award, an overcharged prices and unlawful award of the contracts and tenders to government agencies, (Njoki, Ismail & Osoro 2021). Mugo & Ondari (2018), Kingoo (2019) and PPRA (2019) both reiterated that the government of Kenya losses about 17% of the annual budget due to inappropriate inventory management practices, bad contract management, and poorly executed procurement procedures. In the financial year 2017–2018, only 50% of the state entities presented their reports on procurement as required by law, according to PPRA (2019), conformity audit of the financial year. It showed a below-average compliance score of 45.5% (Moronge & Rono 2019). Jepchirchir & Noor (2019) affirms this by indicating that failure to implement the PPRA requirements results to lose of huge taxpayers' shillings and thus dragging behind the development of the country.

Therefore, to enhance the level of outcome of supply chain in public entities, the present study acknowledges in its conceptual framework the role of PPRA in monitoring the activities of procurement are carried out in compliant with the laid Act. However, Kagendo (2012) studying on

how performance is impacted by the implementation of the PPDA on parastatals in Kenya discovered that enforcement of PPDA enhanced competitiveness and streamlined the process of procurement. He additionally stated that the PPDA's adoption was related to the quality of the services and works that were produced. The implementation of the public procurement law in parastatals, according to Odaya's (2012) influence how procurement practitioners conduct the process that gives rise to recommendable performance.

2.5 Reviewed Literature and Research Gaps Summary

Study examined the system theory, agency theory and institutional theory. These theories provided ideas of how the three constructs namely; pre-contracting, contracting and post contracting affect the supply chain performance in road authorities.

System theory postulates that Institutions do not exist in vacuums. These organizations are dependent on the environment both external and internal where the external environment has the larger system (Wehrich, 2008). The organization as a system is dependent on the environment, organization exchanges information from the external environment and materials. The agency theory on the other hand postulates that organizations depends on other parties in the performance of various tasks. Thus the theory provides an effective framework in designing governance and controls in organization. The interconnection betwixt the independent variables, the intervening variable, and the dependent variable is demonstrated in the conceptual framework. Based on the examined literature, the independent variables are three; contractor pre-contracting, contracting and post-contracting procurement while the dependent variable is supply chain performance. However, the public procurement regulatory authority intervenes in the relationship.

2.5.1 Research Gap

Author	Focus	Design	Findings	Gap filled and how the current study addressed them
Gaylade, 2018)	Effects of selected factors of supplier prequalification on organizational performance.	Descriptive	Supplier capacity, financial capability and pricing impacted organizational processes.	The study was done in Danish refugee council and was guided by total cost of ownership, data envelopment analysis and analytic hierarchy models. There are theoretical and contextual gaps in this. The present research is done in road authorities in Kakamega county guided by agency and system theories.
Mayie (2016)	Effect of contract management on performance of the road construction projects in wakiso Dicitrict Uganda.	case study	Construction projects performed better thanks to contract monitoring.	The study was done in Wakiso District in Uganda and was primarily a case study of road construction in Wakiso District. These flaws in methodology and context are apparent. The present study was done in Kakamega county, Kenya. The study used explanatory research design
Wachuri, Waiganjo and Oballa (2015)	Role of supplier development on organization performance in manufacturing industry in Kenya.	Descriptive	organizational output levels is not affected by supplier training.	The study was done in a manufacturing industry; east Africa breweries limited(EABL) and was guided by theory of constraints, resource dependency and transaction economies theories. This exhibits holes in both theory and concept. The current study, which was inspired by agency, system and institutional theories, established the effect of level of contracting procurement procedures in the supply chain performance on the road authorities in Kakamega county. Design employed was explanatory.
Kurgat and Aila (2021)	Influence of contract management on supply chain performance in moi teaching and	Correlational	An incremental effect is noted on supply chain output level when contract	The study was done in a health sector and was guided by the network theory. The study used correlational research design. These presents both methodological and contextual gaps. The present study was done

	referral hospital in Kenya		management is effectively done.	in a road authority specifically in Kakamega county and was guided by system and agency theories. The current study adopted explanatory research design.
Wanjugu, Kiarie and Marendi (2018)	Effects of inspection of purchases on procurement performance in level four hospital in Nyeri County.	Descriptive	Effective inspection impacted positively of the quality of products and the whole hospital processes.	The study was done in Nyeri County in health sector and was guided by resource based view, institutional and transaction cost economic theories. These presents a theoretical and contextual gaps. The current study is done in the road authorities in Kakamega county and is guided by system and agency theories.
Njoki Ismail and Osoro (2019)	Effect of contract management on performance of state corporations in Kenya.	Descriptive survey	Contract management which involved activities like contract documentation, administration and monitoring observed to significantly influence performance of state corporations.	The study was guided by theory of public contracts and majorly focused in state corporations in Kenya. The present study was guided by system, agency and institutional theories and specifically done in road authorities in Kakamega county thus presenting a conceptual and theoretical gaps.
Kipkemboi (2017)	Effects of procurement practices on organizational performance within the public sector.	Descriptive survey	Organizations realize huge savings, quality services and efficiency when procurement practices are fully implemented.	. The research was done in a manufacturing company using questionnaires and interviews to gather data. Current study was conducted in a road construction firm, thus both conceptual and methodological shortcomings.
Malik (2018)	Assessing public procurement procedures and outcomes in government ministries in Ghana	Mixed method design	Few institutions performed best in the five indicators of compliance to procurement practices	The study was done in Ghana. the study adopted mixed method research design and was guided by principle agent and competitive bidding theory. These presents a conceptual, theoretical and methodological gaps. The present study was done

					in Kenya and adopted causal design.
Mazibuko (2018)	Analysis of the administration of procurement practices in the Southern African public sector.	Explorative design	There is low performance levels in procurement despite the government efforts to develop policies and infrastructural tools		The study used explorative research design and was done in the south African public sectors. These presents a methodological and conceptual gaps. The current study is done in Kenya and used descriptive research design.
Kabega, Kule and Mbera (2016)	Effect of procurement practices on performance of public projects in Rwanda.	Descriptive design	A positive performance of construction projects largely dependent on proper procurement planning.		Previous study was done in Rwanda specifically in Bugesera district office construction project. These gives a conceptual gap. The present study was done in the road authorities.
Onyango (2016)	Perceived influence of contractor selection considerations on timely completion of public works projects in Kisumu County government, Kenya	Descriptive design	Selection considerations forms the basis for the award of contracts to attain greater outcomes in projects works.		The study was done in public works in Kisumu county while the current study was done in road authorities Kakamega county. Secondly, the study was guided by public value and principle agent theories. This shows a theoretical gap. System, agency and institutional theories served as the foundation for this study. The goal of the current study, where contractor selection is a sub-variable, is to establish the effect of various contracting procurement practices on performance of supply chain. Thus presenting a conceptual gap.
Alaniram (2015)	The effects of cost-based contractor selection on construction projects performance.	Survey	Performance problems were directly linked to project delays and failure to comply with construction standards.		The study was conducted in Australia and used survey research design thus presenting a methodological gap and conceptual gap. The current study, which is being conducted in Kenya, focuses on all selection criteria. The study's primary focus was on financial capability of contractor.

2.6 Conceptual Framework

The interconnection between the independent, dependent variables and intervening variable is demonstrated via a conceptual framework, (Theuri, 2015). According to Ayacko (2016) a conceptual framework is an argumentative concept selected for interpretation of an expected relationship between elements that are useful. The framework is hinged on the researcher's knowledge to address the research problem. The researcher created the conceptual framework for this study to evaluate the effects of procurement contracting practices, procurement policy and supply chain performance in road authorities in Kakamega County. The study took into consideration three independent variables namely: pre-contracting and contracting, post-contracting procurement practices and the dependent variable; supply chain performance moderated by procurement policies.

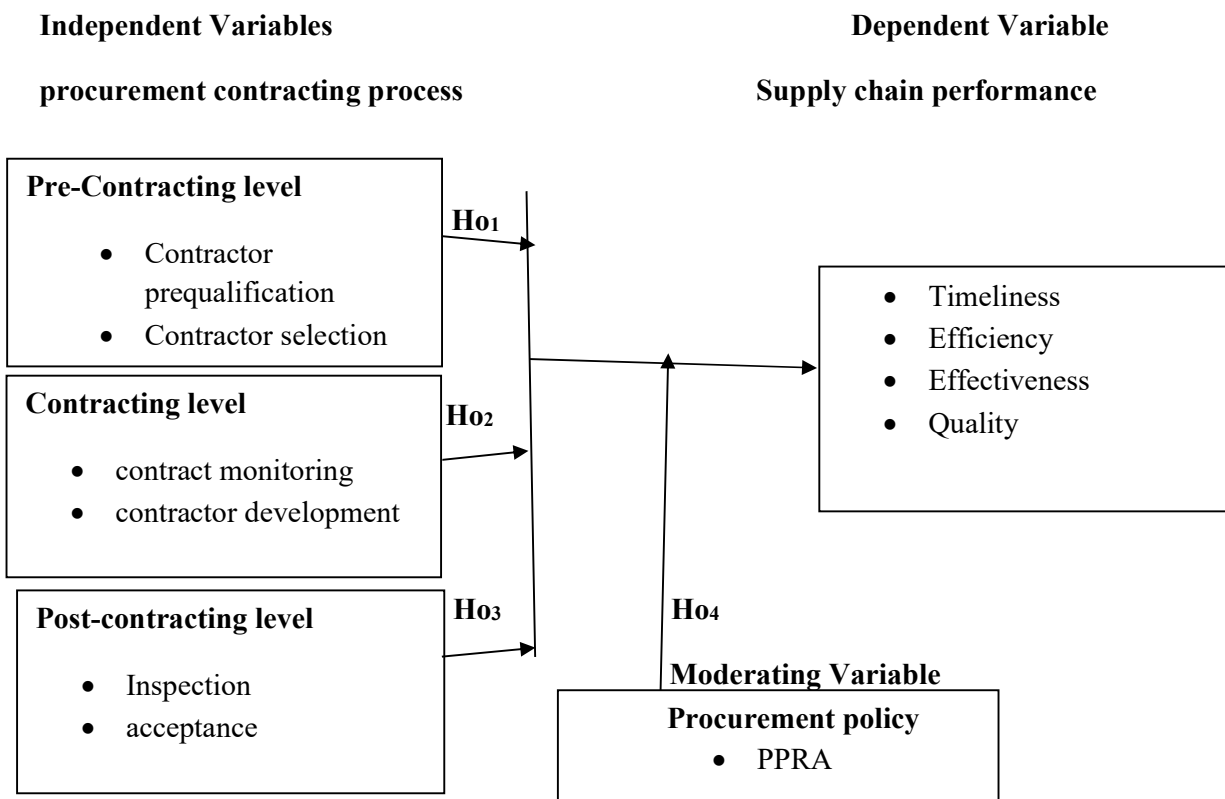


Figure 2.1: Conceptual Framework
Source: Researcher's own-self conceptualization 2021

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter addresses the study's methodological focus. The research design, target population, tools used for data collecting, and methods for data processing are all covered in the research methodology.

3.2.1 Research Design

A research design is the entire methodological frame of the study (Ayacko, 2016). This is the method that is aimed at finding solution to the study problem via the methods and procedures. Causal research method was used in this study to explain the causes and effects of the variables. The design was appropriate and justified since it was able to establish the relationship between the current study's independent variable, dependent variable, and moderating variable.

3.3 Target Population

A target demographic is all cases under consideration where the specimen for the study is selected, (Kothari, (2004). It is the universe of interest. According to (Banju, 2014) a population describes the parameters whose characteristics the research attempted to describe. The supply chain staff, accounts staff, and the technical team (road engineers) were chosen as the study's target population because their core task is performing the contracting and thus have access to the relevant information sought by this study. Road authorities under study are KeNHA, KURRA and KeRRA within Kakamega County that have 48 staff both in supply chain department, accounts department and technical department spread across the 12 constituencies within Kakamega County as illustrated in the table below: -

Table 3.3: Target Population

	KeNHA	KURA	KeRRA	Total
Senior Supply chain officer	1	1	1	3
Accounts officers	1	1	1	3
Assistant supply chain officer	1	1	1	3
Road officers	13	13	12	39
				48

Source: KeNHA, KURA, KeRRA human resource Department, 2021

3.4 sample size and sampling

The census technique was used in the study. According to Tengeye and Kwasira (2018), census entails collection of complete information from all the participants in the population. Census is the most accurate method to adopt when the universe is small. The method enabled the researcher to gather a lot of accurate knowledge. Data was collected in Kakamega County's three public road authorities for the target population of 48 drawn from the Procurement, Accounts, and Technical departments.

3.5 Data Collection Instrument

Gathering of data, according to Ayacko (2016), is systematic information collection from a sample population in order to accurately answer a question in a given area of interest. Structured surveys were to collect data from participants of the study. Accomplishment was seen through the use of a drop and collect system. This method gave respondents enough time to fill out their unfiltered responses, increasing the likelihood of more reliable and accurate information from the respondents. These questionnaires, contained closed questions. The questionnaire was divided into two sections: demographic information and contracting levels, which included pre-contracting, contracting, and post-contracting procurement practices. These questionnaires were delivered to supply chain officers, Account officers and roads officers of the road authorities in Kakamega County. All items were

evaluated using a five-point Likert scale stretching from 5 to 1. The following five-point scale was used: 5-strongly agree, 4-agree, 3-neutral, 2-disagree, and 1-strongly disagree.

3.6 Pilot Testing

Cooper and Schindler (2010) alluded to the use of a ‘test driver’ (pilot test) is used to dredge up flaws in study instruments and provide a factor data that the researcher would use to make a choice of probability sample. The goal of piloting is to identify any ambiguities in the questions, as well as problems with research methodology and data collection techniques (Tengeye, 2018). According to Tengeye (2018), the pilot test should be constituted of 1% of the total sample. Kombo & Tromp (2006) alluded that failure to conduct a pilot study would largely contribute to failure in the study field. These study was conducted to foresee any difficulty or shortcoming that could be observed in the main study and countermeasures implemented. Questionnaires were used and therefore the study helped test the validity. The pilot study was conducted in KeRRA regional office in Vihiga county which was not among the study population. Fifteen (15) respondents responded to the questionnaires in pilot testing.

3.6.1 Validity of research instruments

Kothari (2013), asserts that validity is the degree in which empirical calculations can rightly be measured. Amaliki (2016) defined validity as a score awarded to an instrument as being meaningful and enable researcher arrive to good conclusion from the study sample population. This is the range over which the instrument is expected to gauge what it is designed to consider. validity is classified into two, construct and content validity, (Kothari, 2009). According to Sohrabi (2013), content validity measures different skills, elements and behaviors. The present study used content validity to find out whether the questions were understood or difficult, as well as the content area and information. This means that the intended population had knowledge of the subject matter. The respondents were requested to indicate where the questions were not well understood or were not done correctly in their

view and such were corrected or revised. The researcher also sought for expert opinions especially from the supervisors.

3.6.2 Reliability

Sabana (2014), refers to dependability as a measure of how good the group of elements can approximate features in a test. Cronbach is the most used technique in measuring the data collection instruments reliability, (Kombo & Tromp,2009). According to Tengeye, (2018), Reliability guarantees that the tools deployed in the study are in line with the expectations. Data from a pilot study was used to assess the dependability of data collection instruments. Cronbach's alpha was used by the researcher to test the reliability of the research instruments. A Cronbach correlation coefficient of 0.6 or higher is acceptable (George and Marley, 2003). The study variable had an overall Cronbach alpha of 0.8056 which is good above the Cronbach alpha of 0.6 acceptable point.

3.7 Data Collection Procedure

The researcher obtained an introduction letter from the Masinde Muliro University of Science and Technology's School of Graduate Studies (MMUST). The letter aided the researcher in obtaining permission from the National Commission of Science, Technology, and Innovation (NACOSTI). The researcher went to the Regional Engineers of road authorities and handed over the transmittal letter requesting permission to conduct research. Permission was granted and followed by search of research assistant. In order to collect data, the researcher and his assistant used the drop and pick method.

3.8 Data Analysis and presentation

Analysis of data entails condensing assembled data into reasonable chunks, creating precis, searching for trends, and employing procedures in statistics to assist the researcher in interpreting the findings in relation to the research questions (Cooper and Schindler, 2011). Ayacko (2016), in his study refers to analysis of data as the process that entails checking, verifying, and refining data with ultimate goal of

finding out useful findings. The questionnaires were collected and checked for completeness and simplification.

Descriptive analysis was used to scrutinize the bio-data. Analyzed information was showed in the form of a table and graphs. The quantitative technique was used in the study to aid in the description and explanation of the study findings. To examine the relationship between the variables, a regression model was used. In order to perform all the computations and interpretation of the findings the researcher employed SPSS version 24 software as a tool for data analysis. For the purposes of this study, the researcher employed the analytical model to test the hypothesis.

3.8.1 Regression analysis

The regression analysis enables the researcher to investigate the interconnectedness betwixt the dependent and independent variables. Regression analysis, according to Sarstedit, Marko, and Erik (2014), the strength of the relationship, makes predictions, and indicates whether or not the relationship exists. The researcher used simple regression, multiple regression, and hierarchical regression analysis in this study.

Model 1: Simple Linear Regression Model

Simple regression analysis was used to test the percentage change in the dependent variable as a result of the independent predicator.

$$\gamma = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where;

Y =Represents dependent variable - supply chain performance

X₁ =Represents independent variable 1-pre-contracting

X₂ =Represents independent variable 2- contracting

X₃ =Represents independent variable 3- post-contracting

ε =Represents an error term random variation due to other unmeasured factors

β_0 =Represents y-intercept/constant

$\beta_1, \beta_2, \beta_3$ =represents the slopes of the regression equation.

Model 2: Multiple Regression Model

Performance of the road authorities supply chain in the county of Kakamega was regressed against three variables of procurement contracting practices, namely pre-contracting, contracting, and post-contracting. The equation was expressed as follows;

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

Where;

Z = represents the moderator

Model 3: Hierarchical regression model

A hierarchical regression was used to examine the moderating statistical effect of procurement policies on procurement contracting process and supply chain performance. This model statistically explains a huge portion of the variance in variables.

3.8.2 Diagnostic tests

The assumptions that underpin the regression model and analysis are required to demonstrate that estimation techniques have good components and that the hypotheses test is correctly done, (Jiang, Gollan & Brooks 2005). The study tested the two assumptions of normality and multi-collinearity.

3.8.2.1 Assumptions of Normality

The importance of normality assumption in a statistical data cannot be overlooked (Nyikuli 2019). This is due to the fact that many statistical tests and procedures are based on distribution assumptions.

Normality refers to the statistical distribution of data. The normality test can be measured by Jarque Berra method, Kolmogorov Smirnov statistic, normality plots and histograms or the probability plots.

3.8.2.2 Assumptions of Multi-Collinearity

Multi-collinearity indicates the strength of the variables' relationship, (Zintek, 2016). According to Goglay and Thatte (2017), multi-collinearity measures the extent of relationship among the variables and direction. When two or more predictors variables are used in the study, multi-collinearity arises, (Gastwirth, 2009). This explains the situation, where multiple regression analysis is done in the predictor variables difficulty is seen in ascertaining the input of individual predictor variables to the difference in predicted variable, (Zikmund, 2013, Hair 2010). Multi-collinearity can be measured using variance inflation factor (VIF), Pearson correlation and turnover intention. The researcher employed the variance inflation factor (VIF) and tolerance values in this study. As stated by Nyikuli (2019), tolerance is used in multi-collinearity to test the variation of the independent variables which cannot be detected by other predictors. Hair et al (2013), explained that variables that has VIF greater than 10 or less than 1 would indicate the presence of multi-collinearity. Sekaran and Bougie (2013) indicated that values that have tolerance value greater than 1 would show multi-collinearity.

3.9 Ethical Considerations

The researcher upheld the ethical concerns by observing confidentiality at every phase of the research process. The researcher confirmed to the principle of voluntary consent where all respondent take part in this research willingly. In order to enhance the confidence level of the respondent, the researcher coded the questionnaires. The researcher obtained relevant letters of authority for the permission to carry out the research and collect data.

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Introduction

This chapter presents the findings, analyses, and discussions based on the study's overall goal, which was to determine the effects of contracting procurement levels on Supply Chain Performance in the Road authorities in Kakamega County. Data was gathered through questionnaires, analyzed through descriptive and regression analysis, and the results were presented in the form of tables.

4.2 Response Rate

In this study, a total of 48 questionnaires were administered at Road authorities in Kakamega County 47 were successfully completed by the respondents which showed a response rate of 98%. This response rate was deemed adequate for drawing conclusions and making recommendations for this study.

Table 4. 1: Response rate

Response	f	%
Successful	47	98%
Unsuccessful	2	2%
Total	48	100%

Source: Field Data 2021

According to Mugenda and Mugenda (2003), 50% response rate was adequate, 60% response rate was good and 70% and above response was rated excellent. Potential respondents were notified of the planned study, resulting in a very high response rate. The researcher employed a drop and pick later basis of the questionnaires that ensured an excellent response rate.

4.3 Pilot Test Results for Data

A pilot test was carried out to assess the dependability and validity of the items used in data collection. The pilot test results showed that variables had a Cronbach's alpha greater than 0.666.. According to George and Marley (2003), this is acceptable because Cronbach's alpha greater than 0.666 is tolerable. Table 4.2 shows the reliability of the test questionnaire.

4.3.1 Reliability

For each variable, a reliability test Cronbach alpha was applied which indicated a range of 0.676 to 0.925. for this study a Cronbach alpha statistic with value of 0.666 or more was considered reliable. The test items were retained and used in this study. Table 4.2 displays the Cronbach alpha reliability results.

Table 4. 2: Cronbach Alpha results

Variable	Cronbach Alpha
Pre contracting	0.796
Contracting	0.749
Post Contracting	0.925
Procurement Policy	0.676
Supply Chain Performance	0.882

Source: Field data (2021)

4.4 Descriptive Information on Demographics

For authenticity and generalization of results, demographic information was considered very crucial. It included Gender, Level of education, Length of service and designation of study participants. The results are presented were presented in the table below:

4.4.1: Distribution of Respondents by Gender

The study established the gender distribution as shown in the table 4.3.

Table 4.3: Distribution by Gender

Demographic Characteristics		Frequency	Percentage
Gender	Female	25	52.1
	Male	23	47.9

Source: Field Data 2021

From Table 4.3, majority of the study participants were female as shown by 52.1% (25) of the study participants while 47.9% (23) were male. This helped to establish if the 2/3 gendered rule is adhered to.

4.4.2: Distribution by Level of Education

The researcher determined to know the education level of the respondents. This helped to researcher to gauge if the respondents understood the concept under study. The outcome is as distributed in table 4.4. the respondents level of education was put into different levels starting from secondary to masters.

Table:4.4 Distribution by Level of Education

Demographic Characteristics		Frequency	Percentage
Level of Education	Secondary	0	0
	Diploma	28	58.3
	Bachelors	13	27.1
	Masters	3	6.3
	Other	4	8.3

Source: Field Data 2021

From the table 4.4. In terms of the level of education, a majority of the respondents had diploma qualification i.e. 58.3% (28) followed by those who had Bachelors qualification as represented by 27.1% (13). The results obtained showed disparity in education levels among the staff. This indicates

an existing gap that need to be filled through trainings and seminars to enable enhance their qualifications.

4.4.3: Distribution by Length of Service

Table 4.5 gives the distribution of respondents on length of service. This shows their work duration. This helped the researcher ascertain the credibility of their understanding of the procurement processes and its policies.

Table 4.5: Distribution by length of service

Demographic Characteristics		Frequency	Percentage
Length of Service	Less than 1 year	4	8.3
	2-5 years	31	64.6
	6-10 years	3	6.3
	Over 10 years	10	20.8

Source: Field Data 2021

The findings revealed that the majority of respondents had been in service for between 2 and 5 years. i.e. 64.6% (31). Those who had worked for over 10 year formed the second biggest population with 20.8% (10) of the respondents. This suggests that for investment of human resource to be realized employee should remain in the organization for a longer period. In a public office set up, more than 10 years is ideal. This is reasoned that below 10 years most employees are engaged in education and are young family. The finding indicates that most of the staff had worked long enough to comprehend the contracting processes and the institutions operations thus giving reliable information.

4.4.4: Distribution by Designation

The results of respondent’s designation are shown in table 4.6.

Table 4.6: Distribution by Designation

Demographic Characteristics		Frequency	Percentage
Designation	Senior SC Officer	4	8.3
	Senior Region Accountant	4	8.3
	Roads Engineer	25	52.1
	SC Assistant	8	16.7
	Accountant	6	12.5

Source: Field Data 2021

From table 4.6 above, in terms of the designation of the respondents, the roads engineer formed the biggest chunk with 52.1% (25). Supply chain assistants formed the second biggest number of respondents i.e 16.7% (8) and closely followed by accountants with 12.5% (6). The Road engineers are the once that come up with the contract amount, do the road mapping and inspection of work.

4.5 Descriptive Analysis of the Variables in the Study

An evaluation was included in the descriptive analysis of Pre-Contracting, Contracting, Post Contracting, Procurement Policies and Supply Chain Performance. The statements were anchored on a five - point likert scale spanning from 5=Strongly Agree(SA), 4=Agree(A), 3=Neutral(N), 2=Disagree(D), and 1=Strongly Disagree(SD), and study participants were asked to indicate how strongly they agreed with the statements.

4.5.1 Pre-Contracting Procurement Practices

The following six statements were formulated to measure Pre-contracting and the respondents were asked to indicate the levels to which they agreed or disagreed with the statements on the questionnaires.

The results were presented in the table below: -

Table 4.7: Pre-Contracting Procurement Practices

Pre Contracting	5(SA)	4(A)	3(N)	2(D)	1(SD)	Mean	STD
My institution prequalifies contractors regularly as required by the policy	32(66.7%)	16(33.3%)	0(0%)	0(0%)	0(0%)	4.6667	0.47639
Our institution has implemented contractor selection criteria	23(47.9%)	22(45.8%)	3(6.3%)	0(0%)	0(0%)	4.4167	0.61310
We select contractors with financial capacity to carry out the work	30(62.5%)	18(37.5%)	0(0%)	0(0%)	0(0%)	4.6250	0.48925
We prequalify contractors with high experience in road construction sector	23(47.9%)	21(43.8%)	4(8.3%)	0(0%)	0(0%)	4.3958	0.64378
My institution checks for compliance to statutory requirements in the contractor prequalification process	37(77.1%)	11(22.9%)	0(0%)	0(0%)	0(0%)	4.7708	0.42474
Compliance to contractor prequalification requirements affects quality of deliveries	20(41.7%)	24(50%)	4(8.3%)	0(0%)	0(0%)	4.3333	0.63021

Source: Field Data 2021

The vast majority of respondents agreed that their institution prequalified contractors regularly as required by the policy as indicated by a mean of 4.6667. When asked whether the institutions used contractor selection criteria, the majority of respondents agreed, with a mean of 4.4167. As to whether they selected contractors with financial capacity to carry out the work, still most of the respondents were in agreement with a mean of 4.6250. A mean of 4.3958 respondents agreed that they prequalified contractors with long experience in the road construction sector. Concerning whether their institution checked for compliance to statutory requirements in the contractor prequalification process, a huge number of the respondents agreed as indicated by a mean of 4.7708. Likewise, a huge proportion of

the study participants agreed that compliance to contractor prequalification requirements affected the quality of deliveries as shown by a mean of 4.3333.

This concurs with the findings of Glotidah (2017) in his study opined that Pre-qualification enables institution to optimize its returns since these activity fosters competition and accountability. According to Eyaa and Oluka's (2011) study on non-compliance with public procurement in Uganda, contractor prequalification is critical to improving supply chain performance levels. The findings of the study corroborate the findings of Naibor and Moronge (2018) in their study on the influence of supplier selection on the performance of manufacturing firms in Kenya, who believed that supplier prequalification contributed significantly to performance.

However, a study by Kenneth and Kwasira (2017) on the influence of supplier prequalification criteria on procurement performance at Kenya rural road authority in Nyamira county contractor selection is not well done and contracts are awarded to unexperienced, unqualified agencies. Mwikale and Kavale (2012) on the other hand observed that in prequalification level, cost is the major selection criteria that can influence performance significantly. The current study has refuted this observation since there are other factors to consider in this phase of procurement process. For instance, reputation, experience, employee qualification, equipment's, compliance and other factors.

4.5.2 Contracting Procurement Practices

The following seven statements were formulated to measure Contracting and the study participants were requested to indicate the levels to which they agreed or disagreed with the statements on the questionnaire. The results were presented in the table below: -

Table 4.8: Contracting Procurement Practices

Contracting	5(SA)	4(A)	3(N)	2(D)	1(SD)	Mean	STD
Contract Monitoring is done in our institution	24(50%)	17(35.4%)	7(14.6%)	0(0%)	0(0%)	4.3542	0.72902
We realize value for money when we conduct contract monitoring	20(41.7%)	21(43.8%)	7(14.6%)	0(0%)	0(0%)	4.2708	0.70679
We conduct contract monitoring on regular basis	26(54.2%)	18(37.5%)	4(8.3%)	0(0%)	0(0%)	4.4583	0.65097
We support contractors through training and seminars	20(41.7%)	17(35.4%)	11(22.9%)	0(0%)	0(0%)	4.1875	0.78973
My institution finances contractors	22(45.8%)	7(14.6%)	4(8.3%)	11(22.9%)	4(8.3%)	3.6667	1.46350
We realize quality and timeliness when contractors are developed	33(68.8%)	11(22.9%)	4(8.3%)	0(0%)	0(0%)	4.6042	0.64378
My institution pays contractors promptly as required by law	41(85.4%)	7(14.6%)	0(0%)	0(0%)	0(0%)	4.8542	0.35667

Source: Field Data 2021

The vast majority of respondents agreed that Contract Monitoring was done in their institution as indicated by a mean of 4.3542. With regards to whether they realized value for money when they conducted contract monitoring, with a mean of 4.2708, the majority of respondents agreed. Whether contract monitoring was done on a regular basis, a majority of the respondents agreed with a mean of 4.4583. As to whether contractors were supported through trainings and seminars, still most of the respondents were in agreement with a mean of 4.1875. The respondents were unsure whether their institution financed contractors as shown by a mean of 3.6667. With regards to realizing quality and timeliness after supplier development, the respondents agreed with a mean of 4.6042 and with regards to whether suppliers were paid promptly, the respondents agreed with a mean of 4.8542.

The study agrees with Carry & Smelter (2009) who opined that effective involvement of contractors through communication, training and incentives greatly resulted to higher firms supply chain

performance. Rodriguez and Lorente (2005) discovered that contractor development practices are important and help firms improve their supply chain performance in a study on the effects of supplier development initiatives on purchasing performance, a structural model on the Indian industry. Otego et al. (2014) confirmed that superior project performance is the result of well-coordinated and effective contracting procurement practices in his study on the influence of contract management on performance of outsourced projects in medium manufacturing enterprises in Nairobi county.

However, Waigwa and Njeru (2016) refuted the argument by asserting that technology, employee competence and management style if not addressed affects performance of supply chain. Additionally, Kibwana and Kavale (2019) in his research on the impact of supplier development on procurement performance Kenya ports authority argued that training only helped suppliers familiarize with tendering process and auditing helped to briefcase suppliers doing legitimate business in Kenya but does not have an effect on performance.

4.5.3 Post-Contracting Procurement Practices

The following six statements were formulated to measure Post-Contracting and the respondents were asked to indicate the levels to which they agreed or disagreed with the statements on the questionnaire.

The results were presented in the table below: -

Table 4.9: Post-Contracting Procurement Practices

Post Contracting	5(SA)	4(A)	3(N)	2(D)	1(SD)	Mean	STD
We have an effective inspection and acceptance committee in our institution	37(77.1%)	11(22.9%)	0(0%)	0(0%)	0(0%)	4.7708	0.42474
My institution does inspection on contracts performed	24(50%)	24(50%)	0(0%)	0(0%)	0(0%)	4.5000	0.50529
We always inspect contracts performed immediately to ensure satisfaction is met	23(47.9%)	25(52.1%)	0(0%)	0(0%)	0(0%)	4.4792	0.50485
Only work done that meets the set standards by my institution can be accepted	24(50%)	24(50%)	0(0%)	0(0%)	0(0%)	4.5000	0.50529
Through inspection our institution realizes value for money and quality services.	27(56.3%)	21(43.8%)	0(0%)	0(0%)	0(0%)	4.5629	0.50133
Inspection has led to procurement efficiency since adopted by my institution.	24(50%)	24(50%)	0(0%)	0(0%)	0(0%)	4.5000	0.50529

Source: Field Data 2021

A majority of the respondents were in agreement that they had an effective inspection and acceptance committee in their institution as indicated by a mean of 4.7708. With regards to whether their institution did inspection on contracts performed, most of the respondents were in agreement with a mean of 4.5000. As to whether they always inspected contracts performed immediately to ensure satisfaction was met, a majority of the respondents agreed with a mean of 4.4792. The respondents were also in agreement that only work done that met the set standards by their institution could be accepted as shown by a mean of 4.5000. As to whether inspection enhanced realization of value for money for the institution, a majority of the respondents were in agreement with a mean score of 4.5629. With regards to procurement efficiency as attributed to inspection, the respondents were in agreement with a mean of 4.5000.

The study agrees with Njuki (2013), who sought to figure out the significance of purchase inspection in management and established that the inspection and acceptance team play a crucial role in an organization's profit growth and performance levels. Wanjugu et al. (2018) conducted a study on the effects of inspection on procurement performance in Nyeri county level four hospitals., is in agreement that effective inspection impacts positively on the quality products and the whole hospital processes.

However, Kumar (2012) disagrees and argues that in real situation inspection results to poor business operations, high costs of business transactions and poor deliveries.

4.5.4 Procurement Policy

The following six statements were formulated to measure Procurement Policy and the respondents were asked to indicate the levels to which they agreed or disagreed with the statements on the questionnaire. The results were presented in the table below: -

Table 4.10: Procurement Policy

Procurement Policy	5(SA)	4(A)	3(N)	2(D)	1(SD)	Mean	STD
Our institution has a well-defined procurement policy	32(62.5%)	14(29.2%)	4(8.8%)	0(0%)	0(0%)	4.6875	0.46842
Our institution effectively monitor the procurement practices	17(35.4%)	31(64.6%)	0(0%)	0(0%)	0(0%)	4.5625	0.50133
Value for money in contracts awarded is attained	26(54.2%)	22(45.8%)	0(0%)	0(0%)	0(0%)	4.6875	0.46842
Non-compliant tenderers are not given opportunity to tender	26(54.2%)	18(37.5%)	4(8.3%)	0(0%)	0(0%)	3.6875	1.50398
My institution ensures compliance to the PPRA requirements.	29(60.4%)	7(14.6%)	12(25.0%)	0(0%)	0(0%)	4.7708	0.42474
I work closely with the other officers in our firm to provide advice and improve compliance.	26(54.2%)	6(12.5%)	12(25.0%)	4(8.3%)	0(0%)	4.5625	0.50133

Source: Field Data 2021

A majority of the respondents were in agreement that their institution had a well-defined procurement policy as indicated by a mean of 4.6875. With regards to whether their institution effectively monitored the procurement practices, most of the respondents were in agreement with a mean of 4.5625. As to whether value for money in contracts awarded was attained, a majority of the respondents agreed with a mean of 4.6875. A majority of the respondents were not sure whether Non-compliant tenderers were not given opportunity to tender as shown by a mean of 3.6785. As to whether the institution ensured compliance to the PPRA requirements in all the contractual activities, a majority of the respondents were in agreement with a mean score of 4.7708. With regards to whether the respondents worked closely with the other officers in their firm to provide advice and improve compliance, the respondents were in agreement with a mean of 4.5625.

The finding concurs with Kagendo (2012), who sought to investigate the effect of the public procurement and disposal act on performance in Kenyan parastatals and unearthed that since the rollout of the PPDA in 2005, competitiveness among parastatals in procurement procedures has improved. He also asserted that the quality of services and works delivered since the passage of the PPDA has improved. According to Odaya (2012), a study on the perceived effect of public procurement law on procurement efficiency and effectiveness among public entities in Kisumu county, Kenya, enforcement of public procurement law in public entities had a significant influence on public - sector performance.

However, Njoki, Ismail & Osoro (2021) disagrees with the argument by asserting that despite the enforcement of the public procurement and disposal act, very minor achievements have been made in regard to contract award, an overcharged prices and unlawful award of the contracts and tenders to government agencies. Mugo & Ondari (2018), Kingoo (2019) also disagree with argument by reiterating that the government of Kenya losses about 17% of the annual budget as a result of poor

implementation of the procurement policy's procurement procedures, a lack of proper contract management, and ineffective inventory management procedures

4.5.5 Supply Chain Performance

The following six statements were formulated to measure Supply Chain Performance and the respondents were asked to indicate the levels to which they agreed or disagreed with the statements on the questionnaire. The results were presented in the table below:

Table 4.11: Supply Chain Performance

SCP	5(SA)	4(A)	3(N)	2(D)	1(SD)	Mean	STD
Compliant contracting procurement practices results to efficiency and effectiveness of SCP.	32(62.5%)	14(29.2%)	4(8.8%)	0(0%)	0(0%)	4.5417	0.65097
Adherence to contractual policies results to effective SCP	17(35.4%)	31(64.6%)	0(0%)	0(0%)	0(0%)	4.3542	0.48332
The contractual activities are executed on time	26(54.2%)	22(45.8%)	0(0%)	0(0%)	0(0%)	4.5417	0.50353
Superior SCP as a result of well-coordinated contract management process	26(54.2%)	18(37.5%)	4(8.3%)	0(0%)	0(0%)	4.4583	0.65097
Contract monitoring ensure efficiency in procurement contract	29(60.4%)	7(14.6%)	12(25.0%)	0(0%)	0(0%)	4.3542	0.86269
Contractors competence affects the performance of SC.	26(54.2%)	6(12.5%)	12(25.0%)	4(8.3%)	0(0%)	4.1250	1.06441

Source: Field data 2021

A majority of the respondents were in agreement that compliant contracting procurement practices resulted to efficiency and effectiveness of SCP as indicated by a mean of 4.5417. With regards to whether adherence to contractual policies resulted to effective SCP, most of the respondents were in agreement with a mean of 4.3542. As to whether the contractual activities were executed on time, a

majority of the respondents agreed with a mean of 4.5417. A majority of the respondents agreed that superior SCP was a result of well-coordinated contract management process as shown by a mean of 4.4583. As to whether contract monitoring ensured efficiency in procurement contracts, a majority of the respondents were in agreement with a mean score of 4.3542. With regards to Contractors competence affects the performance of SC, the majority respondents were in agreement with a mean of 4.1250.

The study corroborates with Devaraj (2007) who sought to establish impact of eBusiness technologies on operational performance: The role of production information integration in the supply chain and opined that proper contract management in institutions enables firms to be competitive and enhance supply chain management. This agrees with Pujari (2012) who reiterated that contracting procurement practices directly affects effectiveness of operations in organizations and ultimately supply chain performance. These findings support those of Uher and Dvenport (2009) which opined that proper management of contracting activities ensured compliance to contract terms and monitoring which leads to superior supply chain performance. Cherotich (2014) established that firms can enhance their competitiveness through effective and efficient contract management by undertaking measures such as contract monitoring and compliance to contractual policies and terms. Therefore, mutual understanding between the procuring entity and the contractors can tremendously contribute to ensuring contracts are completed in time thus guarantee smooth flow of operations in the firms.

4.6 Diagnostics Tests

4.6.1 Test for Normality

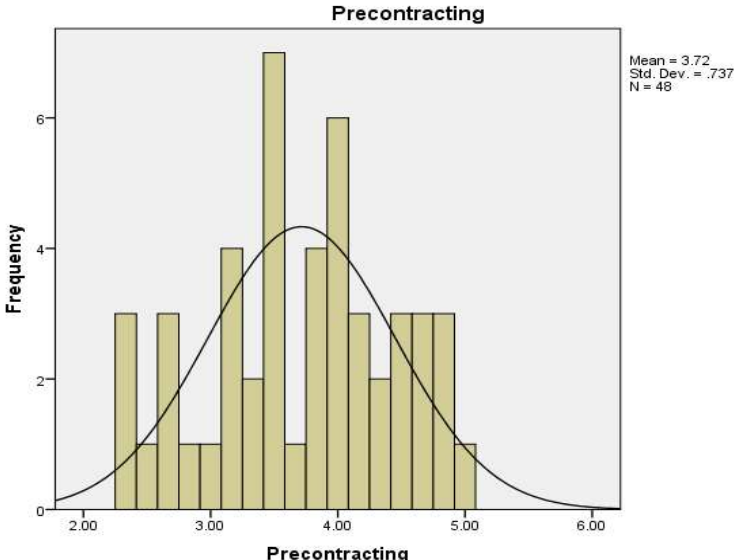
The importance of normality assumption in a statistical data cannot be overlooked (Nyikuli 2019). This is due to the fact that many statistical tests and procedures are based on distribution assumptions. Normality refers to the statistical distribution of data. The normality test can be measured by Jarque

Berra method, Kolmogorov Smirnov statistic, normality plots and histograms or the probability plots. In this study, the researcher used histograms.

4.6.1.1 Pre-Contracting

To test normality of responses, a histograms and normal plots were used. The findings are indicated in the graphs below:

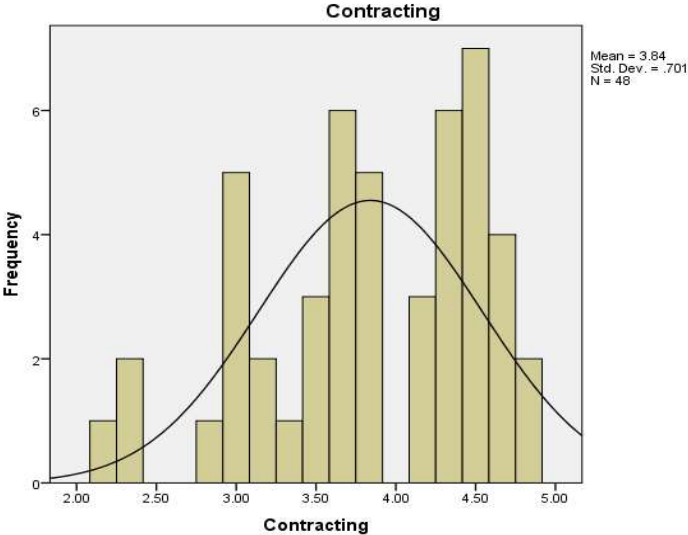
Graph 4.6.1: pre-contracting procurement practices



The findings of the first independent variable (Pre-contracting) indicated normality of responses. The distribution of the histograms show that a majority of the responses are concentrated towards the mean with a mean value of 3.72 and a standard deviation of 0.737. This demonstrates that the normality assumption was not violated, allowing the data to be subjected to regression analysis.

4.6.1.2 Contracting

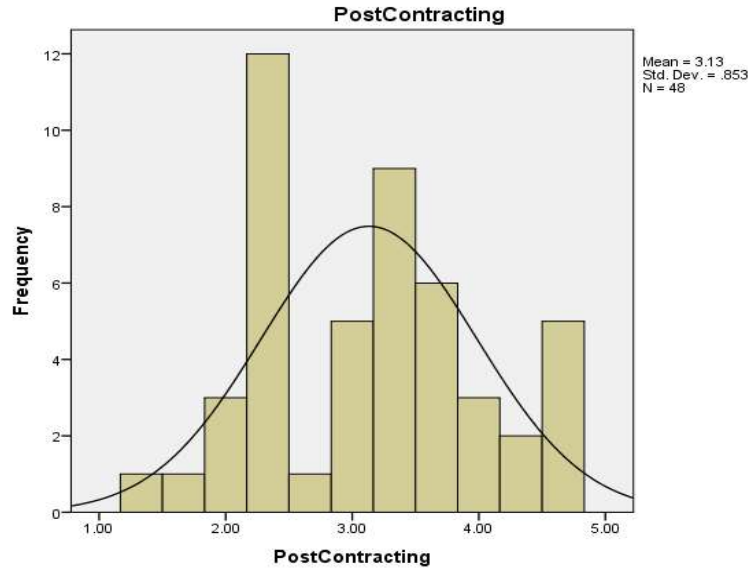
Graph 4.6.2: Contracting Procurement Practices



The findings of the second independent variable (Contracting) indicated normality of responses. The distribution of the histograms show that a majority of the responses are concentrated towards the mean with a mean value of 3.84 and a standard deviation of 0.701. This shows that the assumption of normality was not violated hence the data could be subjected to regression analysis.

4.6.1.3 Post Contracting

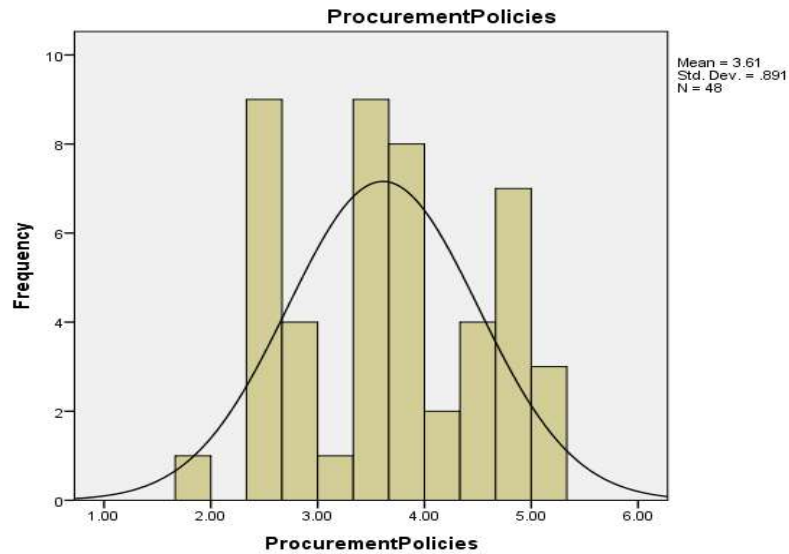
Graph 4.6.3 Post-Contracting Procurement Practices



The findings of the third independent variable (Post Contracting) indicated normality of responses. The distribution of the histograms show that a majority of the responses are concentrated towards the mean with a mean value of 3.313 and a standard deviation of 0.853. This shows that the assumption of normality was not violated hence the data could be subjected to regression analysis.

4.6.1.4 Procurement Policies

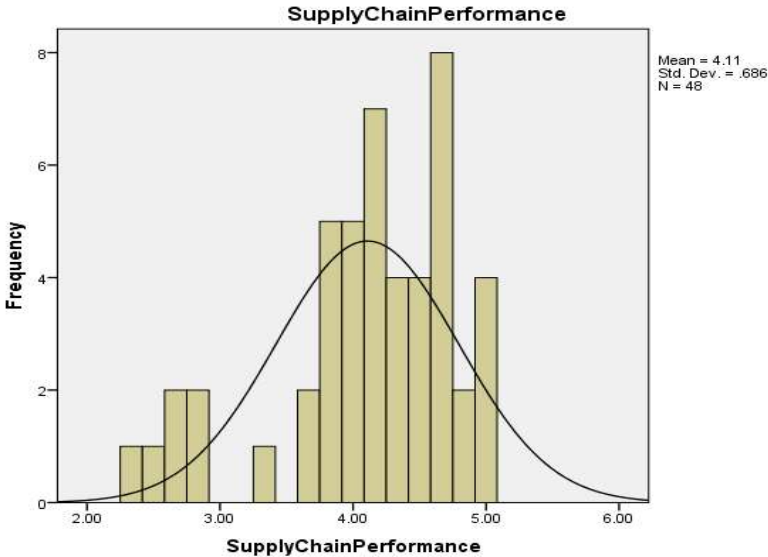
Graph 4.6.4 Procurement Policies



The findings of the moderating variable (Procurement Policies) indicated normality of responses. The distribution of the histograms show that a majority of the responses are concentrated towards the mean with a mean value of 3.61 and a standard deviation of 0.891. This shows that the assumption of normality was not violated hence the data could be subjected to regression analysis.

4.6.1.5 Supply Chain Performance

4.6.5 Supply Chain Performance



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The findings of the dependent variable (Supply Chain Performance) indicated normality of responses. The distribution of the histograms show that a majority of the responses had a mean value of 4.11 slightly greater than the mean and a standard deviation of 0.686.

4.6.2 Test for Multi-Collinearity

The degree of multi-collinearity indicates the strength of the variables' relationship. (Zintek, 2016). According to Goglay and Thatte (2017), multi-collinearity measures the extent of relationship among the variables and direction. When two or more predictor variables are used in the study, multi-collinearity arises, (Gastwirth, 2009). This explains the situation, where multiple regression analysis is done in the predictor variables difficulty is seen in ascertaining the input of individual predictor variables to the difference in predicted variable, (Zikmund, 2013, Hair 2010). Multi-collinearity can

be measured using variance inflation factor (VIF), Pearson correlation and turnover intention. In this study, the researcher employed the variance inflation factor(VIF) and tolerance values. According to Nyikuli (2019), tolerance is used in multi-collinearity to test the variation of the independent variables which cannot be detected by other predictors. Hair et al (2013), explained that variables that has VIF greater than 10 or less than 1 would indicate the presence of multi-collinearity. Sekaran and Bougie (2013) indicated that values that have tolerance value greater than 1 would show multi-collinearity.

To determine the relationship between all the independent variables a correlation analysis was conducted. The results of the correlation between all the variables are summarized in the table below:

Table 4.12 Multi-Collinearity

Coefficients^a

Model		Collinearity Statistics	
		Tolerance	VIF
1	Pre-contracting	.711	1.407
	Contracting	.585	1.709
	Post-Contracting	.172	2.119
	Procurement Policies	.522	1.916

a. Dependent Variable: Supply Chain Performance

Source: field (2021)

According Gastwirth (2009), multiple variables that are near perfect combination with each other indicate the presence of multi-collinearity. Zhang (2011) asserts that in the event the predictor variables are highly correlated then they pose the challenge of failing to determine the predictors' contribution to the variance in the dependent variable. Collinearity statistics obtained for the variance inflation factor for Pre contracting was 1.407, contracting had 1.709, Post contracting had 2.119 and Procurement policies had 1.916. With this VIF coefficient of less than 10, it was evident that there was no instance of multi collinearity as indicated by the table above.

4.7 Regression Analysis

The regression analysis allows the researcher to explore the relationship between the dependent and independent variables. According to Sarstedt, Marko & Erik (2014) regression analysis indicates strength of the relationship, makes predictions and indicates if the relationship exists. In this study, the researcher employed simple regression, multiple regression and hierarchical regression analysis

4.7.1 Simple Regression Analysis

Simple regression analysis was used to test the percentage change in the dependent variable as attributed by the independent variable.

4.7.1.1 Pre- contracting and Supply Chain Performance

Simple regression analysis was used to test the percentage change in the dependent variable (Supply Chain Performance) as attributed by the independent variable (Pre-contracting). This was significant in answering the first objective of the study which was to assess the effect of pre-contracting procurement practices on Supply Chain Performance in Road authorities in Kakamega County. The regression results are shown in the table below: -

Table 4.13 Regression analysis of pre-contracting and supply chain performance Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			Sig. Change	
					Square F	Change	df1		df2
1	.089 ^a	.008	-.014	.69099	.008	.366	1	46	.548

ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.175	1	.175	.366	.548 ^b
	Residual	21.964	46	.477		
	Total	22.138	47			

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.800	.518		7.335	.000
	Pre-contracting	.083	.137	.089	.605	.548

a. Dependent Variable: Supply Chain Performance

Source: Field (2021)

The results indicate an R (Coefficient of correlation) of 0.089 and an R² (Coefficient of Determination) of 0.008. This implied that 0.8% of the changes in the dependent variable (Supply Chain Performance) was explained by the independent variable (Pre-Contracting).

The F test gave a value of (1, 46) = 0.366, P>0.05, which supports the goodness of fit of the model in explaining the changes in the dependent variable. It also signifies that Pre-Contracting is a very important predictor of supply chain performance on Road authorities in Kakamega County.

The regression equation for examining trends in supply chain performance due to pre-contracting is as follows.;

$$SCP = 3.800 + 0.083PC + e$$

Where;

SCP is the Supply Chain Performance

PC is Pre-contracting

When all the other external factors are held constant, there would be a 3.800-unit increase in Supply chain performance. With a unit increase in Pre-Contracting, there will be a corresponding increase in of 0.083 in supply chain performance. The first hypothesis of the study posted that there is no significant effect between pre-contracting procurement practices and supply chain performance on Road authorities in Kakamega County. The findings of this objective indicated that Pre-Contracting

had $P > 0.05$ and contributed to 0.8% of the changes in Supply chain performance. Therefore, the null hypothesis is accepted as Pre-Contracting had no significant effects on supply chain performance. The study contradicts with Gaylade (2018), who affirms that contractor capacity, financial capability and pricing had a great impact on the organization process.

4.7.1.2 Contracting and Supply Chain Performance

Simple regression analysis was used to test the percentage change in the dependent variable (Supply Chain Performance) as attributed by the independent variable (Contracting). This was significant in answering the second objective of the study which was to determine the effect of contracting procurement practices on Supply Chain Performance on Parastatals in the Road authorities in Kakamega County. The regression results are shown in the table below: -

Table 4.14: Regression analysis of contracting and supply chain performance.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			Sig. Change	F
					R Change	Square Change	F		
1	.281 ^a	.079	.059	.66581	.079	3.940	1	46	.053

ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.747	1	1.747	3.940	.053 ^b
	Residual	20.392	46	.443		
	Total	22.138	47			

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.052	.541		5.646	.000
	Contracting	.275	.139	.281	1.985	.053

a. Dependent Variable: Supply Chain Performance

b. Source: Field (2021)

The results indicate an R (Coefficient of correlation) of 0.281 and an R² (Coefficient of Determination) of 0.079. This implied that 7.9% of the changes in the dependent variable (Supply Chain Performance) was explained by the independent variable (Contracting).

The F test gave a value of (1, 46) = 3.940, P > 0.05, which supports the goodness of fit of the model in explaining the changes in the dependent variable. It also signifies that contracting was a very important predictor of supply chain performance on road authorities in Kakamega County.

The regression equation to measure the changes in supply chain performance as attributed to contracting was stated as below;

$$SCP = 3.052 + 0.275C + e$$

Where;

SCP is the Supply Chain Performance

C is Contracting

When all the other external factors are held constant, there would be a 3.052-unit increase in Supply chain performance. With a unit increase in contracting, there will be a corresponding increase in of 0.275 in supply chain performance. The second hypothesis of the study posted that there is no significant effect between contracting procurement practices and supply chain performance on road authorities in Kakamega County. The findings of this objective indicated that contracting had P > 0.05 and contributed to 7.9% of the changes in Supply chain performance. Therefore, the null hypothesis is accepted as contracting had no significant effects on supply chain performance. The study contradicts Yegon, David, and Lagat (2015), who sought to examine the impact of supplier development on buyer performance through a survey of sugar milling firms in Kenya's western region, and unearthed that technical and financial support to contractors is critical for improved buyer performance.

4.7.1.3 Post contracting and Supply Chain Performance

The percentage change in the dependent variable (Supply Chain Performance) as attributed by the independent variable was tested using simple regression analysis (Post Contracting). This was significant in answering the study's third objective, which was to determine the effect of post-contracting procurement practices on Supply Chain Performance on Kakamega County road authorities. The following table displays the regression results: -

Table 4.15: Regression analysis of post-contracting and supply chain performance

Model Summary										
Model	R	Adjusted R Square	Std. Error of the Estimate	Change Statistics		Sig. Change	F	df1	df2	Sig. F
1	.387 ^a	.150	.63959	.150	8.118	.007	1	46		

ANOVA^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.321	1	3.321	8.118	.007 ^b
	Residual	18.817	46	.409		
	Total	22.138	47			

Coefficients^a						
Model		Unstandardized Coefficients	Std. Error	Standardized Coefficients	t	Sig.
1	(Constant)	3.131	.355		8.822	.000
	Post-Contracting	.312	.109	.387	2.849	.007

a. Dependent Variable: Supply Chain Performance

b. Source: Field (2021)

The results indicate an R (Coefficient of correlation) of 0.387 and an R² (Coefficient of Determination) of 0.150. This implied that 15% of the changes in the dependent variable (Supply Chain Performance) was explained by the independent variable (Post Contracting).

The F test gave a value of $(1, 46) = 8.118$, $P < 0.05$, which supports the goodness of fit of the model in explaining the changes in the dependent variable. It also signifies that post contracting was a very important predictor of supply chain performance on road authorities in Kakamega County.

The regression equation to measure the changes in supply chain performance as attributed to contracting was stated as below;

$$SCP = 3.131 + 0.312PSC + e$$

Where;

SCP is the Supply Chain Performance

PSC is Post Contracting

When all other external factors are maintained constant, supply chain performance would improve by 3.131 units. With each unit increase in post contracting, there will be a 0.312 increase in supply chain performance. The third hypothesis of the study stated that there is no significant relationship between post-contracting procurement procedures and supply chain performance on Kakamega County road authorities. The findings of this objective indicated that post contracting had $P < 0.05$ and contributed to 15% of the changes in Supply chain performance. Therefore, the null hypothesis is rejected, and the alternate hypothesis is accepted as post contracting had significant effects on supply chain performance. The study is in agreement with Njuki (2013) who sought to find out the importance of inspection of purchases in the management and established that inspection and the acceptance team had a significant impact on an organization's profitability and performance levels.

4.7.2 Multiple regression analysis

Simple regression analysis was used to test the percentage change in the dependent variable (Supply Chain Performance) as attributed by the independent variable (Contracting Procurement Practices). This was significant in answering the general objective of the study which was to determine the effect

of Contracting Procurement Practices on Supply Chain Performance on authorities in Kakamega County. The regression results are shown in the table below: -

Table 4.16: Multiple Regression Analysis

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change in R Square	F Change	df1	df2	Sig. F Change
1	.403 ^a	.163	.106	.64907	.163	2.849	3	44	.048

ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	3.601	3	1.200	2.849	.048 ^b
	Residual	18.537	44	.421		
	Total	22.138	47			

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.169	.598		5.303	.000
	Pre-contracting	-.103	.146	-.110	-.705	.484
	Contracting	.100	.176	.103	.571	.571
	Post-Contracting	.299	.143	.371	2.082	.043

a. Dependent Variable: Supply Chain Performance
Source: Field (2021)

The results indicate an R (Coefficient of correlation) of 0.403 and an R² (Coefficient of Determination) of 0.163. This implied that 16.3% of the changes in the dependent variable (Supply Chain Performance) was explained by the independent variable (Contracting Procurement Practices). The F test gave a value of (3, 44) =2.849, P<0.05, which supports the goodness of fit of the model in explaining the changes in the dependent variable. It also signifies that the levels of Contracting Procurement Practices were a very important predictor of supply chain performance on road authorities in Kakamega County.

The regression equation to measure the changes in supply chain performance as attributed to Contracting Procurement Practices was stated as below;

$$SCP = 3.169 - 0.103PC + 0.100C + 0.299PS + e$$

Where;

SCP is the Supply Chain Performance

PC is Pre Contracting

C is Contracting

PSC is Post Contracting

When all the other external factors are held constant, there would be a 3.169-unit increase in Supply chain performance. With a unit increase in pre-contracting, there will be a corresponding increase in of -0.103 in supply chain performance, with a unit increase in contracting, there will be a corresponding increase in of 0.100 in supply chain performance, with a unit increase in post contracting, there will be a corresponding increase in of 0.299 in supply chain performance. The general hypothesis of the study posted that there is no significant effect between contracting procurement practices and supply chain performance on road authorities in Kakamega County. The findings of this objective indicated that contracting procurement practices had $P < 0.05$ and contributed to 16.3% of the changes in Supply chain performance. Therefore, the null hypothesis is rejected and the alternate accepted as contracting procurement practices had significant effects on supply chain performance. These findings are consistent with those of Cherotich (2014), who examined contract management practice and operational performance of state corporations in Kenya and realized that effective contract management had a positive impact on state corporation operational performance.

The regression equation to measure the changes in supply chain performance as attributed to Contracting Procurement Practices was stated as below;

$$SCP = -1.610 + 1.034PC + 0.274C + 0.028PSC + e$$

Where;

SCP is the Supply Chain Performance

PC is Pre Contracting

C is Contracting

PSC is Post Contracting

When all the other external factors are held constant, there would be a -1.610-unit decrease in Supply chain performance. With a unit increase in pre-contracting, there will be a corresponding increase in of 1.034 in supply chain performance, with a unit increase in contracting, there will be a corresponding increase in of 0.274 in supply chain performance, with a unit increase in post contracting, there will be a corresponding increase in of 0.028 in supply chain performance. The general hypothesis of the study posted that there is no significant effect between contracting procurement practices and supply chain performance in Road authorities in Kakamega County. The findings of this objective indicated that contracting procurement practices had $P < 0.05$ and contributed to 85.3% of the changes in Supply chain performance. As a result, the null hypothesis is rejected, and the alternate hypothesis is accepted, because contracting procurement practices had a significant impact on supply chain performance. This conclusion is in line with Cherotich (2014), who analyzed contract management practice and operational performance of state corporations in Kenya and revealed that effective contract management had a positive impact on the state's operational performance.

4.7.3 Hierarchical Regression to check the moderating effect

A hierarchical regression analysis was performed to examine the moderating effect (Incremental contribution) of procurement policies on the relationship that exists between the procurement contracting procurement process and supply chain performance of road authorities in Kakamega County. The results are shown in the table below:

Table 4.17: Hierarchical Regression to check the moderating effect

Model Summary										
Mode	R	R Square	Adjusted R Square	R Std. Error of the Estimate	Change Statistics					
					R Change	Square Change	F	df1	df2	Sig. Change
1	.403^a	.163	.106	.64907	.163	2.849	3	44	.048	
2	.626^b	.391	.335	.55973	.229	16.168	1	43	.000	
3	.702^c	.493	.404	.52967	.102	2.673	3	40	.060	

a. Predictors: (Constant), Post-Contracting, Pre-contracting, Contracting

b. Predictors: (Constant), Post-Contracting, Pre-contracting, Contracting, Procurement Policies

c. Predictors: (Constant), Post-Contracting, Pre-contracting, Contracting, Procurement Policies, Post-Contracting Policies, Pre-Contracting Policies, Contracting Policies

The model summary above indicates the moderating effect of procurement policies on the relationship between levels of contracting procurement practices and Supply chain performance of parastatals in the road authorities in Kakamega County. The first model depicts the combined effect of procurement contracting processes on supply chain performance, and the findings show a coefficient of determination (R^2) of 0.163, indicating that 16.3% of the changes in supply chain performance can be attributed to contract procurement levels. In the second model after the introduction of the moderator, the coefficient of determination (R^2) changes to 0.391 indicating a percentage increase of 22.9%. The third model indicates the introduction of interaction terms and from the findings, the R^2 value increases to 0.493 indicating a further percentage increase of 10.2%.

ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	3.601	3	1.200	2.849	.048^b
	Residual	18.537	44	.421		
	Total	22.138	47			
2	Regression	8.667	4	2.167	6.916	.000^c

	Residual	13.472	43	.313		
	Total	22.138	47			
3	Regression	10.916	7	1.559	5.559	.000^d
	Residual	11.222	40	.281		
	Total	22.138	47			

a. Dependent Variable: Supply Chain Performance

b. Predictors: (Constant), Post-Contracting, Pre-contracting, Contracting

c. Predictors: (Constant), Post-Contracting, Pre-contracting, Contracting, Procurement Policies

d. Predictors: (Constant), Post Contracting, Pre contracting, Contracting, Procurement Policies, Post-Contracting Policies, Pre-Contracting Policies, Contracting Policies

Source: Field 2021

From the ANOVA table above, the first model for multiple linear regression indicates a p value less than 0.05 indicating model fitness in predicting the changes in the dependent variable. In the second model, after the introduction of the moderator, the p values are still significant as shown by $p \leq 0.05$. With the interaction terms, the model is still significant with a p value of 0.000. this implies that all the models are fit for predicting the changes in the dependent variables as attributed to the independent variables.

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.169	.598		5.303	.000
	Pre-contracting	-.103	.146	-.110	-.705	.484
	Contracting	.100	.176	.103	.571	.571
	Post-Contracting	.299	.143	.371	2.082	.043
2	(Constant)	2.932	.519		5.651	.000
	Pre-contracting	-.256	.131	-.274	-1.944	.058
	Contracting	.041	.152	.042	.272	.787
	Post-Contracting	.040	.139	.050	.289	.774
3	Procurement Policies	.510	.127	.662	4.021	.000
	(Constant)	2.441	3.343		.730	.469
	Pre-contracting	-1.030	.693	-1.105	-1.486	.145
	Contracting	1.658	.709	1.694	2.340	.024
	Post-Contracting	-.882	.553	-1.095	-1.594	.119
	Procurement Policies	.819	.915	1.063	.895	.376
	Pre-Contracting Policies	.192	.176	1.523	1.089	.283
Contracting Policies	-.512	.224	-3.842	-2.285	.028	
	Post-Contracting Policies	.301	.161	2.365	1.865	.070

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

b. **Source: Field 2021**

The coefficient table shows the unit contribution of each independent variable to supply chain performance. All factors held constant in the first model, there will be unit increases of -0.103, 0.100

and 0.299 as attributed to pre contracting, contracting and post contracting procurement practices respectively. All values in this model were non-significant except for post contracting. In the second model, procurement policies will result in 0.510unit increase in supply chain performance with a significance p value of 0.000. In the third model, the variables depicted non-significant p values except for contracting and the interaction variable for contracting. The Hierarchical moderation equation is as stated below: -

$$Y = 2.441_0 - 1.030_1X_1 + 1.658X_2 - 0.882X_3 + 0.192X_1z - 0.512X_2z + 0.301X_3z + \varepsilon$$

The study backs up Ellram's (2011) who claimed that adopting pre-contracting and contracting procurement practices does not guarantee superior performance in an institution due to the challenges of integrating the process. Malaysia, according to Kahiannan (2009), most public sectors are improving their supply chain performance due to the use and management of procurement practices..

However Wee, Rodiah & Normah (2011) reiterated that despite the existence of procurement practices in the government enterprises outlined in the procurement policy, inefficiencies and ineffectiveness in procurement procedures have resulted to poor supply chain performances in organizations.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the study's findings, conclusions, and recommendations based on the relationship between the study variables, namely levels of contracting procurement practices and supply chain performance in Kakamega County's Road authorities. The chapter is divided into three sections. The first section of this chapter contains a summary of the findings, the second section contains conclusions based on the study findings, and the third section contains recommendations.

5.2 Summary of the Findings

The purpose of the study was to find out the effect procurement contracting practices, government policy on supply chain performance in Road authorities in Kakamega County. The antecedents for the levels of contracting procurement practices were; pre-contracting practices, contracting practices, post contracting practices. Procurement policies moderated the relationship between procurement contracting process and supply chain Performance.

5.2.1 Pre-Contracting Procurement Practices and Supply Chain Performance

The study found a coefficient of correlation (r) as 0.089**, $P > 0.05$ at 95.0% confidence level. This indicated a negative relationship between Pre-Contracting and Supply Chain Performance in Road authorities in Kakamega County. The results further indicated an R^2 value of 0.008 indicating that Pre-Contracting could predict 0.8% changes in Supply Chain Performance. The study agrees with that of Kenneth and Kwasira (2017) on the influence of contractor prequalification criteria on procurement performance at Kenya Rural Roads Authority (KeRRA) in Nyamira County. The study established that contractor selection is not well conducted in the sector and thus have wrong individuals prequalified to perform the contracts. This negatively affected the performance levels. Because of the

difficulties in integrating the process, simply adopting pre-contracting and contracting procurement practices does not guarantee superior performance in an institution. (Ellram, 2011).

However, several studies have been done which indicated that there is a positive impact of supplier pre-qualification on performance in many contexts. For instance, in china automobiles sectors (Nagao 2012), who observed that supplier pre-qualification is beneficial to the sector, in Thailand (Jens, 2014), Pikonsova and Prusa 2013) in South Africa textile sector, in Kenya manufacturing industry and judiciary, (Naibor & Moronge 2018, Limo, Iravo & Lagat 2017).

5.2.2 Contracting Procurement Practices and Supply Chain Performance

The study found a coefficient of correlation (r) as 0.281**, $P > 0.05$ at 95.0% confidence level. This indicated a negative relationship between Contracting and Supply Chain Performance in Road authorities in Kakamega County. The results further indicated an R^2 value of 0.079 indicating that Contracting could predict 7.9% changes in Supply Chain Performance.

These findings agree with those of Kibwana and Kavale (2019) whom in their study on the effect of supplier development on procurement performance of Kenya ports authority argued that training only helped suppliers familiarize with tendering process and auditing helped to briefcase suppliers doing legitimate business in Kenya but does not have an effect on performance. As supported by Eriksson and Westerberg (2017) who noted that most vital component in contracting phase is contract monitoring in that this influences contracting party's relationship and performance.

However, Otego et al. (2014) observed that superior project performance results from well-coordinated and effective contracting procurement practices in his study on the influence of contract management on performance of outsourced projects in medium manufacturing enterprises in Nairobi county. The findings of the study contradict those of Mayie (2016), who conducted a study on contract management and performance of road construction projects in Uganda's Wakiso District and discovered a positive relationship between performance and effective contract management.

5.2.3 Post Contracting Procurement Practices and Supply Chain Performance

The study found a coefficient of correlation (r) as 0.387**, $P < 0.05$ at 95.0% confidence level. This indicated a positive and significant relationship between Post Contracting and Supply Chain Performance in Road authorities in Kakamega County. The results further indicated an R^2 value of 0.150 indicating that Post Contracting could predict 15% changes in Supply Chain Performance hence a moderate predictor. The finding implicates that post contract procurement practices; Inspection and Acceptance affects supply chain performance though with a small magnitude compared to other procurement practices in the study. The findings are tandem with Mlinga (2014) who conducted a study on contract audit and observed that there is a significant relationship between contract inspection and audit and performance. The findings are also supported by Wanjugu, Kiarie & Marendi (2018) where they have indicated that management and inspection of contractor or supplier performance ensures desired performance levels are realized. Further added that the benefit realized is not only in the contracting stage but the value delivery continues for the life of the contract.

However, Scheele (2013) observed that inspection of purchases inefficiencies is at its highest 93% that leads still to poor supply chain performance. He Further added that despite conducting the post-contracting activities, performance of supply chain has not improved.

5.2.4 The moderating effect of Procurement Policies on Procurement Contracting process and Supply Chain Performance

For the multiple linear regression, the model indicated an R^2 (Coefficient of Determination) of 0.403. This implied that 40.3% of the changes in the dependent variable (Supply Chain Performance) was explained by the independent variable (Procurement Contracting Practices). With the introduction of procurement policies, the value of R^2 (Coefficient of Determination) increased to 0.866 i.e. 86.6%. This implied that 1.2% of the changes in the dependent variable (Supply Chain Performance) was

explained by the introduction of procurement policies to the relationship between the independent variable (Procurement Contracting Practices) and Dependent variable.

With a p-value < 0.05 , this model 4 was found to be statistically insignificant at 95 percent confidence level. All the variables in model 4 were found to be statistically significant except for Pre-contracting and contracting procurement practices and procurement policies which gave a p value, > 0.05 at 95 percent confidence level. The findings corroborate with Lee (2000) who reiterated that regulations promotes government domestic objectives. Those objectives according to Kenney (2003), are quality, efficiency, effectiveness and zero corruption cases. Kagendo (2012) in his study on the effect of public procurement and disposal act on performance in parastatals in Kenya, established since the enforcement of PPDA the competitiveness among parastatals in procurement processes has improved. He further opined that quality of services and works delivered is due to the enactment of the PPDA. A study by Odaya (2012), on the perceived effect of public procurement law on procurement efficiency and effectiveness among parastatals in Kisumu county, Kenya established that enforcement of the public procurement law in parastatals had a significant influence on performance in parastatals.

However, despite the enforcement of the public procurement and disposal act, very minor achievements have been made in regard to contract award, an overcharged prices and unlawful award of the contracts and tenders to government agencies, (Njoki, Ismail & Osoro 2021). Mugo & Ondari (2018), Kingoo (2019) and PPRA (2019) both reiterated that the government of Kenya losses about 17% of the annual budget as a result of poor implementation of the procurement procedures, lack of proper contract management and improper inventory management procedures.

5.3 Conclusions

The conclusions of this study were derived from the findings after having tested all the hypotheses.

5.3.1 Objective One: Effect of Pre-Contracting Procurement Practices on Supply Chain Performance in Road authorities

Based on the first objective Pre-Contracting procurement practices have no significant effect on supply chain performance in Road authorities in Kakamega County. The adoption of pre contracting procurement practices does not enhance Timeliness, Efficiency, Effectiveness and Quality of services of Road authorities in Kakamega County.

5.3.2 Objective Two: Effect of Contracting Procurement Practices on Supply Chain Performance in Road authorities

Based on the second objective, it was concluded that contracting procurement practices had no significant effect on supply chain performance in Road authorities in Kakamega County. In this regards, contract procurement practices do not enhance supply chain performance.

5.3.3 Objective Three: Effect of Post-Contracting Procurement Practices on Supply Chain Performance in Road authorities

Concerning the third objective, Post contracting procurement practices have a significant influence on supply chain performance in Road authorities in Kakamega. Effectiveness and efficiency are enhanced with the adoption of post contracting procurement practices even though to a lower extent as shown by a low coefficient of determination.

5.3.4 Objective Four: Moderating Effect of Procurement policies on procurement contracting process and Supply Chain Performance in Road authorities

Concerning the moderating effect of procurement policies on the relationship between levels of contracting procurement practices and supply chain performance in Road authorities in Kakamega, its evident that procurement policies effectively moderates the relationship.

Overall, the findings of the multiple linear regression indicate that a statistically significant model that answers the general objective. Therefore, changes in Pre-Contracting procurement practices, contracting procurement practices and Post Contracting procurement practices positively impacts supply chain performance.

5.4 Recommendations

Based on the findings and conclusion of the first objective, the study concluded that pre-contracting procurement practices do not improve supply chain performance in the Kakamega Road authorities. Other pre-contracting procurement practices, aside from prequalification and selection, are recommended by the study because they have been shown not to have a significant impact on supply chain performance.

Based on the findings and conclusion of the second objective, the study indicated that contracting procurement practices do not affect supply chain performance in Road authorities in Kakamega. The study recommends other measures of contracting procurement practices so as to enhance its contribution to supply chain performance in road authorities in Kakamega County.

Concerning post contracting procurement practices, the study showed a positive contribution to supply chain performance. The study recommends adoption of post contracting procurement practices so as to increase its contribution to supply chain performance.

The moderating effect of procurement policies on the relationship between levels of contracting procurement practices and supply chain performance is positive and significant hence can effectively moderate the relationship. The study therefore recommends that procurement policies should be adopted in moderating the relationship between contract management practices and supply chain performance in Road authorities in Kakamega.

On the general objective, the combined effect of pre contracting, contracting and post contracting procurement practices on supply chain performance indicated a positive and statistically significant contribution of levels of contracting procurement practices on supply chain performance. The study recommends the use of post contracting as it poses the biggest contributions to supply chain performance.

5.5 Contribution to Knowledge

The contributions of this study is that it has established how both the levels of contracting and procurement policy affect the supply chain performance of the road authorities in Kakamega county.

5.6 Suggestions for further research

The study suggests a comparative study be carried out in other public sectors to see the views of management and employees on contract procurement practices and how they influence supply chain performance.

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APPENDICES

APPENDIX 1: LETTER OF INTRODUCTION

Dear respondent,

My name is Okinyi Naomy Kemunto, a postgraduate student pursuing a course leading to the award of master of business administration of Masinde Muliro University of Science and Technology. As a partial requirement of the fulfillment for the award of the degree, I am carrying out a research study on *“Effect of Procurement Contracting Practices, procurement policy on the Supply Chain Performance in road authorities in Kakamega County”*.

I have selected you to be part of this study by filling in the questionnaires completely. Your honest opinion will be highly esteemed. The information you give will be treated with strict confidentiality and will be used for academic purposes only.

I thank you in advance for your time and responses.

Yours sincerely,

Okinyi Naomy Kemunto

Reg. no. MBA/G/01-55016/2017

APPENDIX II: QUESTIONNAIRE

The questionnaire is divided into two sections: section A, which contains demographic information, and section B, which contains levels of contracting procurement practices. Please answer all of the questions by ticking the appropriate boxes or filling in the blanks.

SECTION A: DEMOGRAPHIC INFORMATION

(Kindly tick where appropriate)

1. Please state your gender

Male []

Female []

2. Please indicate your highest education level

Secondary []

Diploma []

Bachelors degree []

Masters degree []

Others specify

3. Your years of service

Less than 1 year []

1-5 years []

6-10 years []

over 10years []

4. Kindly indicate your designation

Senior Supply Chain Officer []

Senior Region Accountant []

Roads Officer/engineer []

Supply Chain Assistant []

Accountant []

SECTION B: LEVELS OF CONTRACTING PROCUREMENT PRACTICES

PART 1: PRE-CONTRACTING PROCURMENT PRACTICE

6. The following table contains questions on the effects of contracting procurement practices on the supply chain performance in road authorities in Kakamega County. Rate the statements indicated by ticking appropriately on the spaces provided from a scale of 1-5.

5-Strongly Agree 4- Agree 3-Neutral 2-Disagree 1-Strongly Disagree

No.	Statements	5	4	3	2	1
1	My institution prequalifies contractors regularly as required by the policy.					
2	Our institutions has implemented contractor selection criteria's					
3	We select contractors with financial capacity to carry out the work					
4	We prequalify contractors with high experience in road construction sector					
5	My institution checks for compliance to statutory requirements in the contractor prequalification process.					
6	Compliance to contractor prequalification requirements affects quality of deliveries					

PART 2: CONTRACTING PROCURMENT PRACTICE

8. The following table contains questions on the effects of contracting procurement practices on the supply chain performance in road authorities in Kakamega County. Rate the statements indicated by ticking appropriately on the spaces provided from a scale of 1-5.

5-Strongly Agree 4- Agree 3-Neutral 2-Disagree 1-Strongly Disagree

No	Statements	5	4	3	2	1
1	Contract monitoring is done in our institution					
2	We realize value for money when we conduct contract monitoring					
3	We conduct contract monitoring on a regular basis.					
4	We support contractors through training and seminars					
5	My institution finances contractors					
6	We realize quality and timeliness when contractors are developed					

PART 3: POST CONTRACTING PROCURMENT PRACTICE

12. The following table contains questions on the effects of post contracting procurement practices on the supply chain performance in road authorities in Kakamega County. Rate the statements indicated by ticking appropriately on the spaces provided from a scale of 1-5.

5-Strongly Agree 4- Agree 3-Neutral 2-Disagree 1-Strongly Disagree

No.	Statements	5	4	3	2	1
1	We have an effective inspection and acceptance committee in our institution					
2	My institution does inspections on contracts performed					
3	We always inspect contracts performed immediately to ensure satisfaction is met.					
4	Only the work done that meets the set standard by my institution can be accepted					
5	Through Inspection our institution realizes value for money .and quality on services.					
6	Inspection has led to procurement efficiency since adopted by my institution.					

PART 4: PROCURMENT POLICY

13. The following table contains questions on the effects of procurement policy on the supply chain performance in road authorities in Kakamega County. Rate the statements indicated by ticking appropriately on the spaces provided from a scale of 1-5.

5-Strongly Agree 4- Agree 3-Neutral 2-Disagree 1-Strongly Disagree

No.	Statements	5	4	3	2	1
1	Our institution has a well-defined procurement policy					
2	Our institution effectively monitor the procurement practices					
3	Value for money in contracts awarded is attained					
4	Non-compliant tenderers are not given opportunity to tender					
5	My institution ensures compliance to the PPRA requirements in all the contractual activity.					
6	I works closely with the other officers in our firm to provide advice and improve compliance					

PART 5: SUPPLY CHAIN PERFORMANCE

The following statements relate to strategic responses to supply chain performance in road authorities in Kakamega County. . Rate the statements indicated by ticking appropriately on the spaces provided from a scale of 1-5.

5-Strongly Agree 4- Agree 3-Neutral 2-Disagree 1-Strongly Disagree

No.	Statements	5	4	3	2	1
1	Compliant contracting procurement practices results to efficiency and effectiveness of the supply chain performances					
2	Adherence to contractual policies results to effective supply chain performance					
3	The contractual activities are executed on time					
4	Superior supply chain performance are as a result of a well-coordinated contract management process					
5	Contract monitoring ensure efficiency in procurement contracts					
6	Contractors competency determines the performance of the supply chain					

APPENDIX III: LIST OF ROAD AUTHORITIES IN KAKAMEGA COUNTY

S/NO	NAME OF THE INSTITUTION
1.	Kenya National Highway Authority
2.	Kenya Urban Roads Authority
3.	Kenya Rural Roads Authority