



DSPACE

<https://dspace.org/>

**The Moderating Effect of Internal Controls on the
Relationship between Tendering Process and
Procurement Performance of Public Universities in Kenya**

Kibet Laboso, Jonah

2024-10

U.O.K.

<http://ir-library.kabianga.ac.ke/handle/123456789/970>

**THE MODERATING EFFECT OF INTERNAL CONTROLS ON THE
RELATIONSHIP BETWEEN TENDERING PROCESS AND
PROCUREMENT PERFORMANCE OF PUBLIC
UNIVERSITIES IN KENYA**

JONAH KIBET LABOSO

**A Thesis Submitted to the Board of Graduate Studies in Partial Fulfilment of the
Requirements for the Conferment of the Degree of Philosophy in Business
Administration (Procurement Option) of the University of Kabianga**

UNIVERSITY OF KABIANGA

OCTOBER, 2024

DECLARATION AND APPROVAL

Declaration

This thesis is my own original work and has not been submitted for the conferment of a degree or diploma in this or in any other University.

Signature..... Date.....

Jonah Kibet Laboso

PhD/BSA/008/20

Approval

This thesis has been submitted with our approval as the University Supervisors:

Signature..... Date.....

Dr. Pauline J. Keitany

Department of Marketing, Management, Tourism and Hospitality

University of Kabianga

Signature..... Date.....

Prof. Isaac Naibei

Department of Accounting, Finance and Economics

University of Kabianga

COPYRIGHT

All rights of this thesis are reserved. No reproducing, storing any information of this thesis in a retrieval system or transmitting by any means, photocopying or recording without permission or knowledge of the author.

© Jonah Kibet Laboso, 2024

DEDICATION

This thesis is dedicated to my dear mother, Tapkigen; my wife Nancy; and my children Yvonne, Bruce, Billy and Yvette for their unwavering love, support and believe.

ACKNOWLEDGEMENT

First and foremost, I would like to take this special opportunity to appreciate my supervisors; Dr. Pauline J. Keitany and Prof. Isaac Naibei for their tireless support they have granted me through the entire process. Secondly, I wish to acknowledge the effort and guidance I received from the School of Business and Economics as well as from the Board of Graduate Studies of University of Kabianga, lecturers and librarians.

Thirdly, I appreciate the wonderful work of all the respondents who sincerely gave information that helped in data analysis. Were it not for their willingness to give information, this thesis would not have been completed. Finally, my classmates became a pillar in times of need. All your encouragement contributed immensely to the success of my thesis. Thank you for standing with me, and may the Almighty God bless you all

ABSTRACT

As publicly funded institutions, public universities are expected to follow where appropriate a competitive and systematic tendering process when procuring goods or services. Many public institutions struggle with establishing robust internal control systems. These controls are critical for preventing fraud, waste, and abuse. Despite legislation and regulations aimed at ensuring adherence to international best practices and promoting integrity and accountability, there have been instances of inefficiencies in the tendering process, particularly within public universities in Kenya. The purpose of this study was to assess the moderating effect of internal controls on the relationship between the tendering process and procurement performance of public universities in Kenya. Specifically, the study sought to examine the moderating effect of internal controls on the relationship between supplier pre-qualification, supplier evaluation, competitive negotiation, supplier management and procurement performance of public universities in the country. The study was anchored on Stakeholder Theory, Fuzzy Set Theory (FST), Game Theory and Commitment Trust Theory. A positivist research philosophy and a correlational research design was adopted. Target population of the study was 1,016 employees from the selected public universities. The study adopted stratified and simple random sampling to select a sample of 287 respondents. Primary data was obtained using a structured questionnaire, which was self-administered using a drop-and-pick later technique. The validity of the research instrument was ensured through an extensive literature review and consultation with subject experts and supervisors from the procurement department. The reliability of the instrument was examined through a pilot study involving 29 respondents from the University of Kabianga where a Cronbach alpha coefficient of 0.834 was obtained. The obtained quantitative data was analyzed descriptively using means, frequencies and standard deviation, and inferentially, correlation and regression analysis were used. The study established that internal controls had a positive moderating effect on the relationship between pre-qualification (R^2 , change of 0.075; $p < 0.05$), supplier evaluation (R^2 , change of 0.127; $p < 0.05$), competitive negotiation (R^2 , change of 0.142; $p < 0.05$), and procurement performance. However, internal controls had a negative moderating effect on the relationship between supplier management (R^2 , change of 0.004; $p < 0.05$), and procurement performance. The study concluded that pre-qualification of suppliers, supplier evaluation, competitive negotiation, and supplier management were important factors in enhancing procurement performance in public universities because they significantly explained the change in procurement performance and that internal controls enhances the relationship between tendering process and procurement performance of public universities in Kenya. Therefore, the study recommends that public universities improve internal controls to ensure efficiency in the tendering process as well as the procurement performance in public universities in Kenya.

TABLE OF CONTENTS

DECLARATION AND APPROVAL.....	ii
COPYRIGHT.....	iii
DEDICATION.....	iv
ACKNOWLEDGEMENT.....	v
ABSTRACT.....	vi
TABLE OF CONTENTS	vii
LIST OF TABLES	xii
LIST OF FIGURES	xv
LIST OF ABBREVIATIONS AND ACRONYMS	xvi
DEFINITION OF TERMS.....	xvii
CHAPTER ONE	21
INTRODUCTION.....	21
1.1 Overview	21
1.2 Background of the Study.....	21
1.2.1 Tendering process.....	26
1.2.2 Procurement performance.....	29
1.2.3 Internal controls.....	32
1.2.4 Procurement in public universities in Kenya.....	35
1.3 Statement of the Problem	38
1.4 General Objective of the Study	39
1.5 Specific Objectives of the Study	39
1.6 Research Hypotheses.....	40
1.7 Justification of the Study.....	40
1.8 Significance of the Study	41
1.9 Scope of the Study.....	41
1.10 Limitations of the Study.....	42
1.11 Assumptions of the Study	42
CHAPTER TWO	44
LITERATURE REVIEW	44
2.1 Introduction	44

2.2 Theoretical Review	44
2.2.1 Stakeholder Theory.....	44
2.2.2 Fuzzy Set Theory (FST)	46
2.2.3 Game Theory	48
2.2.4 Commitment Trust Theory	50
2.3 Empirical Literature	52
2.3.1 Supplier pre-qualification and procurement performance.....	52
2.3.2 Supplier evaluation and procurement performance.....	55
2.3.3 Competitive negotiation and procurement performance.....	58
2.3.4 Supplier management and procurement performance	62
2.3.5 Internal controls and procurement performance.....	64
2.3.6 Procurement performance in public universities in Kenya	68
2.4 Conceptual Framework	70
2.5 Identification of Knowledge Gap.....	72
CHAPTER THREE	74
RESEARCH METHODOLOGY	74
3.1 Introduction	74
3.2 Research Design.....	74
3.3 Location of the Study	75
3.4 Target population	76
3.5 Sample and Sampling technique	77
3.6 Data collection Instruments.....	79
3.6.1 Validity of the Instrument.....	80
3.6.2 Reliability of the Instruments	80
3.7 Data Collection procedure.....	82
3.8 Data analysis and Presentation.....	82
3.9 Ethical Consideration	85
CHAPTER FOUR.....	87
RESULTS AND DISCUSSION	87
4.1 Introduction	87
4.2 General and Demographic Information.....	87

4.2.1 Response rate.....	87
4.2.2 Demographic information	88
4.2.2.1 Gender of the respondent.....	88
4.2.2.2 Age of the respondent.....	89
4.2.2.3 Highest professional qualification	90
4.2.2.4 Length of service at the University.....	90
4.2.2.5 Department where the respondents work	91
4.3 Descriptive statistics.....	92
4.3.1 Pre-Qualification of Suppliers	92
4.3.2 Supplier evaluation	95
4.3.3 Competitive negotiation	98
4.3.4 Supplier management and procurement performance	101
4.3.5 Procurement performance.....	104
4.3.6 Internal controls.....	107
4.4 Inferential Statistics.....	110
4.4.1 Correlation analysis	111
4.4.2 Testing of the Research Hypothesis	113
4.4.2.1 The moderating effect of internal controls on the relationship between supplier pre-qualification and procurement performance	113
4.4.2.2 The moderating effect of internal controls on the relationship between supplier evaluation and procurement performance	115
4.4.2.3 The moderating effect of internal controls on the relationship between competitive negotiation and procurement performance	117
4.4.2.4 The moderating effect of internal controls on the relationship between supplier management and procurement performance.....	120
4.4.3 Joint relationship between tendering process and procurement performance	126
4.5 Summary of Hypotheses Testing and Decision Table	129
CHAPTER FIVE	130
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	130
5.1 Introduction	130
5.2 Summary of findings.....	130

5.2.1 The moderating effect of internal controls on the relationship between supplier pre-qualification and procurement performance	130
5.2.2 The moderating effect of internal controls on the relationship between supplier evaluation and procurement performance	131
5.2.3 The moderating effect of internal controls on the relationship between competitive negotiation and procurement performance	132
5.2.4 The moderating effect of internal controls on the relationship between supplier management and procurement performance.....	133
5.3 Conclusions	134
5.3.1 The moderating effect of internal controls on the relationship between pre-qualification of suppliers and procurement performance	134
5.3.2 The moderating effect of internal controls on the relationship between supplier evaluation and procurement performance	134
5.3.3 The moderating effect of internal controls on the relationship between competitive negotiation and procurement performance	134
5.3.4 The moderating effect of internal controls on the relationship between supplier management and procurement performance.....	135
5.4 Recommendations	135
5.4.1 The moderating effect of internal controls on the relationship between supplier pre-qualification and procurement performance	135
5.4.2 The moderating effect of internal controls on the relationship between supplier evaluation and procurement performance	136
5.4.3 The moderating effect of internal controls on the relationship between competitive negotiation and procurement performance	137
5.4.4 The moderating effect of internal controls on the relationship between supplier management and procurement performance.....	137
5.5 Suggestions for Further Research	138
REFERENCES.....	139
APPENDICES	148
APPENDIX I: Introduction Letter	148
Appendix II: Questionnaire	149

Appendix III: Research authorization from the University of Kabianga	157
Appendix IV: Research authorization from NACOSTI.....	159
Appendix V: Research authorization from the Ministry of Education	161
Appendix VI: Research authorization from the County Government of Kericho	162
Appendix VII: Research authorization from the County Commissioner Kericho	163
Appendix VIII: List of Public Universities in Kenya	164

LIST OF TABLES

<i>Table 3.1: Target Population.....</i>	<i>77</i>
<i>Table 3.2: Sample Frame.....</i>	<i>79</i>
<i>Table 3.3 Reliability Test</i>	<i>81</i>
<i>Table 3.4: Moderating Effect Decision Acceptance Criteria</i>	<i>85</i>
<i>Table 4.1 Response rate</i>	<i>88</i>
<i>Table 4.2 Gender of the respondent.....</i>	<i>89</i>
<i>Table 4.3 Age of the respondent</i>	<i>89</i>
<i>Table 4.4 Highest professional qualification.....</i>	<i>90</i>
<i>Table 4.5 Length of service at the University</i>	<i>91</i>
<i>Table 4.6 Department</i>	<i>91</i>
<i>Table 4.7 Pre-Qualification of Suppliers.....</i>	<i>93</i>
<i>Table 4.8 Supplier evaluation</i>	<i>96</i>
<i>Table 4.9 Competitive negotiation.....</i>	<i>99</i>
<i>Table 4.10 Supplier management</i>	<i>102</i>
<i>Table 4.11 Procurement performance</i>	<i>105</i>
<i>Table 4.12 Internal controls</i>	<i>108</i>
<i>Table 4.13 Correlation Analysis.....</i>	<i>111</i>
<i>Table 4.14 Model summary for the direct relationship between supplier's pre-qualification and procurement performance</i>	<i>114</i>

Table 4.15 Model summary for the moderating effect of internal controls on the relationship between supplier prequalification and procurement performance	114
Table 4.16 Model summary for the direct relationship between supplier evaluation and procurement performance.....	116
Table 4.17 Model summary for the moderating effect of internal controls on the relationship between supplier evaluation and procurement performance	116
Table 4.18 Model summary for the direct relationship between competitive negotiation and procurement performance.....	118
Table 4.19 Model summary for the moderating effect of internal controls on the relationship between competitive negotiation and procurement performance.....	119
Table 4.20 Model summary for the direct relationship between supplier management and procurement performance.....	120
Table 4.21 Model summary for the moderating effect of internal controls on the relationship between Supplier management and procurement performance	121
Table 4.22 ANOVA results for the moderating effect of internal controls on the relationship between tendering process and procurement performance.....	123
Table 4.23 Coefficients for the moderating effect of internal controls on the relationship between tendering process and procurement performance	124
Table 4.24 Model summary for the joint relationship between tendering process and procurement performance.....	126

<i>Table 4.25 ANOVA results for the joint relationship between tendering process and procurement performance.....</i>	<i>127</i>
<i>Table 4.26 Coefficients for the joint relationship between tendering process and procurement performance.....</i>	<i>128</i>
<i>Table 4.27 Summary of Hypotheses Testing and Decision Table.....</i>	<i>129</i>

LIST OF FIGURES

Figure 2.1: Conceptual Framework	71
--	----

LIST OF ABBREVIATIONS AND ACRONYMS

AG	Attorney General
CUE	Commission of University Education
EACC	Ethics and Anti-Corruption Commission
FST	Fuzzy Set Theory
MU	Moi University
NACOSTI	National Commission of Science Technology and Innovation
PPOA	Public Procurement Oversight Authority.
PPP	Public Private Partnership
SME	Small and Medium Enterprises
SPSS	Statistical Package for Social Sciences
UK	United Kingdom

DEFINITION OF TERMS

Competitive Negotiation	According to Kara (2020), it is the process used to arrive and agree on the contract's conditions through engagement between the supplier and the buyer. While in this study, it refers to the step's procurement specialists take to draft advantageous terms into a new supplier contract. When a contract is renewed, this may include discussing various conditions with an existing provider.
Financial measures	refer to quantifiable metrics used to assess a company's financial performance.
Internal controls	This is a process that involves a comparison of quantities and prices which have been listed on the purchase order against an invoice and receiving documentation (Rustiarini, Nurkholis and Andayani, 2019). According to this study, these are steps taken that are intended to prevent errors and irregularities, identify problems and ensure that corrective action was taken. Internal controls were established to strengthen reliability and integrity of information. In this study, internal controls were measured by the degree of accountability and internal processes, segregation of duties, record keeping put in place by the management.
Non-Financial measures	This encompass metrics that assess a company's performance in areas that are not directly linked to

monetary outcomes. In this study it focuses on qualitative aspects such as customer satisfaction, employee engagement, operational efficiency, brand reputation, and sustainability practices.

Procurement Maturity refers to the degree of development and sophistication in an organization's procurement processes and practices. It assesses how well procurement functions are aligned with organizational goals, efficiency, effectiveness, and overall strategy

Procurement Performance This serves as a gauge for how well the procurement operations can achieve their defined aims and objectives at the lowest possible cost (Kohler & Dimancesco, 2020). According to the present study, this indicator showed how well an organization's procurement department had been able to accomplish its goals.

Procurement process refers to the series of steps an organization follows to acquire goods and services from external suppliers.

Public universities These are institutions of higher education that are primarily funded and operated by government entities, typically at the state or national level. Here are some key points about public universities

Supplier Evaluation	This is a process that involves assessing and approving the most qualified suppliers through qualitative and quantitative assessments (Wilbroda & Miroga, 2021). According to this study, it is the process of assessing and approving potential suppliers through quantitative and qualitative assessment. It will be evaluated by bid price evaluation, mandatory requirements and technical requirements and production capacity
Supplier management	According to Van der Westhuizen and Niemann (2022), it is a thorough process meant to manage and improve the interaction with the third-party service or good providers. In relation to this study, it is the process of assessing supplier performance, defining and setting expectations for quality, delivery, and maintaining the supplier.
Supplier Pre-qualification	It is the technique used to assess the suppliers against the set criteria (Koros & Kwasira, 2021). This research described a process where providers of certain goods or services were judged in accordance with pre-established standards, and only those suppliers who met the prequalification standards were then asked to offer.
Tendering Process	The tendering process is a formal and structured procedure used by organizations to solicit bids or proposals from potential suppliers, contractors, or service providers for the

procurement of goods, services, or works. It is commonly used in both public and private sectors to ensure fairness, transparency, and competition in the selection process.

CHAPTER ONE

INTRODUCTION

1.1 Overview

This chapter presents the background of the study, the problem statement, research objectives categorized as the main objective and specific objectives, the research hypothesis, justification for the study, the significance of the study, scope, limitations, and assumptions of the study

1.2 Background of the Study

Efficient procurement practices are crucial for the smooth functioning of government operations and public service delivery. Procurement performance measures the effectiveness of public entities such as state corporations in managing the entire procurement process, from identifying needs, advertising tenders, evaluating and selecting vendors, awarding contracts, and executing them (Hashmi, Amirah, & Yusof, 2020). When public institutions adopt efficient procurement practices, it leads to cost management and optimal utilization of budget, enabling them to allocate resources effectively and achieve more with the available resources (Hannah & Nani, 2021). This, in turn, ensures financial accountability and compliance with regulations, thereby safeguarding the responsible use of public funds (Tinali, 2021).

The effectiveness and transparency of the tendering process are vitally dependent on internal controls, and this has a substantial effect on procurement performance. In order to ensure that procurement decisions are made on the basis of merit and value for money, a well-structured internal control system helps eliminate unethical behaviors like corruption, collusion, and favoritism throughout the tendering process (Mwangi & Kiarie, 2022). Conversely, ineffective internal controls erode monitoring

frameworks and facilitate procurement authorities' manipulation of tender results, resulting in exorbitant costs and substandard goods and services (Aboagye, 2023). Additionally, studies show that effective internal controls improve overall procurement performance by guaranteeing compliance with best practices and regulatory frameworks, as well as prompt procurement and the reduction of inefficiencies (Nguyen & Hoang, 2021). To summarize, the integrity of the tendering process and the procurement performance that follows are directly impacted by internal controls.

The rapidly changing business environment demands that public universities and other institutions re-evaluate and revamp their contractual relationships with suppliers to achieve optimal performance (Thai, 2017). Robust internal controls should be implemented to ensure that tendering practices comply with the procurement framework established by regulatory authorities. Adequate internal controls help optimize resource efficiency, prevent waste and unauthorized expenses, and instill stakeholder confidence and trust in the university's procurement processes. This ultimately contributes to the university's academic and research objectives (Zadawa, Hussin, & Osmadi, 2018; Detkova, Podkolzina, & Tkachenko, 2018).

Evaluation of the procurement function is often neglected in many government institutions, despite the efforts made by economic partners such as the United Nations Conference on Trade and Development (UNCTD), World Bank, World Trade Organization (WTO), and International Trade Organization (ITO) to address the importance of this function in the overall performance of the organization. This lack of attention may be due to intentional behavior or simply a lack of awareness of the importance of procurement to an organization's performance (Kakwezi & Nyeko, 2019). According to Caran, Krueger, Ayres, and Araujo (2016), a failure to properly

evaluate the effectiveness of public organizations' procurement functions can result in incorrect, inappropriate, and biased judgments, which can lead to significant losses to the public sector.

Scholarly literature has identified several challenges in the procurement function of public entities. For instance, Chiappinelli (2020) established that centralizing the procurement function in Italy led to ineffective procurement procedures in most government organizations. This was due to the lack of transparency in the tendering process, which resulted in unilateral decision-making. Consequently, there were more instances of unethical actions, resulting in significant losses. The inefficiency in the tendering process also led to delayed delivery, poor quality of goods and services, and inflated prices.

Reeves, Palcic, Flannery, and Geddes (2017) discovered that in the UK, the tendering periods were needlessly longer than anticipated when analyzing the factors affecting Public Private Partnerships (PPP). The length of the tendering process could be significantly cut short through competitive discussion, technological advancements, and enhanced supplier relationship management. Similarly, Laosirihongthong, Samaranayake, & Nagalingam (2019), in assessing the holistic approach to supplier evaluation and order allocation towards sustainable procurement in Australian government entities, indicated that poor supplier evaluation and poor supplier management could lead to poor service delivery and loss of public resources through increased costs.

In Kenya, Kisurkat (2017), examined how tendering affected the performance of companies, specifically public enterprises in Kajiado County. The study focused on how automated tendering procedures, ethical practices, tendering committees, and record-keeping of tender papers affected the performance of public organizations. It

was found that regular tendering was used, and many entities followed the act's procedures; additionally, many agreed that training staff on tender procedures improved their performance; a greater percentage of respondents attributed their department's performance to the tendering process they undertook; this led to the conclusion that departments that followed the act's tendering procedures performed better.

Hannah and Nani (2021) further indicated that the lack of independence resulted in undue influence from political figures and senior management, compromising the transparency and fairness of the procurement process. This situation often led to favoritism, where certain suppliers were selected not based on merit but on external pressures or affiliations. Consequently, such practices undermined the efficiency and integrity of the procurement system, resulting in potential financial losses and reduced quality in the procurement outcomes. Kakwezi and Nyeko (2019) established a significant relationship between the procurement process and procurement performance in public agencies, revealing several critical challenges. They found that inefficient internal controls often resulted in a lack of transparency, making it easier for corrupt practices to go undetected. Furthermore, the complacency of procurement personnel led to inadequate monitoring and evaluation of procurement activities, resulting in poor adherence to established procedures and guidelines. Unethical practices such as corruption and nepotism in awarding tenders not only distorted competition but also resulted in substandard goods and services being procured. Interference from senior government officials further undermined the integrity of the procurement process, often leading to biased decision-making that favored certain suppliers, which ultimately compromised the quality and efficiency of public service delivery.

In assessing factors influencing procurement performance in the Kenya public sector, Chimwani, Iravo, and Tirimba (2014) discovered that government organizations such as the State Law Office had laxity in adhering to procurement procedures as required by law leading to poor quality goods and services, increased complaints from stakeholders about poor service delivery and delayed delivery of goods and services. Limo, Iravo, and Lagat (2017) indicated that internal management processes and top management support may have a direct effect on the performance of the procurement function of the state agencies. Efficiency in the procurement function such as pre-qualification, supplier evaluation and supplier relationship management could lead to reduced cycle time and reduced cost management.

The Public Procurement Regulatory Authority (PPRA) in Kenya plays a critical role in enhancing the effectiveness of public procurement processes, particularly through supplier prequalification, supplier evaluation, competitive negotiations, and supplier management. To ensure successful supplier prequalification, PPRA provides a framework that mandates thorough vetting of suppliers based on capacity, financial strength, and compliance with statutory regulations. This process ensures that only qualified suppliers can participate in procurement opportunities. Supplier evaluation is another critical function, where PPRA emphasizes transparency, fairness, and adherence to quality standards. The authority enforces the use of clear evaluation criteria, ensuring that procurement officers assess suppliers based on performance history, pricing, and technical capabilities. Additionally, in competitive negotiations, PPRA provides guidelines for negotiation processes that ensure competition remains fair and that the government achieves value for money. Recent studies have shown that PPRA's regulatory frameworks have enhanced transparency and reduced procurement malpractices in Kenya's public sector (Mugo, 2023; Otieno, 2022).

Furthermore, supplier management is strengthened through continuous monitoring and performance evaluation, where PPRA supports government entities in tracking the performance of contracted suppliers, ensuring they meet their contractual obligations and deliver quality products or services.

The reviewed studies indicate a critical gap in understanding the efficacy of internal controls within the procurement processes of public institutions, particularly in their impact on tendering practices. While existing research emphasizes the role of internal controls in mitigating unethical behaviors and enhancing procurement performance, there is a notable lack of comprehensive evaluations that assess how these controls are practically implemented and their effectiveness across various contexts, especially in Kenya. This gap highlights the need for further empirical studies to investigate the real-world implications of internal control systems on procurement efficiency and integrity, particularly in changing environment and the complexities of supplier relationships. Moreover, it was evident that several factors could influence the performance of procurement functions in an organization. However, the extent to which these factors may affect the performance of public institutions, specifically public universities, was unclear. Therefore, this study examined the moderating effect of internal controls on the relationship between the tendering process and procurement performance in Kenya's public universities.

1.2.1 Tendering process

The Public Procurement and Disposal Act (2015) of Kenya defines the tendering process as a formal procedure through which public entities invite suppliers, contractors, or service providers to submit bids or proposals for the provision of goods, works, or services. This process involves the preparation and issuance of tender documents, submission of bids, evaluation of proposals based on

predetermined criteria, and the awarding of contracts to the most responsive and qualified bidder. The Act emphasizes transparency, fairness, and competitiveness throughout the tendering process to ensure that public procurement achieves value for money and promotes integrity in public expenditure. On the hand, tendering process is a transparent and competitive method of procuring goods works and services in which a government entity requests a bid from several potential contractors or vendors to deliver desired goods and services (Bawole & Adjei-Bamfo, 2020). According to Hasim, Fauzi, Yusof, Endut, and Ridzuan (2018) the tendering process is a structured process followed by an institution to invite suppliers, receive proposals from a pool of potential suppliers and select the most qualified to supply them.

Open tendering is the most often used technique for procuring goods and services in government agencies globally (Hasim, et al., 2018). Open tendering provides transparency in the procurement process, minimizes inside trading, and enhances ethical procurement practices (Lapiente & Van de Walle, 2020). Much attention from scholars, academicians and practitioners on the influence of tendering process on the performance of the procurement function can largely be attributed to the critical role it plays in the entire supply chain and the less attention it has been given by the management of public institutions (Hasim *et al.*, 2018; Kakwezi & Nyeko, 2019).

Scholars have identified several factors that can potentially influence procurement performance in an organization negatively. In Indonesia, Aulia and Isvara (2021) identified 54 cases which indicated ineffective procurement processes in government agencies, while approximately 55 cases showed inefficiency. In addition, 1,853 cases of government losses were identified, 545 cases of loss in revenue and 717 cases of potential loss. These findings were arrived at while assessing strategies that could be used to enhance procurement maturity in public institutions using the procurement

maturity model. These included assessing the influence of supplier evaluation and prequalification.

A study by Reis and Cabral (2018) in Brazil indicated that despite the tendering process being effective through competitive bids, supplier pre-qualification exercise was ineffective leading to the selection of suppliers with poor performance history, such as supplying goods past the expected delivery date and compromising on quality. Such delays led to slow service delivery and increased inefficiency. Reeves et al., (2017) established that competitive negotiation often led to increased delivery time in Private Public Partnerships in the UK. Effective negotiation processes were found to enhance the perception of mutual benefit between the procuring entity and the supplier. Further, Halizahari et al., (2020) established that direct negotiation had a negative influence on procurement performance.

Zadawa, Hussin, and Osmadi (2018) observed that the Nigerian federal universities awarded construction projects through the influence of the procurement entity or the ministry/department concerned. The ministry or the procurement entities revealed important bidding information to some specific bidders, which gave them an upper hand in winning tenders. Some bidders submitted tender figures which were near or exact to the quotation of figures expected. This supplier pre-qualification and selection process violated procurement regulations as they were unethical.

In a study on the impact of supplier evaluation on procurement success in Rwandan government ministries Mukarumongi, Mulyungi, and Saleh's (2018), found that quality and supplier efficiency were critical determinants of procurement performance. The study found that some aspects of supplier evaluation, such as production capacity, quality, and competence, had a positive relationship with performance, while some, such as physical assets, did not have any relationship.

Mgawe & Masanja (2018) found that supplier pre-qualification significantly and positively affected the procurement function of the firm.

Kanini and Wandera (2019) assessed the effect of supplier management on procurement performance and revealed that superior performance was achieved because of deadlines set and adhered to by the suppliers. Therefore, timely delivery of goods and services was vital to procurement performance in an organization. This was indicated by timely delivery of products and services which was essential to an organization's procurement success. Koros and Kwasira (2021) revealed that efficient pre-qualification of suppliers had a positive significant effect on procurement performance in public universities. However, the process was not transparent in some entities. Findings of a positive relationship between supplier pre-qualification and performance of the procurement function were also supported by Wilbroda and Miroga (2021) and Jepchumba and Kibet (2019).

1.2.2 Procurement performance

Procurement performance is a measure of identifying the extent to which the procurement function can reach the objectives and goals with minimum costs (Abbey & Ongâ, 2019). Procurement has a multifaceted function with numerous tiers of suppliers and participants. Procurement performance is considered the first step that determines the strengths or weaknesses of a system in place (Musau, 2016). Procurement is premised on efficiency and effectiveness, which when utilized, would enhance its performance.

In recent years, procurement performance has been a topic of great interest among academics, auctioneers and researchers. This is because procurement has been performing poorly due to the lack of proper procurement procedures and processes.

Organizations have also failed to establish performance measures tailored to their business practices and structures. In 2004, the European Institute of Purchasing Management held a conference to discuss the factors that can be used to measure procurement performance. The conference tackled issues such as using financial or non-financial indicators, tangible or intangible measures, and how to link these measures to an organization's daily activities.

As indicated by Chebet and Kwasira (2016), a firm should identify the scope of the system, the limits of the system and the measurement process when developing procurement performance measurement systems. In addition, organizations should have outcome-determination mechanisms, measuring actions towards feedback reporting and linking the procurement measurement system with the business process and individual performance. According to Abolbashari, Chang, Hussain, and Saberi (2018), business entities can develop or adopt different indicators to measure procurement performance depending on the type of industry. These indicators may include cost-effectiveness, determinants of quality of services, timely frame for delivery, and efficiency measures.

Chiappinelli (2020) asserts that organizations can focus on using savings or costs as a proxy of performance. That is, if the savings decline, performance was affected, and on the other hand, if costs decline, the purchasing function was appraised. Thus, it can be assumed that the procurement function was established to maximize efficiency while minimizing costs. The use of financial measures alone when measuring procurement performance has been criticized since they ignored the market dynamics, increased competitiveness, and complexity in procuring goods and services for public institutions.

Kakwezi and Nyeko (2019) indicated that procurement performance could be measured using both financial and non-financial measures. However, there was only a small variance between financial measures such as vendor rating, budgetary controls, cost accounting and purchasing audit and non-financial measures such as quality of products, cycle time, flexibility, customer satisfaction, purchasing effectiveness and knowledge of market supply. These measures varied across organizations based on their specific goals, industry, and contextual factors, however, all these measures assessed the effectiveness, efficiency, and overall success of the procurement function within an organization.

Nyakundi and Muturi (2017) indicate that with the latest developments in the measurement of procurement performance, it is important not only to take into consideration what is measured in the organization but also should cover all the core activities in the procurement department. Therefore, the organization should focus on the efficiency of the procedures, non-financial and financial outcomes, effectiveness, and ability to establish a relevant range of indicators to measure performance (Omollo, 2018).

As recommended by Chebet and Kwasira (2016) and Kakwezi and Nyeko (2019), the study adopted qualitative (non-financial) measures of performance, that is, cost-effectiveness, timely delivery and quality of goods and services delivered. These measures provided a qualitative and comprehensive assessment of the effect of internal controls on the relationship between tendering process and procurement performance, strategic objectives and overall success of the selected public universities.

1.2.3 Internal controls

Internal controls are mechanisms that organizations put in place to detect and prevent unethical procurement practices (Abd Aziz, Said & Alam, 2015). According to Rendon and Rendon (2016), most fraud incidents in public sector procurement occur during the identification of the source of materials and administration of the contract. According to Hashmi, Amirah, and Yusof (2020), internal controls encompass policies, procedures and checks which play a pivotal role in preventing fraud, corruption and irregularities in procurement processes. Controls such as monitoring and control activities ensured compliance with regulations and established protocols, internal controls enhanced the accuracy and reliability of financial information, fostering informed decision-making.

According to Awoke and Singh (2016), effective internal controls are necessary for public universities as they strive to achieve transparency, accountability and integrity in the institutional governance process. Some of the recommended controls in the procurement department included regular monitoring and review of transactions and processes to identify potential irregularities. In addition, the procurement department should keep proper records and documents to ensure that all the tendering processes are well documented. Hashmi *et al.*, (2020) recommend that sufficient authorization controls, Segregation of duties and physical controls record keeping are a set of internal controls that could influence the procurement function.

Zadawa, Hussin and Osmadi (2018) examined the moderating effect of enforcing public procurement guidelines and the performance of construction projects in the federal universities of Nigeria. The assessment established that enforcing public procurement guidelines and compliance mechanisms within the university positively influenced the relationship between efficient tendering processes and procurement

performance. However, the study also found that the enforcement organs of the majority of these institutions were not actively engaged in dispensing their duties as required; thus, optimum efficiency could not be achieved.

Similarly, Tinali (2021), in assessing the moderating effect of procurement competence on the relationship between procurement practices and procurement performance in the public sector in Tanzania, established that procurement competence had both partial and complete moderating effects on procurement practices and procurement performance. Therefore, this implied that when internal controls were in place with an efficient tendering process, they could enhance procurement performance.

Omollo (2018) established that internal controls had a significant moderating effect on the relationship between procurement processes and procurement performance in Kenya. Internal controls such as compliance guidelines, adherence to procurement policies and both internal and legislation by the procurement personnel led to improved efficiency and effectiveness in the procurement process.

Irura et al., (2021) demonstrated that internal controls serve to enhance transparency and accountability by establishing checks and balances throughout the procurement cycle. These controls mitigate unethical practices, ensuring that procurement regulations are followed and reducing opportunities for corruption. By doing so, they reinforce the integrity of the tendering process, making it more reliable and efficient. Consequently, the positive impact of the tendering process on procurement performance is significantly strengthened, leading to better resource allocation and service delivery outcomes.

The Agency Theory as developed by Stephen A. Ross, who introduced it in his seminal paper titled "The Economic Theory of Agency: The Principal's Problem," published in 1973 and further developed and popularized by Kathleen M. Eisenhardt in her 1989 paper, "Agency Theory, provides a valuable framework for understanding the relationships between the tendering process, internal control, and procurement performance in public procurement management. This theory posits that there is a conflict of interest between the principals (such as government agencies) and agents (procurement officials) due to differing objectives and information asymmetry (Eisenhardt, 1989). Effective internal controls serve as mechanisms to align the interests of both parties by establishing clear guidelines and monitoring systems that ensure compliance with procurement regulations during the tendering process. By minimizing the risk of unethical practices and enhancing transparency, strong internal controls contribute to improved procurement performance, fostering accountability and efficiency in public spending (Kakwezi & Nyeko, 2019).

As revealed by extant literature, researchers have predominantly sought to assess the moderating effect of internal controls on the relationship between tendering process and procurement performance in the public sectors, albeit with inconsistent research findings. Thus, this study used internal control as a moderating variable to assess the extent to which it influenced the relationship between tendering process and procurement performance.

Reviewed studies consistently justify the use of internal controls as a moderator between the tendering process and procurement performance. Zadawa et al., (2018) found that enforcing procurement guidelines positively influences procurement outcomes, though engagement by enforcement organs was suboptimal. Tinali (2021) demonstrated that procurement competence could partially or fully moderate the

relationship, implying that controls enhance performance. Similarly, Omollo (2018) confirmed that internal controls, including policy adherence, lead to better procurement efficiency, while Irura et al., (2021) emphasized that they strengthen transparency and accountability, improving tender reliability.

1.2.4 Procurement in public universities in Kenya

Universities in Kenya are regarded as institutions of higher learning and are established by an Act of parliament under the University Regulations Act of 2014. According to the Commission of University Education report, there are 60 universities in the country, 31 public and 29 privates (CUE, 2022). Public universities are classified as state corporations and are funded through the exchequer. These institutions form 28% of state corporations and are allocated a large budget for internal operations (Munde, 2022). For instance, In the financial year 2020/2021, public universities were allocated Ksh 41.9 billion, which slightly increased to Ksh 44 billion in 2022/2023. Despite these allocations, the Differentiated Unit Cost (DUC) funding model reduced government support to about 48% of the required cost by 2023. This underfunding has led to universities accruing debts amounting to over Ksh 60 billion. In the financial year 2023/24, the Kenyan government introduced a new student-centered funding model to address these challenges, increasing the budget to Ksh 84.6 billion but redirecting funds to students in the form of scholarships and loans rather than direct university funding.

The procurement function plays a critical role in ensuring that the main goals of public universities are achieved (Amenya, Ngacho & Nyaboga 2022). The tendering process followed by the universities in Kenya is entrenched in the constitution of Kenya 2010 and other subsidiary legislations. These legislations include the Public Procurement Regulatory Authority (PPRA), Public Procurement and Asset Disposal

Act (2015), the Universities Act (2020), other public procurement legislative frameworks, and internal administrative policies, as they are formulated from time to time. Article 227 of the constitution of Kenya provides that any time a public institution is contracting for the supply of services or goods, it should do so in an equitable, cost-effective, fair, transparent, and competitive way.

The act further stipulates that through an act of parliament, a framework will be established indicating the process through which policies related to the procurement and disposal of assets will be implemented. These policies cover any or all of the following: a special category of individuals or group of people that has been disadvantaged before, a group of people or class of preference in the award of contracts, individuals disadvantaged by unfair competition, sanctions to an organization that does not comply with the article or contractors who have knowingly defaulted their obligations to pay taxes and levies (RoK, 2010)

Chebet and Kwasira (2016) observed that adequate controls in the tendering process are an appropriate strategy for managing procurement costs in public universities. This was evident from the Office of the Auditor General's (OAG) report from Moi University's financial statement (2020). In the statement, the Proposed Builders worked at a contract sum of Kshs 82m on 16th June 2017. The contract was expected to take 32 weeks, but by the time of verification by the OAG in December 2020, the work had not been completed, and available information showed that a new contractor had incidentally been engaged at the cost of 169m. This revealed that the Public Procurement and Disposal Act of 2015 had been flouted as there was no record of contract extension as required by section 139(2). Procurement records did not show re-advertisement, evaluation minutes, nor signed contracts for the new contractor (OAG Report, 2021; EACC,2019).

On similar findings by the Office of the Auditor General while examining contract documents at Maasai Mara University revealed that the University awarded a contractor for the construction of Tuition Block for a contract sum of Kshs.410,700,000 with a commencement date of 16 February, 2016 and end date of 16 February, 2019. An extension of time was given and a new completion date was set of 16th February, 2020, a variation within twelve (12) months contrary to Section 139(3) (a) of the Public Procurement and Asset Disposal Act, 2015. Similarly, the contract sum was also varied to Kshs.564,712,500 or 25% (Kshs.154,012,500) above the contract sum to include the staircase and road works from the gate. The University contracted JKUAT Architectural School as the project consultants at a fee of Kshs.41,070,000 being 10% of the original contract amount and a further Kshs.15,401,250 upon variations of contract sum to Kshs.564,712,500. The Consultancy works was procured through a direct procurement method contrary to Section 103(2) of Public Procurement and Asset Disposal Act, 2015. However, Bills of Quantities to support the contracted works for roadworks from the gate that led to increase of contract variation by 25% was not provided for audit review. In the circumstances, Management was in breach of the law (OAG, 2020).

In a related matter on procurement irregularity witnessed by the OAG at the University of Eldoret, a contract for construction of school of business studies and economics was awarded to a construction company at a contract sum of Kshs. 241,236,042.00 out of which 187,165,697.00 or about 78% of the contract sum had been paid as at 30th June 2020. According to the contract documents, the project was scheduled for completion on 6th September, 2017.

A site visit on 14th January, 2021 and status report revealed that the works were still ongoing. The project is thus behind schedule by thirty-nine (39) months. Although the

management explained that the contractor had requested extension of the contract period, no evidence was provided to prove that the request was granted (AOG, 2020). These are some of the indicators that show that the institutions in some instances flout the rules and regulation of procurements process (OAG, 2020).

Previous studies have established that some public universities have not complied with the Public Procurement Regulatory Authority (PPRA) regulations, leading to compromised performance of the procurement process in those institutions (Nyakundi & Muturi, 2017; Koros & Kwasira, 2021; Muinde, 2021). It was, therefore, essential to carry out a detailed analysis of the tendering process, internal control measures and performance of the procurement in the selected public universities. These universities included Moi University (Koros & Kwasira, 2021; Jepchumba & Kibet, 2019; Chesseto, Gudda & Mbuchi, 2019), Bomet University, Laikipia University, Masai Mara University (Ochieng & Mutai, 2022), Egerton University (Achieng & Mwangi, 2023), and the University of Eldoret. Some of these universities had been adversely reported to have had challenges complying with various procurement regulatory frameworks, such as Masai Mara University, Egerton University, and Moi University (EACC, 2019).

1.3 Statement of the Problem

The procurement function in public universities play a crucial role in supporting the main mandate of public universities by ensuring requisite goods and services are in a timely and cost-effective manner. Where internal controls are effectively implemented, the tendering process significantly boosts procurement performance by fostering an environment of transparency, accountability, and adherence to regulations. However, the procurement performance of the public institutions including public universities in Kenya has been declining as evidenced by losses in

millions of shillings linked to procurement practices as indicated by the Ethics and Anti-Corruption Commission. Several measures have been suggested to enhance procurement performance including laid down procurement and tendering procedures. Despite established internal controls and laid down tendering processes, inefficiencies in procurement practices continue to persist. There is limited research exploring whether internal controls can effectively moderate the relationship between the tendering process and procurement performance, particularly in the context of public universities in Kenya, highlighting a need for further study in this area. Therefore, the study sought to examine the moderating effect of internal controls on the relationship between tendering process and procurement performance of Public Universities in Kenya.

1.4 General Objective of the Study

To ascertain the moderating effect of internal controls on the relationship between tendering process and procurement performance of Public Universities in Kenya

1.5 Specific Objectives of the Study

The study was guided by the following specific objectives to;

- i. Determine the moderating effect of internal controls on the relationship between supplier pre-qualification and procurement performance in public universities in Kenya
- ii. Establish the moderating effect of internal controls on the relationship between supplier evaluation and procurement performance in public universities in Kenya
- iii. Assess the moderating effect of internal controls on the relationship between competitive negotiation and procurement performance in public universities in Kenya

- iv. Examine the moderating effect of internal controls on the relationship between supplier management and procurement performance in public universities in Kenya

1.6 Research Hypotheses

The study was guided by the following hypotheses

- H₀₁** Internal Controls have no moderating effect on the relationship between supplier pre-qualification and procurement performance in public universities in Kenya
- H₀₂** Internal Controls have no moderating effect on the relationship between supplier evaluation and procurement performance in public universities in Kenya
- H₀₃** Internal Controls have no moderating effect on the relationship between competitive negotiation and procurement performance in public universities in Kenya
- H₀₄** Internal Controls have no moderating effect on the relationship between supplier management and procurement performance in public universities in Kenya

1.7 Justification of the Study

In the last decade, Kenya has experienced a rapid expansion of universities, both private and public. This resulted from the fast expansion and decentralization of the university programs by opening satellite campuses to reach more students and also to tap more revenues from the self-sponsored students. However, the expansion strategy has led to a rise in enrollment rates, notwithstanding the decreased financial resources. Therefore, efficiency in managing financial resources in the universities was a critical factor in ensuring enhanced performance through efficiency in service delivery. The universities' failure to adequately adhere to the Public Procurement Oversight Authority policies and the Public Procurement and Disposal Act regulations will lead

to more inefficiencies in procurement and further financial constraints in the learning institutions (Koros & Kwasira, 2021). There existed a need to examine the procurement internal control measures in public universities to establish inefficiencies in the process and recommend remedies that would improve the system in order to enhance service delivery.

1.8 Significance of the Study

The findings of this study are expected to be useful to a number of stakeholders, including policymakers and regulators who were able to identify flaws in the present public procurement system and who were able to change existing regulations in light of the study's results.

The results of this study would help the management build efficient internal control mechanisms in the institution to identify and stop procurement malpractices through the university Council and Senate.

The findings also would serve as a point of reference to the academia in advancing knowledge and contributing to the much-needed study in the field of procurement management and controls. Specifically, the role of internal controls in the procurement function contributed to the enhancement of new knowledge.

1.9 Scope of the Study

The study focused on public universities' procurement tendering procedures outlined in the public procurement and asset disposal legislation and other public procurement rules. The research therefore, examined the relationship between the tendering process and the procurement performance of Public Universities in Kenya. In addition, the study assessed the moderating effect of internal controls on the relationship between the tendering process and procurement performance. The predictor variables were

supplier pre-qualification, supplier evaluation, competitive negotiation, and supplier management. At the same time, procurement performance was measured by cost management, timely delivery, quality work/service and service delivery. The study targeted a section of public universities that had previously been adversely mentioned to have had challenges with compliance with procurement rules and regulations. The study relied on primary data, which was obtained using a structured questionnaire. The study was carried out between November 2023 and March 2024.

1.10 Limitations of the Study

The study only focused on the public universities, which may not be generalized to give a clear picture of all other universities, including private chartered, those with interim licenses, and other public institutions such as the Kenya School of Government. Different institutions had issues that uniquely affected their procurement performance, and since the study adopted a correlational design, these unique factors may not be considered.

In addition, the study was limited by its scope. There are other possible elements that influence the performance of the procurement function that the study may not have factored in. However, it was noted that focusing on a few cases enabled the researcher to conduct in-depth analysis of the phenomenon under investigation. In this regard, the researcher recommended that further studies were carried out to examine the effect of those other factors.

1.11 Assumptions of the Study

The study was carried out on the premise that all public universities in Kenya comply with the Public Procurement and Asset Disposal Act (2015) as stipulated by law. Secondly, the study assumed that all public universities had internal control that

helped detect fraud and other procurement malpractices on time. And finally, the study assumed that the information obtained from the respondents was sufficient to help the researcher test the hypothesis appropriately.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter discusses the theories underpinning the study and its variables and provides an empirical assessment of previous research on internal controls, the bidding procedure, and procurement performance. Last but not least, the conceptual framework which offered a complete diagrammatic description of the relationship between the research variables and the knowledge gaps that the study sought to address were provided.

2.2 Theoretical Review

The major theoretical pillars of the study were Stakeholder Theory, Fuzzy Set Theory (FST), Game Theory and Commitment Trust Theory. These theories were looked at in connection with the ongoing inquiry in the subsection that follows.

2.2.1 Stakeholder Theory

The Stakeholder Theory was established by Edward Freeman in the year 1984. The theory stresses on the interconnection existing between an organization and suppliers, investors, customers, communities and other key players who have different interests in the institution.

According to this theory, organizations need to create value for all the stakeholders and not only for the shareholders. It is important for the pre-qualification of suppliers' practices that will enhance partnership between all the stakeholders and meet their needs and demands. The process of assessing suppliers for pre-qualification and how the suppliers are going to deliver is a more complicated process. This entails uncertainty and ambiguity relationships which are complex caused by conflicting

objectives of the competing stakeholders' values. The values may be in terms of reducing costs in the process of meeting partners' needs and wants (Koros & Kwasira, 2021).

The theory fits in the current study in that suppliers are the main stakeholders in an organization, public procurement is relevant as there is potential pressure that emanates from the buyer to obtain a good value for their money and the private suppliers to pre-qualify and win the award. According to Zorzini, HendryHuq and Stevenson (2015) the stakeholders puts pressure on firms with an intention of diminishing negative impacts. However, organizations respond by coming up with capabilities that aid in gaining social legitimacy and improve on their performance. In contrary, the social values create opposing pressure on a firm so that the values can be perceived. Cole and Aitken (2019) exert that public procurement in most cases push for the lowest bidder. However, the end users look for the best quality of product/service and not interested on the cost. Further the procurement department aims at attaining the general objective that satisfies the external and internal stakeholders.

This theory is particularly relevant as it gives explanation on the dynamics of pre-qualifying suppliers and the complex nature due to the conflicting objectives of different stakeholders, such as the pressure to minimize costs versus the demand for quality. Effective supplier pre-qualification not only enhances partnerships but also aligns with organizational goals, ensuring that the interests and needs of all stakeholders are addressed.

According to Martin (2018) stakeholder theory is initiated to help institutions to differentiate and examine the stakeholders' characters that are being influenced by the organizational behaviour. The process of pre-qualifying suppliers is conducted under

some considerations such as identifying suppliers' interest and needs, interpretation of the suppliers and building a relationship of pre-qualification process along the line of firms' specific goals and objectives. In the long and short run, the buying firm's interest must be upheld for the purpose of yielding better outcome (Limo, Iravo & Lagat, 2017).

This theory is based on one key assumption that a firm can only be termed as a success if they offer value to their stakeholders and this can be possible when the firm conducts effective, efficient and transparent supplier pre-qualification process. The stakeholders' concerns must be looked into by the institution to understand whether the concerns are for benefitting the society or institutions long term profitability (Koros & Kwasira, 2021).

The strength of stakeholder's theory is that, through effective supplier prequalification process the institution can be able to maximize their service or product quality and minimize the cycle time. This will help the institution to avoid unnecessary expenses and this will lead to increased saving and foster quality service delivery to stakeholders (Suberi, 2022). However, the theory has been criticized because it is suggested that it is offering unrealistic view on how the institutions operate. The institution is considered as a shell which can be written unto freely by different groups that may lay claims to the institution. The institution may have limited innate interests (Koros & Kwasira, 2021). This theory supports the supplier prequalification since suppliers are considered as the main stakeholders in an organization.

2.2.2 Fuzzy Set Theory (FST)

The theory was first introduced by Professor Lotfali Zadeh in the year 1965. According to Zadeh, decision making is based on vague and imprecise information

for instance judgment of decision makers. This theory seeks to address the uncertainty and imprecision that comes from human judgment in the process of making decisions through using membership degree and linguistic terms.

The theory supports, supplier evaluation as the decision is a multi-criteria problem in the context of actual business and this can be solved only where there is no precise information. And for this to be attained, the purchase decision process could be structured and modeled in a more realistic way Lin (2020). Different authors have adopted the FST modeling imprecision and uncertainty in evaluating the choice of the supplier. According to the study by Hemalatha, Babu, Rao and Venkatasubaiah (2015) they indicated FST outranking method for evaluating and selecting of supplier using very minimal operators for combining the discordance and concordance indices of other alternative suppliers so as to arrive at suppliers who have credible values. The Fuzzy Set Theory is considered to be the best in evaluating the general performance of suppliers (Pitchipoo, Venkumar, Rajakarunakaran & Ragavan, 2018).

Wilbroda and Miroga (2021) adopted this theory in examining the influence of supplier evaluation in county government procurement performance. The purpose of using the theory was to represent data that had ambiguity. The FST was used with an objective of assessing of supplier dependability. Further it was adopted to analyze production facilities and their capabilities, delivery competence and services rendered as indicators of supplier evaluation as well as how they are integrated into evaluation of the supplier's dependability. The study adopted fuzzy sets theory to propose on method to be used in addressing supplier evaluation problems. It helped in cutting procurement costs and increase institution competitiveness. Therefore, the study concluded that FST provides a basis for institutions procurement decisions.

Fuzzy set model helps to minimize defects that can be found in other models and thus help in improving institutional competitiveness and capabilities. FST can also help in addressing evaluation and selection of the suppliers concerns. The model may provide vital bases that can be used by different learning institutions in executing supplier evaluation and selection policies. However, the theory has weakness associated to it. Due to competitiveness of supplier evaluation and selection, there are several choices of alternatives to make and this makes it difficult in choosing the best alternative.

Therefore, this theory sets to form the basis of examining the relationship between supplier evaluation and procurement performance in public universities in Kenya where supplier may be evaluated on the basis of mandatory requirement, technical requirement, bid price and production capacity. The theory therefore supported the second objective in the study.

2.2.3 Game Theory

The proponent of Game Theory was Neuman (1959) and later advanced by Oskar Morgenstern in 1977. According to this theory, firms or people's strategic behavior have an impact of one another. The theory is an interaction of mathematical model which is used mostly in a competitive situation with an aim of initiating or settling conflicts that is between two or more rational decision makers.

Mutunga (2021) affirms that game theory involves a collection of decision-making techniques used by parties in competition with one another to complete a task. When two or more people shared a want, they often thought about possible tactics they could use to win that shared desire. The premise of game theory was that competing parties continually made logical decisions. The concept served the twin purposes of assisting individuals in formulating competing tactics as well as assisting them in

making decisions based on the situation at hand. Despite being only based on one person's perspective, the judgements had some effect on the opposing parties.

Game theory was used in this study to explain competitive negotiation because participants in talks and bid procurement procedures must consider a variety of tactics that might be used to achieve their intended goals. When a business bargains for products or services, they consider the situation and possible competitors to determine the best bargaining strategies. They may converse in a combative, cooperative, accommodative, compromise, or avoidant manner. According to Chandhok (2019), institutions would conduct competitive negotiation when they are more focused on achieving immediate goals than they are on drafting a beneficial contract that would benefit both sides. When all parties to a transaction were successful in reaching their goals in line with the contract, collaborative negotiation had taken place (Jazbek, 2019). Institutions, according to Shepherd and Patzelt (2018), participate in compromise bargaining when they decide to give up certain demands in order to get others. A corporation will participate in accommodating negotiating if it is willing to build connections with issuers and give in to their interests (Garca-Moya, Moreno, & Brooks, 2019).

In a study to determine how procurement practices impacted SMSE growth, such as Mutunga (2021), game theory has previously been used. The research gave information on how small and medium-sized firms may use it to make contract bidding decisions. This theory assumes that all players are rational, utility-maximizing agents who are fully informed of the game's rules and outcomes. Players cannot interact or communicate with one another. Potential outcomes are not only known beforehand, but they also cannot be changed. Even though there is no limit to the number of players in a game, most games are played by only two people. Game

theory has come under fire for being overly utopian and unrealistic. The possibilities available to a businessman were not fully known, much less those available to his rival. The theory was linked to competitive negotiation, objective three and procurement performance in the study.

2.2.4 Commitment Trust Theory

Although Morgan and Hunt (1994) first introduced the notion, Annekie Brink and Adele Berndt (2004) presented it in their book "Relationship Marketing and Customer Relationship Management". According to the relationship management theory known as Commitment Trust Theory, which is supported by Jeans, Parmeteu, and Ismail (2018), a relationship must have two key components, trust and commitment in order to be effective. The confidence two individuals develop and create over time towards each other in a relationship that none of them is going to predispose the other to harm, risky situation in terms of business lead to trust developing by standing on their promises or the covenant entered. Kuhn and Mostert (2016) noted, in marketing relationship involve establishing bonds with the clients for example through fulfilling their expectation, on need basis which leads to honoring the commitment in place.

Companies that deal with procurement follow the relationship marketing principles and establish enduring connections with their suppliers. Customers therefore have greater faith in these businesses than in those that aim for rapid profits, and the shared loyalty enables both parties to satisfy their demands. In relationship marketing, partnerships with suppliers are developed through meeting their needs and maintaining your word. According to Brink and Berndt (2004), commitment entails a long-term desire to maintain a reputable partnership. A business wants to make ongoing investments in forging and maintaining relationships with its clients, for instance, following up after a customer purchasing an item to ensure their satisfaction

with the service rendered, if not, the business in the next purchase by the same customer can offer a deduction or a refund.

Further, to ensure that other customers do not have the same bad experience, the business could integrate the automated feedback into the system. A series of these initiatives that promote connections that are mutually beneficial serve as the company's way of showing its obligation to its clients. By sticking to relationship marketing principles rather than concentrating on short-term earnings, organizations may develop enduring connections with their suppliers, claim Handfield and Bechtel (2002), this results in suppliers developing confidence hence trusting these businesses. This mutual loyalty to a larger extend facilitates both parties to fulfill their desires. Heikkila (2002) in defining trust concluded that it is that confidence both parties over time in a relationship have towards one another, such that the other party will not do something detrimental or risky.

Developing long-term relationship with every customer has been an achievement of a few businesses, that is why it is vital and a responsibility of a business to concentrate on clients who are valuable to the company (Spychalska-Wojtkiewicz, 2020). According to (Brink & Berndt, 2009), by locating and building relationships with the right customers, firms may concentrate their resources on the customers who are most important to their overall business plan.

For businesses to develop trust, they should remain truthful to their promises such as contract entered with suppliers. A long-term intention to preserve a trusted alliance is required for a commitment. Williams (2006) concluded that a company's investment in forging and maintaining relationships with its customers is motivated by desire. With regards to the payment period, for example, the company takes a variety of steps to strengthen its relationships with its suppliers. According to Chen-Chen and Wu

(2017), a partnership based on commitment and trust results in cooperative activities that allow both parties to satisfy their requirements. Customers feel valued in addition to obtaining the commodity or service they paid for.

The objective that linked well with this theory was supplier management. It gave an explanation on how the management of an organization ought to create a mutual commitment that was binding for the benefit of both the firm and the supplier. It was a must for the supplier to make a commitment on the quality, timeliness of supplies they made while the procuring entity has a role to play of committing to the agreement and the procurement laws binding the two working groups.

2.3 Empirical Literature

This section reviews past studies on tendering process, internal controls and Procurement Performance.

2.3.1 Supplier pre-qualification and procurement performance

The evaluation of potential suppliers of products or services against pre-established criteria is known as pre-qualification. Only pre-qualified vendors are given the opportunity to submit their proposals. Pre-qualification gives the purchasing organization more assurance that the suppliers being invited to submit an offer already possess the capacity to provide the products or services. Pre-qualification lessens the risk and administrative burden brought on by repeated approaches to the market, albeit it does not always remove the chance of contract failure (Mashinini, 2019)

Halizahari, Mohaiyadin, and Husain (2020) explored the impact of direct negotiations on public procurement efficiency in Malaysia, employing a qualitative research design with primary and secondary data from procurement officers and Auditor General reports. The study identified a negative relationship between supplier

prequalification and procurement delivery, attributing inefficiency to direct negotiations, which led to delays and poor service. However, a notable gap in this study lies in its reliance on qualitative techniques, limiting the ability to generalize findings. Moreover, it lacked a quantitative approach, which could have provided stronger empirical evidence and statistical validation of the results. Additionally, the study did not delve deeply into the specific criteria for effective supplier prequalification or address broader external factors that may influence procurement performance.

Duarte and Sousa (2020) investigated the influence of supplier pre-qualification on procurement performance in the Portuguese construction sector, focusing on listed metal construction companies. Through a case study approach, they gathered data from interviews, observations, and organizational documents. Their analysis revealed that failure to evaluate suppliers' past performance and ability to meet project specifications resulted in substandard pre-qualification process, contributing to poor procurement outcomes. While the study provided insights into the construction industry, a key limitation is its reliance on case study methodology which restricts generalizability. Additionally, the research did not explore a broader range of factors affecting supplier pre-qualification. This differs from the current study, which focuses on public universities in Kenya using a correlation research design to analyze procurement processes more comprehensively.

Agonsi, Akanmu, Mohammed, and Igwe (2021) conducted a study to examine the influence of pre-qualification requirements and the tender document on the distribution of building contracts at the Federal Universities in North Central Nigeria. A descriptive survey approach was used when primary data were gathered via a semi-structured questionnaire. The data was descriptively and inferentially analyzed. The

findings revealed a significant positive relationship between supplier pre-qualification and procurement performance. However, the study revealed that building contractors were not adequately pre-qualified and the documents of the contractors were not spelt out in the Public Procurement Act of 2007. The study specifically focused on constructors in the universities in Nigeria whereas this study focused on procurement performance in Public Universities in Kenya.

Acheamfour, Kissi and Adjei-Kumi (2019), sought to determine on the influence of contractors' pre-qualification on project performance in Ghana. Exploratory design was utilized and structured questionnaires were administered to 121 respondents to obtain data. Partial least square structural equation modeling was used to analyze data. The result revealed that financial capability and technical capability had a positive and significant influence on project performance. However, the study further indicated that capacity to meet specification had insignificant influence on the project performance. The study used PLS-SEM to analyze data while the current study used descriptive and inferential statistics with the aid of SPSS tool.

Gaylade (2018) conducted a study on factors contributing to supplier pre-qualification on the performance of the Danish refugee council in Kenya. The study adopted an analytic hierarchy processes model, data development analysis model, and total cost of ownership model. A descriptive research design was employed where 40 respondents were used to provide data for the study. Primary data was collected through a self-administered questionnaire. Obtained data were analyzed descriptively and inferentially using multiple regression analysis. The results revealed that supplier capacity, financial status, and supplier pricing contributed to supplier pre-qualification processes. The study recommended that organizations take serious consideration on

supplier's capacity from the history, ability to deliver after the pre-qualification and financial base of the supplier.

Koros and Kwasira (2021) conducted a study to ascertain the influence of supplier pre-qualification practices on Moi University's procurement department. Using a descriptive study approach, the target population consisted of 298 employees. The Yamane's formula was used to get a sample size of 171. Data were gathered using both primary and secondary data gathering techniques. Descriptive statistics were used to examine the acquired data, and the results were then reported as percentages, frequencies, means, and standard deviation. Additionally, inferential statistics using multiple regression analysis and spearman rank correlation models were used to examine the data. The results of the study showed that supplier pre-qualification had a positive significant relationship with procurement performance at the university. According to the report, improving supplier prequalification procedures is necessary for public institutions in order to improve procurement performance. The study was carried out in Moi University only while this study was undertaken in a number of other selected public universities in Kenya.

2.3.2 Supplier evaluation and procurement performance

Supplier evaluation is a tool that can be used to influence the behaviors of a supplier organization and a buyer organization. The connection of procurement targets that ascertain the supplier's competence enables the organization to obtain high supplier performance, leading to better procurement performance (Jepchumba & Kibet, 2019).

Laosirihongthong, Samaranayake, and Nagalingam (2019) explored a holistic approach to supplier evaluation and order allocation in cement manufacturing companies across South-East Asia, focusing on sustainable procurement. They

combined analytical and case study methodologies, ranking suppliers using fuzzy analytical hierarchical processes, with data gathered from multiple decision-makers. The study found that economic factors, particularly pricing, play a significant role in supplier evaluation, while production capacity also contributes to enhancing procurement sustainability. Although the research offered valuable insights through its analytical approach, a key gap is its narrow focus on specific industries and regions, limiting broader applicability. In contrast, the current study utilized a descriptive correlational research design, focusing on public universities in Kenya, to investigate a wider range of factors impacting procurement performance.

Mukarumongi, Mulyungi, and Saleh (2018) studied the effect of supplier assessment on procurement performance in Rwandan government ministries, focusing on the Ministry of Health. Using a descriptive research approach, they targeted 650 employees and sampled 65 respondents through stratified and simple random sampling. Data was gathered through self-administered structured questionnaires and interviews, complemented by secondary data from ministry reports. The study used descriptive statistics for quantitative analysis and thematic analysis for qualitative data. The results indicated that procurement performance was significantly influenced by supplier factors, such as manufacturing capacity, quality, and competence. However, a gap in the study is its limited focus on a single ministry, restricting the generalizability of its findings to other sectors. In contrast, the current study employed a descriptive correlational design to provide a broader examination of procurement performance in public universities in Kenya.

Mhando (2021) investigates the impact of supplier evaluation practices on procurement performance within the public health sector in Tanzania. It aims to understand how effective supplier assessment processes influence the efficiency,

quality, and overall outcomes of procurement activities. A survey of procurement officers from various public health institutions in Tanzania, with a sample size of approximately 150 respondents. A structured questionnaire was used for quantitative data, while interviews and focus group discussions provided qualitative insights. The quantitative data were analyzed using statistical methods, including regression analysis, while qualitative data were thematically analyzed to identify common trends and perspectives. Effective supplier evaluation significantly enhances procurement performance by improving the quality of goods and services acquired. Many procurement officers reported challenges related to the implementation of supplier evaluation criteria, including lack of training and inadequate resources. The study recommends the establishment of standardized supplier evaluation frameworks and regular training for procurement staff to enhance procurement efficiency. The study primarily focused on the health sector in Tanzania, which may have unique regulatory, economic, and cultural factors influencing procurement practices, this may differ with Kenya's setting hence the need to examine a study in Public universities in Kenya.

Jepchumba and Kibet (2019) examined the impact of supplier assessment on service quality at Moi University using an explanatory research design. The study targeted 219 administrative and procurement staff, with a sample of 142 respondents selected through stratified and random sampling techniques. Data was collected using semi-structured questionnaires and interviews, with descriptive statistics (means, frequencies, standard deviations) and inferential statistics (Pearson correlation and multiple regressions) employed for analysis. The study concluded that supplier evaluation was significantly and positively related to service delivery, enhancing efficiency and cost management. However, this study's focus on a single university

limits the generalizability of its findings. The current study instead employed a correlational research design to explore a wider context, focusing on public universities in Kenya.

Wilbroda and Miroga (2021) carried a study to determine the influence of supplier evaluation on county government procurement performance in Nairobi County, Kenya. The study was anchored on fuzzy set theory where the study employed descriptive survey research design. The respondents were chosen from the department and they were comprised of 94 employees. Due to the small number of respondents, the study adopted census technique. Primary data was collected using semi structured questionnaires. Both descriptive and inferential statistics were employed to analyze data. The results indicated that supplier evaluation was positively and significantly related with county government procurement performance. The study was conducted in the county government and relied on primary data while the current study was carried out in public universities and used both primary and secondary data.

2.3.3 Competitive negotiation and procurement performance

This process involves an organization and one or more suppliers in communicating their respective positions successfully with respect to prices, specifications, and other relevant stipulated terms and conditions to arrive at a contract for procuring goods or services (Ayantoyinbo & Oguntola, 2018). According to Reis and Cabral (2018), competitive negotiation may occur after solicitation of the proposal and produces no award of tender either because of deficiency in price, specifications, adequate competition, lack of availability of funds, responsibility factors, or non-responsiveness. The management must approve competitive negotiations before it is being adopted.

Jansen (2020) examined the role of negotiation in enhancing supplier relationships within business-to-business (B2B) contexts, specifically focusing on how negotiation influences supplier choices and preferences. Utilizing a mixed-methods approach, the study collected both quantitative data through surveys of 250 procurement managers and suppliers across various industries in the Netherlands and qualitative insights from in-depth interviews with 15 key stakeholders. The analysis employed statistical techniques, including regression analysis, for the survey data, while thematic analysis was used for the interview data. The findings revealed that collaborative negotiation strategies significantly improve supplier relationship quality, fostering trust and satisfaction. Furthermore, effective negotiation practices were shown to positively influence supplier decision-making, encouraging long-term partnerships. Open and transparent communication emerged as a vital element in building positive supplier relationships. However, the study's cross-sectional design limits insights into the long-term effects of negotiation on supplier relationships, and the reliance on procurement managers' perspectives suggests a need for further research that includes suppliers' viewpoints for a more comprehensive understanding of negotiation impacts an endeavor the current study sought.

Narsimhan and Prasad (2016) conducted a study in India examining competitive negotiation strategies within the context of the Kraljic portfolio category in supply chain management. The research highlighted that negotiation outcomes can be either competitive or collaborative, with collaborative negotiation being most recommended according to the literature. Contrarily, business negotiation materials showed mixed results, especially in buyer-supplier negotiations involving value sharing and co-creation in supply chains. Factors like delivery requirements, pricing, volume discounts, and quality standards are often subject to these negotiations. However, the

study found that competitive negotiation on pricing and payment terms had an insignificant impact on material procurement. While this study used a systematic review of literature, the current research differed by utilizing primary data collected through structured questionnaires to analyze the procurement process in public universities in Kenya

Ayantoyinbo and Oguntola (2018) investigated the impact of competitive negotiation on achieving procurement goals at Redeemer Public University in Nigeria. Utilizing a purposive sampling method, the study surveyed 206 respondents from the procurement department, gathering primary data through questionnaires. The analysis employed both descriptive statistics and linear regression to assess the relationships between competitive negotiation and procurement objectives. The findings indicated that competitive negotiation significantly contributes to realizing procurement goals at the university. However, the study's reliance on purposive sampling may limit the generalizability of the results. Additionally, the research did not compare competitive negotiation with other negotiation styles, leaving a gap in understanding how different approaches might affect procurement performance. Future studies could also benefit from a broader sampling strategy to encompass diverse perspectives within the procurement function.

Mondomona (2021) investigated the impact of negotiation on the procurement of materials at Cavendish University in Uganda. Employing an exploratory research design, the study selected 18 respondents from a total of 60 workers using stratified random sampling. Both primary and secondary data were collected and analyzed thematically. The findings revealed that effective negotiation contributed to cost reduction, thereby enhancing material procurement at the university. Additionally, the study highlighted that regular coordination and management of suppliers further

facilitated cost savings. However, the small sample size of 18 respondents limits the generalizability of the results. In contrast, the current study utilized a larger sample of 287 respondents, deemed more suitable for drawing broader conclusions. Future research could expand on study's findings by using a larger, more diverse sample and exploring additional negotiation strategies.

In Kenya, Oduor (2020) investigated the impact of negotiation strategies on procurement performance in public institutions, focusing on the Nairobi County Government. The study aimed to understand how different negotiation approaches influence procurement efficiency and effectiveness. Using a descriptive correlational research design, the researcher surveyed 150 procurement officers and managers, employing stratified random sampling. A structured questionnaire collected quantitative data on negotiation strategies and procurement outcomes, which were analyzed using descriptive statistics, correlation, and regression techniques. The findings revealed that collaborative negotiation strategies significantly enhance procurement performance, leading to cost savings and better supplier relationships. In contrast, competitive strategies, while effective for short-term gains, resulted in lower long-term supplier satisfaction. The research emphasized the need for training procurement staff in effective negotiation techniques. It concluded that collaborative approaches are crucial for improving procurement performance in public institutions. However, the study was limited to Nairobi County, raising questions about the applicability of its findings to other regions in Kenya, and its cross-sectional design hindered tracking changes over time, suggesting the need for another research for deeper insights.

Mutunga (2021) did an analysis on procurement practices and growth of selected SMEs in Imenti North, Meru County. The study was anchored on game theory which

was linked to competitive negotiations. The study adopted descriptive survey design with sample size of 96 respondents. The structured questionnaire was employed to collect primary data. Descriptive statistics was used to analyze data. The findings revealed that competitive negotiations had positive effect on growth of SMSEs. The study concluded that bidders need to adopt effective competitive negotiation strategies to be much more competitive in bidding. The study used SMSEs as unit of observation while the current study used public universities.

2.3.4 Supplier management and procurement performance

This is a process meant to ensure that the organization receives the maximum value for the money they pay to the suppliers. The suppliers play a critical role in the smooth operation of the organization, hence, there is a need for the organization to engage the suppliers effectively. Organizations establishing a good relationship, having clear communication with the suppliers, and managing requirements efficiently calls for more than supplier management policies (Akubuko, Obodo, Musa & Jimoh, 2019).

Caran, Krueger, Ayres, and Araujo (2016) conducted a qualitative, exploratory study in Brazil to assess the role of the supplier management process on organizational improvement. The sample included 13 employees, and data was collected through semi-structured interviews and secondary sources like organizational reports. Content analysis revealed that an effective supplier management process contributed to the continuous improvement of organizational performance. The study concluded that well-established supplier management practices are essential for enhanced procurement and operational outcomes. While this study used qualitative methods, the current research adopted a correlational research design to analyze supplier management's impact on procurement performance in public universities in Kenya.

Yang and Zhang (2017) examined on the role of sustainable supplier management on performance of buyer-supplier performance in China. The study adopted cross sectional research design where both primary and secondary data was collected from 256 manufacturing companies. Data was statistically analyzed using structural equation model technique. The study finding revealed that supplier category management and supplier records had a positive significance effect on performance of buyer supplier in manufacturing companies. The study was conducted in china which is technologically advanced while this study was conducted in Kenya which is still in the process of adopting advanced technology.

Akubuko, Obodo, Musa, and Jimoh (2019) did a study in Nigeria which aimed at finding out the effect of procurement management practices on vendor performance in oil-producing companies in river states. Purposive sampling method was employed to obtain 10 respondents that were used in the study. A Survey technique was used to obtain primary data. Specifically, the study used a questionnaire to gather primary information. Data analysis was done using a chi-square statistical tool, and the findings indicated a significant relationship between the procurement process and vendors' performance. The study concludes that organizations need to emphasize cost management and supplier database management.

Kanini and Wandera (2019) investigated the effect of supplier management on procurement performance in Kenyan state corporations. The study employed a descriptive survey research design, targeting 230 state corporations, with a stratified random sampling technique used to determine the sample size. Data was collected through both primary and secondary methods, and multiple regression analysis was applied to assess the relationship between supplier management and procurement outcomes. The findings revealed that organizations supported tender-winning

suppliers in contract management, with deadlines set for contract delivery. The study concluded that fostering mutual relationships between organizations and suppliers significantly enhances procurement performance. However, while this study focused on state corporations in Kenya, the current study examined public universities, employing a correlational research design to investigate supplier management practices.

Njagi and Shalle (2016) explored on the influence of supplier management on performance of procurement in East Africa Breweries, Kenya. The study focused on quality management, supplier training and supplier integration. Descriptive research design was adopted and primary data was obtained from the employees of the company. Descriptive and inferential statistics were used to analyze data. Quality management was found to have a positive significance influence on procurement performance. Supplier integration and supplier training indicated there was no significance influence on procurement performance. The study adopted quality management, supplier training and supplier integration as indicators of supplier management while the current study used supplier database, category management, expediting and supplier rationalization as the key indicators.

2.3.5 Internal controls and procurement performance

Rendon and Rendon (2016) conducted a study to investigate procurement fraud within the United States Department of Defense, focusing on its implications for the contracting process, internal controls, and overall procurement performance. The researchers analyzed actual fraud incidents to pinpoint the phases where these breaches occurred, revealing that most fraud cases arose during the supplier selection and contract administration stages. The study concluded that effective tendering

processes require robust internal control components, including comprehensive monitoring and evaluation activities, to mitigate the risk of fraud. While this research highlights the critical role of internal controls in preventing procurement fraud, it does not explore the specific strategies employed to strengthen these controls, leaving a gap in understanding how to enhance procurement integrity. The current study, however, aims to address this by examining the moderating effect of internal controls on the relationship tendering process and procurement performance in public universities in Kenya, utilizing a correlational research design.

Abd Aziz, Said, and Alam (2015) assessed internal control systems in the Malaysian public sector, focusing on different departments across 24 federal ministries. Data was gathered through structured questionnaires from 109 department heads. The study identified 10 factors influencing internal control practices and used a 7-point Likert scale to analyze their effectiveness. The results showed that most departments had internal control mechanisms in place, though priorities varied. Internal controls in sectors like education, engineering, and health were below average, while financial sectors performed above average. However, the study did not investigate the reasons behind these disparities, leaving a gap in understanding the basis for the varying internal control effectiveness among departments. The current study focused on public universities in Kenya, utilizing a correlational research design to evaluate the relationship between internal controls and procurement performance.

Zadawa, et al., (2018) examined the moderating effect of enforcing public procurement guidelines and performance of construction projects in the federal universities of Nigeria. The study used data collected from construction parties and procurement stakeholders of nine federal universities selected randomly using a questionnaire. The obtained data was analyzed scientifically using regression analysis

while the moderating effect was assessed using Process Macro. The obtained results indicated that enforcement of compliance mechanisms as part of internal controls have a moderating effect on the relationship between procurement process and the procurement performance. Therefore, the study concluded that enforcement of compliance measures can lead to improved performance thus recommends that institutions should develop prompt enforcement actions in form of strict measures and penalties against those defaulting.

Ndunda (2022) investigated the moderating role of internal control systems on the relationship between tendering process and procurement performance in public institutions in Kenya. Using a descriptive correlational research design, the study targeted 250 procurement officers selected through stratified random sampling. Data were collected via a structured questionnaire, and statistical analyses, including regression and moderation analysis, were performed. The findings revealed that strong internal controls significantly enhance the positive impact of effective tendering on procurement outcomes, leading to improved performance and reduced fraud. Conversely, inadequate internal controls can cause inefficiencies in the tendering process. The study concluded that strengthening internal control systems is essential for enhancing procurement performance, emphasizing their integration into tendering processes. However, the study's cross-sectional design limits insights into the long-term effects of internal controls, and the findings may not apply universally across Kenya such as public universities, indicating a need for further research on regional variations.

Omollo, (2018) sought to assess the procurement process, internal controls and procurement performance in government agencies. Specifically, the study sought to assess the effects of reporting, monitoring controls and internal controls on

procurement performance. The study was anchored on self-control theory, agency theory and normative ethical theory. The study further relied on primary data obtained from 55 respondents, 50% of the entire target population using a structured questionnaire. The obtained data was analyzed descriptively and inferentially using regression and correlation. The findings revealed that internal controls in the government agencies were not effectively used thus negatively affecting the procurement performance. Effective internal control practices ensure effective monitoring and reporting channels which can be used to prevent fraud and other unethical practices.

The studies reviewed highlight the critical role of internal controls in moderating the relationship between tendering processes and procurement performance, yet significant gaps remain. Zadawa et al., (2018) emphasize that compliance mechanisms can enhance performance, suggesting a need for strict enforcement. Omollo (2018) finds ineffective internal controls negatively impact procurement outcomes, indicating the necessity for stronger control systems. Subsequently, Abd Aziz et al., (2015) identify variability in internal control effectiveness across sectors but do not explore underlying causes. These gaps suggest that a more comprehensive study on internal control systems as a moderator could provide deeper insights into their effect on the relationship between tendering process and procurement performance an endeavor the current study sought to explore.

The direct relationship between tendering process and procurement performance revealed deficiencies, Osei-Tutu et al., (2021) highlight that a lack of transparency and competitive bidding in the tendering process leads to significant inefficiencies, impacting overall procurement performance. Similarly, a study by Nkongolo et al., (2022) demonstrates that poor tendering practices, such as inadequate stakeholder

engagement, contribute to project delays and cost overruns, further emphasizing the disconnect between tendering and performance outcomes. Furthermore, Adebayo et al., (2023) found that unstandardized procedures in tendering result in varying performance metrics across projects, illustrating the critical need for robust internal controls to mitigate these deficiencies.

2.3.6 Procurement performance in public universities in Kenya

An efficient public procurement process is a key concept of corporate governance in public institutions (Musau, 2016). Abolbashari, Chang, Hussain and Saberi (2018) indicate that irregular procurement practices in public organizations create a loophole for easy embezzlement or misappropriation of funds. However, where there is an open system or policy of tendering process could result to effective procurement performance. The effective procurement performance could yield efficient service delivery, timely frame for delivery and cost effectiveness.

A study by Chiappinelli (2020) on decentralization and performance of public procurement indicated that procurement performance is enhanced when the institutions lowers the costs of procurement, when the process is efficient, when there is quality delivery of goods and services and when the goods and services are delivered on time. Musau (2016) conducted a study to determine the effectiveness and efficiency of procurement process and performance. It was found that cycle time, purchasing effectiveness and quality of the products determined procurement performance.

Nyakundi and Muturi (2017) and Omollo (2018) in their studies revealed that delay in service or product delivery, procuring sub standards goods and services and ineffective procurement process hampers performance of procurement in

organization. Therefore, in their conclusion, for organizations to enhance their procurement performance, they need to focus on the efficiency of the procedures, non-financial and financial outcomes, effectiveness, and ability to establish a relevant range of indicators to measure performance. The current study adopted cost-effectiveness, timely delivery, and quality of goods and services delivered as key measures of procurement performance.

Kakwezi and Nyeko, (2019) sought to assess the procurement process and performance with a main focus on effectiveness and efficiency of the procurement function by public entities in Uganda. The study focused on establishing non-financial and financial measure of procurement in the public sector. The study targeted staff members at the management level who were privy with the procurement process and activities in their respective institutions. Thus, purposive sampling technique was used. The study findings established a small variance between financial measures (vendor rating, budgetary controls, cost accounting, and purchasing audit) and non-financial measures (quality of products, cycle time, flexibility, customer satisfaction, purchasing effectiveness, knowledge of market supply).

Chebet and Kwasira (2016) examined the role of public procurement practices in enhancing procurement cost reduction in Embu University in Kenya, the study examined the role of the tendering process, outsourcing and inventory control management practices and e-procurement practices. The study was anchored on general systems theory, transactional cost economics theory, public value theory and theory of procurement contracts. The study adopted a cross-sectional research design with the target population of all the 250 employees of Embu university. Primary data was collected using structured questionnaire from a sample of 75 employees. The

study findings revealed that the tendering processes had a positive effect on cost reduction at the university.

2.4 Conceptual Framework

The link between the research variables is presented below using a diagram. The independent variables for the study were supplier pre-qualification, supplier evaluation, competitive negotiation, and supplier management. The dependent variable for the study was procurement performance assessed via cost effectiveness, quality goods/services, and timely delivery. The link between the procurement performance and the tendering process was moderated by internal controls.

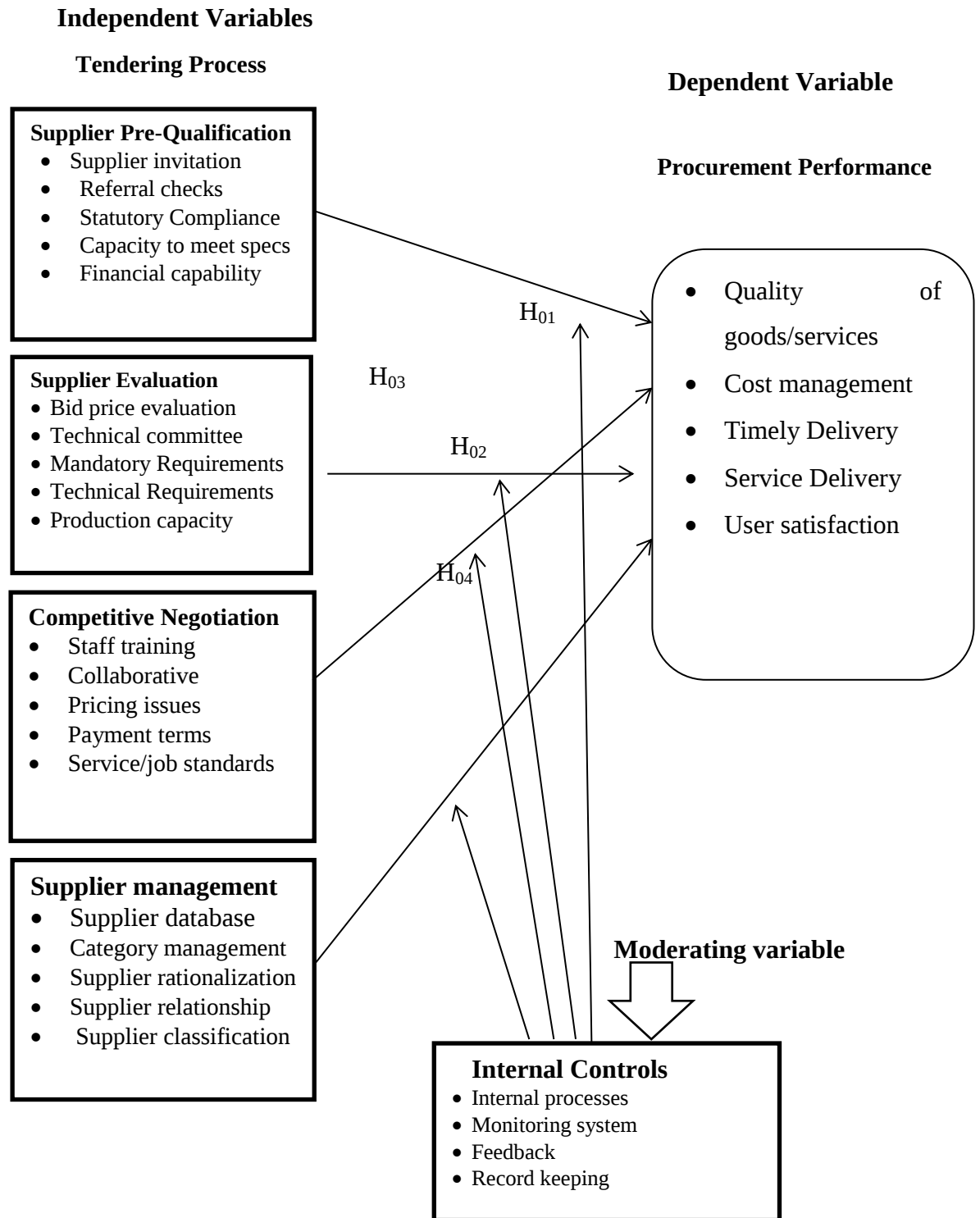


Figure 2.1: Conceptual Framework

Source: Author's own conceptualization from the empirical review

2.5 Identification of Knowledge Gap

The studies reviewed on supplier prequalification revealed that they were conducted in different settings. For instance, Halizahari, et al., (2020) in the public sector, and Duarte and Sousa (2020) in a construction company. One study was conducted in a university setting (Agonsi, et al., 2021). Therefore, because of scanty literature on the university setup, this research was carried out in public universities in Kenya. In addition, most studies adopted descriptive (Gaylade, 2018), explanatory (Jepchumba & Kibet, 2019), and case study (Agonsi, et al., 2021) research design, while the current study employed correlational research design. Due to the variance in the methodology used in the reviewed studies, the findings indicated contradicting results. Some studies indicated supplier prequalification had a positive significant effect on procurement performance, while others had a contrary opinion.

Reviewed literature on supplier evaluation revealed most studies majorly focused on government ministries (Mukarumongi et al., 2018; Hamad, 2020), county governments, and cement manufacturing companies (Laosirihongthong et al., 2019). These different settings may be guided by different tendering process policies from the public university setup. The studies adopted analytical and case study approaches and descriptive and explanatory research designs (Jepchumba & Kibet 2019), while the current study adopted a correlational research design, which determined the relationship between the study variables.

Studies reviewed on competitive negotiations indicated that studies were conducted in different sectors including public universities. However, study's reliance on purposive sampling limits the generalizability of the results. Additionally, the research did not compare competitive negotiation with other negotiation styles, leaving a gap in understanding how different approaches might affect procurement performance.

Hence, the current research focused on procurement performance in public universities in Kenya. The reviewed studies indicated that primary data was obtained through interviews, which could allow the researcher to influence the respondent's answers. Therefore, this study collected primary data by administering self-administered questionnaires to the respondents, and the researcher picked the questionnaires after a week.

On supplier management, the studies adopted different research designs. For instance, Kara (2020) used qualitative techniques, Narsimhan and Prasad (2016) did a systematic literature review, and Ayantoyinbo and Oguntola (2018) adopted a purposive sampling technique. In addition, Akubuko, Obodo, Musa, and Jimoh (2019) used content analysis techniques and chi-square statistical tools to analyze data. However, the current study used both descriptive and inferential statistics to analyze data.

Due to the contextual, conceptual, methodological, and geographical gaps identified through the review of past studies, the research seeks to fill these gaps by assessing the moderating effect of internal control on the relationship between the tendering process and procurement performance in Public Universities in Kenya. Supplier prequalification, supplier evaluation, competitive negotiation, and supplier management was adopted as the independent variables for the study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter covers the research design, research philosophy, study location, target population, sample size and sampling method, data collection instrument, data collection procedure, data analysis and presentation and finally, ethical considerations.

3.2 Research Design

A research philosophy is a framework that guides how a research problem should be approached based on ideas about reality and the nature of knowledge (Boon & Van Baalen, 2019). There are two main research philosophies: positivism and interpretivism. Each of these philosophies represents two essentially different ways in which human beings make sense of the world around them. In positivism, reality is independent and researchers can observe it objectively. In interpretivism, reality is seen as highly subjective because it is shaped by an individual's perceptions (Zainab, Javed, Zakai, & Malik, 2019; Kirui & Naibei, 2023).

A positivist research approach emphasizes using quantitative tools that allow for measuring and counting. In contrast, naturalists prefer to use qualitative tools that involve observation, description, and questioning (Al-Ababneh, 2020). Through this approach the researcher uses a clear qualitative and quantitative approach to investigate a phenomenon. This requires a thorough focus and examination of facts, establishment of causality, and the reduction of the phenomenon to simple and comprehensible elements. It also involves formulating and testing hypotheses to arrive at an informed conclusion (Pandey & Pandey, 2021). The researcher develops

hypotheses within the paradigm, tests them using statistical techniques, and creates a conceptual model based on the literature review. This study used a positivist research philosophy and correlational research design.

In addition, by employing correlation analysis, the study could identify potential patterns, trends, or connections between the efficiency of the tendering process and the overall effectiveness of the procurement function within the university setting. This design was particularly relevant in complex organizational environments like public universities, where numerous factors may influence procurement performance. Correlational research provided a quantitative framework to assess the degree of relationship between these variables, offering insights that could inform strategic improvements in the tendering process and enhance the overall procurement function in the higher education sector.

3.3 Location of the Study

The study was carried out in selected public universities from Narok, Bomet, Uasin Gishu, Nakuru and Laikipia Counties. The country has 248 state corporations, 31 of which are public universities (CUE,2022), the reason for conducting the study in these institutions is their critical role in shaping educational standards and contributing to national development. Public universities serve as hubs for research and innovation, influencing various sectors of the economy. Therefore, ensuring efficient procurement practices within these universities is essential not only for their operational success but also for enhancing the quality of education and research outputs. Given that procurement malpractices can undermine the integrity of educational programs and research initiatives, public universities were chosen for the study because they constitute about 20.8% of the total number of state corporations and account for a large portion of the procurement budget in the country (Mwangi 2017). Furthermore,

many previous studies have focused much on other sectors of public institutions, such as county governments, government ministries, manufacturing companies and business enterprises, leaving scanty information on procurement performance in institutions of higher learning. It was against this background that the universities were selected for the study.

3.4 Target population

A target population is the total number of items that the researcher is interested in researching (Kothari, 2017). Therefore, this study's target population from 6 public universities comprising of staff from Moi University, Bomet University, Masai Mara University, Egerton University, Laikipia University and the University of Eldoret. These universities are in Narok, Bomet, Uasin Gishu, and Laikipia Counties in Kenya. A total of 1016 employees working in the user department, procurement department and accounting department in the selected universities were used as the unit of analysis. Public universities were chosen for the study because they are classified as state corporations. Thus, they are subjected to standard procurement practices outlined in the Public Procurement and Asset Disposal Act 2015.

Table 3.1: *Target Population*

Institution	Target population (Departments)			
	User	Procurement	Accounting	Total
Moi University	112	78	63	253
Bomet University	68	22	24	114
Laikipia University	85	16	35	136
Maasai Mara University	69	19	46	134
Egerton University	98	60	56	214
University of Eldoret	101	24	40	165
Total	533	219	264	1016

Source: Specific Universities' Data (2024)

3.5 Sample and Sampling technique

Sample size is a selected group of items picked from a larger population, and the test results can be used to generalize the outcome of the entire population (Lakens, 2022). According to Asenahabi (2019) a good sample size should not be too large or too small, and it should be reliable, flexible, and efficient. The study adopted a stratified random sampling technique. This technique was considered suitable since it involved dividing the population into different strata. The sample therefore for the study was 287 arrived through calculation using Yamane's formula (1967);

$$n = \frac{N}{1+Ne^2}$$

where n is the sample size

N is the target population

e is the level of precision (0.05)

Therefore;

$$1,016/1+1,016(0.05)^2$$

$$=287$$

Thus, the sample size was 287.

Table 3.2: Sample Frame

Institution	Target population (Departments)							
	User		Procurement		Accounting		Total	
	P	S	P	S	P	S	P	S
Moi University	112	32	78	22	63	18	253	71
Bomet University	68	19	22	6	24	7	114	32
Laikipia University	85	24	16	5	35	10	136	38
Maasai Mara University	69	19	19	5	46	13	134	38
Egerton University	98	28	60	17	56	16	214	60
University of Eldoret	101	29	24	17	40	16	165	47
Total	533	151	219	72	264	79	1016	287

Key;**P**=Population**S**= Sample**3.6 Data collection Instruments**

The study majorly relied on primary data, which was collected using a self-administered structured questionnaire. The reliance on the questionnaire in the data collection exercise helped the researcher collect data from the larger target population

while keeping the respondents anonymous (Mishra & Alok, 2022). The use of a questionnaire also made it easy to analyze obtained data in a standardized manner.

The structured questionnaire had two parts; the first part collected demographical data about the respondents, while the second part obtained data on the specific research variables. The questionnaire had a five-point Likert scale indicating different weights on which the respondents' opinions were evaluated.

3.6.1 Validity of the Instrument

The degree to which a research tool measures what it's meant to measure is known as validity (Ni'matuzahroh, Woei Suen, & Sholihah 2019). According to Kirui and Naibei (2023), validity is categorized into construct, content and face validity. Construct validity assess whether the data collection instrument accurately measures the theoretical construct it is intended to measure. This involves examining the relationship between the measured variable and other variables that are theoretically related. This instrument was validity enhanced through carrying out detailed empirical review of past related literature. On the other hand, the study assessed content validity which ensured that the data collection instrument adequately covered the entire range of the concept being measured through consultation with subject experts from the field of procurement, supervisors and lecturers from the School of Business and Economics.

3.6.2 Reliability of the Instruments

Reliability of a research instrument refers to a research instrument's ability to produce consistent results each time the instrument is put into use or after repeated trials (Surucu & Maslakçi, 2020). The researcher conducted a pilot study at the University of Kabianga using 29 respondents being 10% of the sample size to determine

reliability of the instrument. The University of Kabianga was selected for the pilot study because it was not part of the universities selected for the actual study. In addition, the university had similar structural attributes such as the management structure as those of the selected for the study. The obtained data from the pilot study was used to test the internal consistence of the research instrument using cronbach's alpha coefficient. The study obtained a Cronbach alpha coefficient of 0.834. According to Mugenda and Mugenda (2013), the Cronbach's alpha of 0.7 is acceptable while an alpha coefficient of 0.8 and above is favorable, an alpha coefficient of 0.6 and below is considered unfavorable and not fit for data collection. Therefore, an alpha coefficient of 0.834 obtained in this study indicates that the instrument was fit for data collection. The reliability results for each item is presented in Table 3.3.

Table 3.3: Reliability Test

Constructs	Cronbach's Alpha Coefficients	Items
Pre-qualification	0.853	6
Supplier evaluation	0.817	6
Competitive negotiation	0.845	6
Supplier management	0.869	6
Internal controls	0.769	6
Procurement performance	0.855	6
Overall reliability	0.834	36

3.7 Data Collection procedure

The Data collection exercise commenced after the researcher had received the necessary approvals from the Board of Graduate School, University of Kabianga, the National Commission for Science, Technology and Innovation (NACOSTI), The Ministry of Education, The County Government of Kericho and The Office of County Commissioner. The researcher administered the data collection instruments with the assistance of two research assistants who had been trained earlier on the data collection procedure and all the ethical issues that were followed while collecting data. To allow respondents enough time to reply, the questionnaires were issued using the drop-and-pick later technique.

3.8 Data analysis and Presentation

To assure the correctness of the data collection tool, modifications were done after data collection. After compiling the data, it was organized, coded and encoded in SPSS for analysis. Both descriptive and inferential statistics were used to analyze the data. The Mean, standard deviation, frequencies and percentages were used in descriptive statistics, while regression and correlation analysis were used in inferential statistics. Frequency tables were used to convey the conclusions from the inferential and descriptive analysis. The Statistical Package of Social Sciences (SPSS), version 23 was used by the researcher to examine the data.

Linear regression model was adopted because performance of the procurement function was a continuous variable. The direct model and the moderating effect model are illustrated below:

In the first model, Procurement performance function was regressed on supplier Pre-qualification, Supplier Evaluation, Competitive Negotiation and Supplier Management as indicated in model 3.1 – model 3.5

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon \text{-----} (3.1)$$

$$Y = \beta_0 + \beta_2 X_2 + \varepsilon \text{-----} (3.2)$$

$$Y = \beta_0 + \beta_3 X_3 + \varepsilon \text{-----} (3.3)$$

$$Y = \beta_0 + \beta_4 X_4 + \varepsilon \text{-----} (3.4)$$

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \text{-----} (3.5)$$

Where Y=Procurement performance

β_0 = Constant

$\beta_1, \beta_2, \beta_3, \beta_4$ = Beta Coefficient of independent variables

X_1 = Supplier Pre-qualification

X_2 = Supplier Evaluation

X_3 = Competitive Negotiation

X_4 = Supplier Management

ε = Error term

The Significance was tested by the coefficient of determination (R^2) and the beta Coefficients ($\beta_1 - \beta_4$). In addition, a correlation coefficient (R) was used to indicate the direction of the relationship between the variables of the study.

The multiple hierarchical regression model was used in the study to evaluate the moderating effect of internal controls on the link between the performance of the procurement function at the chosen public universities and the tendering process. It

was done to run a regression of the independent variables Supplier Pre-qualification, Supplier Evaluation, Competitive Negotiation and Supplier Management with regard to the dependent variable, which is procurement performance. The effect of the moderator was tested using the hierarchical regression model. This regression model did not allow the researcher to test all the variables at once or simultaneously but rather one variable at a time and at every step the correlation of Y was regressed against the set of the predictor variables. The hierarchical regression model was deemed fit for this study because it helped to show the prediction effect of the predictor variables, the moderator variable and the interaction of the predictor variable, and the moderator (internal controls) improved the prediction. At each stage of the analysis, the study assessed the strength of the relationship between the research variables through the correlation coefficient (R). Similarly, R^2 was calculated to determine the increment change or variation accounted for in the change in Y as a result of adding a new predictor variable.

The first model (3.6) had the independent variable and the moderator while the subsequent models had the addition of the first, second, third and fourth interaction terms

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 M + \varepsilon \text{ -----3.6}$$

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_1 * M + \beta_3 M + \varepsilon \text{ -----3.7}$$

$$Y = \beta_0 + \beta_2 X_2 + \beta_3 X_1 * M + \beta_3 M + \varepsilon \text{ -----3.8}$$

$$Y = \beta_0 + \beta_3 X_3 + \beta_3 X_1 * M + \beta_3 M + \varepsilon \text{ -----3.9}$$

$$Y = \beta_0 + \beta_4 X_4 + \beta_4 X_1 * M + \beta_3 M + \varepsilon \text{ ---- 3.10}$$

Where Y=Procurement performance

β_0 = Constant

$\beta_1, \beta_2, \beta_3, \beta_4$ and β_5 = Beta Coefficient of independent variables

X_1 = Supplier Pre-qualification

X_2 = Supplier Evaluation

X_3 = Competitive Negotiation

X_4 = Supplier Management

X_i =Interaction term

M = Internal Controls

ε = Error term

The study assessed the strength of the relationship between the research variables through the correlation coefficient (R). In addition, the Significance was tested by the coefficient of determination (R^2) and the beta Coefficients ($\beta_1 - \beta_9$).

Table 3.4: *Moderating Effect Decision Acceptance Criteria*

Outcome	Step one	Step two Δ	Conclusion
One	β_5 is significant	$\beta_6, \beta_7, \beta_8$ and β_9 are insignificant	No Moderating effect but explanatory variable
Two	β_5 is not significant	$\beta_6, \beta_7, \beta_8$ and β_9 are significant	The moderating variable has a moderating influence

Source: Baron and Kenny, (1986)

3.9 Ethical Consideration

The researcher guaranteed that all ethical guidelines for the study had been followed. This involved making sure that the necessary research permissions were in place before the study could begin. This entailed receiving a letter of permission from the

University of Kabianga Board of Graduate Studies. This provided the researcher the opportunity to request approval from the relevant universities as well as get another research permit from the National Commission for Science, Technology and Innovation (NACOSTI). In addition, the researcher spoke to the respondents to explain the study's goals and got their voluntary agreement to participate. No form of coercion or undue influence was used during the exercise. To keep the identity of the respondents anonymous, a clause was included in the data collection instrument asking the respondent not to indicate their names on the instrument. Finally, the researcher protected the information provided during the study and ensured it was only used for the intended purpose. A copy of the study findings was availed to NACOSTI and other interested parties upon request.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This section presents the study findings according to the research objectives. The findings were derived from the descriptive and inferential statistics that were carried out with the aid of SPSS. These findings formed the basis for further discussion, conclusion and recommendations. The sub-sections in this chapter include a discussion on the response rate, demographic information regarding the respondents, descriptive statistics regarding procurement functions at the selected universities, and inferential statistics explaining the causal relationship between the study variables.

4.2 General and Demographic Information

This section describes the general and personal information regarding the respondents, this information included age of the respondent, gender of the respondent, the respondent's level of education, the period of time that the respondent had worked in the university and the department that the respondents were working at. This information was deemed critical because it can have an influence on the study findings, further the information helps in analyzing how different groups may influence the results or responses allowing for more nuanced interpretations of findings and can assist in identifying patterns or trends related to specific demographics, enhancing the study's validity and applicability (Dillman *et al.*, 2014; Creswell & Creswell, 2018).

4.2.1 Response rate

The response rate of the study is summarized in Table 4.1

Table 4.1: *Response rate*

Response Rate	Sample size	Percentage
Returned Questionnaires	284	98.9
Not returned/incomplete	3	1.1
Total	287	100

The study targeted a population of 1,016 respondents. Questionnaires were administered to a sample of 287 respondents determined through Yamane (1967) formula. The researcher obtained 284 completed questionnaires representing a response rate of 98.9%. This response rate was considered adequate for the study (Mugenda & Mugenda, 2013). Attainment of this adequate response rate was attributed to sufficient preparation and training of research assistants that were engaged during the data collection exercise.

4.2.2 Demographic information

Section one of the questionnaire contained personal information of the respondent such as gender, age, academic qualification, experience and the department they are attached to.

4.2.2.1 Gender of the respondent

The study sought to assess the gender of the respondent and the results are presented in Table 4.2

Table 4.2: *Gender of the respondent*

Gender	Frequency	Percent
Male	149	52.5
Female	135	47.5
Total	284	100.0

In the study, it was found that 149 (52.5%) of the respondents were male, while 135 (47.5%) were female. The study ensured gender parity as the difference between the number of male and female respondents was only slight.

4.2.2.2 Age of the respondent

The study examined the age of the respondent. The findings are presented in Table 4.3

Table 4.3: *Age of the respondent*

Age of respondent	Frequency	Percent
18-27 years	37	13.0
28-37 years	96	33.8
38-47 years	102	35.9
Over 48 years	49	17.3
Total	284	100.0

According to the results presented in Table 4.3, 37 respondents (13%) were between 18-27 years of age, 96 respondents (33.8%) were between 28-37 years old, 102 respondents (35.9%) were between 38-47 years old, and 49 respondents (17.3%) were over 48 years old. The data indicates that the largest group of respondents falls within the age range of 38-47 years, comprising 35.9% of the total sample. This suggests that the majority of participants are likely to have significant professional experience and potentially hold positions of responsibility within their universities. The distribution

of ages indicates a predominance of middle-aged individuals, which may reflect the demographic profile of the workforce.

4.2.2.3 Highest professional qualification

The study examined the highest level of the respondent's qualification. The findings are presented in Table 4.4

Table 4.4: *Highest professional qualification*

Qualifications	Frequency	Percent
PhD	17	6.0
Masters	112	39.4
Degree	100	35.2
Diploma	48	16.9
Certificate	7	2.5
Total	284	100.0

Table 4.4 revealed that out of the total respondents, 17 (6%) had obtained a Ph.D. degree. The majority, which amounts to 112 (39.4%) respondents, had completed their master's degree, followed by 100 (35.2%) respondents who had completed their undergraduate degree. Additionally, 48 (16.9%) respondents held a diploma and only 7 (2.5%) respondents held a certificate. It is worth noting that most of the respondents had attained either a master's or bachelor's degree, which suggests that they were highly knowledgeable and could comprehend the research instrument's items with ease. The findings also indicate that a well-informed sample of respondents is essential for generating more accurate and reliable data (Creswell & Creswell, 2017).

4.2.2.4 Length of service at the University

The respondents were asked the period of time that they have worked at their respective departments at the institutions. The findings are presented in Table 4.5

Table 4.5: *Length of service at the University*

Length of service at the University	Frequency	Percent
Less than 1 year	18	6.3
1-5 years	108	38.0
6-10 years	77	27.1
Over 10 years	81	28.5
Total	284	100.0

According to the survey results presented in Table 4.5, 18 respondents, which accounts for 6.3% of the total, had worked for less than one year. 108 respondents, or 38% of the total, had worked for 1-5 years and 77 respondents, or 27.1% of the total, had worked for 6-10 years. Finally, 81 respondents, or 28.5% of the total, had worked for over ten years at their respective departments of the University.

4.2.2.5 Department where the respondents work

The study sought to assess the department at which the respondent worked. The findings are presented in Table 4.6

Table 4.6: *Department*

Department	Frequency	Percent
User department	76	26.8
Procurement department	120	42.2
Accounting department	88	31.0
Total	284	100.0

The study showed that 76 (26.8%) respondents worked in the user department, 120 (42.3%) respondents worked in the procurement department, and 88 (31%) respondents worked in the accounting department in the said institutions. The findings

imply that most of the respondents were drawn from the procurement department, where most procurement activities take place.

4.3 Descriptive statistics

The study aimed to evaluate the relationship between supplier pre-qualification, supplier evaluation, competitive negotiation, supplier management and procurement performance in selected public universities in Kenya. Descriptive statistics used frequencies, mean, percentages and standard deviation, while Inferential statistics used correlation, ANOVA and regression models to measure the significance and strength of the relationship between the study variables. Additionally, the study aimed to determine whether internal controls moderated the relationship between the tendering process and procurement performance.

4.3.1 Pre-Qualification of Suppliers

The study provided statements on the pre-qualification of supplier practices at the university. The respondents were required to indicate the extent to which they agreed to the given statements using a five-point likert scale. In the scale 5= Strongly Agree (SA), 4= Agree (A), 3= Undecided (UD), 2 = Disagree (D) and 1= Strongly Disagree (SD).

Table 4.7: Pre-Qualification of Suppliers

Statement on Pre-Qualification of Suppliers	5 (SA)	4 (A)	3 (UD)	2 (D)	1(SD)	N	Mean	SD
The procurement department carries out a supplier pre-qualification exercise periodically.	178 (62.7)	83 (29.2)	17 (3)	3 (1.1)	3 (1.1)	284	4.514	0.749
The University invites potential suppliers to apply for the pre-qualification exercise through public media.	151 (53.2)	119 (41.9)	11 (3.9)	3 (1.1)	0 (0)	284	4.472	0.626
The supplier pre-qualification process is done transparently.	154 (54.2)	88 (31)	36 (12.7)	6 (2.1)	0 (0)	284	4.373	0.785
The potential supplier's financial capability is assessed during the pre-qualification exercise.	121 (42.6)	89 (31.3)	50 (17.6)	21 (7.4)	13 (1.1)	284	4.070	0.996
During the pre-qualification exercise, the statutory compliance of the potential supplier is assessed.	133 (46.8)	118 (41.5)	30 (10.6)	3 (1.1)	0 (0)	284	4.341	0.708
The pre-qualification exercise assesses the capacity to meet product/service specifications.	133 (46.8)	93 (32.7)	37 (13)	18 (6.3)	3 (1.1)	284	4.180	0.958
Referral checks are done to assess the potential supplier's ability to deliver.	103 (36.3)	131 (46.1)	20 (7)	27 (9.5)	3 (1.1)	284	4.070	0.952
Overall Mean							4.314	

The study showed that the procurement department carries out a supplier pre-qualification exercise periodically since 178 (62.7%) respondents strongly agreed, 83 (29.2%) respondents agreed, 17 (3%) respondents were undecided, while those who disagreed were 3 (1.1%) respondents and strongly disagreed were 3 (1.1%) respondents. A mean of 4.514 and standard deviation of 0.749 also showed that the procurement department actually carries out a pre-qualification exercise periodically.

From the findings, the University invites potential suppliers to apply for the pre-qualification exercise through public media as revealed by 151 (53.2%) respondents who strongly agreed and 119 (41.9%) respondents who agreed. However, 11 (3.9%)

respondents were undecided and only 3 (1.1%) respondents disagreed. The study obtained a mean of 4.472 and standard deviation of 0.626 which reveals that the University invites potential suppliers to apply for the pre-qualification exercise through public media.

When asked if the supplier pre-qualification process was done transparently, 154 (54.2%) respondents strongly agreed, 88 (31%) respondents agreed, 36 (12.7%) respondents were undecided and 6 (2.1%) respondents disagreed. This showed that the supplier pre-qualification process is done transparently. This is also proven by the mean of 4.373 and standard deviation of 0.785.

The study showed that potential supplier's financial capability was assessed during the pre-qualification exercise, as 121 (42.6%) respondents strongly agreed, 89 (31.3%) respondents agreed, 50 (17.6%) respondents were undecided, 21 (7.4%) respondents disagreed and 3(1.1%) strongly disagreed. The mean was 4.070 and standard deviation was 0.996.

The results indicate that, during the pre-qualification exercise, the statutory compliance of the potential supplier was assessed. This is shown as 133 (46.8%) respondents strongly agreed, 118 (41.5%) respondents agreed 30 (10.6%) respondents were undecided and 3 (1.1%) respondents disagreed. The mean was 4.341 and standard deviation was 0.0.708.

The study showed that the pre-qualification exercise assesses the capacity to meet product/service specifications. The respondents who strongly agreed were 133 (46.8%), 93 (32.7%) respondents agreed, 37 (13%) respondents were undecided, 18 (76.3%) respondents disagreed and 3(1.1%) strongly disagreed. The mean was 4.180 and standard deviation was 0.988.

As per the result, referral checks are done to assess the potential supplier's ability to deliver since 103 (36.3%) respondents strongly agreed, 131 (46.1%) respondents agreed, 20 (7%) respondents were undecided, 27 (9.5%) respondents disagreed, and 3 (1.1%) strongly disagreed. This is also revealed by the mean of 4.070 and the standard deviation of 0.952.

Therefore, the study found that most respondents in this study agreed (grand mean=4.314) that supplier pre-qualification has a significant relationship with procurement performance.

4.3.2 Supplier evaluation

The study provided statements on supplier evaluation practices at the universities. The respondents were required to indicate the extent to which they agreed to the statements using a five-point likart scale. In the scale 5= Strongly Agree (SA), 4= Agree (A), 3= Undecided (UD), 2 = Disagree (D) and 1= Strongly Disagree (SD).

Table 4.8: Supplier evaluation

Statements on supplier evaluation	5 (SA)	4 (A)	3 (UD)	2 (D)	1(SD)	N	M	SD
The procurement department evaluates bidders every time they are received.	163 (57.4)	92 (32.4)	29 (10.2)	0 (0)	0 (0)	284	4.472	0.675
The procurement department selects a competent committee to evaluate suppliers.	139 (48.9)	117 (41.2)	19 (6.7)	6 (2.1)	3 (1.1)	284	4.349	0.785
The university sets mandatory requirements to be met by suppliers.	154 (54.2)	102 (35.9)	25 (8.8)	3 (1.1)	0 (0)	284	4.433	0.698
The university sets technical requirements to be met by suppliers.	118 (41.5)	144 (50.7)	22 (7.7)	0 (0)	0 (0)	284	4.338	0.616
Bid price is used as a critical determinant in the supplier evaluation process.	97 (34.2)	120 (42.3)	37 (13)	27 (9.5)	3 (1.1)	284	4.433	4.098
Production capacity is used as a critical determinant in the supplier evaluation process.	85 (29.9)	143 (50)	39 (13.7)	15 (5.3)	3 (1.1)	284	4.025	0.863
Efficient supplier evaluation influences procurement performance.	121 (42.6)	130 (45.8)	33 (11.6)	0 (0)	0 (0)	284	4.310	0.669
Overall Mean							4.337	

The findings showed that the procurement department evaluates bidders every time they are received as 163 (57.4%) strongly respondents agreed, 92 (32.4%) respondents agreed. However, 29 (10.2%) respondents were undecided. The mean of 4.472 and standard deviation 0.675 also showed that the procurement department evaluated bidders every time they are received

When asked whether the procurement department selects a competent committee to evaluate suppliers, 139 (48.9%) respondents strongly agreed, 117 (41.2%) respondents agreed, 19 (6.7%) respondents were undecided, 6(2.1%) respondents disagreed and 3 (1.1%) strongly disagreed. The findings revealed that procurement department selects a competent committee to evaluate suppliers. This was also reiterated by the mean of 4.349 and standard deviation 0.785.

The responses to whether the university set mandatory requirements to be met by suppliers show that 154 (54.2%) respondents strongly agreed, 102 (35.9%) respondents agreed and 25 (8.8%) respondents were undecided, while 3(1.1%) respondents disagreed. Majority of the respondents as shown by mean of 4.433 and standard deviation of 0.698 also showed that the university sets mandatory requirements to be met by suppliers.

The study showed that the university sets technical requirements to be met by suppliers as 118 (41.5%) respondents strongly agreed, 144 (50.7%) respondents agreed and 22 (7.7%) respondents were undecided. The mean of 4.338 and standard deviation of 0.616 also showed that most of the respondents agreed that the university sets technical requirements to be met by suppliers.

According to the findings, bid price is used as a critical determinant in the supplier evaluation process. This is because 97 (34.2%) respondents strongly agreed, 120 (42.3%) respondents agreed, 37 (13%) respondents were undecided, 27(9.5%) respondents disagreed and 3 (1.1%) strongly disagreed. The mean was 4.433 and standard deviation 4.098.

The study findings show that production capacity is a critical determinant in the supplier evaluation process. This is shown as 85 (29.9%) respondents strongly agreed,

142 (50%) respondents agreed, and 39 (13.7%) respondents were undecided. However, 15(5.3%) respondents disagreed, and 3 (1.1%) strongly disagreed. The mean of 4.025 and standard deviation of 0.863 also revealed that production capacity is a critical determinant in the supplier evaluation process.

In regards to the findings, efficient supplier evaluation influences procurement performance. This was indicated by 121 (42.6%) respondents who strongly agreed, 130 (45.8%) respondents who agreed, and 33 (11.6%) respondents who were neutral. This was also proven by the mean of 4.310 and standard deviation of 0.669.

4.3.3 Competitive negotiation

The study provided statements on competitive negotiation practices at the universities. The respondents were required to indicate the extent to which they agreed to the statements using a five-point likert scale. In the scale 5= Strongly Agree (SA), 4= Agree (A), 3= Undecided (UD), 2 = Disagree (D) and 1= Strongly Disagree (SD).

Table 4.9: Competitive negotiation

Statements on supplier evaluation	5 (SA)	4 (A)	3 (UD)	2 (D)	1(SD)	N	M	SD
The University has established an ad-hoc committee that is responsible for carrying out negotiations with the suppliers.	95 (33.3)	90 (31.7)	66 (23.2)	21 (7.4)	12 (4.2)	284	3.827	1.103
Training programs on competitive negotiation are provided to procurement staff.	56 (19.7)	94 (33.1)	80 (28.2)	42 (14.8)	12 (4.2)	284	3.493	1.094
Competitive negotiation is employed for high-value procurement transactions.	65 (22.9)	158 (55.6)	34 (12)	21 (7.4)	6 (2.1)	284	3.898	0.909
Competitive negotiation ensures that products and services are procured from the lowest evaluated bidder.	89 (31.3)	137 (48.2)	31 (10.9)	21 (7.4)	3 (1.1)	284	4.331	3.102
Competitive negotiation ensures that the University procures goods and services with appropriate payment terms.	86 (30.3)	149 (52.5)	34 (12)	5 (5.3)	0 (0)	284	4.077	0.794
There is collaboration between the procurement team and other university departments' staff in the negotiation process.	89 (31.3)	107 (37.7)	52 (18.3)	33 (11.6)	3 (1.1)	284	3.866	1.021
Competitive negotiation has significantly contributed to the overall procurement performance of our University.	92 (32.4)	119 (41.9)	52 (18.3)	15 (5.3)	6 (2.1)	284	3.972	0.954
Overall mean	3.923							

According to the study, 95 (33.3%) respondents strongly agreed, 90 (31.7%) respondents agreed and 66 (23.2%) respondents were undecided 21 (7.4%) respondents disagreed and 12 (4.2%) strongly disagreed that the University had established an ad-hoc committee that was responsible for carrying out negotiations with the suppliers. The mean was 3.827 and standard deviation 1.103.

The findings show that 56 (19.7%) respondents strongly agreed, 94 (33.1%) respondents agreed, 80 (28.2%) respondents were undecided 42 (14.8%) respondents disagreed and 12 (4.2%) strongly disagreed that the training programs on competitive negotiation are provided to procurement staff. The mean was 3.493 and standard deviation was 1.094. This showed that most respondents agreed that training programs on competitive negotiation are provided to procurement staff. However, there was need for improvement as a significant number of respondents also disagreed.

The respondents were asked if competitive negotiation is employed for high-value procurement transactions and 65 (22.9%) respondents strongly agreed, 158 (55.6%) respondents agreed, 34 (12%) respondents were undecided 21 (7.4%) respondents disagreed and 6 (2.1%) strongly disagreed. The findings also revealed a mean of 3.898 and standard deviation of 0.909 implying that most of respondents agreed that competitive negotiation is employed for high-value procurement transactions.

Majority of the respondents agreed that competitive negotiation ensures that products and services are procured from the lowest evaluated bidder as shown by the 89 (31.3%) respondents who strongly agreed, 137 (48.2%) respondents who agreed and 31 (10.9%) respondents who were undecided. However, 21 (7.4%) respondents disagreed and 3 (1.1%) strongly disagreed. The findings also revealed a mean was 4.331 and standard deviation 3.102

The study findings established that competitive negotiation ensures that the University procured goods and services with appropriate payment terms since 86 (30.3%) respondents strongly agreed, 149 (52.5%) respondents agreed, 34 (12%) respondents were undecided and only 5 (5.3%) respondents disagreed. The findings also revealed

a mean of 4.077 and standard deviation 0.794 which implied that most of the respondents agreed to this statement.

The results indicated that there is collaboration between the procurement team and other university departments' staff in the negotiation process. This is because 89 (31.3%) respondents strongly agreed, 107 (37.7%) respondents agreed, 52 (18.3%) respondents were undecided while, 33 (11.6%) respondents disagreed, and 3 (1.1%) strongly disagreed. The mean of 3.866 and standard deviation of 1.021 was due to the slightly high number of respondents who did not agree with the statement.

As per the study, competitive negotiation has significantly contributed to the overall procurement performance of the university as indicated by the 92 (32.4%) respondents who strongly agreed, 119 (41.9%) respondents who agreed, 52 (18.3%) respondents were undecided 15 (5.3%) respondents disagreed, and 6 (2.1%) strongly disagreed. The findings revealed a mean of 3.972 and a standard deviation of 0.954, which shows that most respondents agreed that competitive negotiation contributes to the overall procurement performance of the university.

4.3.4 Supplier management and procurement performance

The study provided statements on supplier management practices at the university. The respondents were required to indicate the extent to which they agreed to the statements using a five-point Likert scale. In the scale 5= Strongly Agree (SA), 4= Agree (A), 3= Undecided (UD), 2 = Disagree (D) and 1= Strongly Disagree (SD)

Table 4.10: Supplier management

Statements on supplier management	5 (SA)	4 (A)	3(UD)	2 (D)	1(SD)	N	Mean	SD
The procurement department maintains a supplier database.	158 (55.6)	98 (34.5)	28 (9.9)	0 (0)	0 (0)	284	4.458	0.668
The University keeps good relations with suppliers.	111 (39.1)	148 (52.1)	16 (5.6)	9 (3.2)	0 (0)	284	4.271	0.709
The procurement department encourages feedback from suppliers on issues affecting them.	111 (39.1)	118 (41.5)	34 (12)	27 (7.4)	0 (0)	284	4.123	0.891
The procurement department addresses supplier concerns regularly and promptly.	75 (26.4)	144 (50.7)	41 (14.4)	21 (7.4)	3 (1.1)	284	3.940	0.894
The procurement department has classified suppliers into various categories.	126 (44.4)	126 (44.4)	26 (9.2)	3 (1.1)	3 (1.1)	284	4.299	0.765
Suppliers are enlightened through training on compliance and other regulations affecting public procurement.	92 (32.4)	98 (34.5)	58 (20.4)	33 (11.6)	3 (1.1)	284	3.856	1.035
Effective supplier management influences procurement performance.	137 (48.2)	125 (44)	19 (6.7)	3 (1.1)	0 (0)	284	4.384	0.706
Overall mean							4.190	

Table 4.10 showed that 158 (55.6%) respondents strongly agreed and 98 (34.5%) respondents agreed, while 28 (9.9%) respondents were undecided that the procurement department maintains a supplier database. It also revealed a mean of 4.458 and a standard deviation of 0.668. According to these findings, the majority of the respondents agreed that the procurement department maintains a supplier database.

The study found that the university keeps good relations with suppliers. This was shown by 111 (39.1%) respondents who strongly agreed, 148 (52.1%) respondents who agreed, 16 (5.6%) respondents who were undecided, and 9 (3.2%) respondents who disagreed. The findings also revealed a mean of 4.271 and a standard deviation of 0.709, implying that most respondents agreed.

The results indicated that the procurement department encourages feedback from suppliers on issues affecting them as 111 (39.1%) respondents strongly agreed, 118 (41.5%) respondents agreed, 34 (12%) respondents were undecided, and 27 (7.4%) respondents disagreed. The findings revealed a mean of 4.123 and a standard deviation of 0.891, showing that the majority of the respondents agreed that the procurement department encourages feedback from suppliers on issues affecting them.

According to the findings, 75 (26.4%) respondents strongly agreed, 144 (50.7%) respondents agreed, 41 (14.4%) respondents were undecided, 21 (7.4%) respondents disagreed, and 3 (1.1%) respondents strongly disagreed that the procurement department addresses supplier concerns regularly and promptly. The mean of 3.940 and standard deviation of 0.894 showed that most respondents agreed with this statement.

The research findings revealed that the procurement department has classified suppliers into various categories; 126 (44.4%) respondents strongly agreed, 126 (44.4%) respondents agreed, 26 (9.2%) respondents were undecided, 3 (1.1%) respondents disagreed, 3 (1.1%) respondents strongly disagreed. A mean of 4.299 and a standard deviation of 0.765 also revealed that the majority of the respondents agreed that the procurement department had classified suppliers into various categories.

In response to whether the suppliers are enlightened through training on compliance and other regulations affecting public procurement, 92 (32.4%) respondents strongly agreed, 98 (34.5%) respondents agreed, 58 (20.4%) respondents were undecided, 33 (11.6%) respondents disagreed, and 3 (1.1%) respondents strongly disagreed. The mean was 3.856, and the standard deviation was 1.035. These findings implied that most respondents agreed that suppliers were enlightened through training on compliance and other regulations affecting public procurement. However, there was need for improvement as a significant number were undecided and disagreed with this.

The study showed that effective supplier management influences procurement performance as 137 (48.2%) respondents strongly agreed, 125 (44%) respondents agreed, 19 (6.7%) respondents were undecided, and only 3 (1.1%) respondents disagreed. A mean of 4.299 and a standard deviation of 0.765 also revealed that most of the respondents agreed that procurement performance was influenced by effective supplier management. These findings imply that majority of the respondents agreed (Grand mean=4.190) that supplier management enhance procurement performance in public universities.

4.3.5 Procurement performance

The study provided statements on procurement performance at the university. The respondents were required to indicate the extent to which they agreed to the statements using a five-point Likert scale. In the scale 5= Strongly Agree (SA), 4= Agree (A), 3= Undecided (UD), 2 = Disagree (D) and 1= Strongly Disagree (SD).

Table 4.11: Procurement performance

Statements on procurement performance	5 (SA)	4 (A)	3(UD)	2 (D)	1(SD)	N	Mean	SD
An efficient tendering process improves the quality of services and goods delivered.	183 (64.4)	90 (31.7)	11 (3.9)	0 (0)	0 (0)	284	4.606	0.563
The procurement department obtains goods and services at the most cost-effective prices.	132 (46.5)	96 (33.8)	32 (11.3)	18 (6.3)	6 (2.1)	284	4.162	0.999
An effective tendering process enhance timely delivery of goods and services to the University.	135 (47.5)	105 (37)	35 (12.3)	3 (1.1)	3 (1.1)	284	4.732	4.245
The University consistently achieves value for money in its procurement activities.	108 (38)	103 (36.3)	55 (19.4)	15 (5.3)	3 (1.1)	284	4.049	0.938
The quality of goods and services procured by the University meets expectations.	93 (32.7)	129 (45.4)	47 (16.5)	15 (5.3)	0 (0)	284	4.056	0.839
An efficient tendering process enhances cost management.	129 (45.4)	124 (43.7)	22 (7.7)	9 (3.2)	0 (0)	284	4.313	0.750
Stakeholders (end-users, departments) are satisfied with the procurement services provided	99 (34.9)	129 (45.4)	29 (10.2)	21 (7.4)	6 (2.1)	284	4.035	0.969
Overall Mean							4.279	

Table 4.11 shows that the majority of the respondents agreed that an efficient tendering process improves the quality of services and goods delivered. This was evident as 183 (64.4%) respondents strongly agreed, 90 (31.7%) respondents agreed, and 11 (3.9%) respondents were neutral. A mean of 4.606 and a standard deviation of 0.563 also confirm that most respondents agreed on this.

The study showed that the procurement department obtains goods and services at the most cost-effective prices since 132 (46.5%) respondents strongly agreed, 96 (33.8%) respondents agreed, and 32 (11.3%) respondents were undecided. However, 18

(6.3%) respondents disagreed, and 6 (2.1%) respondents strongly disagreed. A mean of 4.162 and a standard deviation of 0.999 showed that most respondents agreed that the procurement department obtains goods and services at the most cost-effective prices.

According to the findings, the majority of the respondents agreed that an effective tendering process enhances the timely delivery of goods and services to the University. The findings were that 135 (47.5%) respondents strongly agreed, 105 (37%) respondents agreed, 35 (12.3%) respondents were undecided, 3 (1.1%) respondents disagreed, and 3 (1.1%) respondents strongly disagreed. A mean of 4.732 and a standard deviation of 4.245

The findings revealed that the University consistently achieves value for money in its procurement activities as 108 (38%) respondents strongly agreed, 103 (36.3%) respondents agreed, 55 (19.4%) respondents were undecided, 15 (5.3%) respondents disagreed, and 3 (1.1%) respondents strongly disagreed. A mean of 4.049 and a standard deviation of 0.938 also imply that most respondents agreed that the University consistently achieves value for money in its procurement activities.

The results showed that the quality of goods and services procured by the University meets expectations as 93 (32.7%) respondents strongly agreed, 129 (45.4%) respondents agreed, 47 (16.5%) respondents were undecided, and 15 (5.3%) respondents disagreed. The mean was 4.056, and the standard deviation was 0.839, showing that the majority of the respondents agreed that the quality of goods and services procured by the University meets expectations.

Most respondents agreed that an efficient tendering process enhances cost management. This is because 129 (45.4%) respondents strongly agreed, 124 (43.7%)

respondents agreed, 22 (7.7%) respondents were undecided, and 9 (3.2%) respondents disagreed. The statement was also proven by the mean of 4.313 and the standard deviation of 0.750.

As per the findings, stakeholders (end-users, departments) are satisfied with the procurement services provided since 99 (34.9%) respondents strongly agreed, 129 (45.4%) respondents agreed, 29 (10.2%) respondents were undecided, 21 (7.4%) respondents disagreed, and 6 (2.1%) strongly disagreed. The mean was 4.035, and the standard deviation was 0.969. These findings showed that most respondents agreed (Grand mean=4.279) that stakeholders are satisfied with the procurement services provided.

4.3.6 Internal controls

The study provided statements on internal control practices at the university. The respondents were required to indicate the extent to which they agreed to the statements using a five-point likert scale. In the scale 5= Strongly Agree (SA), 4= Agree (A), 3= Undecided (UD), 2 = Disagree (D) and 1= Strongly Disagree (SD)

Table 4.12: Internal controls

Statements on Internal controls	5 (SA)	4 (A)	3(UD)	2 (D)	1(SD)	N	Mean	SD
The University has established specific internal controls for different stages of the procurement process.	135 (47.5)	116 (40.8)	24 (8.5)	9 (3.2)	0 (0)	284	4.327	0.762
Segregation of duties at the procurement department ensures that no single personnel has absolute control over the procurement process.	144 (50.7)	99 (34.9)	32 (11.3)	9 (3.2)	0 (0)	284	4.331	0.799
The University has a system for monitoring the effectiveness of internal controls in the procurement process.	96 (33.8)	144 (50.7)	32 (11.3)	12 (4.2)	0 (0)	284	4.141	0.776
Feedback from internal control assessments is used to enhance the procurement control environment.	108 (38)	119 (41.9)	42 (14.8)	15 (5.3)	0 (0)	284	4.127	0.852
The procurement department efficiently documents and keeps records of all the procured items.	114 (40.1)	137 (48.2)	27 (9.5)	6 (2.1)	0 (0)	284	4.384	0.755
The University has established sufficient authorization controls that allow approvals and sign-offs at every stage of the tendering process.	114 (40.1)	137 (48.2)	27 (9.5)	6 (2.1)	0 (0)	284	4.264	0.716
Internal controls significantly contribute to the overall performance of procurement activities in our University.	163 (57.4)	88 (31)	24 (8.5)	9 (3.2)	0 (0)	284	4.426	0.778
Overall Mean	4.286							

Source: Research Data, 2024

Table 4.12 shows that the University has established specific internal controls for different stages of the procurement process since 135 (47.5%) respondents strongly

agreed, 116 (40.8%) respondents agreed, 24 (8.5%) respondents were undecided, and 9 (3.2%) respondents disagreed. The mean was 4.327, and the standard deviation of 0.762 also reiterated the same.

When questioned whether segregation of duties at the procurement department ensures that no single personnel has absolute control over the procurement process, 144 (50.7%) respondents strongly agreed, 99 (34.9%) respondents agreed, 32 (11.3%) respondents were undecided and 9 (3.2%) respondents disagreed. The findings showed that the majority of the respondents agreed that the segregation of duties at the procurement department ensured that no single personnel had absolute control over the procurement process. This was also proven by the mean of 4.331 and standard deviation of 0.799.

The study revealed that the University has a system for monitoring the effectiveness of internal controls in the procurement process. Respondents who strongly agreed were 96 (33.8%) respondents strongly agreed, 144 (50.7%) respondents agreed, 32 (11.3%) respondents were undecided and 12 (4.2%) respondents disagreed. The mean was also 4.141, and the standard deviation was 0.776. These results showed that most universities had a system for monitoring the effectiveness of internal controls in the procurement process.

According to the study, feedback from internal control assessments is used to enhance the procurement control environment. This is because 108 (38%) respondents strongly agreed, 199 (41.9%) respondents agreed, 42 (14.8%) respondents were undecided, and 15 (5.3%) respondents disagreed. The mean of 4.127 and standard deviation of 0.852 also implied that feedback from internal control assessments is used to enhance the procurement control environment.

As per the findings, the procurement department efficiently documents and keeps records of all the procured items. The respondents who strongly agreed were 114(40.1%), 137 (48.2%) respondents agreed, 27 (9.5%) respondents were undecided, and 6 (2.1%) respondents disagreed. The mean was 4.384, and the standard deviation of 0.755. These findings showed that the University's procurement department efficiently documents and keeps records of all the procured items.

The results revealed that the universities had established sufficient authorization controls that allowed approvals and sign-offs at every stage of the tendering process. This is because 114 (40.1%) respondents strongly agreed, 137 (48.2%) respondents agreed, 27 (9.5%) respondents were undecided, and 6 (2.1%) respondents disagreed. The mean was also 4.264, and the standard deviation was 0.716. These findings implied that the majority of the respondents agreed with this statement.

The study showed that internal controls significantly contributed to the overall performance of procurement activities in the Universities. Respondents who agreed were 163(57.4%), 88 (31%) respondents agreed, 24 (8.5%) respondents were undecided and 9 (3.2%) respondents disagreed. The mean was 4.426, and the standard deviation was 0.778. Therefore, in conclusion most respondents agreed (Grand total =4.285) that internal controls significantly contributed to the overall performance of procurement activities in the Universities.

4.4 Inferential Statistics

The study examined the direction and nature of the research variables using the Pearson correlation coefficient, analysis of variance, and regression analysis. The study also used the moderated regression analysis to assess the moderating effect of

internal controls on the relationship between the tendering process and procurement performance.

4.4.1 Correlation analysis

Correlation analysis was conducted to test the nature of the non-causal relationship between the tendering process and procurement performance before testing the research hypotheses. Table 4.13 presents information on the correlation between supplier pre-qualification, supplier evaluation, competitive negotiation, supplier management, and performance of the procurement function.

Table 4.13: *Correlation Analysis*

			1	2	3	4	5
1. Pre-qualification	Pearson						
	Correlation						
	Sig. (2-tailed)						
	N		284				
2. Supplier evaluation	Pearson		0.493*				
	Correlation		*				
	Sig. (2-tailed)		0.000				
	N		284	284			
3. Competitive negotiation	Pearson		0.435*	0.279*			
	Correlation		*	*			
	Sig. (2-tailed)		0.000	0.000			
	N		284	284	284		
4. Supplier management	Pearson		0.746*	0.578*	0.449*		
	Correlation		*	*	*		
	Sig. (2-tailed)		0.000	0.000	0.000		
	N		284	284	284	284	
5. Performance	Pearson		0.514*	0.383*	0.375*	0.607*	
	Correlation		*	*	*	*	
	Sig. (2-tailed)		0.000	0.000	0.000	0.000	
	N		284	284	284	284	284

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

The results on Table 4.13 show that there exists a positive significant correlation between pre-qualification of suppliers and performance of the procurement function (r

= 0.514, $p < 0.05$). The results also show that there exists a positive, significant non-causal relationship between supplier evaluation and performance of the procurement function ($r = 0.383$, $p < 0.05$). The study established that the correlation between competitive negotiation and the performance of the procurement function was positive and statistically significant ($r = 0.375$, $p < 0.05$). Further, the results indicate a positive, significant, non-causal relationship between supplier management and the performance of the procurement function ($r = 0.607$, $p < 0.05$).

These findings were supported by Agonsi, Akanmu, Mohammed, and Igwe (2021), who established a significant positive relationship between supplier pre-qualification and procurement performance at the Federal Universities in North Central Nigeria. Similarly, the findings were also supported by those of Acheamfour, Kissi, and Adjei-Kumi (2019), Gaylade (2018), and Koros and Kwasira (2021), who found that supplier pre-qualification had a positive significant relationship with procurement performance.

The findings also concur with those of Laosirihongthong *et al.* (2019), who established a significant positive correlation between supplier evaluation and procurement performance. Specifically, other studies that revealed similar findings include those of Mukarumongi *et al.* (2018), who found that supplier assessment had a significant effect on procurement performance in Rwandan government ministries. A study by Hamad (2020) investigated the effects of supplier assessment on procurement performance in the public health sector in Zanzibar, Tanzania, Jepchumba and Kibet (2019) on the effect of supplier assessment on quality service delivery at Moi University and Wilbroda and Miroga (2021) who carried a study to determine the influence of supplier evaluation on county government procurement performance in Nairobi County, Kenya.

However, the findings are inconsistent with those of Halizahari, Mohaiyadin, and Husain (2020), who established a negative correlation between supplier pre-qualification and efficient public procurement delivery in Malaysia and a study by Duarte and Sousa (2020) assessing the effect of supplier pre-qualification on the performance of the Portuguese Construction Sector found that supplier pre-qualification did not have any significance effect on procurement performance of the construction industry.

4.4.2 Testing of the Research Hypothesis

The study conducted a regression analysis to test the research hypotheses. Linear regression was carried out on individual predictor variables to assess the effect of the independent variable on the dependent variable. Further, multiple regression analysis was carried out to ascertain the combined effect of all the independent variables on the dependent variable.

4.4.2.1 The moderating effect of internal controls on the relationship between supplier pre-qualification and procurement performance

The first hypothesis of the study stated that internal controls have no statistically significant moderating effect on the relationship between supplier pre-qualification and procurement performance of public universities in Kenya. However, before determining the moderating effect, the study examined the direct relationship between supplier pre-qualification and procurement performance in public universities. The results are presented in Table 4.14.

Table 4.14: *Model summary for the direct relationship between supplier's pre-qualification and procurement performance*

	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
	1					R Square Change	F Change	df1	df2	Sig. F Change
Pre-qualification	1	0.514 ^a	0.264	0.261	0.72681	0.264	101.107	1	28	0.000
n							7		2	

The results presented in table 4.14 reveal that the significance test results for supplier pre-qualification shows a positive relationship between pre-qualification and procurement performance ($R=0.514$, $R^2= 0.264$) and ($F_{1, 282} = 101.107$, $p=0.000<0.05$). The obtained R^2 of 0.264 implies that 26.4% of the variation in procurement performance in public universities can be explained by supplier pre-qualification. Subsequently, the moderating effect of internal controls on the relationship between pre-qualification and procurement performance was examined and the results presented in Table 4.15.

Table 4.15: *Model summary for the moderating effect of internal controls on the relationship between supplier prequalification and procurement performance*

	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
	1					R Square Change	F Change	df1	df2	Sig. F Change
Pre-qualification	1	0.582 ^a	0.339	0.337	0.68874	0.339	144.622	1	28	0.000
n									2	

Table 4.15 presents the results obtained after the interaction of the moderator variable (pre-qualification*internal controls) was introduced in the regression model. The

findings reveal a positive relationship between pre-qualification and procurement performance of public universities ($R=0.582$, $R^2= 0.339$) and $(F1, 282) = 144.622$, $p=0.000<0.05$). The obtained R^2 of 0.339 implies that 33.9% of the variation in procurement performance in public universities can be accounted for by supplier pre-qualification*internal controls. The inclusion of the moderator variable resulted in a change of the coefficient of determination of 0.075 which implies that the moderation effect accounts for 7.5% of the variation in procurement performance above and in addition to the variation that was accounted for supplier pre-qualification. Therefore, the moderating effect of internal controls on the relationship between supplier pre-qualification and procurement performance in public universities in Kenya shows a significant effect.

These study findings agree with those of Agonsi *et al.* (2021), who established a significant positive relationship between supplier pre-qualification and procurement performance at the Federal Universities in North Central Nigeria in a study examining the influence of pre-qualification requirements and the tender document on the distribution of building contracts at the Federal Universities in North Central Nigeria and that of Duarte and Sousa (2020) which examined the effect of supplier pre-qualification on the performance of the Portuguese Construction Sector

4.4.2.2 The moderating effect of internal controls on the relationship between supplier evaluation and procurement performance

The second hypothesis of the study stated that internal controls have no statistically significant moderating effect on the relationship between supplier evaluation and procurement performance in public universities in Kenya. However, before determining the moderating effect, the study examined the direct relationship between

supplier evaluation and procurement performance in public universities. The results are presented in Table 4.16.

Table 4.16: Model summary for the direct relationship between supplier evaluation and procurement performance

	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
	1					R Square Change	F Change	df1	df2	Sig. F Change
Supplier evaluation	1	0.383 ^a	0.146	0.143	0.78269	0.146	48.357	1	28	0.000
n									2	

The significance test results for supplier evaluation presented in Table 4.16 shows a positive relationship between supplier evaluation and procurement performance ($R=0.383$, $R^2= 0.146$) and ($F_{1, 282} = 48.357$, $p=0.000<0.05$). The obtained R^2 of 0.146 implies that 14.6% of the variation in procurement performance in public universities can be explained by supplier evaluation. Further, the study examined the moderating effect of internal controls on the relationship between supplier evaluation and procurement performance and the results presented in Table 4.17.

Table 4.17: Model summary for the moderating effect of internal controls on the relationship between supplier evaluation and procurement performance

	Model	R	R Squared	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
	1					R Square Change	F Change	df 1	df 2	Sig. F Change
Supplier evaluation	1	0.523 ^a	0.273	0.271	0.72221	0.273	105.997	1	28	0.000
n									2	

Table 4.17 presents the results obtained after the interaction of the moderator variable (supplier evaluation *internal controls) was introduced in the regression model. The findings reveal a positive relationship between supplier evaluation and procurement performance of public universities ($R=0.523$, $R^2= 0.273$) and ($F_{1, 282} = 105.997$, $p=0.000<0.005$). The obtained R^2 of 0.273 implies that 27.3% of the variation in procurement performance in public universities can be accounted for by supplier evaluation *internal controls. The inclusion of the moderator variable resulted in a change of the coefficient of determination of 0.127 which implies that the moderation effect accounts for 12.7% of the variation in procurement performance above and in addition to the variation that was accounted for supplier evaluation. Therefore, the moderating effect of internal controls on the relationship between supplier evaluation and procurement performance in public universities in Kenya shows a significant effect.

The findings of this study concur with those of Jepchumba and Kibet (2019) and Laosirihongthong, Samaranayake, and Nagalingam (2019), who established a significant positive relationship between supplier evaluation and procurement performance in the cement industry and supplier assessment on quality service delivery at Moi University

4.4.2.3 The moderating effect of internal controls on the relationship between competitive negotiation and procurement performance

The third hypothesis of the study stated that internal controls have no statistically significant moderating effect on the relationship between competitive negotiation and procurement performance in public universities in Kenya. However, before determining the moderating effect, the study examined the direct relationship between

competitive negotiation and procurement performance in public universities. The results are presented in Table 4.18.

Table 4.18: *Model summary for the direct relationship between competitive negotiation and procurement performance*

	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
	1					R Square Change	F Change	df1	df2	Sig. F Change
Competitive negotiation	1	0.375 ^a	0.141	0.138	0.78529	0.141	46.170	1	282	0.000

The significance test results for competitive negotiation shows a positive relationship between competitive negotiation and procurement performance ($R=0.375$, $R^2= 0.141$) and ($F(1, 282) = 46.170$, $p<0.05$). The obtained R^2 of 0.375 implies that 37.5% of the variation in procurement performance in public universities can be explained by competitive negotiation. Further, the study examined the moderating effect of internal controls on the relationship between competitive negotiation and procurement performance and the results presented in Table 4.19.

Table 4.19: *Model summary for the moderating effect of internal controls on the relationship between competitive negotiation and procurement performance*

	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
						R Square Change	F Change	df 1	df 2	Sig. F Change
Competitive negotiation	1	0.532 ^a	0.283	0.280	0.71730	0.283	111.326	1	28	0.000

Table 4.19 presents the results obtained after the interaction of the moderator variable (competitive negotiation*internal controls) was introduced in the regression model. The findings reveal a positive relationship between competitive negotiation and procurement performance of public universities ($R=0.532$, $R^2= 0.283$) and ($F(1, 282) = 111.326$, $p=0.00<0.05$). The obtained R^2 of 0.283 implies that 28.3% of the variation in procurement performance in public universities can be accounted for by competitive negotiation*internal controls. The inclusion of the moderator variable resulted in a change of the coefficient of determination of 0.142 which implies that the moderation effect accounts for 14.2% of the variation in procurement performance above and in addition to the variation that was accounted for competitive negotiation. Therefore, the moderating effect of internal controls on the relationship between competitive negotiation and procurement performance in public universities in Kenya shows a significant effect.

The findings are supported by Kara (2020), Narsimhan and Prasad (2016), and Ayantoyinbo and Oguntola (2018), who established a positive significant relationship between competitive negotiation and procurement performance.

4.4.2.4 The moderating effect of internal controls on the relationship between supplier management and procurement performance

The fourth hypothesis of the study stated that internal controls have no statistically significant moderating effect on the relationship between supplier management and procurement performance in public universities in Kenya. However, before determining the moderating effect, the study sought to assess the direct relationship between supplier management and procurement performance in public universities. The results are presented in Table 4.20.

Table 4.20: *Model summary for the direct relationship between supplier management and procurement performance*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.607 ^a	0.368	0.366	0.67320	0.368	164.556	1	28	0.000

The significance test results for supplier management shows a positive relationship between supplier management and procurement performance ($R=0.607$, $R^2= 0.368$) and ($F(1, 282) = 164.556$, $p<0.05$). The obtained R^2 of 0.368 implies that 36.8% of the variation in procurement performance in public universities can be explained by supplier management. The study subsequently examined the moderating effect of internal controls on the relationship between supplier management and procurement performance and the results are presented in Table 4.21.

Table 4.21: *Model summary for the moderating effect of internal controls on the relationship between Supplier management and procurement performance*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.609 ^a	0.372	0.368	0.67573	0.004	161.211	2	281	0.044

Table 4.21 presents the results obtained after the interaction of the moderator variable (supplier management *internal controls) was introduced in the regression model. The findings reveal a negative relationship between supplier management and procurement performance of public universities ($R=0.609$, $R^2= 0.372$) and ($F(2, 281) = 161.211$, $p<0.05$). The obtained R^2 of 0.372 implies that 36.4% of the variation in procurement performance in public universities can be accounted for by supplier management and the interaction between internal controls and supply management. The inclusion of the moderator variable resulted in a R square change of the coefficient of 0.004 which implies that the moderation effect accounts for 0.4% of the variation in procurement performance above and in addition to the variation that was accounted for supplier management. Therefore, the moderating effect of internal controls on the relationship between supplier management and procurement performance in public universities in Kenya shows a negative effect.

This finding can be supported by a exploring the influence of supplier management on the performance of procurement in East Africa Breweries, Kenya, where Njagi and Shalle (2016) established that supplier management had no significant relationship with procurement performance. However, on the contrary the findings are supported by a study carried out by Caran et al. (2016), which found that effective supplier management had a significant effect on organizational improvement in Brazil. Similarly, Yang and Zhang (2017), in assessing the role of sustainable supplier

management on the performance of buyer-supplier performance in China, established that supplier management had a positive significance effect on the performance of buyer-supplier in manufacturing companies. Akubuko et al. (2019) established a significant relationship between supplier management and procurement function performance in oil-producing companies in river states.

Further, Kanini and Wandera (2019) established that supplier management has a significant impact on the procurement performance of state corporations, further revealing that organizations had clear and proper deadlines for when the contract was to be delivered

Table 4.22: ANOVA results for the moderating effect of internal controls on the relationship between tendering process and procurement performance

		Model	Sum of Squares	Df	Mean Square	F	Sig.
Pre-Qualification	1	Regression	53.410	1	53.410	101.107	0.000 ^b
		Residual	148.966	282	0.528		
		Total	202.376	283			
	2	Regression	68.604	2	68.604	144.622	0.000 ^c
		Residual	133.772	281	0.474		
		Total	202.376	283			
Supplier Evaluation	1	Regression	29.623	1	29.623	48.357	0.000 ^b
		Residual	172.752	282	0.613		
		Total	202.376	283			
	2	Regression	55.287	2	55.287	105.997	0.000 ^c
		Residual	147.089	281	0.522		
		Total	202.376	283			
Competitive Negotiation	1	Regression	28.472	1	28.472	46.170	0.000 ^b
		Residual	173.904	282	0.617		
		Total	202.376	283			
	2	Regression	57.280	2	57.280	111.326	0.000 ^c
		Residual	145.096	281	0.515		
		Total	202.376	283			
Supplier Management	1	Regression	74.575	1	74.575	164.556	0.000 ^b
		Residual	127.800	282	0.453		
		Total	202.376	283			
	2	Regression	73.611	2	73.611	161.211	0.000 ^c
		Residual	128.765	281	0.457		
		Total	202.376	283			

The results on Table 4.22 indicated that the models were statistically significant. This implies that the coefficients of the models were not equal to zero, suggesting that the conceptual models were fit.

Table 4.23: *Coefficients for the moderating effect of internal controls on the relationship between tendering process and procurement performance*

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.092	.320		3.412	.001
	Pre-qualification	.743	.074	.514	10.055	.000
2	(Constant)	.169	.344		.492	.623
	Pre-qualification	-.113	.166	-.078	-.682	.496
	Pre-qualification*internal controls	1.072	.188	.653	5.695	.000
1	(Constant)	2.321	.285		8.131	.000
	Supplier evaluation	.452	.065	.383	6.954	.000
2	(Constant)	.460	.344		1.338	.182
	Supplier evaluation	-.500	.131	-.424	-3.824	.000
	Supplier evaluation*internal controls	1.389	.171	.902	8.136	.000
1	(Constant)	2.621	.248		10.549	.000
	Competitive Negotiation	.423	.062	.375	6.795	.000
2	(Constant)	.405	.338		1.198	.232
	Competitive Negotiation	-.473	.117	-.419	-4.037	.000
	Competitive Negotiation*internal controls	1.396	.161	.902	8.679	.000
1	(Constant)	.514	.296		1.734	.084
	Supplier Management	.899	.070	.607	12.828	.000
2	(Constant)	.299	.318		.939	.349
	Supplier Management	.518	.224	.350	2.314	.021
	Supplier Management*internal controls	.427	.238	.271	1.792	.044

Table 4.23 shows that the moderating effect of internal controls on the relationship between pre-qualification of suppliers and procurement performance in public universities was positive and significant ($\beta=1.072$, $p<0.05$), implying that internal controls have an significant moderating effect on supplier pre-qualification and procurement performance in public universities in Kenya. This implies that when supplier pre-qualification increases by an additional unit, procurement performance is predicted to increase by 1.072 as moderated by internal controls. Thus, the null

hypothesis (**H₀₁**) was rejected indicating that internal controls have a statistically significant moderating effect on the relationship between supplier pre-qualification and procurement performance in public universities in Kenya. This implies that the contribution of supplier pre-qualification to the procurement performance variable can be enhanced by internal controls.

The findings also show that the moderating effect of internal controls on the relationship between supplier evaluation and procurement performance in public universities was positive and significant ($\beta=1.389$, $p<0.05$). This implies that when supplier evaluation increases by an additional shilling, procurement performance is predicted to increase by 1.389 as moderated by internal controls. Thus, the null hypothesis (**H₀₂**) was rejected indicating that internal controls have no statistically significant moderating effect on the relationship between supplier evaluation and procurement performance in public universities in Kenya. This implies that the contribution of supplier evaluation to the procurement performance variable can be enhanced by internal controls.

Table 4.23 shows that the moderating effect of internal controls on the relationship between competitive negotiation and procurement performance in public universities was positive and significant ($\beta=1.396$, $p<0.05$), implying that when competitive negotiation increases by an additional unit, procurement performance is predicted to increase by 1.396 as moderated by internal controls. The null hypothesis (**H₀₃**) was rejected indicating that internal controls have a statistically significant moderating effect on the relationship between competitive negotiation and procurement performance in public universities in Kenya. This implies that the contribution of competitive negotiation to the procurement performance variable can be enhanced by internal controls.

Table 4.23 shows that the moderating effect of internal controls on the relationship between supplier management and procurement performance in public universities was positive and significant ($\beta=0.427$, $p<0.05$). This implies that when supplier management increases by an additional unit, procurement performance is predicted to increase by 0.427 as moderated by internal controls. Therefore, the null hypothesis (H_{04}) was rejected indicating that internal controls have a statistically significant moderating effect on the relationship between supplier management and procurement performance in public universities in Kenya. This implies that the contribution of supplier management to the procurement performance variable can be enhanced by internal controls.

4.4.3 Joint relationship between tendering process and procurement performance

The study examined the joint relationship between tendering process and procurement performance.

Table 4.24: *Model summary for the joint relationship between tendering process and procurement performance*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	R Square Change	F Change	df1	df2	Sig. F Change
1	0.789 ^a	0.590	0.587	0.66640	0.590	44.176	4	27	0.000	9
2	0.781 ^a	0.611	0.609	0.66452	0.021	36.058	5	27	0.000	8

1. Predictors: (Constant), Pre-Qualification, Supplier Evaluation, Competitive Negotiation, and Supplier Management

2. Predictors: (Constant), Pre-Qualification, Supplier Evaluation, Competitive Negotiation, Supplier Management and Internal Controls

The findings presented in table 4.24 indicate that R^2 in the moderated model changed from 59% to 61% indicating a 2% increase in variation as a result of the explanatory effect of internal controls. Further, the increase was statistically significant since the probability value of 0.00 was less than 0.05 ($P < 0.05$).

Table 4.25: ANOVA results for the joint relationship between tendering process and procurement performance

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	78.473	4	19.618	44.176	.000 ^b
	Residual	123.903	279	0.444		
	Total	202.376	283			
2	Regression	79.614	5	15.923	36.058	0.000 ^b
	Residual	122.762	278	0.442		
	Total	202.376	283			

a. Dependent Variable: Procurement Performance

b. Predictors: (Constant), Pre-Qualification, Supplier Evaluation, Competitive Negotiation, and Supplier Management

The results on table 4.25 indicate that the two models were statistically significant. Model 1 had $F(4, 279) = 44.176$, $p < 0.05$ while model 2 had $F(5, 278) = 36.058$, $p < 0.05$. Further, the mean square of the residuals reduced from 0.444 in model 1 to 0.442 in model 2. Thus, the ANOVA results in the moderated model indicate that the model was significant suggesting that it significantly fits the data.

Table 4.26: *Coefficients for the joint relationship between tendering process and procurement performance*

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.106	0.330		0.323	0.747
	Pre-Qualification	0.155	0.064	0.107	2.421	0.018
	Supplier Evaluation	0.140	0.068	0.134	2.059	0.044
	Competitive Negotiation	0.129	0.060	0.114	2.145	0.033
	Supplier Management	0.675	0.114	0.456	5.931	0.000
2	(Constant)	0.067	0.346		0.195	0.845
	Pre-Qualification	0.144	0.064	0.100	2.250	0.026
	Supplier Evaluation	0.139	0.068	0.133	2.029	0.040
	Competitive Negotiation	0.126	0.060	0.112	2.108	0.036
	Supplier Management	0.537	0.142	0.363	3.771	0.000
	Internal Controls	0.190	0.119	0.126	1.607	0.109

a. Dependent Variable: Procurement Performance

The findings in table 4.26 show that after moderation, the beta coefficient for supplier pre-qualification was 0.144 with p-value > 0.05 while the beta coefficient for supplier evaluation was 0.139 with a p-value < 0.05. Further, the beta coefficient for competitive negotiation was 0.126 with a p-value < 0.05 while the beta coefficient for supplier management was 0.537 with a p-value < 0.05. The results also indicate that the beta coefficient of the moderating variable (internal controls) was 0.190 with a p-value > 0.05, implying that internal control has no significant effect on procurement performance in public universities in Kenya. This implies that internal controls are not an explanatory variable but moderate supplier prequalification, supplier evaluation, competitive negotiations and supplier management on procurement performance.

Finally, the multiple regression equations were translated as follows

OLS model: Procurement performance = 0.106 + 0.155 supplier pre-qualification + 0.140 supplier evaluation + 0.129 competitive negotiation + 0.675 supplier management.

MMR model: Procurement performance = 0.067 + 0.144 supplier pre-qualification + 0.139 supplier evaluation + 0.126 competitive negotiation + 0.537 supplier management + 0.190 internal controls

4.5 Summary of Hypotheses Testing and Decision Table

Table 4.27: *Summary of Hypotheses Testing and Decision Table*

Hypotheses	Results	Decision
H _{05a} Internal Controls have no statistically significant moderating effect on the relationship between supplier pre-qualification and procurement performance in public universities in Kenya	Positive statistically significant moderating effect of internal controls on the relationship between supplier pre-qualification and procurement performance in public universities in Kenya	H ₀₁ Rejected
H _{05b} Internal Controls have no statistically significant moderating effect on the relationship between supplier evaluation and procurement performance in public universities in Kenya	Positive statistically significant moderating effect of internal controls on the relationship between supplier evaluation and procurement performance in public universities in Kenya	H ₀₂ Rejected
H ₀₃ Internal Controls have no statistically significant moderating effect on the relationship between competitive negotiation and procurement performance in public universities in Kenya	Positive statistically significant moderating effect of internal controls on the relationship between competitive negotiation and procurement performance in public universities in Kenya	H ₀₃ Rejected
H ₀₄ Internal Controls have no statistically significant moderating effect on the relationship between supplier management and procurement performance in public universities in Kenya	Positive statistically significant moderating effect of internal controls on the relationship between supplier management and procurement performance in public universities in Kenya	H ₀₄ Rejected

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The section presents a summary of the findings of the study, conclusion, recommendation and suggestion for further studies.

5.2 Summary of findings

The summary of the research findings was done objective wise. The study examined the relationship between supplier pre-qualification, supplier evaluation, competitive negotiation, supplier management and procurement performance and subsequently the moderating effect of internal controls in those relationships.

5.2.1 The moderating effect of internal controls on the relationship between supplier pre-qualification and procurement performance

The findings of the first objective revealed that internal controls had a significant moderating effect on the relationship between supplier pre-qualification and procurement performance ($\beta = 1.072$, $p < 0.05$). The study found that the procurement department conducts supplier pre-qualification exercises periodically, transparently invites suppliers through public media, assesses financial capabilities, ensures statutory compliance, and evaluates the capacity to meet specifications, with a grand mean of 4.314 indicating a significant positive relationship between supplier pre-qualification and procurement performance.

The study also found that there exists a statistically significant positive relationship between pre-qualification of suppliers and procurement performance in public universities ($\beta = 0.743$, $p < 0.05$). Therefore, the study established that most procurement departments carried out a supplier pre-qualification exercise periodically

and invited potential suppliers to apply for the pre-qualification exercise through public media. The supplier pre-qualification process was done transparently and the suppliers' financial capability, statutory compliance, capacity to meet product/service specifications and potential ability to deliver was assessed during the pre-qualification exercise. In addition,

5.2.2 The moderating effect of internal controls on the relationship between supplier evaluation and procurement performance

The study's second objective found that internal controls had a significant moderating effect on the relationship between supplier evaluation and procurement performance ($\beta = 1.389$, $p < 0.05$). The study further established that there exists a statistically significant positive relationship between supplier evaluation and procurement performance in public universities ($\beta = 0.452$, $p < 0.05$). The study revealed that while a significant portion of respondents agreed on the establishment of an ad-hoc committee for supplier negotiations (mean = 3.827), training programs on competitive negotiation for procurement staff were perceived as necessary for improvement (mean = 3.493); however, most respondents confirmed that competitive negotiation is employed for high-value transactions (mean = 3.898) and ensures procurement from the lowest evaluated bidder (mean = 4.331). Overall, the findings indicated that competitive negotiation contributes to procurement performance, but with a grand mean of 3.923, many respondents remained undecided about its significant impact on performance.

Therefore, these findings imply that most procurement departments select a competent committee to evaluate suppliers based on pre-set mandatory and technical requirements to be met by suppliers. Most universities used critical determinants in the evaluation process which include bid price and production capacity. The

procurement department also evaluates bidders every time they are received. These findings showed that efficient internal controls enhance the relationship between supplier evaluation and procurement performance

5.2.3 The moderating effect of internal controls on the relationship between competitive negotiation and procurement performance

The study established that internal controls had a significant moderating effect on the relationship between competitive negotiation and procurement performance ($\beta = 1.396$, $p < 0.05$). Assessing the direct relationship of the variables, the study found that competitive negotiation had a positive relationship with procurement performance in public universities in Kenya ($\beta = 0.423$, $p < 0.05$). The study indicated that a significant majority of respondents agreed that the procurement department maintains a supplier database (mean = 4.458), fosters good supplier relations (mean = 4.271), and encourages feedback from suppliers (mean = 4.123). Additionally, respondents recognized that supplier concerns are addressed regularly (mean = 3.940) and that suppliers are classified into various categories (mean = 4.299). While most respondents agreed that suppliers receive training on compliance and regulations (mean = 3.856), there is room for improvement, as some were undecided or disagreed. Overall, the findings suggested a strong consensus (grand mean = 4.190) that effective supplier management positively influences procurement performance in public universities. The results imply that most universities had established an ad-hoc committee that was responsible for carrying out negotiations with the suppliers and provided training programs on competitive negotiation to procurement staff. Competitive negotiation was employed for high-value procurement transactions to ensure that products and services were procured from the lowest evaluated bidders and those with appropriate payment terms. The findings also showed that there is

collaboration between the procurement team and other university departments' staff in the negotiation process. Finally, the results showed that internal controls have a positive significant moderating effect on the relationship between competitive negotiation to the overall procurement performance in public universities.

5.2.4 The moderating effect of internal controls on the relationship between supplier management and procurement performance

The fourth objective of the study found that internal controls had a negative moderating effect on the relationship between supplier management and procurement performance ($\beta = 0.427$, $p < 0.05$). In addition, the study established that supplier management had a positive significant correlation with procurement performance in public universities in Kenya ($\beta = 0.899$, $p < 0.05$). The study revealed that the majority of respondents agreed that the procurement department maintains a supplier database (mean = 4.458) and fosters good relations with suppliers (mean = 4.271). Additionally, most respondents acknowledged that the department encourages supplier feedback (mean = 4.123) and classifies suppliers into categories (mean = 4.299), with a grand mean of 4.190 indicating that effective supplier management positively influences procurement performance in public universities.

These findings imply that most procurement departments maintain a supplier database, keep good relations with suppliers, encourage feedback on issues affecting them and address supplier concerns regularly and promptly. Further, most universities had classified suppliers into various categories and enlightened them through training on compliance and other regulations affecting public procurement. Therefore, the study found that internal controls in the universities does not have any moderating effect on the relationship between supplier management and procurement performance.

5.3 Conclusions

Following the research findings of the study, the following conclusions were made as per the objectives of the study.

5.3.1 The moderating effect of internal controls on the relationship between pre-qualification of suppliers and procurement performance

The study concluded that internal controls have a statistically significant positive moderating effect on relationship between pre-qualification of suppliers and procurement performance in public universities. Also, there exists a positive significant correlation between pre-qualification of suppliers and performance of the procurement function.

5.3.2 The moderating effect of internal controls on the relationship between supplier evaluation and procurement performance

The results concluded that internal controls have a significant moderating effect on the relationship between supplier evaluation and procurement performance. The findings concluded that internal controls have a positive moderating effect on the relationship between supplier evaluation and procurement performance in public universities in Kenya

5.3.3 The moderating effect of internal controls on the relationship between competitive negotiation and procurement performance

The study concluded that there exists a statistically significant positive relationship between competitive negotiation and procurement performance in public universities. Internal controls also have a significant moderating effect between competitive negotiation and procurement performance. The study then concludes that effective supplier management practices significantly influence procurement performance in

public universities, providing a framework for improving procurement strategies in the public sector.

5.3.4 The moderating effect of internal controls on the relationship between supplier management and procurement performance

Based on the inferential statistics, the study concluded that there exists a negative effect on the introduction of the moderator on supplier management and procurement performance in public universities. The results indicate that there exists a positive significant non-causal relationship between supplier management and performance of the procurement function. Internal controls also have a significant moderating effect between supplier management and procurement performance. The findings highlight the critical role of supplier management in improving procurement performance in public universities, suggesting that robust internal controls further amplify this relationship. This research contributes to the body of knowledge in procurement management and provides practical implications for public sector procurement practices in Kenya.

5.4 Recommendations

Based on the conclusions of the study that established that supplier pre-qualification, supplier evaluation, competitive negotiation and supplier management influenced procurement performance, the following recommendations were made.

5.4.1 The moderating effect of internal controls on the relationship between supplier pre-qualification and procurement performance

The study recommended that in order to achieve good procurement performance in public universities, internal control measures need to be introduced that would enhance proper supplier pre-qualification procedures hence resulting in accountability

and transparency in the universities. It also recommends the establishment of comprehensive internal control mechanisms to oversee the procurement process. These controls should encompass regular audits, checks and balances, and compliance assessments to ensure that procurement activities align with institutional policies and legal regulations. It also recommended that the pre-qualification exercise involved assessment of supplier financial capability, statutory compliance and their capacity to meet product/service specifications. Proper supplier pre-qualification procedures result in efficient procurement performance in public universities.

5.4.2 The moderating effect of internal controls on the relationship between supplier evaluation and procurement performance

The study recommended that procurement departments should put in place mandatory measures to ascertain the suppliers' competence in order to enable the organization to obtain high procurement performance.

Further, it suggests the development of a comprehensive Supplier evaluation framework

establish a structured supplier evaluation framework that incorporates criteria such as financial stability, quality of goods/services, compliance with regulations, and delivery performance. Supplier evaluation is important when it is based on overall ranking in the form of pricing and production capacity as it will enhance service delivery through efficiency and cost management. The study also recommended that bidders should be evaluated every time they are received to enhance procurement performance in public universities.

5.4.3 The moderating effect of internal controls on the relationship between competitive negotiation and procurement performance

Based on the conclusion that competitive negotiation significantly affects procurement performance in public universities in Kenya, the study recommended that procurement departments set up ad-hoc committees to specifically deal with competitive negotiations. It also recommended that the procurement staff are trained on competitive negotiation. In most cases the subjects of these negotiations include delivery requirements, pricing, payment terms and quality standards. The study therefore recommended that effective competitive negotiation strategies are applied since this has a significant effect on realization of procurement goals. Moreover, establish a system for continuous evaluation of negotiation outcomes, allowing procurement departments to learn from past experiences. Collecting feedback from all stakeholders involved in the negotiation process can provide valuable insights into what strategies worked well and what areas need improvement.

5.4.4 The moderating effect of internal controls on the relationship between supplier management and procurement performance

The study recommended having clear communication with the suppliers, and managing supplier requirements efficiently as this would enhance procurement in public universities. Further, the study recommended maintaining a supplier database, classifying suppliers into various categories and enlightening them through training on compliance and other regulations affecting public procurement. This would in turn lead to better procurement performance in public universities. Implement a robust system for managing supplier requirements that incorporates best practices in procurement. This involves regularly reviewing and updating supplier needs to align with organizational goals, maintain an up-to-date supplier database that categorizes

suppliers based on various criteria such as performance history, financial stability, and compliance with regulations. This database should facilitate easy access to supplier information, enabling procurement departments to make informed decisions quickly and effectively.

5.5 Suggestions for Further Research

The study only focused on the public universities, therefore the findings may not be generalized to give a clear picture of all other universities, including private chartered, those with interim licenses and other public institutions such as the Kenya School of Government, further research is recommended on these other institutions.

Since different institutions had issues that uniquely affected their procurement performance, and the study adopted a correlational design, these unique factors may not all be considered. There are other possible elements that influence the performance of the procurement function that the study may not have factored in such as use of information technology to enhance procurement performance hence other researchers can pursue studies that incorporate technology and procurement performance.

REFERENCES

- Abd Aziz, M. A., Said, J., & Alam, M. (2015). Assessment of the practices of internal control system in the public sectors of Malaysia. *Asia-Pacific Management Accounting Journal* 10(1), 1-20.
- Abolbashari, M. H., Chang, E., Hussain, O. K., & Saberi, M. (2018). Smart buyer: a Bayesian network modelling approach for measuring and improving procurement performance in organizations. *Knowledge-Based Systems*, 142, 127-148.
- Acheamfour, V. K., Kissi, E., & Adjei-Kumi, T. (2019). Ascertaining the impact of contractors' prequalification criteria on project success criteria. *Engineering, Construction and Architectural Management*, 26(4), 618-632.
- Agonsi Raphael, I., Akanmu Williams, P., Mohammed Bala, M., & Igwe, C. O. (2021) Evaluation of the Prequalification Criteria and Use of Tender Document in the Award of Building Contracts in Federal Universities in North Central, Nigeria. *Journal of science technology and education* 9(3), 365-372
- Akubuko, G. C., Obodo, N. A., Musa, A. A., & Jimoh, A. (2019). A Re-appraisal of Procurement Management Practices and Vendor Performance: A Case of Oil Producing Firms in Rivers State. *International Journal of Advanced Academic Research| Social and Management Sciences*, 5(11), 72-88.
- Aulia, D., & Isvara, D. (2021). Strategies to Increase Procurement Maturity Level using Procurement Maturity Model to Improve Procurement Performance. *International Journal of Scientific and Research Publications*, 11(6), 489-501.

- Awoke, T., & Singh, A. (2016). Factors Affecting the Effective Functioning of Public Procurement in Public Universities of Ethiopia. *International Journal of Recent Technology and Engineering*, 8(6), 2095-2102
- Ayantoyinbo, B. B., & Oguntola, B. B. (2018). Effect of competitive negotiation in Realization of Procurement Goals in Redeemer's University. *International Journal of Engineering Technologies and Management Research*, 5(7), 65-77.
- Bainson, H. (2018). *Improving Procurement Performance in the Public Sector with the Implementation of E-Procurement: A Study of Selected Metropolitan and Municipal Assemblies in The Ashanti Region of Ghana* (Doctoral Dissertation, Department of Construction Technology and Management, Kwame Nkrumah University of Science and Technology, Ghana).
- Bawole, J. N., & Adjei-Bamfo, P. (2020). Public procurement and public financial management in Africa: Dynamics and influences. *Public Organization Review*, 20(2), 301-318.
- Boon, M., & Van Baalen, S. (2019). Epistemology for interdisciplinary research—shifting philosophical paradigms of science. *European Journal for Philosophy of Science*, 9(1), 1-28.
- Caran, V., Krueger, J. F., Ayres, L. F., & Araujo Jr, A. H. (2016). Supplier management process from the Perspective of the Stakeholders. *International Journal of Research in Engineering and Science*, 4(10), 20-24
- Chandhok, Y. (2019). *The role of gender and culture in business negotiations: A thematic-synthesis study* (Doctoral dissertation, Auckland University of Technology, USA).

- Chebet, I. K., & Kwasira, J. (2016). Assessment of Public Procurement Practices in Enhancing Procurement Cost Reduction at Embu University College, Kenya. *European International Journal of Science and Technology*, 5(3).
- Chesseto, S. C., Gudda, P., & Mbuchi, M. (2019). Transparency and Procurement Performance of Public Universities in Kenya: The Case of Moi University. *International Journal of Academic Research in Business and Social Sciences*, 9(9).437-447
- Chiappinelli, O. (2020). Decentralization and public procurement performance: New evidence from Italy. *Economic Inquiry*, 58(2), 856-880.
- Chimwani, B. I., Iravo, M. A., & Tirimba, O. I. (2014). Factors influencing procurement performance in the Kenyan public sector: case study of the state law office. *International Journal of Innovation and Applied Studies*, 9(4), 1626.
- Cole, R., & Aitken, J. (2019). Selecting suppliers for socially sustainable supply chain management: post-exchange supplier development activities as pre-selection requirements. *Production Planning & Control*, 30(14), 1184-1202.
- Detkova, P., Podkolzina, E., & Tkachenko, A. (2018). Corruption, centralization and competition: evidence from Russian public procurement. *International Journal of Public Administration*, 41(5-6), 414-434.
- Duarte, B. M., & Sousa, S. D. (2020). Supplier prequalification method for the Portuguese construction industry. *Procedia Manufacturing*, 51, 1703-1708.
- EACC (2019). Ethics and Anti-Corruption Commission an Evaluation of Corruption in Public Procurement: A Kenyan Experience,

2015. <https://eacc.go.ke/default/wp-content/uploads/2018/09/Evaluation-of-corruption-in-the-public-procurement.pdf>.

Etuk, U. R., & Akpabio, I. A. (2014). Use of local media approaches in agriculture and rural development activities in Akwa Ibom State. *Nigerian Journal of Rural Sociology*, 14(2202-2019-825), 76-84.

García-Moya, I., Moreno, C., & Brooks, F.M. (2019). The balancing acts of building positive relationships with students: Secondary school teachers' perspectives in England and Spain. *Teaching and Teacher Education*, 86(1), 1-11.

Gaylade, O. E. (2018). *Selected Factors of Supplier Prequalification on Organizational Performance-a Case Study of Danish Refugee Council* (Doctoral Dissertation, University of Nairobi, Kenya).

Goshen, Z., & Squire, R. (2017). Principal costs: A new theory for corporate law and governance. *Colum. L. Rev.*, 117, 767.

Hashmi, A. R., Amirah, N. A., & Yusof, Y. (2020). Mediating effect of integrated systems on the relationship between supply chain management practices and public healthcare performance: Structural Equation Modeling. *International Journal of Management and Sustainability*, 9(3), 148-160.

Hemalatha, S., Babu, G. R., Rao, K. N., & Venkatasubbaiah, K. (2015). Supply chain strategy-based supplier evaluation-an integrated framework. *International Journal of Managing Value and Supply Chains*, 6(2), 69-84.

Jepchumba, M., & Kibet, Y. (2019) Effect of Supplier Evaluation on Service Delivery at Moi University. *Sciences*, 4(5), 15-27.

- Kakwezi, P., & Nyeko, S. (2019). Procurement processes and performance: Efficiency and effectiveness of the procurement function. *International Journal of Social Sciences Management and Entrepreneurship*, 3(1),1-22
- Kanini, R. B., & Wandera, J. (2019). Effect of supplier management on procurement performance in selected state corporate in Kenya. *The Strategic Journal of Business & Change Management*, 6(2), 1870-1978.
- Kirui J. & Naibei I. (2023). *Research Methodology for Social Sciences*. Kenya Literature Bureau
- Kisurkat, P. E. (2017). *Effect of Tendering on Organizational Performance; A Survey of Public Institutions in Kajiado County* (Doctoral dissertation, MUA).
- Kohler, J. C., & Dimancesco, D. (2020). The risk of corruption in public pharmaceutical procurement: how anti-corruption, transparency and accountability measures may reduce this risk. *Global Health Action*, 13(1), 1694745-1694748.
- Koros, C. N. & Kwasira J., (2021). Influence of Evaluation Prequalification Practices on Performance of the Procurement Department at Moi University. *International Journal of Strategic Management*, 2(2), 14-27.
- Kothari CR. (2014), *Research Methodology: Methods and Techniques*. New Age International Publishers. New Delhi.
- Laosirihongthong, T., Samaranayake, P., & Nagalingam, S. (2019). A holistic approach to supplier evaluation and order allocation towards sustainable procurement. *Benchmarking: An International Journal*, 26(8), 2543-2573.
- Lapiente, V., & Van de Walle, S. (2020). The effects of new public management on the quality of public services. *Governance*, 33(3), 461-475.

- Limo, G. C., Iravo, M. A., & Lagat, M. K. (2017). Effects of Prequalification of Suppliers on Procurement Performance of the Judiciary in Kenya. *International Journal of Recent Research in Commerce Economics and Management*, 4(3), 57-70.
- Lin, C. T. (2020). A Base on Fuzzy Theory to Supplier Evaluation and Selection Optimization. *Discrete Dynamics in Nature and Society*, 2020, 1-5.
- Martin, H. D. (2018). Demystifying the link between institutional theory and stakeholder theory in sustainability reporting. *Economics, Management and Sustainability*, 3(2), 6-19.
- Muinde, M. N. (2022). *Contract Management on Procurement Performance in Public Universities in Kenya* (Doctoral dissertation, COHRED –JKUAT,Kenya).
- Mukarumongi, B., Mulyungi, P., & Saleh. N. (2018). Effect of Supplier Evaluation on Procurement Performance in Government Ministries in Rwanda: Case of Ministry of Health. *International Journal of Research in Management, Economics and Commerce*,08(05), 138-151
- Musau, H. P. (2016). *Procurement Procedures and Procurement Performance of Security Firms in Nairobi, Kenya* (Doctoral dissertation, University of Nairobi, Kenya).
- Mutunga, W. K. (2021). *Analysis of Procurement Practices and Growth of Selected Small and Medium-Sized Enterprises in Imenti North Sub-County Meru, Kenya* (Doctoral dissertation, KeMU, Kenya).
- Mwangi, P. N. (2017). *Determinants of compliance with access to government procurement opportunities regulations for special groups by public universities in Kenya* (Doctoral dissertation, COHRED-JKUAT, Kenya).

- Narsimhan, S., & Prasad, D. (2016). Competitive negotiation tactics and Kraljic portfolio category in SCM. *Journal of Supply Chain Management System*, 5(3).
- Njagi, M. M., & Shalle, N. (2016). Role of supplier relationship management on procurement performance in manufacturing sector in Kenya: A case of East African Breweries. *International Academic Journal of Procurement and Supply Chain Management*, 2(1), 1-20.
- Nyakundi, A. K., & Muturi, W. (2017). Effects of Compliance in Public Procurement Regulations On the Performance of Procurement Functions Within the Universities in Kenya: A Case Study of Kisii University. *International Journal of Social Sciences and Information Technology*, 3(2), 1870-1878
- OAG (2021). Auditor General Report on Moi University, 2019-2020. <https://www.oagkenya.go.ke/wp-content/uploads/2022/02/Moi-University-2019-2020.pdf>
- Omollo, C. (2018). *Internal Controls and Procurement Performance of Kenya Government Ministries* (Doctoral dissertation, University of Nairobi).
- Pitchipoo, P., Venkumar, P., Rajakarunakaran, S., & Ragavan, R. (2018). Decision model for supplier evaluation and selection in process industry: a hybrid deal approach. *International Journal of Industrial Engineering*, 25(2), 186-199.
- Reeves, E., Palcic, D., Flannery, D., & Geddes, R. R. (2017). The determinants of tendering periods for PPP procurement in the UK: an empirical analysis. *Applied economics*, 49(11), 1071-1082.

- Reim, W., Sjödin, D., & Parida, V. (2018). Mitigating adverse customer behaviour for product-service system provision: An agency theory perspective. *Industrial Marketing Management*, 74, 150-161.
- Reis, P. R. D. C., & Cabral, S. (2018). Beyond contracted prices: determinants of agility in government electronic procurement. *Revista de Administração Pública*, 52, 107-125.
- Rendon, J. M., & Rendon, R. G. (2016). Procurement fraud in the US Department of Defense: Implications for contracting processes and internal controls. *Managerial Auditing Journal*, 31(6/7), 748-767.
- Rustiarini, N. T., S., Nurkholis, N. and Andayani, W. (2019)," Why people commit public procurement fraud? The fraud diamond view. *Journal of Public Procurement*, 19(4), 345-362.
- Thai, K. V. (2017). International public procurement: Concepts and practices. In *International handbook of public procurement* (pp. 1-24). Routledge.
- Tinali, G. Z. P. (2021). The Mediation Effect of Procurement Competence on the Relationship between Practices and Performance of the Public Sector Procurement in Tanzania using Higher-order Constructs in SmartPLS. *Operations Research Society of Eastern Africa*, 11(1), 1-21.
- Van der Westhuizen, C., & Niemann, W. (2022). Strategic supply chain alignment: The role of third-party logistics service providers during disruption recovery. *Journal of Transport and Supply Chain Management*, 16(12), 1-12.
- Wilbroda, D. V., Miroga, J. (2021). Effect of supplier evaluation on procurement performance of County Government of Nairobi, Kenya. *Journal of Procurement and Strategic Management*, 5(2), 667-682.

- Yang, F., & Zhang, X. (2017). The impact of sustainable supplier management practices on buyer-supplier performance: An empirical study in China. *Review of International Business and Strategy*, 27(1), 112-132.
- Zadawa, A. N., Hussin, A. A., & Osmadi, A. (2018). Mediating Effects of Enforcement on Public Procurement Guidelines' Compliance Barriers and Cost Performance of Construction Projects in Nigerian Federal Universities: A Process Macro Approach. *Journal of Construction in Developing Countries*, 23(1), 81-102.
- Zainab, B., Javed, B., Zakai, S. N., & Malik, S. (2019). Perceptions of international student mobility: A qualitative case study. *Journal of Education and Educational Development*, 6(2), 269-287.
- Zorzini, M., Hendry, L.C., Huq, F.A., & Stevenson, M. (2015). Socially Responsible Sourcing: Reviewing the Literature and its Use of Theory. *International Journal of Operations & Production Management*, 35(1), 60-109.

APPENDICES

APPENDIX I: Introduction Letter

Dear Respondent,

RE: Research Questionnaire.

I am a postgraduate student at the University of Kabianga pursuing a Doctor of Philosophy degree in Procurement and Supplies Management. As a requirement for the award of the said degree, I am conducting a study titled “*The moderating effect of internal controls on the relationship between tendering process and procurement performance of public universities in Kenya*”. I would appreciate it if you would kindly spare some time to fill out the enclosed questionnaire. Any information you provide will be solely used for academic purposes, and all responses will be treated with utmost confidentiality.

I take this opportunity to thank you in advance for your quick action and return of the completed questionnaire.

Yours Faithfully,

Jonah Kibet Laboso.

Appendix II: Questionnaire

Introduction

This questionnaire intends to collect data on the moderating effect of internal controls on the relationship between the tendering process and procurement performance of public universities in Kenya. Confidentiality of the provided information will be observed. In addition, you are requested not to write your name or any personal identification mark in any part of this questionnaire.

SECTION A: RESPONDENTS' BIODATA

Put a tick (✓) against your appropriate choice

1. Gender Female
 - i. Male ☐
 - ii. Female ☐
2. Age bracket.
 - i. 18 –27 years ☐
 - ii. 28 -37years ☐
 - iii. 38 –47years ☐
 - iv. Over 48years ☐
3. Indicate the highest professional qualification in your studies:
 - i. PhD ☐
 - ii. Masters ☐
 - iii. Degree ☐
 - iv. Diploma ☐
 - v. Certificate ☐
 - vi. Others-specify_____
4. Length of service at the University.
 - a) Less than one year ☐
 - b) 1-5 years ☐
 - c) 6-10 years ☐
 - d) Over ten years ☐

5. Indicate your department

- a) User department ☐
- b) Procurement department ☐
- c) Accounting department ☐
- d) For any other, please specify.....

SECTION B: PRE-QUALIFICATION OF SUPPLIERS

The following statement relates to the Pre-qualification of Suppliers and Procurement Performance. On a scale of 1-5, indicate the level of your agreement to the following statements by putting a tick (✓) in the appropriate spaces shown in the Table: 5= Strongly Agree (SA), 4= Agree (A), 3= Undecided (UD), 2 = Disagree (D) and 1= Strongly Disagree (SD).

No	Statement on Pre-Qualification of Suppliers	Rating				
		5 (SA)	4 (A)	3 (N)	2 (D)	1(SD)
1.	The procurement department carries out a supplier pre-qualification exercise periodically.					
2.	The University invites potential suppliers to apply for the pre-qualification exercise through public media.					
3.	The supplier pre-qualification process is done transparently.					
4.	The potential supplier's financial capability is assessed During the pre-qualification exercise.					
5.	During the pre-qualification exercise, the statutory					

	compliance of the potential supplier is assessed.					
6.	The pre-qualification exercise assesses the capacity to meet product/service specifications.					
7.	Referral checks are done to assess the potential supplier's ability to deliver.					

SECTION C: SUPPLIER EVALUATION

The following statement relates to supplier evaluation and procurement performance.

On a scale of 1-5, indicate the level of your agreement to the following statements by putting a tick (✓) in the appropriate spaces shown in the Table: 5= Strongly Agree (SA), 4= Agree (A), 3= Undecided (UD), 2 = Disagree (D) and 1= Strongly Disagree (SD).

No.	Statements on supplier evaluation	Rating				
		5 (SA)	4 (A)	3 (N)	2 (D)	1(SD)
1.	The procurement department evaluates bidders every time they are received.					
2.	The procurement department selects a competent committee to evaluate suppliers.					
3.	The supplier evaluation committee sets mandatory requirements to be met by suppliers.					
4.	The supplier evaluation committee sets technical requirements to be met by					

	suppliers.					
5.	Bid price is used as a critical determinant in the supplier evaluation process.					
6.	Production capacity is used as a critical determinant in the supplier evaluation process.					
7.	Efficient supplier evaluation influences procurement performance.					

SECTION D: COMPETITIVE NEGOTIATION

The following statement relates to competitive negotiation and procurement performance. On a scale of 1-5, indicate the level of your agreement to the following statements by putting a tick (✓) in the appropriate spaces shown in the Table: 5= Strongly Agree (SA), 4= Agree (A), 3= Undecided (UD), 2 = Disagree (D) and 1= Strongly Disagree (SD).

No.	Statements on competitive negotiation	Rating				
		5 (SA)	4 (A)	3 (N)	2 (D)	1(SD)
1.	The University has established an ad-hoc committee that is responsible for carrying out negotiations with the suppliers.					
2.	Training programs on competitive negotiation are provided to procurement staff.					
3.	Competitive negotiation is employed for high-value procurement transactions.					

4.	Competitive negotiation ensures that products and services are procured from the lowest evaluated bidder.					
5.	Competitive negotiation ensures that the University procures goods and services with appropriate payment terms.					
6.	There is collaboration between the procurement team and other university departments staff in the negotiation process.					
7.	Competitive negotiation has significantly contributed to the overall procurement performance of our University.					

SECTION E: SUPPLIER MANAGEMENT

The following statement relates to supplier management and procurement performance. On a scale of 1-5, indicate the level of your agreement to the following statements by putting a tick (✓) in the appropriate spaces shown in the Table: 5= Strongly Agree (SA), 4= Agree (A), 3= Undecided (UD), 2 = Disagree (D) and 1= Strongly Disagree (SD).

No	Statements on supplier management	Rating				
		5 (SA)	4 (A)	3 (N)	2 (D)	1(SD)
1.	The procurement department maintains a supplier database.					
2.	The University keeps good relations with suppliers.					
3.	The procurement department encourages feedback from suppliers on issues affecting them.					
4.	The procurement department addresses supplier concerns regularly and promptly.					
5.	The procurement department has classified suppliers into various categories.					
6.	Suppliers are enlightened through training on compliance and other regulations affecting public procurement.					
7.	Effective supplier management influences procurement performance.					

SECTION F: PROCUREMENT PERFORMANCE

The following statement relates to the procurement performance of Public Universities in Kenya. On a scale of 1-5, indicate the level of your agreement to the following statements by putting a tick (✓) in the appropriate spaces shown in the Table: 5= Strongly Agree (SA), 4= Agree (A), 3= Undecided (UD), 2 = Disagree (D) and 1= Strongly Disagree (SD).

No	Statements on procurement performance	Rating				
		5 (SA)	4 (A)	3 (N)	2 (D)	1(SD)
1.	An efficient tendering process improves the quality of services and goods delivered.					
2.	The procurement department obtains goods and services at the most cost-effective prices.					
3.	An effective tendering process enhances the timely delivery of goods and services to the University.					
4.	The University consistently achieves value for money in its procurement activities.					
5.	The quality of goods and services procured by the University meets expectations.					
6.	An efficient tendering process enhances cost management.					
7.	Stakeholders (end-users, departments) are satisfied with the procurement services provided					

SECTION G: INTERNAL CONTROL

The following statement relates to the Tendering Process, internal controls, and procurement performance of Public Universities in Kenya. On a scale of 1-5, indicate the level of your agreement to the following statements by putting a tick (✓) in the appropriate spaces shown in the Table: 5= Strongly Agree (SA), 4= Agree (A), 3= Undecided (UD), 2 = Disagree (D) and 1= Strongly Disagree (SD).

No	Statements on Internal controls	Rating				
		5 (SA)	4 (A)	3 (N)	2 (D)	1(SD)
1.	The University has established specific internal controls for different stages of the procurement process.					
2.	Segregation of duties at the procurement department ensures that no single personnel has absolute control over the procurement process.					
3.	The University has a system for monitoring the effectiveness of internal controls in the procurement process.					
4.	Feedback from internal control assessments is used to enhance the procurement control environment.					
5.	The procurement department efficiently documents and keeps records of all the procured items.					
6.	The University has established sufficient authorization controls that allow approvals and sign-offs at every stage of the tendering process.					
7.	Internal controls significantly contribute to the overall performance of procurement activities in our University.					

.....*The end*.....

Appendix III: Research authorization from the University of Kabianga



UNIVERSITY OF KABIANGA

ISO 9001:2015 CERTIFIED

OFFICE OF THE DIRECTOR, BOARD OF GRADUATE STUDIES

REF: PHD/BSA/008/20

DATE: 21ST DECEMBER, 2023

Jonah Kibet Laboso,
MMTH Department,
University of Kabianga,
P.O Box 2030- 20200,
KERICHO.

Dear Mr. Laboso,

RE: **CLEARANCE TO COMMENCE FIELD WORK/DATA COLLECTION**

I am pleased to inform you that the Board of Graduate Studies has considered and approved your PhD research proposal entitled **"The Moderating Effect of Internal Controls on the Relationship between Tendering Process and Procurement Performance of Public Universities in Kenya"**.

Subsequently the Board has also approved the following supervisors for appointments.

1. Dr. Pauline J. Keitany
2. Prof. Isaac Naibei

You may now proceed to commence field work/data collection on condition that you obtain a research permit from NACOSTI and /or an ethical review permit from a relevant ethics review board.

You are also required to publish two (2) articles in a peer reviewed journal, with all your supervisors, before your oral defense of thesis.

You are required to submit through your supervisors, and HoD, progress reports every three months, to the Director, Board of Graduate Studies.

Please note that it is the policy of the University that you complete your studies within three years from the date of registration. Do not hesitate to consult this office in case of any difficulties encountered in the course of your studies.

I wish you all the best in your research and hope that your study will yield original contribution for the betterment of humanity.

Yours Sincerely,



Dr. Ronald K. Rop

DIRECTOR, BOARD OF GRADUATE STUDIES.

RKR/hk

- cc
1. Dean, SBE
 2. HOD, MMTH
 3. Supervisors

Appendix IV: Research authorization from NACOSTI

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Ref No: 787204	Date of Issue: 16/January/2024
RESEARCH LICENSE	
	
This is to Certify that Mr.. JONAH Kibet LABOSO of University of Kabanga, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Bomet, Kericho, Nakiuru, Narok, Uasin-Gishu on the topic: THE MODERATING EFFECT OF INTERNAL CONTROLS ON THE RELATIONSHIP BETWEEN TENDERING PROCESS AND PROCUREMENT PERFORMANCE OF PUBLIC UNIVERSITIES IN KENYA for the period ending : 16/January/2025.	
License No: NACOSTI/P/24/32462	
787204 Applicant Identification Number	 Director General NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
	Verification QR Code 
NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.	
See overleaf for conditions	

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

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

CONDITIONS OF THE RESEARCH LICENSE

1. The License is granted subject to provisions of the Constitution of Kenya, the Science, Technology and Innovation Act, and other relevant laws, policies and regulations. Accordingly, the licensee shall adhere to such procedures, standards, code of ethics and guidelines as may be prescribed by regulations made under the Act, or prescribed by provisions of International treaties of which Kenya is a signatory to
2. The research and its related activities as well as outcomes shall be beneficial to the country and shall not in any way;
 - i. Endanger national security
 - ii. Adversely affect the lives of Kenyans
 - iii. Be in contravention of Kenya's international obligations including Biological Weapons Convention (BWC), Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), Chemical, Biological, Radiological and Nuclear (CBRN).
 - iv. Result in exploitation of intellectual property rights of communities in Kenya
 - v. Adversely affect the environment
 - vi. Adversely affect the rights of communities
 - vii. Endanger public safety and national cohesion
 - viii. Plagiarize someone else's work
3. The License is valid for the proposed research, location and specified period.
4. The license any rights thereunder are non-transferable
5. The Commission reserves the right to cancel the research at any time during the research period if in the opinion of the Commission the research is not implemented in conformity with the provisions of the Act or any other written law.
6. The Licensee shall inform the relevant County Director of Education, County Commissioner and County Governor before commencement of the research.
7. Excavation, filming, movement, and collection of specimens are subject to further necessary clearance from relevant Government Agencies.
8. The License does not give authority to transfer research materials.
9. The Commission may monitor and evaluate the licensed research project for the purpose of assessing and evaluating compliance with the conditions of the License.
10. The Licensee shall submit one hard copy, and upload a soft copy of their final report (thesis) onto a platform designated by the Commission within one year of completion of the research.
11. The Commission reserves the right to modify the conditions of the License including cancellation without prior notice.
12. Research, findings and information regarding research systems shall be stored or disseminated, utilized or applied in such a manner as may be prescribed by the Commission from time to time.
13. The Licensee shall disclose to the Commission, the relevant Institutional Scientific and Ethical Review Committee, and the relevant national agencies any inventions and discoveries that are of National strategic importance.
14. The Commission shall have powers to acquire from any person the right in, or to, any scientific innovation, invention or patent of strategic importance to the country.
15. Relevant Institutional Scientific and Ethical Review Committee shall monitor and evaluate the research periodically, and make a report of its findings to the Commission for necessary action.

National Commission for Science, Technology and
Innovation(NACOSTI),
Off Waiyaki Way, Upper Kabete,
P. O. Box 30623 - 00100 Nairobi, KENYA
Telephone: 020 4007000, 0713788787, 0735404245
E-mail: dg@nacosti.go.ke
Website: www.nacosti.go.ke

Appendix V: Research authorization from the Ministry of Education


REPUBLIC OF KENYA
MINISTRY OF EDUCATION
State Department of Basic Education

Email: cdekerichocounty@gmail.com
When Replying Please Quote:

County Education Office
P.O BOX 149
KERICHO

Ref: No. KER/C/ED/RC/VOL.111/96

17th January, 2024

TO WHOM IT MAY CONCERN.

**RE: RESEARCH AUTHORIZATION: MR. JONAH KIBET LABOSO LICENCE
NO.NACOSTI/P/24/32462**

I refer to the Director NACOSTI Letter Ref: No.7887204 dated 16/01/2024 granting the student above authority to conduct research. ***THE MODERATING EFFECT OF INTERNAL CONTROLS ON THE RELATIONSHIP BETWEEN TENDERING PROCESS AND PROCUREMENT PERFORMANCE OF PUBLIC UNIVERSITIES IN KENYA*** for the period ending 16th January, 2025.

This is to request your office to accord him the necessary support during the research period.

Thank you.


JULIUS A. NGONESHI
COUNTY DIRECTOR OF EDUCATION
KERICHO COUNTY.

COUNTY DIRECTOR OF EDUCATION
KERICHO COUNTY
17 JAN 2024
P.O. BOX 149 – 20200,
KERICHO.



Appendix VI: Research authorization from the County Government of Kericho

REPUBLIC OF KENYA



**COUNTY GOVERNMENT OF KERICHO
OFFICE OF THE GOVERNOR**

**P.O. BOX 112 – 20200
KERICHO**
Ref: KEC/CS/F&EP/VOL. XI (26)

**E-mail: info@kericho.go.ke
DATE: 24th January, 2024**

MR. JONAH KIBET LABOSO
PHONE NUMBER: +254720685480

REF NO: 787204

Dear Mr. Jonah;

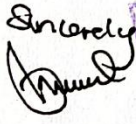
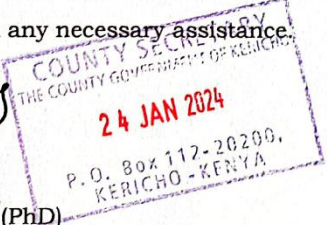
**RE: AUTHORIZATION TO CARRY OUT ACADEMIC RESEARCH IN KERICHO
COUNTY- MR. JONAH KIBET LABOSO NACOSTI/P/24/32462**

The above-named person has been authorized to carry out academic research at the County Government of Kericho.

His area of study is titled "The moderating Effect of Internal Controls on The Relationship Between Tendering Process and Procurement Performance of Public Universities in Kenya" for the period ending: **16th January, 2025.**

Kindly accord him any necessary assistance.

Yours Sincerely,

Dr. Wesley K. Bor (PhD)
The County Secretary and Head of County Public Service

Appendix VII: Research authorization from the County Commissioner Kericho



OFFICE OF THE PRESIDENT MINISTRY OF INTERIOR AND NATIONAL ADMINISTRATION

Telegrams:
Telephone: Kericho 20132
When replying please quote
kerichocc@yahoo.com

THE COUNTY COMMISSIONER
KERICHO COUNTY
P.O. BOX 19
KERICHO

REF: MISC 19 VOL.VIII (168)

17TH JANUARY, 2024

TO WHOM IT MAY CONCERN

RESEARCH AUTHORIZATION -MR. JONAH KIBET LABOSO.

I am pleased to inform you that you are authorized to undertake research as per the licence No. NACOSTI /P/24/32462 dated 16th January, 2024 on ***"The Moderating effect of internal controls on the relationship between tendering process and procurement performance of public universities in Kenya"*** for a period ending: 16th January, 2025.


COUNTY COMMISSIONER
KERICHO COUNTY
MUTHONI NKUBIRIA
FOR: COUNTY COMMISSIONER
KERICHO COUNTY.

Appendix VIII: List of Public Universities in Kenya

1. Chuka University
2. Dedan Kimathi University of Technology
3. Egerton University
4. Garissa University
5. Jaramogi Oginga Odinga University of Science and Technology
6. Jomo Kenyatta University of Agriculture & Technology (JKUAT)
7. Karatina University
8. Kenyatta University
9. Kibabii University
10. Kirinyaga University
11. Kisii University
12. Laikipia University
13. Maasai Mara University
14. Machakos University
15. Maseno University
16. Masinde Muliro University of Science and Technology
17. Meru University of Science and Technology
18. Moi University
19. Multi Media University
20. Murang'a University of Technology
21. Pwani University
22. Rongo University
23. South Eastern Kenya University
24. Taita Taveta University
25. Technical University of Mombasa
26. Technical University of Kenya
27. The Co-operative University of Kenya
28. University of Eldoret
29. University of Embu
30. University of Kabianga
31. University of Nairobi