INFLUENCE OF CONTRACTOR EVALUATION CRITERIA ON PROCUREMENT PERFORMANCE IN THE STATE DEPARTMENT OF ROADS IN THE UPPER EASTERN REGION, KENYA

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A RESEARCH THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF A MASTER DEGREE IN BUSINESS ADMINISTRATION - SUPPLY CHAIN MANAGEMENT OPTION KENYA METHODIST UNIVERSITY

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DECLARATION

I declare that this research project is my original work and has not been presented in any other university.

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This research project has been submitted for examination with our approval as university supervisors

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DEDICATION

I dedicate this project to my family that is, the Mutwiri's and especially to my mom Stella Mutwiri and dad Junius Mutwiri for their moral and material support throughout the study. May God bless you abundantly.

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I thank God for enabling me to write this project within the time given without challenges I couldn't solve.

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ABSTRACT

The performance of the contractors significantly influences the quality, time line, and financial aspect of road building works. This research study aimed at establishing the influence of various criteria used in assessing contractors upon performance in procurements with respect to the financial ability, technical capacity, experience, and organizational ability of the contractors in the State Department of Roads in the Upper Eastern Region of Kenya. A descriptive study was employed on a sample of 93 individuals, who were selected, and all of them worked in management positions in three parastatals in Kenya, including the Kenya National Highways Authority (KENHA), which had 30 employees, the Kenya Urban Roads Authority (KURA) had 23 employees, and the Kenya Rural Roads Authority (KERRA) had 40 employees. The complete sample in the research of 93 respondents took part in the census. Primary data were collected using drop and pick later type of questionnaires where the respondents were allowed a week to complete the questionnaires at their convenience after which they were to be returned and analysed. The quantitative and qualitative data were obtained. Quantitative data was evaluated using descriptive and inferential statistics including means, percentages, ranges, correlation coefficients, standard deviations and frequencies, whereas the content analysis was employed to search themes and stories in qualitative data. The analysis was conducted with the help of SPSS (Version 22) and the relationship between independent variables and the efficacy of the procurement was assessed according to a regression model. The mean results of 3.93 and 4.29 respectively revealed that the factors of financial capability such as cash flow management and bonding capacity have great impacts to the procurement performance. Technical capability is also crucially necessary, and particularly the competency of the workforce (mean = 4.98). Although the variable of organization capability shows varying strength reflecting the importance of scalability and flexibility, there is significant correlation between contractor experience and performance (mean = 4.60) (mean = 4.46). In conclusion, despite the bring in different effectiveness in terms of the organizational capabilities, financial stability, and experience in technical expertise are so essential in improving the procurement out-turn. The technical capacity of the contractor with a general mean score of 4.98 was the highest impact factor on procurement performance. Where the level of financial capability and the experience that was involved was moderate in its significance, the least significant but yet significant factor was where it came to the organizational capability of the contractor. State Department of Roads ought to focus on well experienced contractors, promote technical education as well as breakthroughs in technology, narrow down on financial vetting mechanisms, and review organizational flexibility. It can be studied in the future the impact of regulatory rules on the work of contractors and the efficiency of the procurement process using innovative technologies such as blockchain and artificial intelligence (AI).

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LIST OF ABBREVIATIONS

GDP	Gross domestic product
KEMU	Kenya Methodist University.
KENHA	Kenya National Highways Authority
KERRA	Kenya Rural Roads Authority
KESRA	Kenya School of Revenue Administration
KURA	Kenya Urban Roads Authority
NACOSTI	National commission for science, technology and innovation
TCE	Transaction Cost Economics
TOC	Theory of Constraints
UK	United Kingdom

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Kenya's Ministry of Roads and Transport contains the State Department for Roads. It is in charge of the nation's road infrastructure's construction, upkeep, and regulation. In addition to enforcing axle load restriction and overseeing national road policies, the department also makes sure that road construction materials are standardized. It is essential for conserving road reserves and keeping security routes in good condition.

The ‘Kenya National Highways Authority (KeNHA), Kenya Urban Roads Authority (KURA), and Kenya Rural Roads Authority (KeRRA)’ are the organizations that oversee the department's operations. The organizations oversee various road types, guaranteeing effective project planning and implementation

The counties of Meru, Isiolo, Marsabit, and Tharaka-Nithi are part of Kenya's Upper Eastern Region. This area is essential for the development of infrastructure, especially for the construction and upkeep of roads. This region's urban road networks are managed by the ‘Kenya Urban Roads Authority (KURA)’, which guarantees better infrastructure and mobility.

A study on ‘procurement performance at the State Department of Roads in the upper eastern region stipulates that the contractor evaluation requirements have a significant influence on the efficiency of procurement.’ Some factors such as the organizational flexibility, experience and knowledge on the side of the contractor, competency, and finances play a major role in the achievement of success in a purchase.

Infrastructure development is incomplete without procurement performance in the world arena. According to the recent World Bank data (2020), bad procurement practice can result in huge financial losses; corruption and poor management are estimated to contribute 20-25 percent of all the costs of the projects across the world. This underlines the need to maintain high standards on assessment and transparent process of procurement to ensure effective allocation of resources and success of the project.

Through implementation of stringent evaluation standards and transparency, countries in the Asian region, such as Singapore, Malaysia and Indonesia, have enhanced performance in procurement. An example is that its procurement system in Singapore is well known to be of high integrity and efficacy and offers protection against corruption as well as fosters healthy competition. Malaysia and Indonesia have also implemented the changes to enhance the procurement standards and encourage the development of infrastructure (Ahmad, 2021).

This is what makes the European countries such as Germany, Norway, Holland, and Finland where the well-established procurement systems are more efficient, accountable, and open (Eurostat data, 2021). This advanced system in the UK is regulated by the Public Contracts Regulations so that equal competition and transparent procurement of service in the whole sector are ensured (UK Government, 2020). Nevertheless, a variety of concerns such as delays, cost overruns notwithstanding, continue to exist and improvement to the procurement processes are still required.

In Africa, corruption, inefficiency, and a lack of infrastructure investment in procurement processes are problems for nations like South Africa, Ghana, and Nigeria. According to Transparency International (2021), one of the biggest obstacles to

efficient procurement in Africa is corruption. According to recent figures, corruption is still rampant in governmental procurement throughout the continent. Similar issues are faced by regional nations including Tanzania and Uganda, which calls for action to overcome capacity limitations and institutional flaws (World Bank, 2020).

Focusing on Kenya, the State Department of roads is mandated with the development and maintenance of road infrastructure. However, some of the problems, such as inefficiency, corruption, and lack of investment, still impact the outcomes of the projects and procurement performance (Africa Infrastructure Country Diagnostic [AICD], 2021). These problems and need to develop the infrastructure of the Upper Eastern Region require knowledge of the measuring criteria of the department and its influence on the effective procurement.

With an emphasis on four important factors technical capacity, financial capability, contractor experience, and organizational capacity, this study investigates how contractor evaluation criteria affect procurement performance. The ability of a contractor to successfully complete projects with the required knowledge, tools, and technology is referred to as technical capacity. Financial capability evaluates the contractor's capacity to meet project obligations on time and with sufficient financial stability. Better project management and risk mitigation are frequently associated with contractor experience, which quantifies the practical knowledge and track record acquired from prior comparable projects. The internal management systems and procedures that allow the contractor to effectively manage project complexity and resource allocation are taken into account by organizational capability. To offer thorough insights into contractor selection optimization, the study will examine the

effects of these factors both separately and in combination on procurement outcomes including cost-effectiveness, project quality, and timeline adherence.

The socioeconomic growth of this geographically diversified and sometimes underserved area is greatly aided by the ‘State Department of Roads in the Upper Eastern Region.’ The planning, building, repair, and upkeep of road networks that link isolated and rural settlements to larger towns, marketplaces, and service hubs are under the purview of this department. Road construction in the Upper Eastern Region, which includes counties like Meru, Isiolo, Tharaka Nithi, and Marsabit, is complicated by the region's diverse topography, which includes desert and semi-arid areas. Road infrastructure is crucial to many communities' accesses to basic services including trade, healthcare, and education. Inadequate road conditions frequently restrict the economic prospects of these communities and make it more difficult for the government to provide services.

By expanding market access for agricultural products, promoting investment in the area, and easing the flow of people and things, the department's efforts have a direct impact on reducing poverty. Better policing and quicker emergency response are two more ways that better roads increase security. In light of these elements, the Upper Eastern Region's State Department of Roads plays a crucial role in carrying out national development objectives and accomplishing regional integration. Through encouraging equitable development and infrastructure modernization, their initiatives also help Kenya achieve its Vision 2030 goals. The department's mission is both challenging and essential to the prosperity and sustainability of the region, despite its problems, which include limited budget, severe weather that deteriorates roads, and logistical limitations.

As stated by the Ministry of Transportation, Government of Kenya (2023). The State Department of Roads and the Kenya National Highway Authority (KeNHA) oversee the national government's annual budget, which includes funding for road infrastructure development in the Upper Eastern Region. Every year, allocation changes, frequently as a result of government goals and development plans like the Big Four Agenda and Kenya Vision 2030. By providing funds for new road building, maintenance, and repair, the government hopes to improve connectivity in the area. For instance, in order to improve accessibility and trade, millions of Kenyan shillings have been set aside expressly in recent years for the improvement of important highways in counties like Meru, Isiolo, and Marsabit.

In order to increase access, a large number of bitumen and gravel roads have been built or renovated in the Upper Eastern Region within the last ten years. Important projects for regional trade and cross-border connection include the improvement of the Isiolo-Marsabit road, Meru-Kitale Road, and Isiolo-Moyale highway. Both inside the region and to other nations like Ethiopia and Somalia, these routes make it easier to move people and products.

Large contractors working in Kenya's Upper Eastern Region are essential to the construction and repair of the area's road network, which is essential for increased connectivity and economic growth. Prominent global companies like Sinohydro Corporation Limited and China Wu Yi Co. Ltd. have been working on major projects like the Isiolo-Moyale expressway, which improves cross-border travel and trade. Prominent Kenyan businesses like Nairobi Contractors Limited and S.M. Wanjala & Sons Ltd. actively participate in road construction and maintenance alongside these

international corporations, contributing local knowledge and insight into the region's particular difficulties, such as challenging terrain and weather.

These contractors are chosen through competitive public procurement procedures run by organizations like the State Department of Roads and the Kenya Roads Board, where evaluation factors like organizational resources, financial strength, technical ability, and experience are carefully taken into account. Together, they guarantee that infrastructure projects satisfy quality requirements, are completed on schedule, and cater to the unique requirements of the Upper Eastern Region, eventually promoting socioeconomic growth and better access to basic services.

1.2 Statement of the Problem

The ‘State Department of Roads in the Upper Eastern Region of Kenya's’ procurement process, like that of all other government ministries and agencies, should be distinguished by a thorough assessment of contractors according to predetermined standards. As per standard procurement procedures, contractors must to be evaluated not just on their technical proficiency but also on their organizational, financial, and experience capabilities (Ngowi et al., 2018). Only the most skilled and qualified contractors will be chosen for road construction projects thanks to this evaluation method. It is expected that doing this will enhance procurement performance, which will result in improved project outcomes.

The ‘State Department of Roads’ in Kenya's ‘Upper Eastern Region,’ however, currently has serious flaws in its evaluation standards and procurement performance, despite the established rules and conventions. It is reported that the process of evaluating and simply choosing a contractor is typically done with little or minimal input on the skills of the organizations, technical skills, financial skills, and experience

of the contractor in question (Orodho & Mwenda, 2020). Procurement decisions are occasionally impacted by outside variables including political ties, partiality, and other subjective concerns rather than being founded on merit, experience, and the capacity to complete projects successfully. Because of this, contracts are given to contractors that might not have the tools, credentials, and skills needed to complete the project successfully, which could result in poor quality work, delays, overspending, and general implementation inefficiencies.

This notable discrepancy between ideal procurement processes and their actual implementation has serious and far-reaching repercussions. Suboptimal project outcomes, marked by frequent delays, large cost overruns, and the delivery of subpar road infrastructure, occur when evaluation criteria are insufficient and procurement performance is compromised. Local communities are directly impacted by these inefficiencies, as they face protracted construction times, annoyance, and reduced road safety as a result of subpar labor. Furthermore, because public monies are spent on badly designed projects that need regular repairs or reconstruction, taxpayers eventually shoulder the financial burden of these wasteful procurement processes. The inability to give important contractor selection criteria including organizational capacity, technical know-how, financial capabilities, and relevant experience top priority is at the heart of these ongoing difficulties. To ensure effective project execution and sustained infrastructure development, these flaws must be fixed (Orodho & Mwenda, 2020).

Empirical research on the assessment criteria employed in the evaluation of contractors in the State Department of Roads, especially those in the Upper Eastern Region, has not been conducted yet despite the fact that various researches have investigated the procurement variation in the Kenyan Public sector. Most of the previous studies, rather

than focusing on the distinctive issues that drift contractors' selection and procurement performance in it, focus on generic problems of the public procurement. Considering the key role that contractor assessment plays during infrastructure development, it is important to know the key factors that lead to success of procurement. In a bid to solve this knowledge gap and to enhance the efficiency of procurement, this paper sought to establish the association between financial ability, technical capacity, experience, and organizational capacity of contractors with procurement performance of the State Department of Roads in the upper Eastern Region of Kenya. The study was aimed at improving procurement process, contractor selection and infrastructure development process of the region.

1.3 Purpose of the Study

This study examined the impact of contractor assessment standards on the performance of procurement in the State Department of Roads of the Upper Eastern Region of Kenya.

1.4 Objectives

The specific objectives of this study were to:

i. Determine the influence that the financial capacity of contractor had on the procurement performance of State Department of Roads in the upper eastern part of Kenya.
ii. To evaluate the influence of a contractor technical competence on the procurement performance of the State Department of roads in the upper eastern region in Kenya.

iii. To determine whether experience of the contractor influences attainment of procurement performance of the State Department of Roads in the Upper Eastern Region of Kenya.

iv. To determine the degree at which the organizational capability of the contractor influences the procurement performance of the State Department of Roads in the Upper Eastern Region of Kenya.

1.5 Research Hypothesis

$H_0$1: Procurement performance by the State Department of Roads at the Upper Eastern Region of Kenya is not calculated to be statistically significant with the financial capacities of the contractor.

$H_0$2: That there is no statistically significant relationship between the technical prowess of contractor and the procurement performance at the State Department of Roads in the Upper Eastern Region of Kenya.

$H_0$3: The procurement performance of the State Department of Roads in the Upper Eastern Region of Kenya is not correlated, in terms of statistics with experience capability of the contractor.

$H_0$4: The correlation between procurement performance and organizational capability is not statistically significant in the State Department of Roads in Kenya, the Upper Eastern Region.

1.6 Significance of the Study

Academics, researchers, policymakers, managers, and government agencies are among the many stakeholders who find this study highly significant since it offers insightful

information about contractor assessment criteria and procurement practices. For management at the State Department of Roads and other government agencies in charge of infrastructure development, it emphasizes the significance of the current evaluation frameworks and procurement procedures. Management can optimize resource use, streamline operations, and improve procurement strategies by identifying areas of weakness, inefficiency, and improvement. Additionally, data-driven decision-making can be based on the study's findings, which can result in increased accountability, transparency, lower costs, and more successful project execution. Governmental organizations can use these insights to implement best practices, strengthen legal frameworks, and promote infrastructure project efficiency. Ultimately, the study advances the more general objective of increasing governance in public-sector initiatives and attaining sustainable development.

The findings of this study can be used by national and regional policymakers to implement reforms and create policies that would improve infrastructure development and procurement performance. Policymakers can create rules, standards, and recommendations that support openness, equity, and efficiency in procurement procedures by taking into account the difficulties and best practices in contractor evaluation criteria. Policies that address corruption, inefficiency, and capacity limitations in government agencies in charge of infrastructure projects can be designed with the help of the study.

This work will contribute to the advancement of scholarly understanding in the fields of governance, infrastructure development, and public procurement. The results of the study can be expanded upon by researchers to carry out additional research,

comparative evaluations, and longitudinal studies in order to enhance comprehension and support evidence-based policy making.

Academicians, including educators and scholars in universities and academic institutions, can use the insights from this study to enrich their teaching, curriculum development, and academic research. By incorporating real-world case studies and empirical evidence on contractor evaluation and procurement performance, academicians can enhance the relevance and practical applicability of their educational programs and research endeavors. The study serves as a basis for stimulating discussions, fostering critical thinking, and nurturing future professionals in fields related to public administration, project management, and infrastructure planning.

1.7 Limitations of the Study

Despite its ‘comprehensive approach, this study on the influence of Contractor Evaluation Criteria on Procurement Performance in the State Department of Roads in the Upper Eastern Region of Kenya had several limitations that needed to be acknowledged.’ Firstly, the respondents feared divulging information due to concerns about reprisals from authorities or the possibility that the information might be used for other purposes. Nevertheless, a letter from the university was attached to the questionnaires to assure them of their confidentiality and the purpose of the study.

1.8 Assumptions of the Study

The ‘State Department of Roads in the Upper Eastern Region of Kenya's study on contractors' evaluation criteria and procurement performance’ is predicated on a number of important conclusions. It is predicated, first and foremost, on the data supplied by the State Department of Roads being precise, trustworthy, and accurately

reflecting the performance results and procurement procedures. The ‘validity, reliability, and generalizability of the study's conclusions depend heavily on this premise.’ Second, the research assumes that the State Department of Roads' evaluation standards are transparent, regularly used, and in line with accepted best practices in procurement management. It is believed that these standards will successfully evaluate the skills, credentials, and suitability of contractors, improving the general efficacy, efficiency, and equity of procurement procedures. The study intends to offer significant insights into the connection between contractor assessment standards and procurement success in the area by following these presumptions.

The study assumes that the challenges and limitations identified within the Upper Eastern Region of Kenya’s State Department of Roads reflect broader issues affecting the road infrastructure sector in the region. While the focus is on this specific department, the findings are expected to have implications for similar departments or regions facing comparable procurement performance challenges. Furthermore, it is assumed that the recommendations derived from analyzing contractor evaluation criteria and procurement performance will be both feasible and implementable within the organizational and institutional framework of the State Department of Roads. The study also presumes that addressing these challenges and enhancing procurement practices will lead to greater transparency, accountability, and efficiency in infrastructure development. By improving procurement performance, the study anticipates fostering sustainable development and better service delivery, ultimately benefiting the region’s transportation network and economic growth.

1.9 Operational Definition of Terms

Financial Capability: 'In the context of the study on Contractors' Evaluation Criteria and Procurement Performance in the State Department of Roads in the Upper Eastern Region of Kenya, financial capability refers to the contractor's ability to fund and finance the execution of road infrastructure projects.' It encompasses factors such as access to capital, liquidity, creditworthiness, and financial resources required to undertake contractual obligations and meet project costs.

Technical Capacity: Technical capacity, as defined in the study, pertains to the contractor's proficiency, expertise, and resources in executing road construction and maintenance projects. It includes factors such as the availability of skilled personnel, specialized equipment, technological capabilities, and engineering knowledge necessary to deliver projects in compliance with technical specifications and quality standards.

Contractor's Experience: Contractor's experience refers to the past performance, track record, and history of successfully completing road infrastructure projects. It encompasses the contractor's portfolio of projects, including the scale, complexity, and relevance of previous assignments undertaken. Experience is assessed based on the contractor's ability to 'deliver projects within budget, schedule, and quality requirements, demonstrating competence and reliability in project execution.'

Organizational Capacity: Organizational capacity refers to the overall capability, resources, and management systems within the contractor's organization to execute road infrastructure projects effectively. It includes factors such as organizational structure, human resources, administrative processes, and project management capabilities. Organizational capacity assesses the contractor's ability to plan,

coordinate, and control project activities to achieve desired outcomes efficiently and sustainably.

Procurement Performance: Procurement performance refers to the effectiveness, efficiency, and outcomes of the procurement process within the 'State Department of Roads in the Upper Eastern Region of Kenya.' It encompasses factors such as adherence to procurement regulations, timeliness of procurement activities, transparency, competitiveness, and value for money achieved in contractor selection and contract award processes. Procurement performance reflects the department's ability to obtain goods, services, and works in a manner that optimizes resources and meets project objectives.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The pertinent literature that has already been published in this field of study is covered in this chapter. The entire body of literature can be categorized as either theoretical or empirical. To put it succinctly, hypotheses that have already been established and tested are the main subject of theoretical literature. Empirical literature, on the other hand, focuses on previous research projects in the field, including conclusions and suggestions.

2.2 Review of Theoretical Literature

This is the assessment of earlier hypotheses pertaining to a particular portion. It gives a summary of the findings and analyses of other researchers and demonstrates how the current work fits into the academic community. A literature review examines concepts, contrasts results, and points out any discrepancies or gaps in the previous research. It aids in comprehending the background of the subject, the significance of the ongoing research, and how it advances the field of study.

2.2.1 Resource-Based Theory

The Resource-Based Theory Network, which was initially proposed by Edith Penrose in 1959, asserts that inimitable resources and capabilities provided by a firm are the determining factors in shaping competitive advantage and performance of an organization. Penrose argued that incorporation of both tangible and intangible resources enables businesses to develop sustainable competitive advantage.

One of the pillars of the framework is the VRIN analysis, where the existence of the resources sustaining competitive advantage is defined: they have to be valuable, rare, inimitable and non-substitutable. Important resources allow taking advantage of opportunities and overcoming threats, and the rarity guarantees that the same assets cannot be utilized by competing companies. Inimitability/non substitutability, in their turn, reinforce the position of the firm on the market as they make replication or replacement of these resources cumbersome to the competitors.

The resource-based perspective has been applied not only to procurement but also to human resource management and strategic management. Businesses can gain a competitive edge by identifying and utilizing their unique assets with the aid of strategic management theory. It helps companies attract, develop, and retain employees with important skills and knowledge in human resource management. Companies apply the theory to inform their decisions about the distribution of resources, contract negotiations, and procurement supplier selection (Barney, 1991; Peteraf, 1993).

Resource-Based Theory is used in this current study to explore the contractor evaluation factors and procurement performance in Kenya in the upper eastern region concerning the State Department of Roads that will include the following four contractor attributes, the contractor financial capability, technical capacity, experience, and organization capabilities. Financial ability this refers to the existence of the hired amount of capital necessary to acquire workforce, materials, and gear. Technical capacity represents special skills and know-how that construction contractors bring forth in building projects. Experience includes the history of a contractor in the success of similar projects. Organizational capacity is the systems, processes and competencies of the organization that help in the effective management and conduct of the project.

Under the provisions of Resource-Based Theory, the research investigates to what extent these unique resources and capabilities define the performance of contractors in relation to their procurement activities of the Upper Eastern Region.

2.2.2 Principal-Agent Theory

Originally ‘introduced by Jensen and Meckling in 1976’, the Principle-Agent Theory looks at situations where a principle hires an agent to act on their behalf. This paradigm facilitates the understanding of conflicts of interest and issues arising from different objectives and information gaps between the primary and the agent (Jensen & Meckling, 1976). Moral hazard and adverse selection are the two main problems that the theory highlights. Moral behavior occurs when agents act contrary to the principal's wishes because they are motivated by their own interests. hazard. Conversely, when agents possess more information than the principles, adverse selection occurs, which may result in inefficient and possibly poor decision-making (Eisenhardt, 1989).

The Principal-Agent Theory is a concept which is always utilized in the fields of corporate governance, finance and procurement. In the procurement space, the framework plays a central role in choices of contractors and evaluation, where it promotes the best performance, alleviates the concerns of agencies, and develops schemes and frameworks of incentives and contract details that ensure compatible interest between the purchasing businesses and the contractors.

The principal-Agent Theory is used to investigate principal-agent qualities, which are financial capability, technical capacity, experience, and organization capacity as an aspect in the study of contractor’s evaluation criteria and procurement outcomes at Kenya State department of road in the Upper eastern region. They are the features of the agency relationship between governmental agency (principal) and contractors

(agents). The theory places emphasis on the evaluation criteria and procurement procedures to match up incentives and cut on information disparities and moral hazard in the bid of achieving effective and successful procurement outcomes.

2.2.3 Transaction Cost Economics (TCE) Theory

Established by 'Oliver E. Williamson in the 1970s, Transaction Cost Economics (TCE)' Theory looks at the costs of transactions between economic agents and aims to comprehend how businesses decide how to distribute resources, especially when it comes to contracting out activities (Williamson, 1975). TCE is based on the fundamental idea that businesses incur transaction costs associated with contract negotiation, oversight, and enforcement; these costs have an impact on organizational structure and governance functions.

One of the fundamental principles of TCE, according to Williamson (1981), is 'that companies engage in economic transactions to lower transaction costs, which include expenses related to information and search, negotiation, and enforcement.' TCE advises companies to base their choice of governance models, such as market exchange or hierarchical control, on the effectiveness of internal versus external transaction coordination. Furthermore, Williamson (1985) asserts that the theory emphasizes how opportunism, uncertainty, and asset uniqueness affect governance choices and transaction costs.

Transaction Cost Economic theory has wide-ranging applications in a number of fields, such as public procurement, strategic management, and organizational economics. TCE offers information on how to choose contracting arrangements, including joint ventures, outsourcing, and public-private partnerships (PPPs), in the context of procurement. Procurement professionals can create contracts and governance

frameworks that reduce transaction costs and align incentives between contracting parties by taking asset specificity and transaction costs into account (Williamson, 1985).

In the ‘State Department of Roads' study on contractors' evaluation criteria and procurement performance’ in the Upper Eastern Region of Kenya, transaction cost economics (TCE) provides a helpful framework for analyzing significant factors, including the financial, technical, experience, and organizational capabilities of contractors. TCE facilitates the explanation of how transaction costs impact procurement decisions and contractor selection strategies. In order to ‘reduce transaction costs associated with monitoring, adaptation, and renegotiation, road construction projects may require long-term relationships with contractors due to high asset specificity.’ By including transaction cost concerns, procurement processes can be optimized to increase productivity, cost-effectiveness, and project success.

This approach ensures that the contractor selection aligns with the need to mitigate risks and uncertainties, ultimately enhancing the development performance of road infrastructure. TCE is therefore crucial for developing procurement strategies that result in effective and long-lasting project execution (Williamson, 1985).

2.2.4 Institutional Theory

Meyer and Rowan first proposed institutional theory in 1977. It examines how ‘institutions such as rules, conventions, and cultural values affect organizational behavior and operations. In order to acquire legitimacy and improve their chances of surviving in their surroundings, the theory suggests that organizations adjust to these institutional forces.’ It highlights the important influence that outside institutional pressures have on the development of organizational structures, procedures, and tactics.

Adopting institutionalized practices is one of the main points of the Institutional Theory, which holds that organizations do so to demonstrate their legitimacy and win over stakeholders. Organizational behavior and decision-making are guided by these routines, which are often taken for granted (DiMaggio & Powell, 1983). Organizations are compelled to follow established norms and practices by institutional forces like normative, mimetic, and coercive pressures.

Applications of institutional theory are numerous and span disciplines like public administration, management, and organizational sociology. The theory sheds light on how institutional factors affect procurement rules, legislation, and practices in the context of procurement. According to DiMaggio and Powell (1983), it aids policymakers in comprehending the 'institutional setting in which procurement decisions are made as well as the elements that influence organizational behavior during procurement procedures.'

Institutional theory offers a 'framework for understanding how external factors impact contractor assessment criteria and procurement performance at the State Department of Roads in Kenya's Upper Eastern Region.' This theory highlights the impact of institutional elements on the hiring process, such as cultural norms, legal frameworks, and industry standards. In order to ensure adherence to best practices and established standards, these institutional forces have an impact on the primary evaluation criteria of financial competence, technical aptitude, expertise, and organizational capacity.

By examining the institutional context, the study looks into how these traits impact contractor performance and procurement choices. 'Institutional theory, first proposed by Meyer and Rowan (1977) and further developed by DiMaggio and Powell (1983), emphasizes how organizations conform to norms in order to gain legitimacy.'

Understanding these variables enables a thorough assessment of procurement practices and their effectiveness in promoting infrastructure development in Kenya's road sector.

2.3 Empirical Literature Review

An empirical literature review examines how data was gathered, research methodologies, and conclusions derived from the results of studies based on empirical evidence. This aids in spotting trends, patterns, and the reliability of earlier research.

2.3.1 Financial capacity and procurement performance

The elements that influence procurement success in Kenya's Bungoma County Government were investigated by Khaemba and Otinga (2019) ‘The study used a descriptive survey design and was founded on the resource-based view and efficiency theory.’ In order to gather information, 113 participants in the target group were given structured questionnaires; Yamane's method was used to establish the sample size, which came out to be 88. According to the findings, Bungoma County's procurement performance was greatly impacted by the financial capacity and evaluation of suppliers.

The study came to the conclusion that suppliers with substantial financial resources have a beneficial impact on procurement performance by guaranteeing prompt delivery of products and services. Furthermore, the county government can find trustworthy suppliers who can uphold quality requirements with the use of a comprehensive supplier evaluation process. Building on these conclusions, the current study will examine how contractors' financial capacity affects procurement performance at the State Department of Roads in Kenya's Upper East Region.

In Nairobi County, Kenya, Mushori (2020) examined the relationship between the financial capability of contractors and the execution of road construction projects.

Using both descriptive survey and correlational research techniques, the study focused on 460 people, including engineers, contractors, and drivers of public service vehicles. A 72.8% response rate was obtained from the 153 responses obtained from the 210 people sampled. Simple linear regression analysis was used in the study to determine that 44.7% of the variation in road building project performance could be explained by the financial capacity of the contractors. It was determined that the association was statistically significant ($p=0.000<0.05$), positively linear, and strong ($r=0.669$).These results highlight the significance of financial capacity for project execution success. The purpose of the current study is to investigate how procurement performance in the State Department of Roads in the Upper Eastern Region of Kenya is impacted by financial capability.

A study by Kirima et al. (2024) examined how project funding affected the development of road infrastructure in Kenya, highlighting the industry's vital role in promoting economic expansion. In order to overcome funding limits, the study addressed the financial difficulties that come with large-scale road projects and emphasized the value of public-private partnerships. Although cost recovery measures are frequently necessary when the private sector is involved, the study discovered that project finance greatly improves project performance.

Through the examination of both qualitative and quantitative data from 15 road projects with 199 participants, the study showed that sufficient funding not only expands the pool of available funds but also reduces project risks, both of which are essential for success. Clear project objectives, strategic stakeholder participation, careful planning, and efficient financing acquisition tactics were all suggested by the study as ways to maximize project success. These steps have been shown to increase productivity,

reduce hazards, and guarantee that road infrastructure projects are completed on schedule.'

In a different study, Umukumburwa (2024) 'investigated how financial resource planning affected the performance of building projects in Rwanda's Nyarugenge area.' Using a mixed-method approach, the study gathered quantitative and qualitative information from 190 participants working on nearby building projects. Financial planning and project performance are significantly correlated, according to the analysis, which was done with SPSS.

According to the study, attaining the objectives of building projects in terms of scope, time, quality, and budget requires both internal and external financial planning in addition to efficient coping mechanisms. This emphasizes how crucial it is for local contractors to have sound financial planning in order to improve the results of public building projects. Similar to that, the current study will look at how the 'financial capacity of contractors influences the performance of procurement in the Upper Eastern Region of Kenya's State Department of Roads.'

2.3.2 Technical Capacity and Procurement Performance

The current study determines the level at which technical capability among contractors affects procurement performance in the State department of road in the Upper Eastern Region of Kenya. Incorporating the current literature, the research paper follows the implications of technical expertise into the effectiveness of procurement processes, delivery of projects, manageability of costs, and the outcome of infrastructure delivery.

Nyaga (2020) evaluated the practice of project implementation in the projects of Uwezo fund in Isiolo County, Kenya, using the stakeholder, public choice and human

capital theories. Descriptive research among 147 respondents who were members of 232 Stakeholder groups in Uwezo Fund was conducted, which showed that the educational background of the various stakeholders had a profound effect on the stakeholder relations and stakeholder entrepreneurship. Among regulatory insights that guide the current research concerns the proposal by the author to streamline funding procedures, limit loan delays, enhance business support as well as install and maintain effective management and monitoring mechanisms to facilitate sustainability of the projects; an insight that has been neglected in the research study.

According to Oprong (2020), using the institutional and dependence theories of resources, 126 contractors were questioned through a correlational research design to evaluate the road development project capacity of contractors in Meru County, in Kenya. The results indicated that project implementation was likely to be improved through technical, financial and quality-management aptitudes (R 2 = 0.86) whereas management structure did little to influence implementation. This finding backs the study being conducted on technical proficiency as a major governance force of procurement success.

Khandira (2020) examined road construction ventures in Kisumu County and used institutional and stakeholder theories. A descriptive study that involved 171 respondents in 57 projects highlighted the need to have organised organisational structures to enhance efficiency in project operations. It was recommended that strong organisational structures and strategic management should apply. Though Khandira research focused on the study of project implementation, our research will refocus the perspective to technological ability as well as its bearing on the process of procurement and schedule and project success by contractors.

Wanjohi (2019) evaluated the influence of factors that impacted opportunities of delivering technology-based services in the Kenyan ministries through the Technology Acceptance Model. In a descriptive survey of 144 ICT employees in ten ministries, it was revealed that e-service delivery was complemented by technical capacity (.380, p = .005). Although the findings concentrate more on service delivery, it supports the present study in its examination regarding the increased contribution of technical capacity as a factor in raising the level of procurement performance in the State Department of Roads.

This research through a synthesis of these individual studies aims at offering practical information on how the technical expertise influences procurement by the contractors in the Upper Eastern Region, Kenya in general to enhance better infrastructure development.

2.3.3 Contractor's Experience and Procurement Performance

In 'their study, Ondieki et al. (2023) conducted an in-depth investigation into the selection criteria for suppliers and their impact on procurement performance within county governments. The research specifically examined the influence of a supplier's prior performance on procurement outcomes, emphasizing its role in enhancing efficiency and effectiveness in public sector procurement processes. The study targeted a total of 168 professional staff members across various county government departments in Kirinyaga and Murang'a counties, employing a descriptive research approach to gather relevant data. Through purposive sampling, sixty department heads were selected to provide insights into supplier selection practices and their correlation with procurement performance.

The findings of the study underscored the substantial impact of a supplier's previous performance, revealing that 64.2% of the variation in procurement performance could be directly attributed to this factor. This strong correlation highlighted the crucial role of past supplier evaluations in ensuring optimal procurement outcomes. The study further emphasized the importance of rigorous assessment methods when selecting suppliers to mitigate risks, enhance efficiency, and guarantee the successful execution of contracts. By advocating for the careful review of suppliers' historical performance records, the researchers provided valuable recommendations for improving procurement policies within county governments, ultimately contributing to more reliable and transparent procurement systems.

Hassan and Omwenga (2023) investigated the relationship between contract management practices and procurement performance in state corporations in Kenya. Their research used a cross-sectional design and involved a sample of 157 individuals from four state corporations. Data were collected via questionnaires and analyzed using both descriptive and inferential statistics. The study found a significant positive correlation between various contract management practices—such as contract administration, dispute resolution, relationship management, monitoring, and evaluation—and procurement performance. The results suggest that improving contract management practices can enhance procurement outcomes within state corporations, adding valuable insights into effective contract management strategies.'

In the 'Lurambi sub-county of Kakamega County, Otinga (2022) investigated the elements influencing the completion of road construction projects. The analysis concentrated on the experience of contractors, site impediments, and modifications to project specifications. 92 respondents were chosen for the study using a descriptive

research design and purposive and systematic random sampling. Using questionnaires, data was gathered, and SPSS software was used for analysis. The results showed that the expertise of contractors, site impediments, and modifications to the specifications significantly affected the time it took to complete the project. It was difficult for inexperienced contractors to adjust to shifting conditions, and delays resulted from obstacles or modifications to the project specifications. In order to prevent delays, the study found that careful screening of contractors' backgrounds and meticulous project planning are essential. ‘The current study will look into how contractors' experience affects procurement performance, even though the focus of this research was on the completion of road building projects.

2.3.4 Organizational Capacity and Procurement Performance

‘Wanjiku (2019) conducted a study to examine the impact of strategic procurement practices on organizational performance, with a particular emphasis on the Kenya School of Revenue Administration (KESRA). The research adopted a descriptive correlational design and involved a sample of 87 employees from KESRA. Data collection was carried out using structured questionnaires, and the analysis was performed utilizing the Statistical Package for Social Sciences (SPSS) software. The findings of the study revealed significant relationships between key strategic procurement practices namely supplier management, technology utilization, and organizational capacity and overall organizational performance.

Specifically, supplier management was found to account for 11.1% of the variance in organizational performance, while technology utilization contributed 19.1%, and organizational capacity emerged as the most influential factor, explaining 34.9% of the variance. Based on these findings, the study concluded that the adoption of strategic

procurement practices is critical for enhancing organizational performance. It recommended continuous efforts to identify key strategic drivers, increased investment in research and development, and the enhancement of employee skills to optimize procurement and organizational outcomes. Building upon these insights, the current research will specifically focus on assessing the influence of organizational capacity on procurement performance, thereby providing a deeper understanding of how internal capabilities contribute to procurement efficiency and effectiveness.'

'Kariuki and Paul (2019) investigated how Kenyan County Governments' procurement performance was affected by contract management procedures. Contract monitoring, managerial capability, contract relationship, and contract planning were the four main practices that were the focus of their investigation. Information was gathered from employees of Garissa County. The results demonstrated that procurement performance was considerably and favorably impacted by all four methods. The study promoted the use of strong control and monitoring techniques, the development of comprehensive contract portfolios, the training of technical staff to increase their capability, the inclusion of strict performance metrics, and the involvement of stakeholders at every stage of the project lifecycle. These actions were recommended in order to guarantee project sustainability and improve procurement performance.'

'Sauda, Ngeny and Datche (2019) conducted a study to examine the impact of supplier evaluation on the performance of procurement contracts at Coast General Hospital in Kenya. The research employed a quantitative correlation research design to establish relationships between supplier evaluation practices and procurement contract outcomes. A total of 70 respondents were selected through stratified random sampling from five key hospital departments to ensure a representative sample.'

‘Data collection was carried out using self-administered structured questionnaires, which facilitated the gathering of relevant insights from procurement officers and other key stakeholders involved in supplier management. The collected data was then analyzed using descriptive and inferential statistics with SPSS version 24, allowing for an in-depth examination of the impact of various supplier evaluation factors on procurement contract performance. The findings of the study revealed a significant positive relationship between supplier evaluation and procurement contract performance. Key evaluation criteria such as supplier collaboration, financial stability, technical competency, and ethical standards were identified as having a notable influence on contract outcomes.

Suppliers who demonstrated strong collaboration, sound financial health, high levels of technical expertise, and adherence to ethical procurement practices were more likely to contribute to improved contract performance. Based on these findings, the study recommended that organizations, particularly in the healthcare sector, adopt a structured supplier evaluation framework incorporating these key factors. By doing so, institutions can enhance the efficiency, reliability, and overall success of their procurement contracts, leading to better service delivery and operational effectiveness.’

2.4 Summary and Research Gaps

Studies such as Oprong (2020) and Wanjohi (2019) have focused on the impact of contractors' technical capacity on project implementation and service delivery. Oprong's research in Meru County revealed significant positive relationships between technical, financial, and quality management capacities of contractors and project implementation. Similarly, Wanjohi's study on ministries in Kenya highlighted the positive influence of organizational technical capacity on e-service delivery. These

findings emphasize the importance of technical expertise in improving procurement performance.

Research by ‘Otinga (2022) examined factors affecting the completion of road construction projects, emphasizing the significance of contractor experience in project timelines. Studies like of Wanjiku (2019); Kariuki and Paul (2019) have focused on the influence of organizational capacity on procurement performance. Wanjiku's research at KESRA highlighted the relationship between strategic procurement practices, organizational capacity, and organizational performance. Kariuki and Paul's study in Kenyan County Governments revealed that contract management practices significantly influence procurement performance, emphasizing the need for robust monitoring, managerial capacity, and stakeholder involvement. These findings stress the importance of organizational preparedness in enhancing procurement performance.

The majority of earlier research was done on individual organizations, even outside of Kenya, especially in counties like Nairobi, Kisumu, Bungoma, and Meru show contextual gap. The Upper Eastern Region of Kenya, which has distinct logistical, economic, and infrastructure features that could affect contractor performance and procurement procedures, has received little attention in study.

Prior studies frequently depended on a single theoretical framework, such as the Institutional Theory or the Resource-Based Theory. In order to provide a more thorough understanding of how contractor capabilities affect procurement performance, this study aims to close the gap by integrating several theories, including Resource-Based Theory, Principal-Agent Theory, Transaction Cost Economics, and Institutional Theory. Operationalization Gap in Evaluation Criteria, the study has methodically broken down the evaluation criteria into separate dimensions, such as financial

capacity, technical capacity, experience, and organizational capacity, but previous studies have often referred to contractor capacity. By examining each criterion separately and in connection to procurement success, our study fills this gap.

Linkage Gap Between Procurement Performance and Evaluation Criteria, without directly connecting contractor evaluation criteria to procurement success measures like cost-effectiveness, timeliness, quality of service, and contract compliance, a number of studies concentrate on project execution or results. By demonstrating a clear connection between evaluation standards and procurement outcomes, the current study closes this gap.

Lack of Empirical Data on Public Sector Procurement, in Kenya, there is shortage of factual data specifically pertaining to the purchase of road infrastructure by the public sector, especially at the departmental level. In a real-world government agency environment, this study offers evidence-based insights into how evaluation criteria impact procurement outcomes.

Gap in Mixed Methods, the majority of related research is quantitative in nature, with little attention paid to the qualitative viewpoints of engineers, contractors, and procurement officials. Using a mixed-methods approach, this study aims to better understand the contractor evaluation process by combining quantitative and qualitative data. Policy and Gap in Practice, there is a dearth of practical advice in the literature on how the results might be incorporated into frameworks for contractor evaluation and procurement strategy. By providing useful suggestions for legislators and procurement managers at the State Department of Roads, the report seeks to close this gap.'

Table 2.1

Summary and Research gaps

Researcher	Area of Study	Methodology	Key Findings	Knowledge Gap(s)	Focus of Current Study
Oprong (2020)	Impact of contractor's capacity on the implementation of road infrastructure projects in Meru County, Kenya	Exploratory study	significant positive relationships between contractor's technical capacity and project implementation,	Used exploratory research design which was not suitable for the study. The dependent variable is project implementation,	Will use descriptive research design and the dependent variable is procurement performance
Wanjohi (2019)	Factors influencing the delivery of technologically-based services in selected ministries in Kenya	Qualitative research	There is statistically significant positive influence of technical capacity (β= 0.380, p= .005) on e-service delivery	The study focused on delivery of technologically-based services in selected ministries in Kenya	The current study will examine how procurement performance is affected by contractors'

Researcher	Area of Study	Methodology	Key Findings	Knowledge Gap(s)	Focus of Current Study
					technical capacity
Otinga (2022)	Factors influencing the completion of road construction projects in Lurambi sub-county, Kakamega County	Descriptive research design	Contractors' experience significantly affected project completion timelines	The study focused on completion of road construction projects.	The current research will examine the influence of contractor's experience on procurement performance
Wanjiku (2019)	Impact of strategic procurement practices on organizat	Descriptive correlational research design	Significant relationship between supplier management, technology utilization,	The dependent variable is organizational performance	The dependent variable is procurement performance

Researcher	Area of Study	Methodology	Key Findings	Knowledge Gap(s)	Focus of Current Study
	ional performance in public organizations, focusing on Kenya School of Revenue Administration (KESRA)		organizational capacity, and organizational performance		
Kariuki and Paul (2019)	Impact of contract management practices on procurement performance in County Governments.	Descriptive research design	contract monitoring, managerial capacity significantly and positively influenced procurement performance	The study focused on county Governments	The current study will focus on State Department of Roads in the Upper Eastern Region, Kenya.

2.5 Conceptual Framework

A ‘conceptual framework, according to Mugenda and Mugenda (2019), serves as a structured system of variables constructed by the researcher to guide the investigation towards achieving its defined objectives. In the context of this study, the conceptual framework delineates the key elements under examination. The independent variables, namely financial capability, technical capacity, experience, and organizational capacity, are fundamental factors believed to exert influence on the dependent variable, which is procurement performance.’

Financial capability represents the financial resources and stability possessed by contractors or suppliers engaged in procurement processes. It encompasses factors such as liquidity, solvency, and access to credit, all of which are crucial for ensuring timely delivery and quality of procured goods and services. Technical capacity pertains to the technical expertise, skills, and resources available to contractors or suppliers. It includes aspects such as technological proficiency, equipment availability, and adherence to industry standards, which directly impact the efficiency and effectiveness of procurement outcomes.

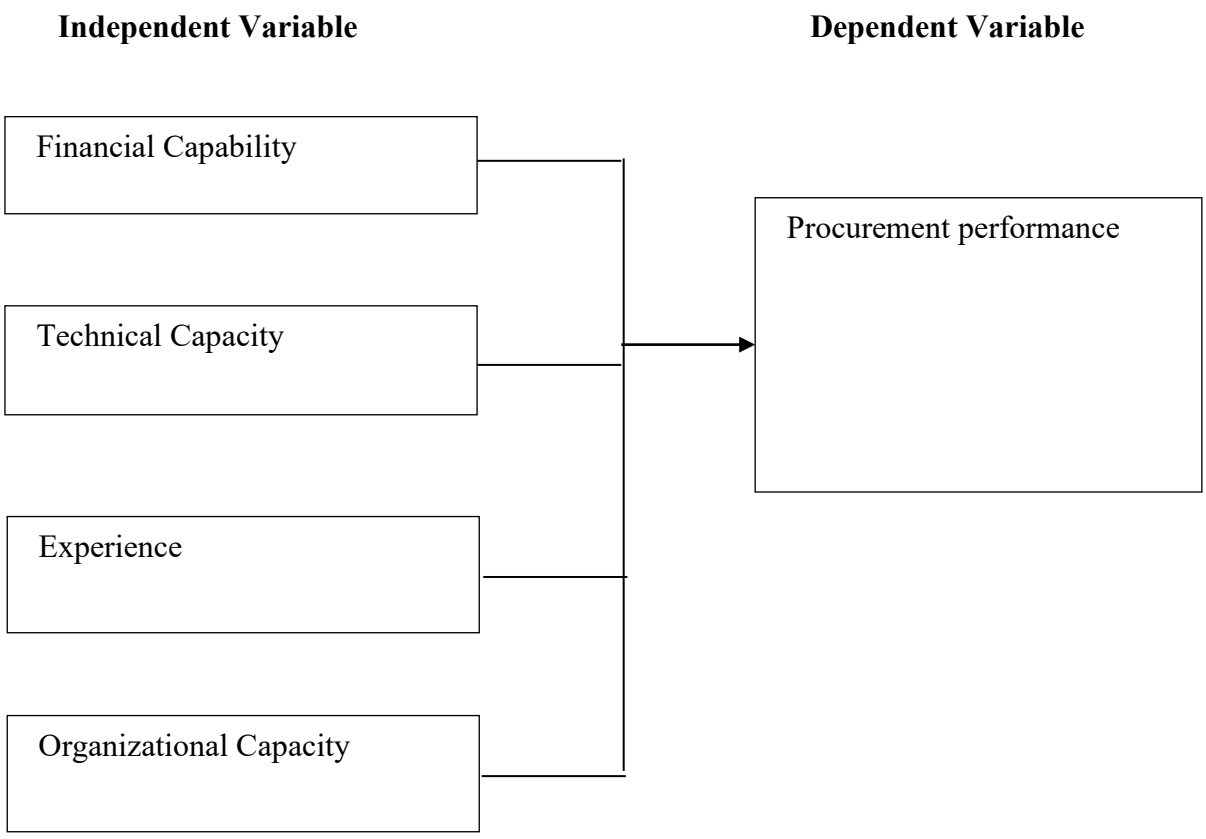
Experience refers to the accumulated knowledge, skills, and lessons learned from past procurement endeavors. Contractors or suppliers with extensive experience are better equipped to navigate challenges, anticipate risks, and deliver optimal results within stipulated timelines and budgets. Organizational capacity encompasses the institutional resources, processes, and capabilities that support procurement activities. This includes factors such as governance structures, management practices, and stakeholder engagement, which play a pivotal role in shaping the overall procurement performance.

Procurement ‘performance serves as the ultimate yardstick for assessing the effectiveness and efficiency of procurement processes.

It encompasses various metrics such as cost-effectiveness, timeliness, quality of goods and services, and compliance with regulations and standards. By evaluating the relationship between the independent variables (financial capability, technical capacity, experience, and organizational capacity) and the dependent variable (procurement performance), this study seeks to elucidate the factors that contribute to or hinder successful procurement outcomes. In summary, the conceptual framework of this study provides a structured framework for examining the intricate interplay between key variables involved in procurement processes. By systematically analyzing the influence of financial capability, technical capacity, experience, and organizational capacity on procurement performance, the study aims to offer valuable insights for enhancing procurement practices and optimizing organizational performance.’

Figure 2.1

Conceptual Framework

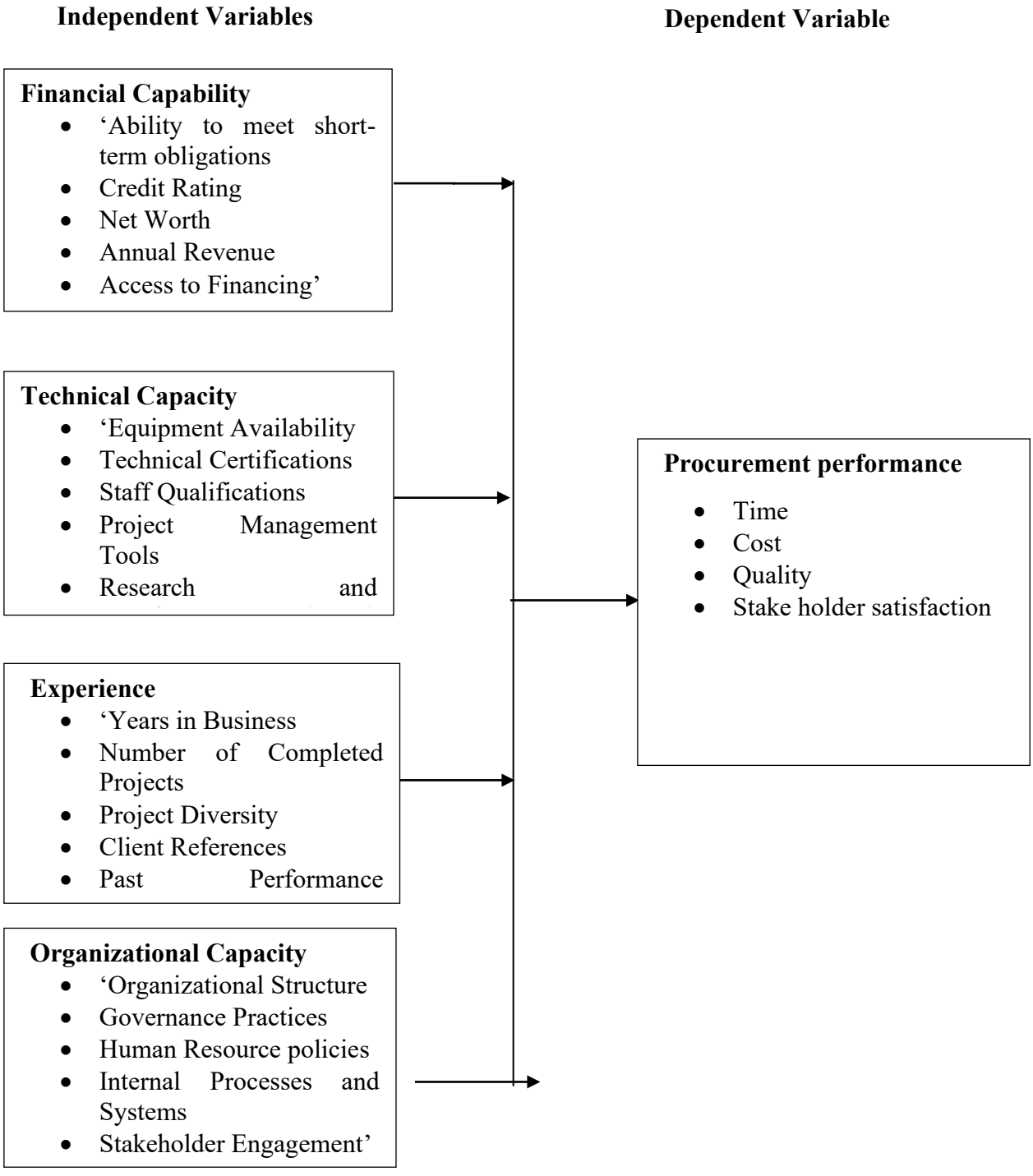


2.5 Operationalization Framework

The operationalization of the study variables is as presented on the framework below.

Figure 2.2

Operational Framework



2.6 Chapter Summary

This ‘chapter begins with an introduction, succeeded by a theoretical review of the study. The empirical section is structured according to the study's objectives, which involve evaluating the impact of contractor’s financial capability, technical capacity, experience, and organizational capacity on procurement performance. Next, the conceptual framework is reviewed, followed by an explanation of how the variables will be measured. The chapter ends with a summary. The following chapter will describe the methods used for data collection and analysis.’

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter offers a ‘detailed overview of the research methodology used in the study, outlining the specific approaches and techniques applied to gather and analyze data. It also explains the rationale behind the chosen methods and how they align with the research objectives, ensuring the reliability and validity of the study's findings.’

3.2 Research Design

In order to answer research questions, ‘researchers use a study design as a roadmap (Cooper & Schindler, 2019). To examine the connection between contractor assessment standards and procurement performance, a descriptive research approach will be used in this study (Kothari, 2019). Cooper and Schindler (2019) emphasize that descriptive research aims to gather information about "who, what, where, when, and how much" in relation to a specific event. A descriptive research strategy was used in this study to methodically analyze the different facets of contractor assessment criteria and how they affect procurement performance. With careful data collection and analysis, this research design will make it easier to examine the important elements that lead to procurement success and offer insightful information about efficient evaluation procedures. The ultimate goal of the research was to increase knowledge of the elements that go into effective internal procurement procedures.’

3.3 Target Population

The ‘target population refers to the entire group of individuals or entities that a researcher aims to study and draw conclusions from. This population is defined based

on specific characteristics relevant to the research objectives, such as demographics, geographical location, profession, or particular behaviors.'

In research, 'the target population of a study represents the specific group to which the research findings are intended to apply or be generalized (Mugenda & Mugenda, 2019). For this study, the target population included 93 management-level employees from the State Department of Roads in the Upper Eastern Region. These employees were distributed across three parastatals: Kenya Urban Roads Authority (KURA), with 23 employees; Kenya Rural Roads Authority (KERRA), with 40 employees; and Kenya National Highways Authority (KENHA), with 30 employees, as shown in Table 2.'

Table 3.1

Target Population

Category	Departments				Number	Percentage
	Procurement	Finance	Technical	ICT		
KURA	5	6	9	3	23	25
KeRRA	8	8	16	8	40	43
KeNHA	7	8	11	4	30	32
Total	20	22	36	15	93	100

The region's particular development demands and procurement issues served as justification for the Upper Eastern Region. Regional counties like Meru, Isiolo, Tharaka Nithi, and Marsabit deal with logistical challenges, little competition from suppliers, and infrastructure inequalities, all of which can have a big influence on the effectiveness and transparency of procurement.

Understanding procurement performance is crucial to guaranteeing that resources are used efficiently in this region, which also sees significant government investment in public services and infrastructure. Researching this area can assist find weaknesses and suggest fixes that are applicable not only locally but could potentially influence procurement procedures in other underdeveloped or marginalized areas of the nation.

3.4 Sample and Sampling Technique

Since the ‘target population was small the researcher employed a census in this study. According to Mugenda and Mugenda (2019), the use of census methodologies is justified by their capacity to offer a comprehensive and accurate portrayal.’ The goal of census techniques is to include every person or element within the defined population, as opposed to sample surveys, which choose a group of people. Because no demographic segment is left out, the risk of sampling bias is reduced and the validity of study findings is increased thanks to this thorough coverage. According to Kothari (2019), census data also provides a crucial basis for the development of policies, the distribution of resources, and the assessment of programs. This study made use of all 93 respondents

3.5 Instruments

‘Research instruments are the tools used to collect data in a study. They ensure accuracy, reliability, and validity in research findings. The choice of an instrument depends on the nature of the study, the type of data needed, and the research design.’

In this study, primary data was gathered through questionnaires, a common tool for collecting essential information from specific populations. Each question in the questionnaire was carefully crafted to align with the study's objectives and research

questions (Kumar, 2010). Structured questionnaires were chosen for their consistency in both questions and responses, ease of administration, analysis, and cost-effectiveness. Respondents often prefer questionnaires because they provide anonymity and convenience. 'The questionnaires in this study included both open-ended and closed-ended questions and were organized into six sections: A (General Information), B (Contractor's Financial Capability), C (Contractor's Technical Capacity), D (Contractor's Experience), E (Contractor's Organizational Capability), and F (Procurement Performance).'

3.6 Pilot Study

A pilot study is a small-scale preliminary study conducted before the main research to test the feasibility, methods, and potential challenges. It helps researchers refine their study design, instruments, and procedures, ensuring smoother execution of the full research.

Conducting a pilot study is a critical step in the research process, as it helps identify potential issues and limitations in data collection instruments before the full study (Yesavage, 2006). Piloting allows researchers to test the clarity and effectiveness of the instruments, making adjustments based on participant feedback. For descriptive studies, a pilot study typically involves about 10% of the sample size (Mugenda & Mugenda, 2019). In this research, the pilot test was conducted with nine employees from the Central region at the end of June 2024, representing around 10% of the total sample. The results from this pilot study were used to assess the validity and reliability of the instruments (Sekaran, 2015).'

3.6.1 Validity

According to Oso and Onen (2008), ‘a test's validity is determined by how well it captures the intended outcome. Content validity was employed in this study to guarantee that the information gathered accurately reflected the particular field under investigation.’ Experts in the field provided feedback on the content validity, and the research supervisor was consulted as well. The supervisor's input was essential in making sure the questionnaire items matched the ideas of the study, which enhanced the data's content validity (Mugenda & Mugenda, 2019). To improve the validity of the instruments even more, the responses from the pilot study were carefully reviewed.

3.6.2 Reliability Test

For research tools to continuously generate reliable and correct data, reliability is essential (Best & Kahn, 2014). ‘In this study, dependability was measured using Cronbach's alpha coefficient. It is commonly accepted that good dependability is indicated by a Cronbach's alpha value greater than 0.8’ (Sekaran, 2015). In this investigation, the independent variables' Cronbach's alpha coefficient was determined to be 0.83, exceeding the permissible level. The fact that the instruments consistently measured the target constructs across several population subsets indicates that they were dependable for gathering data.

3.7 Data Collection Procedure

After securing permissions, ‘the researcher distributed the questionnaires to regional offices of KURA, KENHA, and KERRA using a drop-and-pick-later method. Respondents were given two weeks to complete the questionnaires, after which they were collected for data analysis.’

Table 3.2

Operationalization of study variables

Study Variable	Indicator	Measurement Scale	Questionnaire section
Financial capacity	• 'Ability to meet short-term obligations • Credit Rating • Net Worth • Annual Revenue • Access to Financing'	Nominal/Ordinal	Section B
Technical capacity	• 'Equipment Availability • Technical Certifications • Staff Qualifications • Project Management Tools • Research and Development (R&D) Investment'	Nominal/Ordinal	Section C
Experience	• 'Years in Business • Number of Completed Projects • Project Diversity • Client References • Past Performance Records'	Nominal/Ordinal	Section D
Organizational capacity	• 'Organizational Structure • Governance Practices • Human Resource policies • Internal Processes and Systems • Stakeholder Engagement'		Section E
Procurement performance	• 'Timely completion of projects • Supplier Performance	Nominal/Ordinal	Section F

Study Variable	Indicator	Measurement Scale	Questionnaire section
	• Budget Adherence • Regulatory Compliance • Supplier Relationship Management'		

3.8 Data Analysis and Presentation

The 'study gathered both quantitative and qualitative data. For quantitative data, descriptive and inferential statistical techniques were employed, including the calculation of means, percentages, ranges, correlation coefficients, standard deviations, and frequencies. Qualitative data was analyzed using content analysis, with a focus on identifying key themes and narratives. Quantitative data was processed through various statistical methods, while qualitative data was summarized using thematic analysis. Responses were counted, and statistical calculations were conducted using SPSS (Version 22). To examine the relationship between the independent variables and procurement performance, a regression analysis was performed, using the following regression model':

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

Where:

Y = procurement Performance

βo = Constant

X1= 'Contractor's Financial Capability

X2 = Contractor's Technical capacity

X3= Contractor's Experience

X4= Contractor's Organizational Capability

β0, β1, β2, β3, β4 =Regression coefficients.'

ε = Error Term

3.9 Ethical Considerations

Ethics, which refers to the 'branch of philosophy that deals with proper conduct and serves as a guide for behavior (Mackinnon, 2011), is essential in research. The main objective of ethics in research is to ensure researchers conduct their work with honesty and integrity, avoiding personal benefit and preventing harm to others.' This study addressed the following key ethical considerations.

3.9.1 Informed Consent

According to Silverman (2002), informed consent is an ethical guideline that guarantees participants are fully informed about the study's facts so they can make an informed decision about participating. By securing informed permission, researchers honor participants' autonomy and their right to make an educated, voluntary decision about participating in the study (Hesse-Biber & Leavy, 2019).

3.9.2 Voluntary Participation

According to Trochim (2006), voluntary participation is a fundamental ethical research criterion that guarantees that participants are neither coerced or under duress to participate in the study. The significance of upholding the autonomy and rights of participants is emphasized by this principle. According to Hesse-Biber and Leavy (2019), researchers must make sure that participants are fully informed about the goals,

risks, and advantages of the study so that they may make an informed decision about participating or not.

3.9.3 Confidentiality

Maintaining confidentiality in research is essential to protect the privacy and rights of participants, particularly when handling sensitive information. Researchers must obtain consent from both the participants and the organization involved to access confidential data (Creswell & Creswell, 2017). In this study, the researcher obtained approval from regional managers at KURA, KENHA, and KERRA to collect data from their staff. Approval from the university required submitting a formal request to the ethics committee or relevant authorities, detailing the research objectives, methodology, and confidentiality measures.

3.9.4 Privacy

Upholding privacy and confidentiality are paramount in research to safeguard their rights and maintain ethical standards (Creswell & Creswell, 2017). In this study, stringent measures were implemented to ensure that respondents' identities remained confidential and protected throughout the data collection process. One such measure involved was use of codes and pseudonyms to anonymize participants' responses, thereby preventing any possibility of identification.

3.9.5 Anonymity

Anonymity must be maintained in research to safeguard participants' privacy and confidentiality and avoid any possible identification that would jeopardize their rights or welfare (Creswell & Creswell, 2017). In addition to merely omitting participant names, anonymity also means not including any information in study reports or

publications that might allow for the identification of specific people (Mugenda, 2019). In order to maintain participant anonymity in this study, the researcher followed stringent procedures to make sure that no participant information or traits that would potentially betray their identity were shared. Refusing to gather or disclose data like ethnicity, cultural background, or any other kind of personal identification was one example of this (Creswell & Creswell, 2017). The researcher protected the identity of the participants by avoiding such information, which reduced the possibility of unintentionally revealing their identities.

Additionally, each participant's answers were anonymized using a unique identity that was utilized continuously throughout the study (Guest et al., 2012). By replacing any individually identifiable information on questionnaires or interview transcripts with these codes, participants' identities were kept private and secure (Smith et al., 2009). In order to further protect their identity, participants were specifically told not to write their real names on any research instruments.

3.10 Chapter Summary

This ‘section offers a detailed explanation of the methods and techniques employed to collect and analyze data. These include research design, target population, instruments, determining sample sizes, piloting, validity and reliability, data collection procedure and data analysis techniques and ethical considerations.’

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRENTATION

4.1 Introduction

The research examined the 'influence of contractor's selection criteria on procurement performance in the State Department of Roads in the Upper Eastern Region, Kenya.'

4.2 Response Rate

Table 4.1

Response Rate

Questionnaires distributed	Number of questionnaires completed and returned	Response Rate
93	72	77.4%

Details of the data collection procedure are shown in Table 4: Response Rate, with particular attention paid to the quantity of questionnaires mailed, the quantity returned, and the response rate that was obtained. A response rate of 77.4% was obtained from the 72 completed and returned surveys out of the 93 that were delivered. In research projects, a response rate of 77.4% is regarded as fairly robust, demonstrating a high degree of participant engagement and the dependability of the data gathered. This 'high response rate implies that the sample is probably representative of the target population and lowers the possibility of non-response bias.' It increases the validity of the results and suggests that the participants were sufficiently motivated or thought the study was pertinent, which resulted in a high degree of involvement.

4.3 Pilot Test Results

4.3.1 Reliability Tests

A pilot study involving 9 members of staff from the central region was done. The data collected was used to ascertain instrument validity through computation of 'Cronbach's alpha coefficient.' From table 5 Cronbach's value is above .7 on average giving a highly admissible reliability of the data collection instrument.

Table 4.2

Instrument Reliability

Variable	'Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No of items'
'Financial capability of contractor	.762	.764	9
Technical capacity of contractor	.791	.789	9
Contractor's experience	.785	.788	9
Contractor's organizational capacity'	.776	.774	9

4.3.2 Age of the Respondents

Most respondents were found to fall between the age of 18-45 equivalent to 86.5% of the respondents. 13.5% being of 46 and above years of age. This was concluded that the organizations are engaging employees of productive age showing vibrancy in the organization.

Table 4.3

Age of the respondents

Valid	Number	Percentage
18-30	27	37.3
31-45	35	49.2
46 and above	10	13.5
Total	72	100.0

4.3.3 Level of Education

Table 4.4

Level of Education

	Number	Percent
Diploma	29	38.9
Bachelors	34	49.2
Masters	09	11.9
Total	72	100.0

'The findings show that 49.2% of the respondents had bachelor level of qualification with 38.9% have diploma and 11.9% having postgraduate degree.'

4.3.4 Length of Service

Table 4.5

Period worked for the Organization

	Frequency	Percent	Valid Percent	Cumulative Percent
0-5 years	29	40.7	40.7	40.7
6-10 years	24	32.2	32.2	72.9
11-15 years	9	11.8	11.9	84.8
16 years and above	10	15.2	15.2	100.0
Total	72	100.0	100.0	

The findings reveal that the greater number of employees across all four departments have been with the company for fewer than five years, representing 40.7% of the workforce. The next largest group consists of employees with 6-10 years of service, making up 32.2% of the total. Those with over 16 years of tenure account for 15.2% of the respondents, while employees with 11-15 years of service are the smallest group, comprising 11.8% of the population.

4.4 Descriptive Analysis of Study Variables

The ‘study investigated contractors’ evaluation criteria namely, financial capability of contractor, financial capability of contractor, contractor’s experience, and contractor’s organizational capacity.’

4.4.1 Financial Capability of Contractor and procurement performance

The ‘research evaluated the impact of a contractor's financial capability on procurement performance as shown in Table 9.’

Table 4.6

Financial Capability of Contractor Descriptive Analysis

Statement	Mean	Std. Deviation
The financial strength of contractors positively influences the timely completion of road projects	3.78	1.67
Contractors with higher credit ratings consistently deliver higher-quality work compared to those with lower credit ratings.	3.71	1.71
Effective cash flow management by contractors leads to better procurement performance and reduces delays in project execution.	3.93	1.63
Contractors with adequate bonding capacity are more likely to complete projects within budget and on schedule.	4.29	0.64
The previous financial performance of contractors is a reliable predictor of their future success in executing road projects.’	4.14	0.68
Composite Mean	3.96	

According to a recent data research, we have learned valuable facts in regard to the various factors that would influence the success of procurement in relation to road development within the Upper Eastern region under the State Department of Roads in Kenya. Such analysis reveals a large value of standard deviation of 1.67, indicating wide variation of opinion among the interviewees. Nevertheless, the assertion that the financial stability of contractors directly determines the accomplishment of projects on schedule attracts a mean score of 3.78- an indicator that there is strong support to the assertion concerning the importance of financial stability in terms of timeliness. This observation resembles the statement made by Khaemba and Otinga (2019) that financial stability enhances the project deadlines.

Concurrently, standard deviation of 1.71 signifies that there are disagreeing opinions during the respondents. Ahmad et al. (2019), discuss this question, stating that credit ratings contribute to the results of the contractor's operation, although there is no clear understanding of how credit ratings are associated with quality. In line with this, contractors having better credits have higher scores in terms of quality levels of work done (mean of 3.71) indicating that there is moderate conformity to the credit ratings indicating good performance.

Another important financial variable is cash flow, which has a mean rating of 3.93 and a high standard deviation of 1.63, indicating that its importance in project completion is a divided affair. Mushori (2020) claims that effective cash-flow management maintains a project on track, and this opinion receives support in the current study since the mean score of this item is quite high.

Bonding capacity scored the highest mean of 4.29 and a low range of 0.64 which means that there is great consensus that adequate bonding capacity is a prerequisite of course

to project completion on schedule, on budget as found by Khandira who determined that bonding has impacts on budget and schedule control (2020).

The respondents also feel high on historical financial performance as the average is 4.14 with very low standard deviation of 0.68. The given data confirm the conclusion of Basri and Suryahadi (2017) related to the fact that past performance is an appropriate predictor of outcomes of the corresponding project in the future.

Collectively the composite means of 3.96 points to extensive concurrence that finances stability, credit ratings, cash flow, the capacity to bond and past results are all important in determining the outcome of procurement in road projects.

4.4.2 Technical capacity of contractor and procurement performance

The 'study investigated the effect of contractor's technical capacity on procurement performance as presented in Table 10.'

Table 4.7

Technical capacity of contractor descriptive analysis

Statement	Mean	Std. Deviation
The performance of a university in examining the performance of procurement in highway projects is highly impacted by the presence of contractors who have a traced record of successfully constructing similar roads.	3.98	0.98
	4.98	0.92

Statement	Mean	Std. Deviation
The other giant is the capability of the workforce of the contractor. The ability of a well-trained and competent crew to provide spectacular outcomes in terms of procurement and the success of the project as a whole should not be underestimated.	3.63	1.38
	3.10	0.89
A great difference is made too with the use of modern tools and technologies. By implementing the existing solutions, contractors will complete the highway projects quicker and at a lower cost.	3.72	1.48
	3.85	0.79
Composite Mean	3.88	

The following data research examines the influence of various technical abilities on the success of the procurement of the State Department of Roads in the Upper Eastern Region of Kenya. The standard deviation of the views is 0.98, however, a general trend is evident that contractors who have successfully built similar road projects gets a positive score of 3.98 out of 5 regarding the procurement performance. Those results coincide with Mushori (2020) who states that one of the best signs of upcoming success is the trail of successful projects.

What is also impressive is the agreement that competence and skills of a workforce is crucial to a contractor. The average in this case is 4.98 which means that at least majority of the respondents perceive that the best results are streamed by high quality

human resources. Another closely related remark is made by Ngari (2017) who adds that the competence of the workforce is a key project success factor.

The usage related to technology is more complicated. Contractors tend to use modern equipment and technology in order to raise efficiency and quality with the mean being 3.63 and a high standard deviation of 1.38. Most people think that technology can improve performance; however, when it comes to the overall effect of technology, people are divided, as in the study by Arnfalk and Bjornfot (2019) it can be observed that effectiveness happens to be contextual and application-based.

There is divided opinion even on quality assurance and control mechanisms. This average of 3.10 implies that the participants do not tend to agree that these systems assist in ensuring the quality of projects, and Basri and Suryahadi (2017) state the contrary.

The project management skills do better. The average rating of 3.72 and a rather minor standard deviation of 1.48 indicate that the majority of the participants agree that the more efficient the project management, the more efficient the planning, execution, and completion should be- an opinion also shared by Chou (2016).

When combined, the mean score that takes an average of the composite 3.88 gives a balanced picture of the influence of technical competence on the success of procurement based on perceptions that may differ with regard to opinions about quality control and technological advancement.

4.4.3 Contractor's experience and performance

The 'study explored the influence of a contractor's experience on procurement performance as analyzed in Table 11.'

Table 4.8

Contractor's experience descriptive statistics

Statement	Mean	Std. Deviation
Academically, road construction projects follow the thumb rule which is that contractors who have already done similar projects before usually do a better job on their offering project. Studies indicate that the older a contractor is, the more he or she can deliver the schedule and budget.	4.21	1.79
	4.60	0.98
The reputation and references of contractors also count very much. Competitors who have a proven record of delivering good results as far as their clientele are concerned are inclined to demonstrate superior procurement performance.	3.49	1.92
	4.28	0.67
Special form of experience also tilts the balance. The contractors that have demonstrated capability in technical areas of road construction tend to achieve more technical targets which translates to a higher score in the area of procurement.	4.71	0.81
Composite Mean	4.11	

During the course of sifting through the State Department of Roads data in the upper eastern region of Kenya I was glad to discover that contractor experience actually defines procurement outcomes. The measuring tool with the best score, i.e. being positively associated with success, was the measurement, contractors that are in business longer will be able to complete road construction on time and within budget. The average of 4.60 with a low standard deviation of 0.98 indicates that most of the respondents have agreed that these firms normally deliver. Ahmad et al. (2019) support such conclusion and point to the critical role of experience in performance.

Contractors having great reputations and positive references on the other hand had a comparatively lower mean of 3.49. The increased standard deviation of 1.92 is an indication of a variance of views to the questions regarding the level of concern of reputation and referrals. The variability in the spread of the results indicates that the respondents had various perceptions of the importance of reputation due to their own background or the priorities they place on it. As Hassan et al. (2023) note, reputation can exert some influence, but it can only be strong under certain conditions.

Third: a score of 4.21 was given as to the third metric, which is that of contractors that have been able to deliver similar projects of road construction in the past. This number reflects that success on previous roads is a good indicator of success. Nevertheless, a much greater variation in the perception of how valuable that record of the past is can be established when the standard deviation is 1.79. That conclusion is copied from Hassan et al. (2023) as they suggest that the past performance might have a potent impact but might remain variable. Special skill in road construction, including knowledge of special techniques, also scored 4.28, indicating that most people agreed

that special skills result in better construction results. Such evidence as the one presented in Chepkosgei et al. (2018) highlights the strength of technical ability.

This aspect with a highest score of the 6 points is a history of successful project results with a 4.71 average and low standard deviation or 0.81, which represents a high degree of consensus. It resembles the findings of Khaemba and Otinga (2019) and Oprong (2020) that past success of a project is a good predictor of future success. When adding these statistics, one will come up with the overall average score that is 4.11, which emphasizes a definite idea that experience of the contractor is one of the basic factors in success of procurement.

4.4.4 Contractor's organizational capacity and Procurement performance

The 'researcher examined the impact of a contractor's organizational capacity on procurement performance and data collected was as analyzed in Table 12.'

Table 4.9

Contractor's organizational capacity descriptive analysis

Statement	Mean	Std. Deviation
'A well-defined organizational structure in contractors leads to improved procurement performance	1.42	1.11
The ability of contractors to retain skilled personnel is crucial for achieving high procurement performance in road construction projects	3.40	1.35
Management systems within a contractor's organization enhance the effectiveness and efficiency of procurement activities	3.91	1.97
Strong governance practices in contractor organizations contribute to better decision-making and procurement performance in road projects.	4.26	1.00
Contractors with scalable and flexible organizational capacity can better adapt to project demands, thereby improving procurement performance.'	4.46	0.92
Composite Mean	3.6	

By examining the data in this study closely you realize that the organizational muscle of contractors plays a crucial role in determining the success or rather failure of road projects in the Upper Eastern Region of Kenya operated by the State department of roads.

Top on the list is a clear organizational structure. It received an average of 1.42 on the responses-that is practically a no-opinion area. The value of the standard deviation 1.11 is enormous and it implies that people are being distributed all around the map. My interpretation: the respondents do not believe a lean structure causes a massive difference, or one that puts the rest of the factors, which are easier to observe, to shame. This anticipates the same thing as said by Revellino and Mourik (2017) who mention that clear structure is the backbone of strong procurement.

Keeping good employees is a little more regular. The average stands at 3.40 and everyone thinks it helps but not all are certain about it. The value of standard deviation of 1.35 narrates the same tale that people realize the value, but sometimes they do not realize the reward. Onyango (2016) supports it by noting that retaining talent determines a successful project.

Management systems were a bit better with an average of 3.91. However, the large standard deviation of 1.97 indicates that everybody had quite their own idea about how effective the management may be in fact. Chou (2016) shares the opinion that management approaches are important and do make a difference, yet, seemingly, respondents in this case were not quite sure.

Even higher was the score on governance processes- 4.26. This smaller standard deviation standard deviation of 1.00 translates that there is less variance in the opinions, that is, good governance implies that there is better decision-making. That suits Oprong (2020), who is concerned that effective governance enhances both decision-making and the performance of the entire project.

Lastly, human beings commended the ability of contractors to expand and contract themselves upon request- something described as scalability and flexibility. It had an average of 4.46 and a standard deviation of 0.92 that is super low indicating that nearly everyone felt it enhances the outcome of procurement. Wanjiku (2019) makes the same argument: flexibility is the key to achieving project expectations and procuring targets.

In all, the composite mean of 3.6 is a slight indication of moderate agreement in regard to capacity of organization, how it affects performance in procurement. Although every single element does have the mixed reviews, the general picture still draws me a pretty nice portrait of why the coin so called strong contracting organizations could easily achieve the stronger project results.

4.4.5 Procurement performance

Table 4.10

Procurement performance descriptive analysis

Statement	Mean	Std. Deviation
Projects are consistently completed on schedule, contributing positively to the overall procurement performance.	3.75	1.63
The execution of projects meets or exceeds the required quality standards, reflecting effective procurement performance.	3.79	0.64
Cost management practices are in place, ensuring that projects are completed within the allocated budget.	4.32	0.95
Satisfaction among stakeholders is achieved due to the efficient and effective procurement processes.	4.02	1.03
The procurement cycle time is minimized, enhancing the efficiency and responsiveness of the procurement process.	3.12	1.37
Projects are consistently completed on schedule, contributing positively to the overall procurement performance.'	4.38	0.94
Composite Mean	3.89	

In our study of the procurement performance data on road projects managed by the State Department of Roads in the Upper Eastern Region of Kenya, we soon realize that the various variables highly determine the outcomes.

First, we note that projects are normally completed as per schedule, which is a variable that has an associated positive impact on the procurement performance. The average result in this measure is 3.75 and most of them concur that early project completion yields better results. Nonetheless, the extremely large standard deviation of 1.63 helps us to know that opinions vary greatly one to another, there are indications of some participants regarding timeliness as an important key, whereas some are not that convinced anymore. Such observations are in line with the findings by Otinga (2022) who states that the success of the procurement process is time-sensitive.

Second is the gauge of whether the work undertaken in the project does live up to the required quality level or not. In this instance, the average score stands at 3.79 meaning that moderately average to high level of agreement was reached stating that successful procurement performance is related to quality execution. Its low standard deviation of 0.64 again signifies that there is a relatively close opinion with regard to this point enhancing the findings made by Ngari (2017) who insists on the need to adhere to the quality standards to yield successful project results.

The highest mean score: 4.32 is recorded in cost management procedures. This proves that there is a great level of agreement that cost control plays a critical role in the completion of projects within budget allocations. Most respondents hold this sentiment as a relatively low standard deviation of 0.95 demonstrates. The finding is correlated with that of Bawole et al. (2017) whose research succinctly points out that the quality

cost management can help an organization maintain the budget and attain the procurement goals.

Adequate pupils and other stakeholders' satisfaction, however, is harvested by the use of efficient, competent procurement processes achieving a mean of 4.02. This means that there is a high level of concurrence regarding the significance of satisfaction of stakeholders in the aspect of procurement success, although the standard deviation value of 1.03 indicates significant variance in the viewpoints. The evidence supports the arguments by Revellino and Mourik (2017) who note that the satisfaction of the stakeholders is a significant performance measurement of the procurement process.

Lastly, we look at procurement cycle time. In this case, average 3.12 implies that there is less of a common ground as regards to its impact on facilitating efficiency and responsiveness. This is further demonstrated by the high standard deviation of 1.37 which means that there are those who consider the cycle time critical and those who do not consider this attribute important. According to Chou (2016), a similar statement can be added to the effect that the influence of cycle time might differ in specific conditions and depending on unique procurement procedures.

Looking cumulatively, the composite mean of 3.89 indicates general agreement that a number of factors, including project scheduling, quality implementation, cost control, stakeholder satisfaction and other processes involved in the procurement cycle time, determine the success of a procurement process. The evidence provides a healthy representation of the cause-and-effect relationship of these variables on the effects in road projects under the supervision of the State Department of Roads in the upper eastern region of Kenya.

4.5 Inferential Analysis

In examining the manner in which the State Department of Roads in the Upper Eastern Region, Kenya uses to conduct their evaluations of the contractors, I considered the four key factors used; that is, financial capability, technical capacity, contractor experience, and organizational ability and how they correspond with the performance of the procurement. This was done through constructing a hierarchical linear regression model that will enable me to test the hypotheses as to whether these criteria are able to predict procurement performance. The model as a whole reported a reasonable amount of variance in the performance, whereas the best predictor was organizational capacity. Technical capacity and contractor experience were not too far behind although the financial capability was left far behind. My results all in all indicate that the State Department of Roads should devote more consideration on managing ability in the assessment of contractors.

4.5.1 Correlation Analysis

To ascertain the relationships between the study's independent variables and the dependent variable, Pearson correlation analysis was carried on. The results are as summarized in Table 14.

Table 4.11

Correlation Analysis Table

Variable		Procurement Performance	Financial Capability of Contractor	Technical Capacity of Contractor	Contractor's Experience	Contractor's Organizational Capacity
Procurement Performance	Pearson Correlation	1.00	.753	.732		.747
	Sig. (2-tailed)	-	.045	.046		.045
	N	72	72	72		72
Financial Capability	Pearson Correlation	.753	1.00	.671		.746
	Sig. (2-tailed)	.045	-	.051		.042
	N	72	72	72		72
Technical Capacity	Pearson Correlation	.732	.671	1.00		.532
	Sig. (2-tailed)	.046	.051	-		.051
	N	72	72	72		72
Contractor's Experience	Pearson Correlation	.747	.746	.532		1.00
	Sig. (2-tailed)	.045	.042	.051		-

Variable		Financial Capability of Contractor	Technical Capacity of Contractor	Contractor's Experience	Contractor's Organizational Capacity
	Procurement Performance				
	N	72	72	72	72
Contractor's Organizational Capacity	Pearson Correlation	.751	.591	.539	.731
	Sig. (2-tailed)	.045	.053	.049	.057
	N	72	72	72	72

The correlation analysis in Table 14 highlights the factors influencing procurement performance, emphasizing the Financial strength of the Contractor as the highest contributing factor, with a strong Pearson Correlation of 0.753. This suggests that contractors with robust financial health significantly enhance procurement performance, likely due to their ability to manage project costs effectively and avoid delays. Similarly, Contractor's Organizational Capacity and Experience also show strong positive correlations (0.751 and 0.747, respectively), indicating that well-structured organizations with extensive experience are more capable of delivering successful procurement outcomes.

On the other hand, the Technical Capacity of the Contractor, while positively correlated with procurement performance (0.732), has a slightly lower impact compared to financial capability, organizational capacity, and experience. It also shows weaker correlations with other contractor-related factors, such as experience and organizational capacity, suggesting that technical skills alone are less critical without strong financial and organizational backing. Therefore, the findings emphasize that the financial health

and organizational strength of the contractor play a more dominant role in driving procurement success than technical skills alone.

4.5.2 Multiple Regression Model

A multiple regression model was applied to assess the relationship between the independent variables and procurement performance. The findings are detailed in Table 15.

Table 4.12

Model Fitting Information

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.7937	.6299	.5864	6.7705

Table 15 ‘indicates that the adjusted R-squared value is 0.5864, suggesting that the independent variables (financial capability of the contractor, technical capacity, contractor experience, and organizational capacity) collectively explain 58.64% of the variance in procurement performance. This result provides evidence against the null hypotheses (H01, H02, H03, and H04).’

4.5.3 Analysis of Variance (ANOVA)

The ‘ANOVA results, shown in Table 16, assess how well the model fits the data.’

Table 4.13:

Analysis of Variance Table

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	24.68	3	8.227	3.632	.0069
Residual	45.29	20	2.265		
Total	69.97	23			

The ‘significance level of 0.0069 (< 0.05) indicates that the independent variables statistically and significantly predict procurement performance, leading to the rejection of the null hypotheses (H01, H02, H03, and H04).’

These ‘findings highlight the importance of financial capability, technical capacity, contractor experience, and organizational flexibility in procurement performance.’ Organizations should prioritize these factors when evaluating contractors to enhance efficiency and project success.

4.5.4 Regression

Regression analysis results are summarized in Table 17, showing the impact of each independent variable on procurement performance.

Table 4.14:

Regression Coefficient Analysis Table

Model	Unstandardized Coefficients	Standardized Coefficients	T	Sig.
(Constant)	2.057	1.681	2.30	.040
Financial capability of contractor	1.070	.071	.328	4.573
Technical capacity of contractor	2.063	.112	.210	2.341
Contractor's experience	1.343	.211	.067	.379
Contractor's organizational capacity	.068	.232	.075	.623

$Y= 2.057 + 1.070X_1+2.063X_2+1.343X_{3+}0.068X_4+e$ whereby

Y is 'Procurement performance; X_1 is financial capability of contractor; X_2 is technical capacity of contractor; X_3 is Contractor experience; X_4 is Contractor organizational capacity and e = model significance. The regression analysis presented in the table examines the relationship between Procurement Performance (Y) and four key factors: Financial Capability (X1), Technical Capacity (X2), Contractor's Experience (X3), and Contractor's Organizational Capacity (X4). The model equation, $Y= 2.057 + 1.070X_1+2.063X_2+1.343X_{3+}0.068X_4+e$, shows the unstandardized coefficients for each predictor variable, reflecting their contributions to procurement

performance. The constant term (2.057) is the baseline value of procurement performance when all other factors are held at zero.'

The analysis reveals that the Technical Capacity of the Contractor (X2) has the highest unstandardized coefficient value (2.063) and the strongest influence on procurement performance. This 'suggests that technical skills and expertise play a crucial role in enhancing the overall performance of procurement activities. The standardized coefficient of 0.112 further supports this, indicating that technical capacity is a critical driver of performance. The significance value (Sig. = 0.040) confirms that this factor has a statistically significant impact on procurement performance.'

In contrast, the Financial Capability of the Contractor (X1) has a lower unstandardized coefficient (1.070) but a notable standardized coefficient (0.328), showing it is the most statistically significant factor in the model, given its highest t-value (4.573). This highlights that despite its lower unstandardized value; financial capability remains a key determinant of procurement performance. Contractors with strong financial health can manage costs and resources more effectively, reducing delays and contributing significantly to better procurement outcomes.

Conversely, the Contractor's Organizational Capacity (X4) has the lowest unstandardized coefficient value (0.068) and the smallest standardized coefficient (0.075). This indicates that organizational capacity is the least contributing factor to procurement performance in this model. Despite its importance in providing a structured approach to project management, the relatively low impact suggests that organizational aspects may not be as crucial as technical expertise and financial stability when it comes to procurement success.

4.6 Diagnostic Tests

The flowing diagnostic tests that include multicollinearity (VIF), normality (Shapiro-Wilk), autocorrelation (Durbin-Watson), linearity, and homoscedasticity were conducted on the data and results presented as follows.

4.6.1 Multicollinearity Analysis

Table 4.15

Multicollinearity Analysis (VIF Table)

Variable	VIF Value
Financial Capability	1.65
Technical Capacity	1.88
Contractor's Experience	2.15
Organizational Capacity	1.9

The 'Variance Inflation Factor (VIF) values for all the independent variables are below the commonly used threshold of 5, with Financial Capability having a VIF of 1.65, Technical Capacity at 1.88, Contractor's Experience at 2.15, and Organizational Capacity at 1.9.' According to these values, there is little multicollinearity among the predictor variables, indicating that each one adds distinct information to the model with little overlap. Multicollinearity is therefore not an issue, and the model is probably going to yield accurate coefficient values.

4.6.2 Normality Test (Shapiro-Wilk Test)

Table 4.16

Normality Test (Shapiro-Wilk Test)

Test Statistic	p-value
0.981	0.065

In the case that we perform the Shapiro-Wilk test of the normality of the residuals of a multiple regression analysis, we have obtained a value of 0.981 as a test statistic and a p-value of 0.065, so because that p-value is greater than 0.05 the standard level of significance we cannot reject our null hypothesis that the residuals are normally distributed. Model-wise, it implies that the residuals are normally distributed, an assumption important in the guiding principles of linear regression. Not only will having normally distributed residuals make our hypothesis tests more credible, but will also have contributed to our confidence intervals being true which will in turn provide a stronger basis of converting on the validity of the entire regression model.

4.6.3 Autocorrelation Test (Durbin-Watson Test)

Table 4.17

Autocorrelation Test (Durbin-Watson Test)

Durbin-Watson Statistic
1.98

The Durbin-Watson which I obtained is quite near to 2 and this implies that, the amount of autocorrelation that exists in the residuals is small. This implies that the residuals are not indicating any trend over the time and this is the form of independence that we require in order to make the regression analysis valid.

4.6.4 Linearity and Homoscedasticity Test

Residual Plot Analysis:

A scatter plot of residuals versus fitted values was generated, showing a random scatter with no visible pattern.

Table 4.18

Residual Plot Analysis

Test	Result
Linearity	Assumption met
Homoscedasticity (Breusch-Pagan)	p-value = 0.22

The plot of the residuals shows to me that the points are apparently haphazardly distributed, which is indeed what we need to observe assuming the validness of the regression assumptions. Such randomness is supported by Breusch-Pagan test: its p-value exceeds 0.05 thus there are not enough evidence of the heteroscedasticity. Since the residual variance remains uniform among the independent variables, we could state that the regression model is satisfying the assumptions.

4.6.5 Summary of Diagnostic Tests

Table 4.19

Summary of Diagnostic Tests

Diagnostic Test	Result
Multicollinearity (VIF)	No multicollinearity detected
Normality (Shapiro-Wilk)	Residuals are normally distributed
Autocorrelation (Durbin-Watson)	No significant autocorrelation
Linearity	Assumption met
Homoscedasticity	No significant heteroscedasticity

In this study, the validation of the regression model explains that the regression model to determine the relationship between the independent variables (financial capability, technical capability, experience and organizational capability) and the dependent variable (probable performance of the project) can be used.

4.7 Summary

The study proves that there is a statistically significant relationship between the contractor's assessment criteria with procurement performance thereby confirming the assumption of the study. The conclusion agrees with the findings of correlation, regression, and ANOVA analysis, which all indicate that financial capability, technical capacity, contractor experience, and organizational capacity are important variables that determine the performance of procurement in the State Department of Roads in the Upper Eastern Region in Kenya. These findings confirm the importance of such assessment criteria in achieving best procurement results.

CHAPTER FIVE

DISCUSSIN OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The significance of this study mainly involved seeking to determine the influence of contractor basic evaluating criteria on the performance of procurement in the department of roads, upper eastern, Kenya. This part has a summary of results and conclusions

5.2 Summary of Findings

5.2.1 Financial Capability of Contractor and Procurement Performance

The paramount aim of this study was to investigate how the financial ability of the contractors can affect the performance of procurement of the road projects in the State Department of Roads located in the Upper Eastern Region of Kenya. The use of descriptive statistical analysis also served to strengthen this relationship and more so to highlight the importance of financial stability on the success of projects.

As an example, the research indicates that the financial stability of the contractors is vital in the completion of the projects without additional delays based on a mean score of 3.78. Despite a strong belief by many of the stakeholders that it is quite essential, the fairly high standard deviation of 1.67 allows concluding that the perspectives of respondents differ a lot implying that the experiences and perceptions vary. These results confirm the ones made by Khaemba and Otinga, who highlighted the importance of financial stability in meeting project deadlines and pointed out the importance of considering it as one of determining variables of procurement efficiency.

The study was also interested in the effect of contractor credit rating on quality of work of the contractors which have been stated in the findings and the mean is 3.71 with standard deviation of 1.71. This indicates that there was high level of agreement among the respondents although they possess different views. The previous study by Ahmad, Shafiq, and Umar (2019) corroborates these findings by emphasizing the pertinence of financial factors in measuring the performance of contractor. However, since their examination was an indication of how intricate financial issues were related to procurement success, they also found discrepancies on the level that credit ratings matched with quality outcomes.

On top of this, the study showed that enhancing procurement performance requires effective cash management. Having a mean of 3.93 and standard deviation of 1.63, it is good as they showed that this aspect is mostly comprehended as to be relevant. This conclusion is agreed upon by Mushori, (2020) who emphasizes the importance of cash flow management in ensuring that the project is kept on schedule and financial shocks are minimized.

Bonding capacity also turned out to be a conspicuous element with a low standard deviation (0.64) and the highest mean score (4.29). The importance of bonding capabilities to enable contractors to complete projects within the budget and within the schedule is driven by high levels of agreement to the statement as exhibited by the respondents. Basri and Suryahadi (2017) support these findings by emphasizing how past financial performances are indicative in the assessment of a potential contractor towards fulfilling commitments on a given project.

In addition, it was possible to demonstrate the significant positive correlation between the procurement performance and the financial competence with the help of inferential

statistics analysis ($r = 0.658$, $p < 0.05$). This indicates that in road construction projects, financial skills are not just an auxiliary factor but one of the motivation factors to the successes of procurement. The strength of this correlation indicates that it is very important that contractors possess quality financial management practices in a bid to ensure optimal project efficiency, timely deliverance of the project and maintenance of quality levels that are deemed high.

On the whole, the mentioned statistics show the essentiality of financial capacity in supporting the overall accomplishment of road projects and justify in an empirical way the policies that enhance the stability and financial management of contractors.

5.2.2 Technical Capacity of Contractor and Procurement Performance

The second objective of the study is concerned with investigating the impacts of technical capability of contractors on the performance of procurement. The findings reveal the important role played by experience, skills, and technology in ensuring effective results of the project.

The mean score was 3.98 and a standard deviation of 0.98, the descriptive analysis shown that the contractors who have proven records of carrying out projects that were quite similar to theirs were highly treasured. Being in line with the findings of Mushori (2020), who highlighted the applicability of knowledge to project implementation, this indicates that previous success positively affects the procurement performance.

Expertise and knowledge of personnel of a contractor also were revealed as another significant element with a mean score of 4.98 and standard deviation of 0.92. This broad consensus helps in the validity of the assertion made by Ngari (2017), that competent workers are important in determining the success of a project.

The mean responding of 3.63 with standard deviation of 1.38 implied that there was an average support on use of modern equipment and technology. Whereas technology can improve productivity, its value is likely to differ upon needs of a given project. This justifies the findings of Arnfalk and Bjornfot (2019) where they indicated that the success of technology implementation depends on the manner of the technology being implemented in a particular project environment.

The inferential investigation also showed a strong correlation between technical skill and procurement achievement ($r = 0.742$, $p < 0.05$) that is, an excellent positive relationship. The strategic application of technology and the technical skills of a contractor are points worth noting when the contract seeks to drive towards optimum procurement results.

5.2.3 Contractor's Experience and Procurement Performance

The third factor looked at how a contractor's experience affected their performance in the procurement process. With a high mean score of 4.60 and a standard deviation of 0.98, descriptive statistics showed a strong association between a contractor's years of experience and their dependability in completing projects on schedule. The study by Ahmad et al. (2019) which emphasized the critical importance of experience in improving performance results, is consistent with these findings.

With a mean score of 3.49 and a larger standard deviation of 1.92, the findings were more diverse when reputation and references were taken into account. This implies that although reputation is seen as a significant component, its impact on procurement success could not be consistent and might depend on particular situations including stakeholder perceptions, project complexity, and regional market dynamics. The study

by Hassan et al. (2023) further supports this variability by emphasizing that the influence of reputation might change depending on contextual conditions.

Inferential statistical analysis reinforced these findings, demonstrating a strong positive correlation between contractor experience and procurement performance ($r = 0.810$, $p < 0.05$). This statistically significant relationship confirms that contractor experience is a critical determinant of successful procurement outcomes in road projects. The findings indicate that experienced contractors are more likely to deliver projects reliably and on schedule, contributing to overall procurement efficiency and project success.

5.2.4 Contractor's Organizational Capacity and Procurement Performance

The last factor evaluated how contractors' organizational capabilities affected procurement performance, providing detailed information. The significance of a well-defined organizational structure was notably given a comparatively low mean score of 1.42 with a standard deviation of 1.11, indicating that respondents' opinions on its impact were not entirely in accord. Even though Revellino and Mourik (2017) contend that operational effectiveness is based on a well-defined organizational structure, the results show that, in this particular procurement scenario, respondents might not view it as a crucial performance factor.

A mean score of 4.46 and a standard deviation of 0.92, the scalability and flexibility of organizational capacity were found to be highly valued traits, indicating broad agreement over their importance in meeting changing project demands. These findings are consistent with Wanjiku's (2019) assertion that organizational capacity flexibility improves procurement efficiency and adaptation, which in turn leads to effective project execution.

Furthermore, inferential analysis established a significant positive correlation between organizational capacity and procurement performance ($r = 0.678$, $p < 0.05$), underscoring the pivotal role of adaptability and robust management systems in optimizing procurement outcomes. These findings suggest that while a structured organization provides a foundation for operations, it is the ability to scale and adjust to project complexities that exerts a more decisive influence on procurement performance, particularly in the context of road infrastructure projects.

5.3 Conclusions

According to the statistics the following conclusions can be made:

5.3.1 Financial Capability of Contractor and Procurement Performance

The procurement performance is highly dependent to the financial abilities of contractors. The very financially secure contractors, with high cash flow control, and suitable bonding capacity are more probable to accomplish the road projects so as to be on schedule, under the budget, and a better quality. The aggregate average of 3.96 points to a general consent that the financial factors, including the previous financial performance and access to credit scores, influence final procurement outcomes heavily.

5.3.2 Technical Capacity of Contractor and Procurement Performance

The technical competence of contractors; labor skills, application of modern technology and good project management quality is what is important in achieving high procurement performance. This statistic in the composite mean (3.88) indicates that there existed reasonable agreement with respect to the importance of the technical factors with special attention being given to staff capabilities and experience, which

received the highest mean of 4.98 indicating its critical role in the success of the project.

5.3.3 Contractor's Experience and Procurement Performance

One of the determinants of procurement success is contractor experience. Composite mean of 4.11 suggests that it is highly agreed that the contractor who has a fewer number of years of operation, a record of accomplishment of the previous projects, and specialized experience of the organization possess a higher probability of completing a scheduled project within the budget and to the suitable level of quality. The assumption that experience is an accurate gauge of subsequent performance is further supported by the fact that the mean score of the previous projects outcomes is the highest with the value of 4.71.

5.3.4 Contractor's Organizational Capacity and Procurement Performance

The procurement success is significantly influenced by the ability of the contractors in organizing which particularly happens to be in its governance processes, scale and adaptability. Compound mean of 3.60 implies that there is reasonable consensus on how valuable such organizational items are, with the greatest mean score of 4.46 on the item scalability and flexibility that demonstrates its significance in adapting to project demands and increasing the outcomes of procurement.

5.4 Recommendations

5.4.1 Financial Capability of Contractor and Procurement Performance

The State Department of Roads ought to improve the financial vetting process of contractors in that they should have sufficient financial strength i.e. good cash flow management and have the ability to bond. This can be achieved through establishing

more performant financial assessments and requesting contractors to demonstrate the previous financial effectiveness. To reach the completion of the projects successfully and increase the procurement performance, it will help ensure the financial competence of contractors.

5.4.2 Technical Capacity of Contractor and Procurement Performance

The contractors are encouraged to undergo constant training of their workers and enhancement of equipment and technology in an attempt to increase the technical capability. This may encourage the State Department of Roads to implement through incentives or create a partnership in developing the talents. Patterns of technical competence and fresh technologies would be emphasized, to make the product of road construction more adequate and effective.

5.4.3 Contractor's Experience and Procurement Performance

The State Department of Roads ought to prioritize contractors with a lot of experience as well as proven track record when selecting contractors to take up road projects. A company with immense experience is likely to provide more reliable and prompt services by contractors. This can be achieved by setting up of minimum levels of experience and application of historical performance data of contractors during the bidding process.

5.4.4 Contractor's Organizational Capacity and Procurement Performance

Contractors should aim at enhancing their organizational capacity, more so scalability and flexibility to react to varying demands of projects. The State Department of Roads could probably facilitate this by stating flexibility as one of the conditions of evaluating

contractors. This shall ensure that contractors are in a better position to tackle the unexpected problems and as a result improve the procurement performance.

5.5 Recommendations for Further Research

Effect of Regulatory Policies on Contractor Performance in Public Procurement: More research may examine the ways in which regulatory frameworks and policies affect contractors' performance in public procurement, especially in road projects. In order to find any gaps or places where policy needs to be improved, this study could look at how well the current regulations ensure contractor compliance and how they affect procurement performance.

Impact of Technological Innovation in Improving Procurement Performance: The impact of new technologies on procurement performance may be the subject of additional study. In order to increase efficiency, transparency, and project results overall, this study could look into how these technologies can be included into the procurement procedures of public sector road projects.

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