

**INFLUENCE OF PROJECT MANAGEMENT PRACTICES ON ROAD
MAINTENANCE PROJECTS' PERFORMANCE IN KENYA: THE CASE OF
RONGAI/KAJIADO ROAD**

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DECLARATION

This research project is my original work and has not been presented to any other institution for any award.



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DEDICATION

The love, prayers, support, and understanding my wonderful wife and our three kids have shown me during the study are what I dedicate this research endeavor to. I'm thankful today and always.

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Gratitude to the Creator for providing me with the courage and knowledge necessary to complete this research. My supervisor has been instrumental in helping me produce this scholarly piece of work, and I am incredibly grateful for all of his time, attention, direction, knowledge, and patience. I am grateful to the Rongai/Kajiado Road Maintenance Project respondents and stakeholders for their cooperation and for supplying the vital data for this study. The University of Nairobi community had offered a comfortable study environment that made learning conducive.

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LIST OF ABBREVIATIONS/ACRONYMS

| | |
|--------------|---|
| ANOVA | Analysis of Variance |
| CEO | Chief Executive Officer |
| DPM | Degree in Projects Planning and Management |
| ERS | Economic Recovery Strategy |
| ICT | Information and Communication Technology |
| KAP | Knowledge, Attitude and Practices |
| KENHA | Kenya National Highways Authority |
| KURA | Kenya Urban Roads Authority |
| OECD | Institution for Economic Co-operation and Development |
| PM | Project Management |
| SPSS | Statistical Package for Social Sciences |
| UON | University of Nairobi |

ABSTRACT

This study examined the influence of project management practices on performance of road maintenance projects in Kenya. Particular goals were to determine the impact of project resource mobilization, teamwork, project risk management, and a project communication framework pertaining to road maintenance project performance in Kenya. The project management competence theory and the stakeholder theory guided the study. A descriptive research design was adopted. The target population consisted of project managers, department heads, and assistant project managers, with a total population of 404. The sample size of this study was based on Yamane's 1967 formulae, that yielded 201 respondents. Stratified random sample method was used, and a quota was taken from each stratum. A questionnaire with closed questions was adopted to collect data. The collected data was evaluated quantitatively. The Statistical Package for Social Sciences was used for data analysis. The study employed descriptive statistics like frequencies, means, and percentages. The distribution and primary tendencies of the gathered data was clearly outlined by these statistical measures, enabling a thorough understanding of the patterns and trends found in the responses. Results were presented through tables. Findings indicate a positive and significant influence of project resource mobilization on road maintenance projects performance of Rongai-Kajiado road ($\beta = 0.516$, $p < 0.05$). Results revealed a positive and insignificant influence of team work on road maintenance projects performance of Rongai-Kajiado road ($\beta = 0.051$, $p > 0.05$). Findings showed a positive and significant influence of project communication framework on road maintenance projects performance of Rongai-Kajiado road ($\beta = 0.566$, $p < 0.05$). There was a positive and significant influence of project risks management on road maintenance projects performance of Rongai-Kajiado road ($\beta = 0.898$, $p < 0.05$). It was concluded that funds' availability is a fundamental driver of successful project management practices and project performance. Guidelines and policies are integral to improving the performance of road maintenance projects. Effective communication of strategy to both internal and external stakeholders is a key component of successful project management. A clear hierarchy and organizational structure help streamline decision-making processes, delineate roles and responsibilities, and ensure that tasks are carried out efficiently. The study recommended that Project managers of road maintenance projects in Kenya should ensure funds' availability as it enhances successful project performance. Management of road maintenance projects in Kenya should institute guidelines and policies that would lead to improved performance of road maintenance projects capabilities. Project managers should always keep stakeholders informed about the strategies formulated and activities happening in the institution. Managers of road maintenance projects should enhance effective planning as it reduces risk in implementing the formulated strategies on the performance of road maintenance projects.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

This achievement of construction operation is uncertain to economic development and magnification. Within the economy road projects are also vital to the budgetary in terms of creating fiscal and generating employment vacancies. According to World bank reports (2012), Infrastructure includes solid waste disposal and collection, water, canals, dams, water ways, railroad, ports, piped gas, telecommunication facilities, airport and energy facilities (World Bank, 2012).

Various authors have offered distinct interpretations of project management approaches. As per the organization of Project Management (2004), the management project order is defined as the process of acquiring known idea, expertise, instruments, and capacity used within plan processes to achieve plan objectives. Put differently, project management encompasses a set of interconnected procedures that aid the project team in successfully completing a task. These processes manage the trip from output to input, which forms the key of plan administration and involves repetition while also delivering production from specific functions Project administration activities encompass every activity that facilitate an institute in reaching its objective according to Islam.

Transport project plays a crucial role in facilitating movement within any country. It is instrumental in the transport of inputs related to output. Transport infrastructure projects are considered to be achieved when they attain the following characteristics: meeting the fiscal standard by staying within the structured plan as suggested by Cheung (2010), adhering to the duration norm by completing the project on schedule, satisfying the effectiveness criterion by meeting established quality standards, and meeting the customer contentment principle by being involved for utilization by the deliberate customers. In addition to causing disruptions for travelers, goods, and highway traffic, the poor state of transport infrastructure also results in high vehicle maintenance costs, perishable foods destruction and high transport costs.

1.1.1 Performance of Road Maintenance Projects

Whenever plan processes have been completed it implies that the plan, budget, and standard necessities were acquired. Using accomplishment measures such as customer satisfaction, time, making changes to fit customer's needs, time, quality, firm's performance, and quality, health, and safety, project performance was measured and evaluated (Cheung, 2010). Nevertheless, the main performance indicators accessed to improve infrastructure projects include quality, cost and time. Furthermore, technology can be leveraged to expedite and enhance the efficacy of plan output in Europe (Mabin & Baldrestone ,2015 Infrastructure schemes for Chinese, gratitude to creative building necessities and building techniques such as refined and standard establishment, were accomplished more swiftly and with reduced resource usage, as noted by Cheung in 2010.

As per a survey conducted by KPMG-PMI in 2014, it was found that 25% of the delays in ongoing Indian projects can be attributed to a shortage of equipment and skilled personnel. Soderland (2012), suggests that in South Africa, the performance of road projects has been on the upswing, with a majority of large projects being completed by foreign construction companies. Soderland (2012) further contends that local South African construction firms encounter significant challenges in meeting the time and budget requirements for infrastructure projects.

In China, construction firm managers plan, control process, coordinate technical process through consultation via professional as well as contractors and designers in order to complete projects on schedule and within budget (Lu Shan 2014). Further Boddy (2009), asserts that commitment by management, coining proper communication channels and skilled employees are essential for successful completion of projects. In Tanzania infrastructure firms lack skilled employee, lack proper cost management skills and project scope which have resulted to project delays and cost overruns (Lavasseur, 2010).

In Kenya, more than 76% of all freight and 80% of all traffic is carried via highway, with a limited section using water, rail air and water as indicated by in 2011. The "Recovery Strategy for Wealth Creation 2003-2007" steadily relies on the road transport organization. Incentives have demonstrated an annual growth rate of 3.3%, surpassing the current growth rate, and this can only be achieved through the improvement of Kenya's infrastructure (Anderson & Glen ,2013).

Kenya boasts a total road network of 177,800 kilometers, with 63,300 kilometers being officially classified, while 114,500 kilometers are unclassified. Approximately 14.4% of the classified roads (amounting to 9,100 kilometers) have paved surfaces, and 2.2% of the unclassified roads (equaling 2,500 kilometers) are also paved, while the unfinished highways feature unclean parts. The categorized road map is assumed to contain of approximately 18% in good state, 27% in candid state, 49% in very bad state and 6% in extremely poor condition. Currently, the majority of roads (55%) are in a poor condition due to the ongoing nature of maintenance and repair work.

1.1.2 Project Management Practices

An institute's plan management procedures enabled it to swiftly and efficiently exclude a n activity. Scheme implementation is influenced by an array of components and scheme administration skills. According to Skeggs, these factors encompass stakeholder involvement, management commitment, resource allocation, meticulous planning, establishment of project goals, skilled personnel, dynamic project objectives and vision, technological capabilities, scope management, project team oversight, risk management, and monitoring and evaluation. Nevertheless, the most relevant angle identifies project risk assessment, group change authority, and scheme evaluation and management as critical authority activities affecting the accomplishment of infrastructure plans (Ugwa & Heupt ,2013 ; Skeggs ,2011).

Resource allocation involves the allocation and management of technical, financial, and human resources to enhance the efficiency and effectiveness of project completion, as explained (Crivelli & Gupta ,2013). Project contractors require funds to procure essential equipment and machinery for highway infrastructure, as well as to close various scheme expenditures, including employees' earnings, wages, and fuel costs for vehicles (Miller & Lessard ,2011). This equipment includes tippers, graders, excavators, and rollers, but much of this machinery comes with a high price tag.

Harrison (2008) notes that schedule information gathering and evaluation to monitor a project's development is an integral sector of scheme observation and evaluation. Consistently maintaining monitoring and assessment is essential for managing infrastructure projects, aiding in tracking project advancement. Moreover, it provides insights into the project's status concerning input, schedule, and activities required to achieve project success. Project

evaluation entails the assessment of project objectives concerning their design, execution, and outcomes (Mambo & Chiragu , 2013).

When individuals work on a project, they typically assume specific responsibilities. Team up refers to how these responsibilities influence every person brigade member and the whole members (Prackel. And Lewis defines it as the group's positive energy, trust, and collaborative teamwork in accomplishing the project while holding each other accountable for its achievement. Lewis further points out that teams lacking strong leadership may prioritize the wrong aspects, leading to negative group dynamics.

1.2 Statement of the Problem

Infrastructure scheme performance plays a crucial role in achieving economic growth and prosperity. In Kenya, the government has taken steps to announce the outcome of highway schemes by enacting the Kenya National Highway Act in 2017. This legislation has given rise to the KENHA, the (KURA) Kenya Urban Roads Authority, and the Rural Road Authority, with the aim of establishing a legal and organizational plan for the growth, maintenance, and maintenance of highway infrastructure.

Despite these estimates, as observed by Musa (2013), local companies in Kenya continue to face numerous challenges that adversely affect the performance of road construction projects (Meyer & Tim ,2009). According to a KPMG report, only 39.4% of highway schemes undertaken by surrounding businesses in Kenya were covered on time and within the allocated budget. Furthermore, just 35% of road schemes investigated by surrounding operations met the needed grade standards. Comparing to Uganda's and Tanzania's performance gradings of 43.7% and 40.5%, respectively, Kenya's whole output grading for highway infrastructure executed by surrounding trading from 2011 -2014 stood at a mere 36.9%. In contrast, Zambia achieved a rating of 45.6%, China reached 70.5%, India scored 65.8%, and Europe achieved 71.5%. This assessment, conducted by the World Bank, positioned Kenya among the poorest-performing nations. The underperformance of these projects has led to sluggish economic growth, increased poverty levels, and higher unemployment (Mattas & Ashkenas ,2018).

Lavasseur (2010) underscores the significance of other infrastructure enhancements, including projects related to power, ports, and railways (Hodge & Greeve ,2011). It's worth noting that most of the finding in this area has been carried out in industrialized nations, making it essential

to conduct research specific to the Kenyan context, as different states may yield varied results. The researcher therefore, aims at conducting research determining the effect of scheme administration activities on highway schemes in Kenya with special emphasis on previously road maintenance projects in Rongai/Kajiado.

1.3 Purpose of the Study

The study examined the influence of project management practices on road maintenance projects performance in Kenya.

1.4 Research Objectives

The study sought to:

- i. To establish the influence of project resource mobilization on Rongai/Kajiado road maintenance project performance.
- ii. To assess the influence of team work on Rongai/Kajiado road maintenance project performance.
- iii. To evaluate the influence of project communication framework on Rongai/Kajiado road maintenance project performance.
- iv. To investigate the influence of project risks management on Rongai/Kajiado road maintenance project performance.

1.5 Research Questions

- i. How does project resource mobilization influence Rongai/Kajiado road maintenance project performance?
- ii. What is the influence of team work on Rongai/Kajiado road maintenance project performance?
- iii. To what extent does project communication framework influence Rongai/Kajiado road maintenance project performance?
- iv. How does project risks management influence Rongai/Kajiado road maintenance project performance?

1.6 Significance of the Study

This research findings will provide valuable insights for various stakeholders and policymakers engaged in road maintenance projects. These insights will aid in making informed decisions regarding collaborative ventures or alternative partnership structures, defining the project's business scope, setting priorities, objectives, and desired outcomes, and establishing a

performance framework to incentivize effective road maintenance project management. Additionally, these findings can serve as a theoretical foundation for future scholars.

1.7 Assumption of the Study

The researcher operated under the assumption that participants would be accessible and prepared to complete the research questionnaire. Furthermore, it was assumed that participants would maintain honesty and competency when responding to the study question sheet. The research finding also presumed that all situational components remained unchanged.

1.8 Limitations

While at the field study, participants were occasionally resistance to fill the question sheets due to concerns that the data might be used to oppose. To address this issue, the institution provided the examiner with a testament in which participants were affirmed that their data would only be used for learning reasons and would remain confidential.

1.9 Delimitations

Although this research finding concentrated exclusively on four project management practices—namely, project resource mobilization, teamwork, stakeholders' communication, and project risk management—it's important to acknowledge that there are numerous other factors related to projects that can influence their implementation. For instance, government policies, disaster management, and quality concerns are noteworthy among them. Additionally, it's worth noting that the analysis finding was confined to a single private-public scheme in Nairobi, whereas there are same plans and various other schemes in different regions of.

1.10 Definitions of Significant Terms

Project communication framework Process of regular information exchange employed by an organization to engage individuals who may be affected by its decisions or have the potential to influence the implementation of those decisions encompasses the outcomes of each significant step, continual activities, the management of both material and non-material elements, and feedback from relevant stakeholders.

| | |
|--------------------------------------|---|
| Project Resource Mobilization | External funding through project finance relies on the anticipated earnings of the plan itself, preferably from the financial strength of the project donors as indicated by elements such as earnings, plans and cost analysis, and the return on equity for the project sponsors. |
| Project risks management | Managers' ability to formulate an organizational strategy aimed at mitigating or preventing risks and to motivate and convince others to willingly embrace that vision plays a pivotal role in shaping and guiding the chain of command, fostering teamwork, effective planning, and sound decision-making. |
| Team Work | An institution believe is a structure of internal principles, practices, and communication methods that foster a unique social and psychological environment within a specific organization. This culture encompasses the organization's rules, behaviors, norms, practices, values, and inclusivity. |

1.11 Chapter Outline

This project report comprises five chapters. Chapter One encompasses the beginning, which includes the framework of research findings, statement of the problem, research goals, aims and study questions, importance of the research findings, scope, shortcomings, assumptions, and definitions of key terms. The second topic, the literature, delves into the concept of project execution and examines relevant studies related to the study's focal areas, structured around four key topics: scheme necessities activation and highway reconstruction plan implementation; group work and highway reconstruction plan implementation; scheme reporting structure and highway reconstruction plan implementation; and threat plan administration and road maintenance project performance. This chapter also introduces a conceptual framework, provides a literature review, identifies research gaps, and presents a conceptual framework. Chapter three outlines the research methodology. It details the research instruments, their validity and reliability assessment, and the data collection techniques and analysis procedures. Chapter four is dedicated to information screening, evaluation, and the dialogue of study. The last topic, chapter five, presents summary, conclusions and study recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The second topic undertakes a thorough literature of existing literature, encompassing the concept of project implementation. It explores pertinent research works related to the subject matter of the study, categorized into four key topics: Necessity plan acquisition and the Performance of Highway reconstruction plan; Teamwork and the implementation of highway reconstruction plans; Scheme announcement structure and the implementation of Highway reconstruction plans; and Risk Administration and the Implementation of Highway reconstruction plans. Additionally, this chapter delves into the conceptual base, provides a synopsis of the literature, identifies research gaps, and presents a conceptual framework.

2.2 Resource Mobilization and Performance of Road Maintenance Projects

According to Gitenya and Ngugi (2012), the majority of domestic firms involved in road projects encounter challenges, particularly relating to insufficient financial resources. One of the primary constraints consistently encountered is the budget constraints, which invariably loom over the projects. The assessment revealed that scheduling issues were another challenge faced by these projects, despite the theoretically acquired resources being insufficient to complete the projects. For instance, the limited resources available made it infeasible for several tasks to be executed concurrently. Therefore, the quantity of resources at hand emerged as a critical factor in achieving project success. As a result, project managers are tasked with optimizing resource utilization to ensure project completion within the allocated budget (Allen, 2012).

Despite private sector capital injections, social-infrastructure projects have faced difficulties in achieving their objectives. Plans such as power supply, and hygiene have indeed introduced necessary facilities where they were previously lacking. Nevertheless, the individuals most desired of these activities often meet bearing high costs for access. Ultimately, social infrastructure projects have led to the public administration directly offering these duties and allocating permits in gift store places (Mfunwa, Taylor & Kreite, 2016).

The commitment to the performance of road maintenances is evident in East Africa, with various states, including Uganda and Kenya, showcasing a 29% uptake in these projects. Similarly, Seychelles, Rwanda, and Djibouti exhibit a 14% uptake. These projects span across

various sectors such as transportation, water, energy, tourism, railway, road, education, and healthcare. Research finding conducted by Tshome, Nduhura and Nuwagaba found out that that Kenya is one of the top 10 Sub-Saharan African countries efficacy performance road maintenance implementation. Tanzania closely follows Kenya among the top 10 nations with quality grades of PPP performance. There is a want for the recruitment of experts to raise understanding among civil servants about the public investment procedures prior project commencement. Additionally, private or domestic financial firms play a crucial role in streamlining fund acquisition for project implementation (Tshome et al, 2020).

The driving force behind the adoption of civil and nonpublic involvement in road and rail infrastructure, as emphasized by Chumba (2020), is their significant cost-effectiveness. Value for money is a central principle driving the use of public-private partnerships to enhance the achievement of these schemes. Plan sponsoring is identified as a modification variable that influences strong implementation and the implementation of highway reconstruction. The insight was derived from an analysis of the impact of highway reconstruction procedures on the implementation of Kenyan agencies, conducted by Gikonyo (2020) using a descriptive cross-sectional research plan. The research demography included Eighty-Six parastatals, with needed participants being operating officers, finance administrators, human resource managers and scheme managers. The research findings demonstrated a positive Pearson relationship between project sponsoring and institution performance, highlighting the organization's capability to discover connections among the use of implementation contracts and organizational fulfilment.

2.3 Team Work and Performance of Road Maintenance Projects

Prackel (2010) conducted examined the influence of poor teamwork on South African power schemes. This research finding suggests that teamwork has a critical impact on individual roles and the overall group dynamics. Furthermore, teamwork fosters trust, enhances collective decision-making, and encourages accountability during project implementation. However, a lack of strong leadership within the team can result in project takeovers, disrupting project activities and potentially leading to conflicts that divert the project in the wrong direction, thereby impeding project implementation.

Lehman and Dubrene (2011) conducted a survey involving 105 contractors and scheme planners in the US to investigate the factors after poor team work. The study indicate that a

significant power imbalance may be the primary reason of poor teamwork in building plans. This imbalance occurs when team members hesitate to express their opinions for fear of contradicting their managers. Other factors contributing to poor teamwork include blocking, which happens when team members engage in disagreements or criticism that obstructs the flow of information within the team. It can also occur when a team member stops participating or employs humor at inappropriate times. Additionally, obtaining a job without exerting effort and assessment apprehension, where some group members feel unfairly judged by others, can hinder teamwork. Finally, managing occurs when certain team work individuals refuse to engage, leaving the work to others. The finding also discovered bad administrative and excessive distinction as the primary reasons for lateness in completing highway building schemes.

Burgess and Stern (2013) emphasized the usefulness of timely and sufficient personnel planning to come up with functional project group administration procedures in Switzerland, thereby avoiding cost overruns in infrastructure projects. The study highlights that the ideal project team size depends on two key factors: the volume of work to be completed and the required energy level. However, the study didn't offer recommendations for adherence within scheme parties experiencing social challenges.

The reasons and results of poor social change in Nigerian building expansion as identified by Smith. As per the study, scheme planners can successfully finish projects within the specified scheduled time by identifying participants, defining duty roles clearly, addressing issues promptly, and focusing on informed decision-making. These techniques were found to help project managers leverage the diverse abilities, capabilities, and skillsets within their teams, enhancing project efficiency. The research also highlighted that many construction companies undervalue group dynamics, negatively affecting project effectiveness. It was recommended that managers address conflicts among team members to promote teamwork.

Saunders (2014) conducted research in central Europe to identify tools that enhance team success in infrastructure projects. The study established that companies can achieve project success through effective teamwork, ensuring the desired quality within infrastructure projects, and adhering to project timelines. Furthermore, project teams that exhibited adaptability and prompt action were much achieved in introducing highway building schemes.

Research on teamwork was observed that groups often face difficulties when they initially unite as suggested in Katzenbach's. The finding noted that every group commenced as a poor production unit but improved over the course of the project. Issues related to motivation, teamwork, and communication were particularly pronounced during the early stages of team formation. Smith (2014) pointed out that effective teamwork is less likely to occur in organizations with highly trained employees who have been working together for an extended period.

2.4 Project Communication Framework and Performance of Road Maintenance Projects

In its most fundamental unit, information process stands as a crucial element within organizations, especially in the context of road maintenance projects. The successful execution of road maintenance projects necessitates the collaborative efforts of various individuals, and effective communication is the linchpin that enables such collaboration. Amadi and Tuuli (2019), communication among stakeholders must be tailored to specific basics and capacities. It must be adaptable, encompassing both oral and written forms, while maintaining a steady aim for ease of observation and examination. As now the needed information is effectively conveyed, participants have freedom to utilize their preferred means of expression. An examination of nonpublic-civic association enhancements in participant administration, as evidenced by a research finding conducted in Ghana involving twenty-three participants who were interviewed, underscores the importance of developing a comprehensive communication strategy for both external and internal stakeholders.

Furthermore, conducting a Knowledge, Attitude and Practices (KAP) survey is deemed necessary to gather information within a community on a particular topic. (Amadi and Tuuli 2019) suggested that information is critical for informed planning, evaluation, and implementation. The paper aims to involve to the existing review by delving into the evaluation of participants information participants and its influence on public-private partnerships within the road rail amenities sector.

Ombogo (2014) carried out research on the obstacles encountered in the production of highway reconstruction schemes in Kenya's building improvement, it was found that effective communication played a vital role in ensuring project success. The study achieved an 80 percent agreement on the critical nature of communication for the efficient fulfilment of schemes. Information transfer assisted in the administration of acknowledgement activities and

the knowledge of various rising matters. This study employed a case study approach, using interview guides as the primary tool for collecting data. The study sample consisted of five high-ranking directors, emphasizing the achievements in implementing infrastructure projects.

As indicated by Mwesigwa and Munene (2019), effective communication is pivotal for stakeholder management. Their study, conducted using a quantitative and cross section study design with a sample size of Ninety-four road projects selected via stratified sampling, clearly elucidates the paramount importance of communication in stakeholder management. Commitment and trust were found to be less influential factors in the context of participant administration in highway building schemes. Information transfer establishes that crucial communication is conveyed to the relevant members for necessary attention. In order for proper information results to good morale toward plan establishment, ultimately enhancing project achievement. Main scheme plan managers must possess the capacity to proper information to result in good cultural shifts, administer participant urge, cultivate reasoning of the project, and align project goals.

2.5 Project Risks Management and Performance of Road Maintenance Projects

Might and Fisher (2011) investigated the reasons behind the failure of Nigerian electricity projects. Their findings underscored that inadequate project risk management serves as the primary culprit for the lack of success in power projects. Moreover, they posited that risks can only be mitigated but never completely eliminated. They also identified that some project managers shy away from addressing risks due to concerns about appearing incompetent if these risks are exposed. The allocation of resources is necessary to mitigate these risks effectively. However, recognizing and controlling risks can significantly contribute to the success of infrastructure projects.

Well-Stam (2012) evaluated the influence of project risks on Chinese railway performance. The investigation unveiled a range of risks, encompassing political, social, technical, financial, organizational, and legal aspects. Legal risks were found to include insufficient knowledge of all legal standards and potential changes in the legal landscape, as well as contractor claims arising from performance errors or non-compliance with regulations. This highlights the importance of acquiring all the necessary legal documentation before commencing any road infrastructure construction. The research also established that firm-related risks encompassed variations in project requirements, inadequate planning, a lack of standards and regulations,

manpower shortages, delays in project completion and acceptance procedures, tardy allocation of resources like raw materials, and inaccurate estimates, all of which contribute to project delays. Furthermore, the study identified that these risks diminished project quality, leading to increased cost overruns and scheduling changes. One limitation of this study was the omission of other critical factors influencing project success.

Princhad and Lymer (2013) assessed technical risks in road construction projects, including the adoption of poor construction practices, unreliable technologies, and inaccurate estimations of required raw materials. Conducted in Europe, this research revealed that a lack of financial resources was a major contributor to project delays in road construction. Financial risks encompassed variances from the expected depreciation schedule of capital equipment, fluctuations in material prices, shifts in interest rates, potential supplier bankruptcies, increased taxes, and other financial challenges. The research also addressed risks related to society and politics, where social hazards such as strikes and community engagement issues were seen as potential impediments to project completion. Political risks encompassed government instability, in addition to changes in rules and control.

2.6 Theoretical Framework

Two theories have been considered namely project management competence theory and stakeholder theory.

2.6.1 Project Management Competency Theory

This theory, originated in the 1980s by McClelland and McBer, posits that competency pertains to an individual's original standard that will aid them to succeed in the fulfilment of the assigned role or situation. Based on PMI (2011), expertise is a set of interconnected capabilities, knowledge, morale, and supplementary features that influence how an individual performs a specific role. There exists a correlation between competency and project performance, and competency can be enhanced through labor improvement and coaching (PMI, 2011).

This speculation underscores the significance of possessing scheme plan administration capabilities, particularly in project observation and examination and its impact on teamwork. According to Gladder (2010), managers handling technical project aspects should leverage their capabilities, acquired knowledge, skillsets, tools, and effective methods to meet project objectives and complete projects within the fiscal planning and timelines. The finding also

identified that some project managers lacked the expertise required for road infrastructure construction projects.

As per Garish and Huemann (2014), managers should acquire appropriate techniques and tools to enhance their management performance, ultimately boosting project implementation. Managers with high project management skillsets can also apply strategies learned from previous projects to maximize performance (Edum-Fotwe, 2011). Consequently, organizations that manage projects in a structured manner can maintain consistency in their activities due to the acquisition of required abilities. Each group individual's skills must be assessed, and their description involved to a competency profile abstract which is regularly rationalized and discussed (Kometa, 2013).

Currently environment, scheme planners in road infrastructure projects face the challenge of adapting to frequent changes in the industry. This necessitates the acquiring of new administration ways and the acquisition of the requisite knowledge and skill set through training and experience to effectively and efficiently adapt to the ever-changing environment with numerous suggestions for later scheme plans managers (Francist & Ronald, 2010).

The theory argues that using standard administration approaches in road infrastructure schemes is improper. As mentioned Ryssel (2013), local administration activities such as rigid frameworks, full labor malfunction layouts, and management follow ups can give rise to the breakdown of highway building schemes. As per Soderland, administrator planner should be capable of integrating various scheme steps, meeting the scheme's layout, program, budget, and standard necessities, managing project risk and mitigation, and managing human resources to enhance project implementation. Furthermore, the theory emphasizes the importance of instruments, developing models, alternative procedure for the plan administrator, producer, and group, also the proper approach captured to finish the highway scheme plan.

To be competent in life, individuals must possess knowledge and be capable of effectively using acquired knowledge to achieve results (Hilson & Murray, 2012). Ruth and David (2011) have developed a framework that outlines the five attributes of competence, including personal attributes, knowledge, experience, skillsets, and attitude. Managers perform better when their personal attributes align with the job requirements. However, by developing the required competency, managers can ensure efficient firm performance, ultimately leading to successful project implementation.

Simmons (2014) noted that evolving construction firm structures, changing norms, and increased competitiveness have created a greater demand for trained, skilled, and competent managers. A competent project manager possesses technical, contextual, and behavioral competence (Triestch, 2005). As a technically competent manager, they understand project goals, requirements, criteria, risks, and conditions, allowing them to effectively manage project scope, structure, planning, deliverables, and resource allocation.

The speculation is relevant to the research finding as it describes the practical, contextual, and behavioral proficiency needed by road building managers to enhance the successful implementation of projects within the budgeted cost, timelines, and required quality (Clist & Morrissey, 2011). Furthermore, it elaborates on the importance of supervision and the adoption of teamwork during the implementation of road projects. Lyman (2013) has drawn from this theory in his research investigating the impact of competency on Swedish companies. Additionally, Kometa and Jubb (2007) have used this theory to inspect the effect of competent management on the successful fulfilment of projects by managers.

2.6.2 Stakeholder Theory

This theory was formulated by Freeman in 1984, asserts that shareholders are not the sole individuals associated with a project. It underscores that a project or business aims to help stakeholders achieve their objectives, including the community, clients, investors, employees, and suppliers. This theory is based on six fundamental principles. The basis of administration focuses on the correlation among the participants and the organization, as well as how the regulations governing these relationships can be modified. It emphasizes the importance of strong governance in maintaining project-stakeholder relationships, particularly in cases where projects are established to serve the community, ensuring that all participant basics are approached.

Principle two, peripheries, addresses those who are afflicted by a corporation's measures. This speculation posits that any individual bearing the costs of a stakeholder becomes a stakeholder themselves. It underscores that all parties, both internal and external to a project, experience gains and losses, making it crucial to involve all stakeholders regardless of their contributions to the project's success. The principle of entry and exit asserts that even the smallest processes should be governed by clear rules and regulations. Clear decision-making criteria should exist

as the basis for stakeholder engagement, with no favoritism towards any party. If the scheme has assigned a part of gains and deficits as per the assigned rate, that rate should be followed.

The basis of producer budget emphasizes adherence to rules formulated for the distribution of short-term budget. The basis brings out awareness to uniform and just in the administration of short-term budget, particularly in the case of civil-private membership plans. The basis of agency holds that a firm's administrator acts as a representative of the organization and is therefore accountable to participants. Just as comprehensive reports are generated for presentation to project shareholders, similar efforts should be made to provide significance displays to the participants' plan. No preference must be given to firm beneficiaries over other participants.

Finally, the basis of less crimes leads to the idea of the organization's long-term sustainability. A scheme plan emerges to benefit all participants of the organization, and civic-nonpublic membership must struggle to meet the long-term basics of all participants. Projects with shorter lifespans should aim to ensure that their impact or initiatives leave a sustainable legacy. However, the theory has limitations, especially in the context of public-private partnerships, as there are numerous stakeholders, and addressing all their desires would be challenging. This study identifies this complexity and will focus on identifying whether the existing scheme plan effectively benefits the chosen members.

2.7 Conceptual Framework

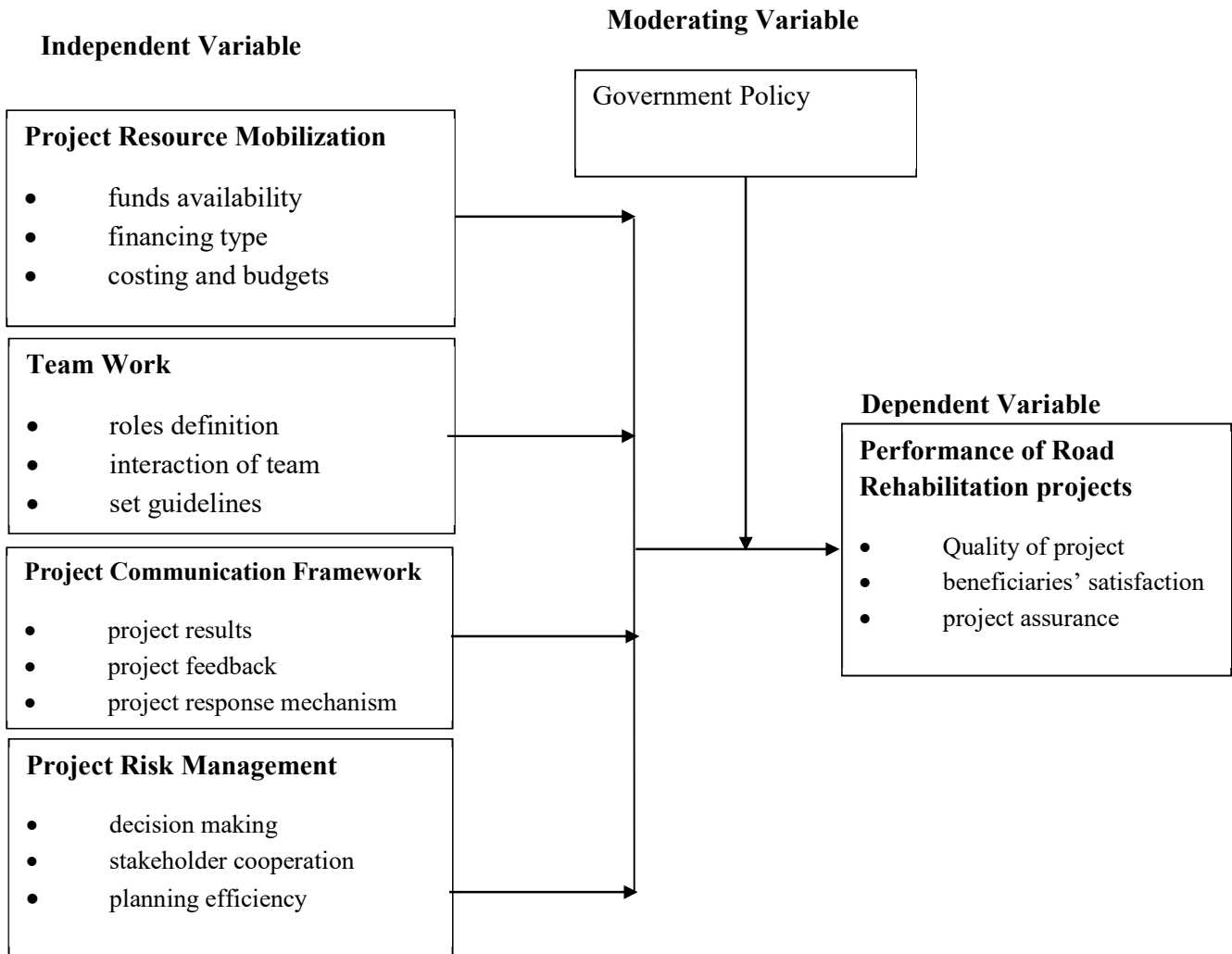


Figure 1 : Conceptual framework

Source : Researcher (2023)

This research finding includes several key variables: scheme plan necessities utilization, group work, participant information, and membership management as independent variables. The moderating variable is public administration, and the dependent variable is the fulfilment of highway reconstruction schemes. The analysis has shed light on the relationships among these chosen variables. It is seen from the literature that the scheme plans that necessity utilization has a good correlation with plan fulfilment, and the availability of enough fiscal significantly influences project achievement. Togetherness is another independent variable closely related to the successful performance of projects. Effective participant information plays an important part in driving the achievement of a scheme plan when executed well. Stakeholder leadership

can also have both positive and negative impacts on project implementation. The moderating variable, government policy, serves as a link between the independent and dependent variables. When favorable government policies are applied, the implementation of road maintenance projects can achieve a high success rate.

2.8 Gaps in Literature Review

The existing literature has provided valuable insights into project resource mobilization across various sectors involving road maintenance projects. It has been recognized that one of the primary motivations for engaging in these projects is to relieve public partners of financial constraints. However, the literature has not extensively addressed the rail industry in Kenya, which this study aims to illuminate through its examination. Few studies have employed a combination of data collection methods to gather information from key respondents. This study targets to make a speech about this space by utilizing both questionnaires and interview guides for data collection. While previous research has predominantly favored case study research design, as well as qualitative and quantitative research designs in the context of road maintenance project performance, this study intends to implement a survey research design to obtain a more accurate understanding of the performance of road maintenances. Previous studies have primarily focused on key management personnel such as top management, project managers, finance managers, and various categories of managers as key respondents. In contrast, this study seeks to gather responses from a broader spectrum of stakeholders, including company contractors, suppliers, project sponsors, and selected employees of the company. This comprehensive approach aims to provide a more holistic view of the project.

2.9 Summary of Literature Review

The extensive evaluation of the existing analysis has provided valuable insights into the numerous factors that either facilitate or hinder the execution of road maintenance projects worldwide, across Africa, and specifically within Kenya. The chapter presents theories and a framework and gaps identification.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter explains the research design selected, the targeted population, the determination of the sample size, and the specific procedures followed for sampling. Additionally, it explores the research instruments that have been utilized and outline the measures taken to ensure their validity and reliability. Furthermore, this elaborates on the step-by-step process of data collection, elucidating how information was gathered from the research participants. Finally, it will discuss the methodologies used for data analysis, shedding light on how the collected data was processed, interpreted and transformed into meaningful findings for this study.

3.2 Research Design

Saunders, Lewis & Thornhill (2016) define research design as collection of frameworks needed to analysis data pertaining to a research in order to get answer to research questions through giving a justified reasoning for using data collection tools, data collection and data analysis approaches used. The study employed a survey method to assess the Rongai/Kajiado Road Maintenance Project. The chosen research design is descriptive in nature, primarily aimed at collecting data concerning the perceptions of participants regarding road project performance. Cooper and Schindler (2011) assert that descriptive research primarily aims to establish connections between different variables. This study had a quantitative orientation and rely extensively on primary data collected through the utilization of close-ended questionnaires. The survey approach was suitable as it enables a comprehensive and in-depth investigation into the subject matter. To assess the performance of road projects in Kenya, the researcher collected input from respondents within the various branches of the Rongai/Kajiado Road Maintenance Project. The study used a quantitative research approach to provide a more comprehensive and in-depth analysis of the collected data and its findings.

3.3 Target Population

As per Ngechu (2004), the term "population" is described as an inclusive collection of individuals, organizations, entities, events, or households that are the subject of investigation. This definition has been selected by the researcher to ensure the homogeneity of the population of interest. The study encompassed 404 participants involved in the Rongai/Kajiado Road Maintenance Project, making them the target population, as presented in Table 1.

Table 1 : Target population

| Category | Target population |
|----------------------------------|--------------------------|
| Project sponsors | 9 |
| Project supervisors and managers | 20 |
| Project staff | 175 |
| Beneficiaries | 200 |
| TOTAL | 404 |

Source: (Researcher)

3.4 Sample Size and Sample Procedure

Cooper and Schindler (2003) provide a definition for sampling as the process of selecting a pre-established number of individuals to represent a specific population. They also explain that a sampling frame is a set of elements that are actively utilized to generate the sample and are connected to the overall population.

3.4.1 Sample Size

Garson (2012) define sample size as a population subset obtained to represent a study targeted population using any and or combined sampling elements but do not include the whole sampling units define on a population.

The Yamane (1967) formulae was use to get sample size:

$$n = \frac{N}{1 + N(e)^2}$$

Where;

n = sample size,

N = targeted population, (404)

e = precision level (0.05).

$$n = \frac{404}{1 + 404(0.05)^2}$$

$$= 201$$

The desired sample size was 201 respondents as illustrated in table 2 :

Table 2 : Sample size

| Category | Total Population | Sample Size |
|----------------------------------|-------------------------|--------------------|
| Project sponsors | 9 | 4 |
| Project supervisors and managers | 20 | 10 |
| Project staff | 175 | 88 |
| Beneficiaries | 200 | 99 |
| TOTAL | 404 | 201 |

3.4.2 Sample Size

The researcher selected a sample of respondents from the total target population of 404 individuals working at the Rongai/Kajiado Road. This sample was chosen through the stratified random sampling technique.

3.4.3 Sampling Technique

Sampling is defined as a technique used to select attributes or individuals from a population based on probability, with the aim of achieving a reliable and representative sample of the targeted population (Kothari, 2014). In this study, the staff were selected using simple random sampling, which ensured that all individuals within the chosen population have an equal probability of being selected to participate in the research (Chogo & Sedoyeka ,2014).

Random sampling helps to minimize sampling errors within the population, thereby increasing the precision level of the estimates derived from the research methodologies. This ensures that the research methods used are suitable for determining the extent to which the sample size accurately represents the population. Consequently, the research findings can be considered as an accurate representation of the population.

3.5 Data Collection Methods

Primary data was collected via questionnaires. The questionnaires were distributed to the respondents and later picked after filling. This approach allowed respondents to take their time to complete the surveys, and follow-up assistance was provided to those who faced difficulties in filling them out. Follow-up calls were also made to ensure that the questionnaires were completed and returned on time. This approach helped ensure a timely and comprehensive collection of data from the participants.

3.6 Data Collection Procedures / Instruments Used

Five individuals, who were project managers and students at the University of Nairobi but not associated with the Rongai/Kajiado Road, were selected for a pre-test of the study's questionnaire. This pre-test ensured that the questions were clear, accurate, and easy to understand. It also prevented the same participant from being included in both the pre-test and the actual study to avoid any information sharing between the two groups. Necessary adjustments were made based on the feedback received during the pre-test. The researcher sought approval for the research from the UON School of Business and obtained a cover letter indicating that the research was conducted solely for academic purposes. The validity of each variable was assessed using SPSS's Cronbach alpha to ensure the accuracy and reliability of the collected data.

3.7 Data Analysis

The reliability and consistency of the questionnaires were examined. Editing, coding and tabulation were used to clean up and analyze the data. By doing so, any abnormalities in the responses were noted, and each response was assigned a unique numerical value for later study. SPSS was used in data analysis. The study employed descriptive statistics like frequencies, means, and percentages. The distribution and primary tendencies of the gathered data was clearly outlined by these statistical measures, enabling a thorough understanding of the patterns and trends found in the responses. Results were presented through tables.

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND PRESENTATION

4.1 Introduction

This chapter presents demographics, descriptive statistics, inferential statistics, interpretations and discussions. Consequently, the chapter analyses data as per the objectives; that is, to: establish the influence of project resource mobilization, evaluate the influence of team work, determine the influence of project communication framework and determine the influence of project risks management on road maintenance projects performance of Rongai-Kajiado road. Frequency, inferential statistics, such as ANOVA were employed to assess the significance of the variables. Multiple regression and correlation coefficients were used to identify association between variables, as per the research objectives. SPSS software was used for data analysis.

4.2 Response rate

The study issued 201 questionnaires the selected respondents that comprised government representatives, project sponsors, project managers, project supervisors, project staffs and project beneficiaries. The study received 187 questionnaires that were completed and returned; this was a response rate of 93%. Sammut, Griscti and Norman (2021) advise that a 50% response rate is sufficient, 60% is good and an exceedance of 70% is very good. Furthermore, Shiyab, Ferguson, Rolls and Halcomb (2023) affirm that response rates of 50% and above are acceptable for analysis. Consequently, the study's response rate of 93% was excellent and reliable. The response rate is as per Table 3:-

Table 3: Response rate

| Category | Sample Size | Response | Response rate |
|-------------------------------------|-------------|------------|---------------|
| Government Reps. & Project Sponsors | 4 | 2 | 50% |
| Project Managers and Supervisors | 10 | 6 | 60% |
| Project Staffs | 88 | 83 | 94% |
| Consumers | 99 | 96 | 97% |
| TOTAL | 201 | 187 | 93% |

Source: Research Data

4.3 Reliability results

Five individuals, who were project managers and students at the University of Nairobi but not associated with the study's project were selected for a pre-test of the study's questionnaire. The pilot respondents were given questionnaires to complete, and the researcher explained the objectives to them. The reliability results from the pilot research are indicated in Table 4.

Table 4: Reliability results

| Variable | Item | Alpha Value | Recommendations |
|---------------------------------|------|-------------|-----------------|
| project resource mobilization | 5 | 0.881 | Reliable |
| team work | 5 | 0.879 | Reliable |
| project communication framework | 5 | 0.899 | Reliable |
| project risks management | 5 | 0.863 | Reliable |
| performance | 5 | 0.854 | Reliable |

Source: Research Data

The Cronbach Alpha Coefficient was calculated for each variable. Coefficient for performance was 0.854, project resource mobilization was 0.881, team work was 0.879, project communication framework was 0.899 and project risks management was 0.863. All the variables had reliability values higher than 0.7, which was adequate.

4.4 Validity tests

The study conducted validity tests for the questionnaire. The research's instrument validity was achieved by seeking the university supervisor's professional advice. Upon adequate advice from the supervisors, the questionnaire was examined, revised and accepted. The questionnaire provided data that accurately answered the study's research questions.

4.5 Demographic information

The research aimed at determining the participants' demographic information. Gender, age, experience and level of education were analysed.

4.5.1 Gender

The study analyzed the distribution of participants across gender. This demographic aspect is important for assessing any potential gender-related disparities. Out of the 187 respondents,

107 (57%) were male and 80 (43%) were female. Hence, majority of the respondents were male. Table 5 illustrates this:-

Table 5 : Gender

| Gender | Frequency | Percent |
|---------------|------------------|----------------|
| Male | 107 | 57 |
| Female | 80 | 43 |
| Total | 187 | 100 |

Source : Research data

4.5.2 Age

The study analysed the distribution of participants across different age groups. This demographic aspect is important for assessing any potential age-related disparities. Out of the 187 respondents, 9 (5%) were aged 20-30 years, 73 (39%) were aged 30-40 years, 74 (40%) were aged 40-50 years and 31 (17%) were aged 50-60 years. Hence, majority of the respondents were aged 40-50 years. This is illustrated in table 6:-

Table 6 : Age

| Age | Frequency | Percent |
|--------------|------------------|----------------|
| 20-30 | 9 | 5 |
| 30-40 | 73 | 39 |
| 40-50 | 74 | 40 |
| 50-60 | 31 | 17 |
| Total | 187 | 100 |

Source : Research data

4.5.3 Experience

The study analysed the distribution of respondents' experience. Out of the 187 respondents, 43 (23%) had less than 5 years' experience, 122 (65%) had 6-10 years' experience at work, 21 (11%) had 10-15 years' experience and 1(1%) had over 15 years work experience. Hence,

majority of the respondents had 6-10 years' work experience and their responses could therefore be relied for credible study conclusions. This is illustrated in table 7 :-

Table 7 : Experience

| Experience | Frequency | Percent |
|-------------------|------------------|----------------|
| Less than 5 years | 43 | 23 |
| 6 to 10 years | 122 | 65 |
| 10 to 15 years | 21 | 11 |
| over 15 years | 1 | 1 |
| Total | 187 | 100 |

Source : Research data

4.5.4 Education level

The study analysed the distribution of respondents' education level. Out of the 187 respondents, 6 (3%) had were secondary school certificate holders, 69 (37%) had diplomas and 112 (60%) were university graduates. Hence, majority of the respondents were university graduates and their responses could be relied for credible study conclusions. This is illustrated in table 8 :-

Table 8 : Education level

| Education | Frequency | Percent |
|------------------|------------------|----------------|
| KCSE | 6 | 3 |
| Diploma | 69 | 37 |
| Bachelors | 112 | 60 |
| Total | 187 | 100 |

Source : Research data

4.6 Descriptive analysis

The analysis is presented as per the study objectives that is, to: establish the influence of project resource mobilization, evaluate the influence of team work, determine the influence of project communication framework and determine the influence of project risks management on road maintenance projects performance of Rongai-Kajiado road.

4.6.1 Project resource mobilization and road maintenance projects performance

First objective sought to establish the influence of project resource mobilization on road maintenance projects performance of Rongai-Kajiado road. Respondents were asked five questions regarding the objective. Likert scale was used to present responses. Results are discussed under table 9:

Table 9 : Descriptive on project resource mobilization on road maintenance projects performance

| Statement | N | Mean | Std. Dev. | SA | A | UN | D | SD |
|--|-----|------|-----------|----|----|----|---|----|
| | | | | % | % | % | % | % |
| Funds' availability drives successful influence of project management practices on performance | 187 | 4.49 | 0.562 | 52 | 45 | 3 | 0 | 0 |
| Proper budgeting and costing help ease the performance of road maintenance | 187 | 4.29 | 0.570 | 35 | 59 | 6 | 0 | 0 |
| There is a relationship between return on equity and influence of project management practices | 187 | 4.47 | 0.521 | 48 | 51 | 1 | 0 | 0 |
| Project managers negotiate for better terms for project financing. | 187 | 4.25 | 0.564 | 32 | 62 | 6 | 0 | 0 |
| The type of financing determines how fast the project performance of road maintenance will be. | 187 | 4.26 | 0.614 | 35 | 56 | 9 | 0 | 0 |

Source : Research data

Most of the respondents (97%) agreed that funds' availability drove successful influence of project management practices on performance (Mean=4.49, SD=0.562). It was agreed (94%) that proper budgeting and costing helped ease the performance of road maintenance (Mean=4.29, SD=0.570). The respondents strongly agreed (48%) that there was a relationship between return on equity and influence of project management practices (Mean=4.47,

SD=0.521). It was agreed that project managers negotiated for better terms for project financing (Mean=4.25, SD=0.564). Most of the respondents (91%) agreed that type of financing determined how fast projects were completed successfully. These findings corroborate those of Gikonyo (2020) who assessed resource mobilisation and project performance and found a positive relationship between project funding and project performance. The driving force behind the adoption of civil and nonpublic involvement in road and rail infrastructure, as emphasized by Chumba (2020), is their significant cost-effectiveness. Value for money is a central principle driving infrastructural projects.

4.6.2 Team work on road maintenance projects performance

The study sought to evaluate the influence of team work on road maintenance projects performance of Rongai-Kajiado road. Respondents were asked five questions regarding the objective. Likert scale was used to present responses. Results are discussed under table 10:

Table 10 : Descriptives on team work and road maintenance projects performance

| Statement | N | Mean | Std. Dev. | SA | A | UN | D | SD |
|--|-----|------|-----------|----|----|----|---|----|
| | | | | % | % | % | % | % |
| Guidelines and behaviors lead to improved performance of road maintenance projects capabilities | 187 | 4.29 | 0.553 | 34 | 61 | 5 | 0 | 0 |
| The team roles and practices of an institution lead to better performance of road maintenance projects | 187 | 4.32 | 0.581 | 38 | 56 | 6 | 0 | 0 |
| Team interactions enhances performance of road maintenance projects. | 187 | 4.28 | 0.546 | 33 | 63 | 5 | 0 | 0 |
| Project managers have set in place procedures for team execution. | 187 | 4.34 | 0.567 | 39 | 57 | 5 | 0 | 0 |
| Team work and transparency ensures timely completion of road maintenance projects. | 187 | 4.37 | 0.603 | 43 | 50 | 6 | 0 | 0 |

Source : Research data

Most of the respondents (95%) agreed that guidelines and behaviors led to improved performance of road maintenance projects capabilities (Mean=4.29, SD=0.553). It was agreed (94%) that team roles and practices of an institution led to better performance of road maintenance projects (Mean=4.32, SD=0.581). The respondents strongly agreed (33%) and agreed (63%) that team interactions enhanced performance of road maintenance projects (Mean=4.28, SD=0.546). It was agreed that Project managers have set in place procedures for team execution (Mean=4.34, SD=0.567). Most of the respondents (94%) agreed that team work and transparency ensured timely completion of road maintenance projects. These findings agree with those of Prackel (2010), who examined the influence of poor teamwork on South African power schemes. It was revealed that teamwork has a critical impact on individual roles and the overall group dynamics. Furthermore, teamwork fosters trust, enhances collective decision-making and encourages accountability during project implementation. However, a lack of strong leadership within the team can result in project takeovers, disrupting project activities and potentially leading to conflicts that divert the project in the wrong direction, thereby impeding project implementation. Additionally, Saunders (2014) conducted research in central Europe to identify tools that enhance team success in infrastructure projects. The study established that companies can achieve project success through effective teamwork, ensuring the desired quality within infrastructure projects and adhering to project timelines.

4.6.3 Project communication framework on road maintenance projects performance

The study sought to evaluate the influence of project communication framework on road maintenance projects performance of Rongai-Kajiado road. Respondents were asked five questions regarding the objective. Likert scale was used to present responses. Results are discussed under table 11:

Table 11 : Descriptives on project communication framework road maintenance projects performance

| Statement | N | Mean | Std. Dev. | SA | A | UN | D | SD |
|---|-----|------|-----------|----|----|----|---|----|
| | | | | % | % | % | % | % |
| Leaders at Rongai/Kajiado Road keep stakeholders informed about the strategies formulated and activities happening in the institution | 187 | 4.49 | 0.562 | 52 | 45 | 3 | 0 | 0 |

| | | | | | | | | |
|--|-----|------|-------|----|----|---|---|---|
| There is efficient and effective communication of strategy to all within and outside of the institution | 187 | 4.29 | 0.570 | 35 | 59 | 6 | 0 | 0 |
| There is a positive, long term relationship among a project's stakeholders through effective communication | 187 | 4.39 | 0.511 | 40 | 59 | 1 | 0 | 0 |
| Project management has elaborate framework for project communication. | 187 | 4.25 | 0.564 | 32 | 62 | 6 | 0 | 0 |
| Good communication strategy ensures smooth management of stakeholders within Rongai/Kajiado Road projects | 187 | 4.26 | 0.614 | 35 | 56 | 9 | 0 | 0 |

Source : Research data

Most of the respondents (97%) agreed that leaders at Rongai/Kajiado Road kept stakeholders informed about the strategies formulated and activities happening in the institution (Mean=4.49, SD=0.562). It was agreed (94%) that there was efficient and effective communication of strategy to all within and outside of the institution (Mean=4.29, SD=0.570). The respondents strongly agreed (40%) and agreed (59%) that there was a positive, long term relationship among a project's stakeholders through effective communication (Mean=4.39, SD=0.511). It was agreed that project management had elaborate framework for project communication (Mean=4.25, SD=0.564). Most of the respondents (91%) agreed that good communication strategy ensured smooth management of stakeholders. These findings are in line with those of Amadi and Tuuli (2019), who observed that communication among stakeholders must be tailored to specific basics and capacities. It must be adaptable, encompassing both oral and written forms, while maintaining a steady aim for ease of observation and examination. It is important to develop a comprehensive communication strategy for both external and internal stakeholders. Likewise, Mwesigwa and Munene (2019) indicated that effective communication is pivotal for stakeholder management. Commitment and trust were found to be less influential factors in the context of participant administration in building schemes. Information transfer establishes that crucial communication is conveyed to the relevant members for necessary attention. In order for proper information results to good morale toward plan establishment, ultimately enhancing project achievement. Main scheme

plan managers must possess the capacity to proper information to result in good cultural shifts, administer participant urge, cultivate reasoning of the project and align project goals.

4.6.4 Project risks management on road maintenance projects performance

The study sought to evaluate the influence of project risks management on road maintenance projects performance of Rongai-Kajiado road. Respondents were asked five questions regarding the objective. Likert scale was used to present responses. Results are discussed under table 12:

Table 12 : Descriptives on project risks road maintenance projects performance

| Statement | N | Mean | Std. Dev. | SA | A | UN | D | SD |
|--|-----|------|-----------|----|----|----|---|----|
| | | | | % | % | % | % | % |
| Institutions chain of command helps in achieving effective performance of road projects | 187 | 4.30 | 0.557 | 35 | 60 | 5 | 0 | 0 |
| Project managers effective planning reduces risk implementing the formulated strategies. | 187 | 4.32 | 0.581 | 38 | 56 | 6 | 0 | 0 |
| Project management has adequate policies that guides project risk management. | 187 | 4.30 | 0.537 | 34 | 62 | 4 | 0 | 0 |
| Project management identifies risk before commence ment of projects. | 187 | 4.29 | 0.553 | 34 | 61 | 5 | 0 | 0 |
| There is cooperation among project stakeholders in project risk management. | 187 | 4.34 | 0.595 | 40 | 53 | 6 | 0 | 0 |

Source : Research data

Most of the respondents (95%) agreed that the institution’s chain of command helped in achieving effective performance of road projects (Mean=4.30, SD=0.557). It was agreed (94%) that project managers effective planning reduced risk in implementing the formulated strategies on the performance of road maintenance projects (Mean=4.32, SD=0.581).The respondents

strongly agreed (34%) and agreed (62%) that project management had adequate policies that guided project risk management (Mean=4.30, SD=0.537). It was agreed that project management identified risk before commencement of projects (Mean=4.29, SD=0.553). Most of the respondents (94%) agreed that there was cooperation among project stakeholders in project risk management. These findings corroborate those of Princhad and Lymer (2013) assessed technical risks in road construction projects, including the adoption of poor construction practices, unreliable technologies, and inaccurate estimations of required raw materials. Conducted in Europe, this research revealed that a lack of financial resources was a major contributor to project delays in road construction. Financial risks encompassed variances from the expected depreciation schedule of capital equipment, fluctuations in material prices, shifts in interest rates, potential supplier bankruptcies, increased taxes, and other financial challenges. The research also addressed risks related to society and politics, where social hazards such as strikes and community engagement issues were seen as potential impediments to project completion. Political risks encompassed government instability, in addition to changes in rules and control.

4.6.5 Road maintenance projects performance

The study examined the influence of project management practices on road maintenance projects performance. Respondents were asked five questions regarding the dependent variable. Likert scale was used to present responses. Results are discussed under table 13:

Table 13 : Descriptives on road maintenance projects performance

| Statement | N | Mean | Std. Dev. | SA | A | UN | D | SD |
|--|-----|------|-----------|----|----|----|---|----|
| | | | | % | % | % | % | % |
| Project managers ensures the project deliverables meet the planned quality standards | 187 | 4.30 | 0.557 | 35 | 60 | 5 | 0 | 0 |
| The institution has integrated project assurance processes in the project plan to ensure successful performance of road maintenance projects | 187 | 4.32 | 0.581 | 38 | 56 | 6 | 0 | 0 |
| Projects are completed within the set budgets. | 187 | 4.24 | 0.487 | 27 | 71 | 3 | 0 | 0 |

The organisation ensures that projects are completed within the time set. 187 4.29 0.553 34 61 5 0 0

The success of service performance through customer satisfaction is critical in project performance. 187 4.34 0.595 40 53 6 0 0

Source : Research data

Most of the respondents (95%) agreed that project managers ensured the project deliverables met the planned quality standards (Mean=4.30, SD=0.557). It was agreed (94%) that the institution had integrated project assurance processes in the project plan to ensure successful performance of road maintenance projects (Mean=4.32, SD=0.581).The respondents strongly agreed (27%) and agreed (71%) that projects were completed within the set budgets (Mean=4.24, SD=0.487). It was agreed that the organisation ensured that projects were completed within the time set (Mean=4.29, SD=0.553). Most of the respondents (94%) agreed that success of service performance through customer satisfaction is critical in project performance.

4.7 Inferential analysis

The study conducted correlation analysis and regression analysis. These showed the association between the study variables.

4.7.1 Correlation analysis

Pearson correlation analysis was carried out and results illustrated in Table 14

Table 14 : Correlation analysis

| | | performance | resource mobilisation | teamwork | communication | risk management |
|------------------------------|---|-------------|-----------------------|----------|---------------|-----------------|
| performance | r | 1 | .492** | .952** | .523** | .975** |
| | p | | 0.000 | 0.000 | 0.000 | 0.000 |
| | n | 187 | 187 | 187 | 187 | 187 |
| resource mobilisation | r | .492** | 1 | .471** | .978** | .480** |

| | | | | | | |
|------------------------|---|--------|--------|--------|--------|--------|
| | p | 0.000 | | 0.000 | 0.000 | 0.000 |
| | n | 187 | 187 | 187 | 187 | 187 |
| teamwork | r | .952** | .471** | 1 | .504** | .955** |
| | p | 0.000 | 0.000 | | 0.000 | 0.000 |
| | n | 187 | 187 | 187 | 187 | 187 |
| communication | r | .523** | .978** | .504** | 1 | .485** |
| | p | 0.000 | 0.000 | 0.000 | | 0.000 |
| | n | 187 | 187 | 187 | 187 | 187 |
| risk management | r | .975** | .480** | .955** | .485** | 1 |
| | p | 0.000 | 0.000 | 0.000 | 0.000 | |
| | n | 187 | 187 | 187 | 187 | 187 |

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

Source: Research Data

The research findings highlight significant correlations between variables. The significance of correlations is determined by the p-values. Consequently, $p < 0.05$ is regarded significant, while values above 0.05 are regarded as insignificant. There existed a strong correlation ($r=0.492$, $p=0.000$), between project resource mobilization and road maintenance projects performance. Similarly, the study revealed a significant and positive association between team work and road maintenance projects performance ($r=0.952$, $p=0.000$). The study revealed a positive and significant correlation between project communication framework and road maintenance projects performance ($r=0.523$, $p=0.000$). There existed a strong correlation ($r=0.660$, $p=0.000$), between project risks management and road maintenance projects performance.

4.7.2 Linear regression model

A regression analysis was done to explore how the independent variables impact the dependent variable. An overview of the linear regression model is shown in Table 15

Table 15: Model summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|-------|-------------------|----------|-------------------|----------------------------|---------------|
| 1 | .983 ^a | 0.966 | 0.966 | 0.05150 | 1.927 |

a. Predictors: (Constant), risk management, resource, mobilisation, teamwork, communication

b. Dependent Variable: performance

Source: Research Data

The findings indicate that the coefficient of determination, represented by R squared, is 0.966, equivalent to 96.6%. This implies that 96.6% of the variability in the road maintenance projects performance of Rongai-Kajiado road can be attributed to changes in project resource mobilization, team work, project communication framework and project risks management, with a confidence level of 95%. Only 3.4% of the variability in these risks can be explained by other factors. The correlation coefficient, denoted as R, serves as a measure of the relationship between these variables. The findings showed a significant and positive correlation between the variables, evident by a correlation coefficient of 0.983. With a Durbin Watson statistic of 1.9, it can be inferred that no autocorrelation exists among the variables. This allows for reliable deduction of inferential statistics and interpretation.

Table 16: ANOVA

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|------------|----------------|-----|-------------|----------|-------------------|
| 1 | Regression | 13.867 | 4 | 3.467 | 1307.374 | .000 ^b |
| | Residual | 0.483 | 182 | 0.003 | | |
| | Total | 14.350 | 186 | | | |

a. Dependent Variable: performance

b. Predictors: (Constant), risk management, resource_mobilisation, teamwork, communication

Source: Research Data

ANOVA results exhibited a level of significance at 0.000, hence a significant relationship between the dependent and independent variables. Moreover, the calculated F-value was observed to be greater than the critical F-value ($1307.374 > 2.422$). The model was thus reliable. Consequently, the results were adequate to formulate conclusive findings and provide credible recommendations.

Table 17: Coefficients

| | Unstandardized Coefficients | Std. Error | Standardized Coefficients | t | Sig. |
|-----------------------|--|-----------------------|--------------------------------------|----------|-------------|
| (Constant) | 0.076 | 0.067 | | 1.131 | 0.260 |
| resource_mobilisation | -0.498 | 0.070 | 0.516 | 7.162 | 0.000 |
| teamwork | 0.049 | 0.049 | 0.051 | 0.986 | 0.325 |
| communication | 0.560 | 0.072 | 0.566 | 7.739 | 0.000 |
| risk management | 0.871 | 0.049 | 0.898 | 17.670 | 0.000 |

a. Dependent Variable: performance

Source: Research Data

Table 20 shows the model equation to be:

$$Y = 0.076 + 0.516 X_1 + 0.566 X_3 + 0.898 X_4 + \varepsilon$$

where Y is road maintenance projects performance, X_1 is project resource mobilization, X_3 is project communication framework and X_4 is project risks management. Holding project resource mobilization, team work, project communication framework and project risks management constant, road maintenance projects performance of Rongai-Kajiado road would be at a constant value of 0.076. Findings indicate a positive and significant influence of project resource mobilization on road maintenance projects performance of Rongai-Kajiado road ($\beta = 0.516, p < 0.05$). Results revealed a positive and insignificant influence of team work on road maintenance projects performance of Rongai-Kajiado road ($\beta = 0.051, p > 0.05$). Findings showed a positive and significant influence of project communication framework on road maintenance projects performance of Rongai-Kajiado road ($\beta = 0.566, p < 0.05$). There was a positive and significant influence of project risks management on road maintenance projects performance of Rongai-Kajiado road ($\beta = 0.898, p < 0.05$).

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary of the research findings on influence of project management practices on road maintenance projects performance in Kenya : the case of Rongai-Kajiado road. The chapter makes conclusions from research findings. Additionally, the recommendations from findings are made, providing actionable insights for practitioners, stakeholders and researchers.

5.2 Summary of the findings

This section of research findings is presented in line with the objectives of the research.

5.2.1 Influence of project resource mobilization on road maintenance projects performance

The study's first objective was to establish the influence of project resource mobilization on road maintenance projects performance of Rongai-Kajiado road. There was a significant positive effect of project resource mobilization on road maintenance projects performance. It was revealed that funds' availability drove successful influence of project management practices on performance and proper budgeting and costing helped ease the performance of road maintenance. There was a relationship between return on equity and influence of project management practices and project managers negotiated for better terms for project financing. The type of financing determined how fast projects were completed successfully.

5.2.2 Influence of team work on road maintenance projects performance

The study's second objective was to evaluate the influence of team work on road maintenance projects performance of Rongai-Kajiado road. There was an insignificant positive effect of team work on road maintenance projects performance. It was revealed that guidelines and behaviors led to improved performance of road maintenance projects capabilities, team roles and practices of an institution led to better performance of road maintenance projects and team interactions enhanced performance of road maintenance projects. Project managers had set in

place procedures for team execution and team work and transparency ensured timely completion of road maintenance projects.

5.2.3 Influence of project communication framework on road maintenance projects performance

The study's third objective was to determine the influence of project communication framework on road maintenance projects performance. There was a significant positive effect of project communication framework on road maintenance projects performance. Leaders at Rongai/Kajiado Road kept stakeholders informed about the strategies formulated and activities happening in the institution, thus an efficient and effective communication of strategy to all within and outside of the institution. There was a positive, long term relationship among a project's stakeholders through effective communication, project management had elaborate framework for project communication and good communication strategy ensured smooth management of stakeholders.

5.2.4 Influence of project risks management on road maintenance projects performance

The study's fourth objective was to determine the influence of project risks management on road maintenance projects performance. There was a significant positive effect of project risk management on road maintenance projects performance. Projects' chain of command helped in achieving effective performance of road projects and managers effective planning reduced risk in implementing the formulated strategies on the performance of road maintenance projects. Project management had adequate policies that guided project risk management, identified risk before commencement of projects and stakeholders cooperated in project risk management.

5.3 Discussions

Findings indicate a positive and significant influence of project resource mobilization on road maintenance projects performance of Rongai-Kajiado road ($\beta = 0.516$, $p < 0.05$). These findings align with those of Nabulime, Deusdedit and Ndungo (2021), whose study revealed that the success of any development project is closely tied to the level of community involvement. Understanding how community participation can drive rural development is of paramount importance to both scholars and practitioners in the field of rural development. Embracing communal resource mobilization as an effective strategy for community involvement is

imperative for the government and all those involved in rural development. It is important for project contractors to secure sufficient finances for successful implementation in road maintenance projects (Lourenço, Dellaert & Donkers ,2020). Additionally, project managers must employ qualified and competent personnel to operate machinery and carry out other project-related activities. Technological resources, encompassing modern tools and techniques, play a vital role in project implementation and management (Mozumder ,2018). Human resources involve the recruitment of technically skilled and experienced staff who can effectively and efficiently execute infrastructure projects (Muldoon, Bauman & Lucy ,2018). Moreover, Ocheng, James, and Ngugi (2018) emphasized the importance of effective performance in road infrastructure projects as a driver of economic growth and development. It is common for local construction companies to encounter difficulties in staying within budget, meeting specified deadlines, and attaining the desired quality when executing projects.

Results revealed a positive and insignificant influence of team work on road maintenance projects performance of Rongai-Kajiado road ($\beta = 0.051$, $p > 0.05$). Indeed, Fabi and Akinseinde (2022) assessed the impact of teamwork on project performance and revealed that team effectiveness has a positive influence on the time it takes to complete a project. To fully realize these benefits in project performance and achieve project objectives, it is imperative for all stakeholders to embrace the concept of teamwork. Collaboration and teamwork are dynamic processes in which individuals or project teams work together to attain their objectives (Adu, 2019). Such collaboration may involve the coordination between management and the project team, emphasizing the importance of interpersonal cooperation within the project team. The practice of teamwork in project management is complex since it involves the allocation of complementary roles to the parties involved and the establishment of well-organized relationships (Guzzini & Iacobucci, 2017). Mohd, Zureehan and Lee (2022) examined the influence of collaborative teams on project performance and indicated that teamwork is positively correlated with project performance, although its effect was not found to be statistically significant. The findings of this study contrast those of Fabi and Akinseinde (2022), Mohd, Zureehan and Lee (2022) , Guzzini and Iacobucci (2017) and Adu (2019). The specific context of the Rongai-Kajiado road may be influenced by unique factors that make it less responsive to teamwork. For example, if the road maintenance projects are routine, the impact of teamwork may be limited. There may be other influential factors that overshadow the influence of teamwork on project performance for the Rongai-Kajiado road. Factors such as funding, equipment, or the quality of materials used in road maintenance positively influence

project performance. The quality of teamwork can vary widely. In some cases, teams may not function effectively, which could limit their positive impact on project performance. The study might not have accounted for this variability in teamwork quality.

Findings showed a positive and significant influence of project communication framework on road maintenance projects performance of Rongai-Kajiado road ($\beta = 0.566$, $p < 0.05$). These findings corroborate those of Manuputty and Nursin (2023), who observed that communication plays a highly influential role in project performance. Their study results indicated that project communications management positively and significantly influences project time performance. Their study proposed that a strategic approach to project communications management should be adopted to optimize the utilization of key communication factors, thereby improving the overall performance of projects. In the same vein, Yakubu, Ogunsanmi and Yakubu (2019) highlighted that road projects often exhibit poor performance. They linked the failure to achieve the predetermined goals in construction projects to ineffective communication among team members. Their research showed a positive correlation between effective communication and performance of a project.

There was a positive and significant influence of project risks management on road maintenance projects performance of Rongai-Kajiado road ($\beta = 0.898$, $p < 0.05$). This is in line with findings by Musostova, Dzobelova and Markaryan (2022), who observed that in contemporary circumstances, a growing number of organizations are adopting a project management approach. The particular nature of risk management within projects necessitates a comprehensive examination of its relevance. Likewise, Al-Hashimi and Masuri (2022) evaluated the correlation between project risk management and project performance and found out that project risk management significantly affects constructions projects performance. Muse and Josephine (2022) assert that the construction industry involves elevated levels of risk. However, these risks are frequently inadequately addressed, leading to poor performance, as evidenced by frequent cost and time overruns and low work quality. This inadequacy can result in disputes, which may escalate into costly litigation, causing further time and cost overruns.

5.4 Conclusions

Funds' availability is a fundamental driver of successful project management practices and their impact on project performance. The availability of funds can make or break the success of the

endeavor. Adequate financial resources empower project managers to execute their plans effectively, allocate resources, and address unforeseen challenges. When there is a reliable flow of funds, project managers can maintain steady progress, minimize disruptions, and ultimately enhance project performance. Proper budgeting and costing are essential components of project management, and they play a pivotal role in easing the performance of road maintenance projects. An accurately budgeted project serves as a roadmap for resource allocation and expenditure control. By carefully estimating costs and regularly monitoring expenses, project managers can make informed decisions, ensure that resources are allocated efficiently, and prevent costly overruns. This rigorous financial discipline not only eases the project's performance but also contributes to its overall success by ensuring it remains within budget. Return on equity (ROE) is a key performance indicator that directly influences project management practices. Project stakeholders often rely on ROE to evaluate the profitability and success of a project. A higher ROE signifies a more successful project, while a lower ROE may indicate inefficiencies or underperformance. Project managers should actively monitor and strive to improve the project's ROE, as it reflects the project's financial health and efficiency. ROE acts as a guiding metric, encouraging project managers to optimize resource allocation and cost management to enhance the project's performance and profitability. Project managers must be proactive in negotiating for better terms when securing project financing. The terms of financing agreements, such as interest rates, repayment schedules, and associated fees, have a substantial impact on the project's financial performance. Lower interest rates and longer repayment periods, for example, can reduce the financial burden on the project, providing more flexibility for resource allocation and decision-making. By negotiating favorable financing terms, project managers can enhance the project's return on equity, ultimately driving its success and financial performance. The type of financing chosen for a road maintenance project can significantly influence the project's completion speed. Different financing options come with various terms and conditions. For instance, low-interest, long-term loans or grants provide flexibility in project scheduling and resource allocation. In contrast, high-interest, short-term loans may create pressure to expedite project completion to avoid excessive interest costs. Thus, the choice of financing determines how fast projects can be completed successfully, making it a crucial factor for project managers to consider in their strategic planning.

Guidelines and policies are integral to improving the performance of road maintenance projects. When project teams adhere to well-defined guidelines and exhibit the right behaviors, it leads to better project outcomes. These guidelines can encompass safety protocols, quality

standards, and project management methodologies. Adherence to these guidelines ensures that project activities are carried out in a consistent and systematic manner, minimizing errors and enhancing the overall quality of work. Behaviors, on the other hand, pertain to the attitudes, professionalism, and work ethic of project team members. Positive behaviors such as teamwork, dedication, and a commitment to excellence contribute to a more efficient and successful project execution. The capabilities, team roles, and practices of an institution play a pivotal role in driving better performance in road maintenance projects. Institutions, whether they are governmental bodies, construction companies, or non-governmental organizations, must have the right capabilities and expertise to oversee and execute such projects. Effective team roles and practices within the institution ensure that the right people are assigned to specific tasks and responsibilities. For instance, having experienced engineers and project managers in key roles, supported by skilled labor and technical experts, can greatly enhance project efficiency and quality. Furthermore, the institution's established practices, such as project management methodologies and quality control systems, help maintain high standards and ensure that road maintenance projects are executed with precision and effectiveness. Team interactions are a critical factor in enhancing the performance of road maintenance projects. Collaboration and effective communication within project teams are essential for the successful execution of complex projects. Road maintenance often involves multidisciplinary teams, including engineers, construction workers, environmental specialists, and project managers. Effective team interactions ensure that information flows smoothly, problems are addressed promptly, and decisions are made collectively. Team members must work together cohesively, share knowledge and insights, and support each other to overcome challenges and deliver successful projects. A positive team culture that encourages collaboration and the exchange of ideas fosters a more efficient and productive work environment. Project managers have a central role in setting up procedures for team execution and teamwork within the context of road maintenance projects. They are responsible for defining project plans, creating work breakdown structures, and assigning tasks to team members. Additionally, project managers are instrumental in fostering a culture of transparency within the team. By promoting open communication, sharing project status, and addressing issues honestly, transparency ensures that problems are detected early, and timely corrective actions are taken. This, in turn, contributes to the on-time completion of road maintenance projects and minimizes delays.

Project managers play a crucial role in keeping stakeholders informed about the strategies formulated and activities happening within the institution. Effective communication of strategy

to both internal and external stakeholders is a key component of successful project management. By ensuring that stakeholders are well-informed, project managers create a sense of transparency, trust, and alignment among all parties involved. Efficient and effective communication of strategy is essential for building trust and confidence. When stakeholders, including team members, investors, government agencies, and the public, are kept in the loop about the project's goals, progress, and potential challenges, it fosters a positive and long-term relationship. These stakeholders feel more engaged and valued, as their concerns and feedback are considered in the decision-making process. An elaborate framework for project communication is necessary to manage stakeholders effectively. This framework includes a clear strategy for how, when, and what to communicate. Project managers need to define the channels and methods of communication, establish reporting mechanisms, and set up regular review meetings or updates. By doing so, project managers ensure that stakeholders receive timely and relevant information, which allows them to make informed decisions and stay engaged with the project's progress. A well-defined communication strategy is equally vital for maintaining a smooth relationship with stakeholders. This strategy outlines the project's messaging, audience segmentation, and the methods for handling various stakeholders' needs and expectations. Effective communication strategies consider the unique requirements of each stakeholder group and tailor the messaging accordingly. For instance, technical updates may be necessary for engineers and contractors, while a more simplified, non-technical summary may be provided to the general public or investors.

A well-defined chain of command within projects is a critical element in achieving effective performance in road projects. A clear hierarchy and organizational structure help streamline decision-making processes, delineate roles and responsibilities, and ensure that tasks are carried out efficiently. In the context of road maintenance projects, this is particularly important as it involves a multitude of tasks, from engineering and construction to logistics and environmental considerations. A structured chain of command provides a framework for effective coordination, communication, and accountability, enabling project managers to maintain control and oversee project progress. Effective planning by project managers is a key factor in reducing risk during the implementation of formulated strategies in road maintenance projects. Robust project planning encompasses detailed project schedules, resource allocation, and risk assessments. By carefully analyzing potential risks, project managers can develop mitigation strategies and contingency plans to address issues as they arise. This proactive approach minimizes the impact of unforeseen challenges and helps keep the project on track.

Additionally, effective planning ensures that resources are allocated efficiently, minimizing waste and maximizing the project's performance. Project management policies play a crucial role in guiding project risk management for road maintenance projects. These policies set the framework for how risks are identified, assessed, and mitigated. They provide a standardized approach for managing risks across all project phases, from initiation to completion. Effective project management policies enable project managers to identify potential risks before project commencement, enabling them to take preventive actions to minimize their impact. Moreover, they establish a consistent risk management process that ensures all stakeholders are aware of their roles and responsibilities in risk management, enhancing overall project performance. The cooperation of all stakeholders is indispensable for the successful performance of road projects. Road maintenance projects involve a multitude of parties, including government agencies, contractors, engineers, environmental experts, and local communities. Effective cooperation and collaboration among these stakeholders are essential to ensure that the project is executed seamlessly. Project managers must act as facilitators, fostering a positive working relationship among all parties. Transparent communication, open dialogue, and a shared sense of purpose can help overcome obstacles, align interests, and ensure that the project progresses as planned.

5.5 Recommendations for practice

Project managers of road maintenance projects in Kenya should ensure funds' availability as it enhances successful project performance. Project managers should prioritize the development of accurate and well-structured budgets and cost estimates. These budgets serve as a roadmap for resource allocation, ensuring that funds are used efficiently and effectively. When budgets are meticulously prepared, it becomes easier to control project costs and prevent overruns, which can otherwise jeopardize the project's success. Careful budgeting and costing also facilitate financial transparency and accountability, instilling confidence in project stakeholders and helping to build trust. Project managers should recognize that a higher ROE generally indicates a more successful project, while a lower ROE may signal inefficiencies or underperformance. Understanding the connection between ROE and project management practices can guide project managers to make decisions that optimize resource allocation, project scheduling, and risk management. Project managers should actively monitor and work to improve ROE as a way to enhance project performance. Project managers should consider the terms and conditions associated with financing options. For instance, securing low-interest, long-term loans or grants provides greater flexibility in project scheduling and resource

allocation. In contrast, high-interest, short-term loans may exert pressure to complete the project quickly to minimize interest costs. Therefore, project managers should weigh the pros and cons of different financing options and make informed decisions about which financing type is most suitable for the project's unique requirements.

Management of road maintenance projects in Kenya should institute guidelines and policies that would lead to improved performance of road maintenance projects capabilities. Clear and well-structured guidelines provide a roadmap for project management, outlining the standards and procedures that need to be followed. These guidelines encompass aspects such as safety protocols, quality control measures, environmental regulations, and project management methodologies. It is recommended that team roles and practices of an institution should be clearly outlined as they lead to better performance of road maintenance projects. Clarity in team roles helps prevent overlaps and gaps in responsibilities, leading to more efficient project execution. Moreover, establishing best practices and standards for the team creates consistency and sets a high benchmark for performance. When team members know what is expected of them and how they can contribute effectively, it results in better performance and project outcomes. The projects teams should enhance interactions as this enhances performance. Effective collaboration and communication among team members and stakeholders are essential for project success. These interactions foster a sense of synergy, shared goals, and the exchange of knowledge and expertise. In road maintenance projects, which often involve multidisciplinary teams including engineers, construction workers, environmental experts, and project managers, seamless team interactions are crucial for coordinating various tasks, mitigating issues, and ensuring that the project progresses smoothly. Positive team dynamics and effective communication can significantly enhance the project's performance and outcomes. Project managers should set up procedures for team execution and team work and transparency to ensure timely completion of road maintenance projects. Project managers must establish a culture of transparency within the team. Transparency is a key factor in timely project completion. When information flows openly and issues are addressed honestly, it allows for early problem detection and resolution, minimizing potential delays and setbacks. By creating a structured and transparent work environment, project managers ensure that the road maintenance projects are completed efficiently and within the specified timelines.

Project managers should always keep stakeholders informed about the strategies formulated and activities happening in the institution. This provides an efficient and effective

communication of strategy to all within and outside of the institution. When stakeholders are kept in the loop about the strategies being formulated and the ongoing activities, it leads to efficient and effective communication of the institution's strategy to all concerned parties, both within and outside the institution. There is a positive, long term relationship among a project's stakeholders through effective communication. Maintaining an open and efficient line of communication between project managers and stakeholders is instrumental in fostering positive, long-term relationships. Effective communication helps build trust, transparency, and accountability. Long-term relationships among stakeholders are nurtured through ongoing dialogue, mutual respect, and a shared understanding of the project's goals and challenges. An elaborate framework for project communication and good communication strategy should be developed to enhance project performance. To facilitate effective communication and ensure that the institution's strategies are efficiently communicated, an elaborate framework for project communication and a robust communication strategy should be developed. The framework establishes the structure and processes for communication, including the channels of communication, reporting mechanisms, and regular updates. This framework ensures that information flows smoothly thus helps prevent misunderstandings and miscommunications and provides a clear path for resolving issues as they arise.

Projects' chain of command helps achieve effective performance of road projects. A clear and structured hierarchy within the project's organizational framework provides a streamlined approach to decision-making and task allocation. In the context of road projects, this is of utmost importance, given the multifaceted nature of such projects, involving engineers, construction workers, environmental experts, and other professionals. A well-established chain of command ensures that roles and responsibilities are clearly delineated, allowing for efficient resource allocation and project coordination. This, in turn, aids in maintaining control and oversight, which is crucial for effective project performance and completion. Comprehensive project planning involves the development of detailed schedules, budget allocation, and risk assessments. This proactive approach is vital for minimizing disruptions and ensuring that the project stays on course. Moreover, effective planning helps optimize resource allocation, reduces the likelihood of cost overruns, and maximizes project performance by minimizing waste and inefficiencies. Project management of road maintenance projects in Kenya should come up with adequate policies that guide project risk management. Effective project management policies allow project managers to recognize and evaluate potential risks even before the project begins. They also establish a consistent and standardized approach to risk

management that ensures that all project stakeholders are on the same page. The identification and management of risks in a structured manner are essential for safeguarding project performance and preventing costly disruptions. The management should identify risk before commencement of projects. It is recommended that all project stakeholders should cooperate in project risk management. Cooperation of all stakeholders is necessary for successful performance of projects. Project managers must act as facilitators, fostering positive working relationships among all parties. Open and transparent communication, active dialogue, and a shared sense of purpose are necessary for overcoming obstacles, aligning interests, and ensuring that the project progresses as planned. Such cooperation and coordination create a harmonious working environment, ultimately contributing to the success of the project.

5.6 Recommendations for further research

The study was limited to road maintenance projects performance in Kenya. However, there exists an opportunity for broader exploration within all types of road construction projects in the country projects. The study also focused on Rongai-Kajiado Road. Further studies could be conducted on other road maintenance projects in the country. This study focused on only four independent variables that is project resource mobilization, team work, project communication framework and project risks management. Other studies could focus on other project management practices for example project planning, monitoring and evaluation, stakeholder participation and technology use and examine these variables effects on performance of road maintenance projects. This would lead to better comprehension of the topic of th study. This study employed a quantitative approach for data collection and analysis. Further research could employ mixed methods. Combining qualitative and quantitative techniques would allow researchers to gather both numerical data and in-depth narratives. Qualitative data can provide contextual insights and offer a deeper understanding of the effects of financing risks on performance of projects. This could lead to richer findings and conclusions. This would facilitate more informed decision-making, policy development and project management in road maintenance, ultimately benefiting the project stakeholders.

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APPENDICES

Appendix I: Introductory Letter

I am a postgraduate student at the University of Nairobi, currently pursuing a Master's degree in project management. As part of the academic requirements for the successful completion of my degree, I am required to conduct and submit a research project. The focus of my research project is centered on the "*influence of project management practices on road maintenance projects performance in Kenya: the case of Rongai/Kajiado road*," with a specific emphasis on the Rongai/Kajiado Road Maintenance Project. I would like to kindly request your assistance in participating by completing the attached questionnaire. Your valuable insights and experiences related to the Rongai/Kajiado Road Maintenance Project will significantly contribute to the success of this academic study. Please be assured that all your responses will be used exclusively for the purpose of this research, and your identity and personal information will be handled with the utmost confidentiality. I appreciate your cooperation and willingness to participate in this research endeavor. Thank you for your support.

Yours Sincerely,

Jeremiah Nyabuto Manyinsa

L50/39427/2021

Appendix II: Questionnaire to the Respondents

SECTION A: General Information

Put a tick (✓) in the brackets for the option most applicable for you.

1. Please indicate your gender.
 - a. Male [] Female []
2. What is your age?
20-30 [], 30-40 [], 40-50 [], 50-60 [], 60 and above []
3. How long have you worked at Rongai/Kajiado Road Maintenance Project?
 - a. Less than 5 years [] 6 to 10 years []
 - b. 10 to 15 years [] 15 and above years []
4. What is your highest level of academic qualification?
KCSE [] Diploma [] Bachelors (1st Degree) [] Masters [] PhD []

SECTION B: PROJECT MANAGEMENT PRACTICES ON PERFORMANCE

In this section, and the subsequent sections, kindly indicate to what extent you agree with the following statements on the influence of project management practices on performance of road maintenance projects at Rongai/Kajiado road maintenance project. Using 1-5-point likert scale where 1 = Strongly disagree (SD), 2 = Disagree (D), 3 = Undecided, 4 = Agree (A), and 5 = Strongly agree (SA).

| SN | Statements | 1 | 2 | 3 | 4 | 5 |
|----|--|---|---|---|---|---|
| 1 | Project managers ensures the project deliverables meet the planned quality standards | | | | | |
| 2 | The institution has integrated project assurance processes in the project plan to ensure successful performance of road maintenance projects | | | | | |
| 3 | Projects are completed within the set budgets. | | | | | |
| 4 | The organisation ensures that projects are completed within the time set. | | | | | |
| 5 | The success of service performance through customer satisfaction is critical in project performance. | | | | | |

SECTION C: PROJECT RESOURCE MOBILIZATION

| SN | Statements | 1 | 2 | 3 | 4 | 5 |
|-----------|--|----------|----------|----------|----------|----------|
| 6 | Fund's availability drives successful influence of project management practices on performance | | | | | |
| 7 | Proper budgeting and costing helps easy the performance of road maintenance | | | | | |
| 8 | There is a relationship between return on equity and influence of project management practices | | | | | |
| 9 | Project managers negotiate for better terms for project financing. | | | | | |
| 10 | The type of financing determines how fast the project performance of road maintenance will be. | | | | | |

SECTION D – TEAM WORK

| SN | Statements | 1 | 2 | 3 | 4 | 5 |
|-----------|--|----------|----------|----------|----------|----------|
| 11 | Guidelines and behaviors lead to improved performance of road maintenance projects capabilities | | | | | |
| 12 | The team roles and practices of an institution lead to better performance of road maintenance projects | | | | | |
| 13 | Team interactions enhances performance of road maintenance projects. | | | | | |
| 14 | Project managers have set in place procedures for team execution. | | | | | |
| 15 | Team work and transparency ensures timely completion of road maintenance projects. | | | | | |

SECTION E: PROJECT COMMUNICATION FRAMEWORK

| SN | Statements | 1 | 2 | 3 | 4 | 5 |
|-----------|-------------------|----------|----------|----------|----------|----------|
|-----------|-------------------|----------|----------|----------|----------|----------|

| | | | | | | |
|----|---|--|--|--|--|--|
| 16 | Leaders at Rongai/Kajiado Road keep stakeholders informed about the strategies formulated and activities happening in the institution | | | | | |
| 17 | At Rongai/Kajiado Road, there is efficient and effective communication of strategy to all within and outside of the institution | | | | | |
| 18 | There is a positive, long term relationship among a project's stakeholders through effective communication | | | | | |
| 19 | Project management has elaborate framework for project communication. | | | | | |
| 20 | Good communication strategy ensures smooth management of stakeholders within Rongai/Kajiado Road projects | | | | | |

SECTION F: PROJECT RISKS MANAGEMENT

| SN | Statements | 1 | 2 | 3 | 4 | 5 |
|-----------|--|----------|----------|----------|----------|----------|
| 21 | Institutions chain of command helps in achieving effective performance of road projects | | | | | |
| 22 | Project managers effective planning reduces risk implementing the formulated strategies on the performance of road maintenance projects. | | | | | |
| 23 | Project management has adequate policies that guides project risk management. | | | | | |
| 24 | Project management identifies risk before commencement of projects. | | | | | |
| 25 | There is cooperation among project stakeholders in project risk management. | | | | | |

Thank You for Your Cooperation

Appendix III : University Introduction Letter



UNIVERSITY OF NAIROBI FACULTY OF BUSINESS AND MANAGEMENT SCIENCES OFFICE OF THE DEAN

Telegrams: "Varsity",
Telephone: 020 491 0000
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Mobile: 254-724-200311

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Website: business.uonbi.ac.ke

Our Ref: **L50/39427/2021**

December 22, 2022

National Commission for Science, Technology and Innovation
NACOSTI Headquarters
Upper Kabete, Off Waiyaki Way
P. O. Box 30623- 00100
NAIROBI


RE: INTRODUCTION LETTER: JEREMIAH NYABUTO MANYINSA

The above named is a registered Masters of Arts in Project Planning and Management candidate at the University of Nairobi, Faculty of Business and Management Sciences. He is conducting research on ***"Influence of Project Management Practices on the Performance of Road Rehabilitation Projects In Kenya: A Case Of Rongai/Kajiado Road Rehabilitation Project."***

The purpose of this letter is to kindly request you to assist and facilitate the student with necessary data which forms an integral part of the Project.

The information and data required is needed for academic purposes only and will be treated in **Strict-Confidence**.

Your co-operation will be highly appreciated.




PROF. JAMES NJIHIA
DEAN, FACULTY OF BUSINESS AND MANAGEMENT SCIENCES

Appendix IV : Research Permit

REPUBLIC OF KENYA
NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Ref No: 813637

RESEARCH LICENSE



This is to Certify that Mr. JEREMIAH NYABUTO MANYINSA of University of Nairobi, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Kajiao on the topic: Influence of Project Management Practices on the Performance of Road Rehabilitation Projects In Kenya: A Case Of Rongai/Kajiao Road - Rehabilitation Project, for the period ending : 09/January/2024.

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Applicant Identification Number

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Director General
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See overleaf for conditions

Appendix V : Antiplagiarism Report

INFLUENCE OF PROJECT MANAGEMENT PRACTICES ON ROAD MAINTENANCE PROJECTS PERFORMANCE IN KENYA: THE CASE OF RONGAI/KAJIADO ROAD

ORIGINALITY REPORT



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