PROJECT LIFE CYCLE MANAGEMENT AND PERFORMANCE OF INFRASTRUCTURE CONSTRUCTION PROJECTS IN SECONDARY SCHOOLS IN WEST POKOT COUNTY, KENYA

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A RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF BUSINESS, ECONOMICS AND TOURISM IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF MASTER BUSINESS ADMINISTRATION (PROJECT MANAGEMENT) OF KENYATTA UNIVERSITY

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DECLARATION

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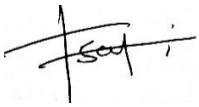
Signed…  Date ……..

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This research project has been submitted for examination with my approval as the university supervisor.

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DEDICATION

This research project is dedicated to my devoted family in appreciation of their unwavering love, tolerance, and endurance. They endured a lot because classwork took up a lot of their time when I was in school. May God keep blessing them.

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I would like to direct my appreciation to the following people who assisted me with this research project: Ms. Gladys Kimutai, my project supervisor, for her insightful recommendations. My friends and classmates owe me a huge debt of appreciation for their intelligent remarks and recommendations, as well as their reassurance and motivation throughout my studies. I also appreciate the respondents for their collaboration during the collection of data process. My gratitude goes to every one of the people named above.

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ABBREVIATIONS AND ACRONYMS

BOM	Board of Management
CDF	Constituency Development Fund
KURA	Kenya Urban Roads Authority
LCM	Life Cycle Management
M&E	Monitoring and Evaluation
MOE	Ministry of Education
NACOSTI	National Commission for Science, Technology and Innovation
ICT	Information and Communication Technology
PLC	Project Life Cycle
PTA	Parents and Teacher Association
KENHA	The Kenya National Highways Authority
ROI	Return on Investment
SAIP	Sustainable Agricultural Intensification and Food Security Project
SD	Sustainable Development
PMBOK	Project Management Body of Knowledge

OPERATIONAL DEFINITION OF TERMS

Monitoring and evaluation: Denotes the function of ongoing management to determine whether the desired results are being attained. It involves finance and quality monitoring, project tracking and project team monitoring.

Project closure: It refers to the crucial final step of the project management lifecycle. It encompasses performance analysis, team performance analysis, and budget compliance analysis and project closure documentation.

Project implementation: This refers to the stage where project ideas and intentions come to fruition. It involves task creation, workflow organization, managing budget, and team organization

Project initiation: It refers to the project start phase. It covers, project feasibility, scope identification, stakeholder's identification and project donor's identification.

Project planning: It refers to project stage phase that involves the following activities: project plan creation, workflow creation, collecting resources and organizing teams.

School project performance: Decribes the satisfaction extent with the school infrastructure projects in terms of whether it achieved the expected result or not. It involves the following aspects of being on budget meeting schedule expectation, adhering to quality and scope, and user satisfaction.

ABSTRACT

Vision 2030 adopted by Kenya demonstrates the country's dedication to training and education. The training and education system is singled out as a vehicle to propel Kenya's attempts to become a higher-income economy in its Social Pillar. The research's main goal was to investigate project life cycle management alongside the performance of infrastructure projects in secondary schools in West Pokot County, Kenya. The studys' objectives were; to evaluate the effect of project initiation on the performance of school infrastructure construction Projects in West Pokot County, Kenya, to investigate the effect of project planning on the performance of school Infrastructure Construction Projects in West Pokot County, Kenya, to establish the effect of project implementation strategies on the performance of school Infrastructure Construction Projects in West Pokot County, Kenya, to examine the effect of monitoring and evaluation on the performance of school Infrastructure Construction Projects in West Pokot County, Kenya and to assess the impact of project closure on the performance of school Infrastructure construction Projects in West Pokot County, Kenya. The research was based on competency theory and the theory of constraints in project management. Explanatory as well as descriptive research designs were adopted during the investigation. Thirty-two public secondary schools in West Pokot County that have active building projects and those that had recently finished their projects within the last five years (2016-2021) were focussed in this study. The study targeted principals/head teachers, BOM members, technical staff, and PTA chairpersons from the 32 schools. The study sampled 167 individuals in total. The study used both census and simple random sampling. The research used drop-and-pick method. Version 25.0 of SPSS coded the data obtained. Main outcome of the research indicates that; initiation of project activities, planning of projects, project implementation, evaluation and and monitoring, and closure of projects do affect project performance. In terms of hypothesis testing, all null hypotheses were rejected as the *p* values were <0.05 as follows; project initiation ($\beta=0.412$, $p<0.05$), project planning ($\beta=0.330$, $p<0.05$), project implementation ($\beta=0.248$, $p<0.05$), monitoring and evaluation ($\beta=0.174$, $p<0.05$) and project closure ($\beta=0.146$, $p<0.05$). Research concluded that project life cycle influences performance of infrastructure construction projects in secondary schools in West Pokot County, Kenya. Research recommendation is that; In terms of project initiation, effective strategies should be used. Further, research suggests that there ought to be effective planning that is done about all the relevant areas of the project that are crucial for success. Better practices to ensure smooth implementation should be adopted. In monitoring and evaluating terms of the performance of infrastructure construction projects, reliable M&E measures should be adopted. Regarding project closure, the school management should ensure that there is effective performance analysis, budget compliance analysis alongside project documentation

CHAPTER ONE

INTRODUCTION

1.1 Study' Background

Performance denotes a broad phrase that refers to how well-defined objectives are met within a specific time frame (Demirkesen & Ozorhon, 2017). Actual results are compared to the projected outcomes of the formulated plans and goals. Performance might be weighed in both monetary and nonmonetary terms. The evaluation of projects based on the quality, completion time, and also conformity to budgetary estimates and provisions is known as project performance (Sabahi & Parast, 2020). Each partner agrees on these deliverables at the beginning of the project, which will be examined and tracked while the project develops to take note of any deviations. When the project's actual deliverables match the one that was expected, the project is said to be functioning well. The sophistication, size, and importance of projects vary, resulting in different performance evaluation criteria (Kabirifar & Mojtahedi, 2019).

In most scenarios, the growth of a nation is pegged on the construction sector. Growth of infrastructural facilities, like buildings, bridges, and roads, can be used to gauge a country's economic progress in numerous ways (George, 2023). To cope with initiating, planning, funding, designing, authorizing, implementing, and completing a project, a more sophisticated methodology is required as construction becomes more complex. The construction industry is complicated because there are so many different parties involved, including owners (clients), contractors, professionals, stakeholders, and regulators (Wethal, 2019). Notwithstanding its complexities, the sector is vital to the advancement and fulfilment of societal goals. It is one of the most important sectors, accounting for 10% of the development fund in developed countries (Ogwang & Vanclay, 2021).

The development of a country is significantly influenced by the performance of its infrastructure because of the direct and indirect advantages it provides for economic expansion (Timilsina, Hochman & Song, 2020). As shown in a World Bank-sponsored study by Li, Liu, and Peng (2018), infrastructure performance fosters economic growth in three ways: infrastructure reduces production costs explicitly or implicitly, infrastructure induces structural reform that impacts consumption and production patterns and adds new income sources and higher levels of income. Because the current

market is characterized by growing competition and ever-changing specific goals based on consumer anticipations and demand, a company must develop unique competitive methods and start producing goods and services to satisfy and exceed these requirements and preferences while performing as intended (Sun, Ajaz & Razzaq, 2022).

Globally, project life cycle and management is key. The top reasons for building management delays in Saudi Arabia, according to Abdeldayem, Aldulaimi and Kharabsheh (2021) are owner progress payment delays, owner change orders all through construction, limited labor, poor project planning by the contractor, and inadequate site administration by the contractor. Project life cycle and performance of projects have been studied globally. On the other hand, in Thailand, according to Chaveesuk, Khalid, and Chaiyasoonthorn (2020), lack of consistency in design, lack of contractor experience and control over project, insufficient experience of personnel, lack of qualified subcontractors/suppliers, and unachievable project schedules are major hindrances in construction project management.

In Africa, some studies have been done regarding the life cycle and project performance. Nigerians' landscape of the construction industry, in particular the development of infrastructure, was examined by Unegbu et al. (2022). The study concludes that, given its remarkable performance, Nigeria's construction infrastructure sector remains a significant driver of the country's commercial growth. A close relationship between the infrastructure sector and the economy highlights how crucial it is to plan projects economically and develop projects that will benefit the economy. Understanding and successfully managing the life cycle of a project, which includes phases like instigation, preparation, accomplishment, monitoring, and project closing is essential for accomplishing projects in South Africa, according to Kabirifar and Mojtahedi (2019). This is especially true for industries like construction.

Regionally, research by Muzaale and Auriacombe (2018) in Uganda found that a number of institutional characteristics have a direct impact on how well road infrastructure projects work. Also, it was discovered that time overruns led to more time being spent on the project site, which increased operating cost. The study therefore concluded that payments to contractors needs to be carefully planned and implementing suitable risk-mitigation measures against potential hazards, including, among others, political interference, delayed fund disbursement by external funders, delayed

authorization of contractors' payments, and financial misappropriation by employers. In their discussion of the water aid project in Rwanda, Mutanguha and Kamuhanda (2021) pointed out the different ways that the project's start affected its outcome. In this regard, it was observed that community involvement at the project's inception was crucial to enhancing project performance in terms of sustainability. Thus, it was observed that a project initiation segment of the lifecycle affected the project sustainability, which in turn affected the project performance.

As part of its national development goal, Kenya's government undertakes a number of public construction projects. Kenya's Vision 2030 envisions a well-functioning infrastructure that will propel all other sectors of the economy toward long-term prosperity (Kenya vision 2030). Consequently, the construction sector is essential to achieving this goal. Despite the significant expansion seen in Kenya's building industry over the years, the amount ascribed to the public sector is negligible and fraught with difficulties. As a result of these obstacles, initiatives are delayed, abandoned, or come at an exorbitant cost.

According to Madey and Chege (2022), the involvement of important stakeholders in the identification phase, timing, delivery, surveillance, and analysis has a major influence on the successful completion of projects in Mandera County. Furthermore, Matu et al. (2020) evaluated the role of stakeholders in the course of project initiation to successfully finish the construction of urban transportation systems in Kenya. According to the study, involvement in project initiation had a favorable impact on Kenya's urban road transportation improvements' completion. To enhance project's effective implementation and completion, the study suggested creating an arrangement of policies to educate stakeholders about their involvement in project initiation, architecture, and development.

1.1.1 Project Performance

Project management processes, according to Assaad et al. (2020). are critical for enhancing the realization of a project, hence identification of essential factors related to performance and to fully comprehend their interrelationships in order to develop strategies for improving project performance. Projects can take a variety of time spans, according to Onalaja, Cheung, and Samwinga (2018), depending on the planned timelines. Projects involve the development of a well-defined team, led by the

consultant, to aid in the coordination of the numerous operations that must be completed. Projects are carried out by businesses in order to attain specific objectives. The bulk of the projects, for example, will include the building of new facilities and the renovation or upgrade of existing facilities as part of the performance measurement process.

Performance, according to Ogwang and Vanclay (2021), is a wide term that relates to how successfully established objectives are met within a given time frame. Actual results are compared to the corresponding outcomes of the planned and set objectives. Organizations exist to achieve specific goals that define success. Both financial and nonfinancial metrics can be used to assess performance. In the evaluation of financial performance, return on asset and equity matrics are used. Customer happiness, efficiency, and effectiveness, on the other hand, are examples of non-financial performance measures (Gichamba & Kithinji, 2019).

The evaluation of projects in relationships of quality, accomplishment period, and conformity to monetary requirements and guesstimates is known as project performance. Each stakeholder accepts the outputs at the beginning of the project, and they will be reviewed and tracked as the project develops to identify any differences (Hilorme et al., 2019). The project is deemed to be running properly when the actual outputs match one that was expected. The complexity, size, and value of projects vary, resulting in a wide range of performance evaluation standards. Project success may be measured using a number of structures that are short & long, and long-term intents and objectives, demonstrating that success of a project can be evaluated using a number of conceptions (Hilorme et al., 2019).

Other frameworks that are used in evaluating performance of projects include the efficiency that is incorporated (the project team's capability to have the project completed within the specified budgets and schedules), company growth, and the end product (Su & Khallaf, 2022). Project completion within stated timeframes and budgets, as well as the satisfaction of customer and other stakeholder needs, have all been used to gauge project success globally. Additionally, Su and Khallaf (2022) states that successeces of projects can be assessed on its efficiency (expenses, specifications, and timeliness) as well as effectiveness (as judged by stakeholder and project team satisfaction).

Deliverables, scheduling, and timeframes, as well as roles and duties, are all discussed during project planning. Any potential risks or bottlenecks must be considered by the project manager during the planning stage. These early decisions can help avoid future problems from detracting from the project's overall performance, or even leading it to fail (Zhu & Mostafavi, 2017). Too little planning results in a lot of administrative duties and little time for creative activities, while too much planning results in a lot of administration tasks and insufficient time for creative pursuits. Finally, project management's planning phase impacts how rapidly projects progress through its life cycle (Kerzner, 2017).

The drive of project accomplishment is really to put the strategy that has already been devised into action. It comprises carrying out all the scheduled actions from the preceding project cycle processes. Project operations are carried out in line with specified plans, sequences, and processes to suit project's needs. Approval of the management plan, the establishment of the team, the production of deliverables, and the construction of communication channels are just a few of the activities that take place at this stage (Kabirifar & Mojtahedi, 2019).

Depending on the circumstances, projects may be completed effectively or prematurely (Assaad et al., 2020). A project might be cancelled for a assortment of reasons, including political, logistical, unforeseen circumstances, or business issues. A project is considered closed after it has been completed as well as the objectives have been met, possibly with some scope, shifts in schedule and budget (Assaad et al., 2020). Due to a lack of finance, a decreased scope, a withdrawal of top management, a negative effects regarding the cost, a bad return on investment (ROI), a change in organizational objectives, or a natural calamity, some projects may be cancelled early. Political instability, legislative changes, technology obsolescence, competitive dynamics, and a greater priority if rival efforts or intellectual property issues force the closure of some projects are all factors to consider (Ingle & Mahesh, 2020).

The study used the following as measures of performance, being within budget, on schedule, adhering to quality standards within the scope and customer satisfaction

1.1.2 Project Life Cycle Management

Life Cycle Management (LCM) concept was created for space programs in the 1960s and early 1970s (Wuni & Shen, 2020). The LCM process was initially introduced in

Europe in 1990, and it quickly gained traction in the construction sector around the world, where it was utilized to improve project delivery. Whereby completion of a project is due on schedule, on budget plus with good standard, it is said to be delivered (Wuni & Shen, 2020). LCM is a project management method embraced across construction sector to boost delivery of projects. LCM, according to Kaewunruen, Sresakoolchai, and Zhou (2020), is divided into four phases: initiation, planning, implementation, and closure. The complete construction process hinges on proper commencement. Identifying need, establishing project size, completing the survey, and approving finance proposals are all part of the early process.

Project Life Cycle is broken down into four steps. Initiation is the first step. This step aids in visualizing what needs to be done. The client has given their approval to the project, the initial scope has been determined, and the stakeholders have been identified (Jin, Zhong, Ma, Hashemi and Ding, 2019). It is necessary to analyze an investment before deciding whether or not to proceed with it. Other project initiation phase tasks include deriving an organization that will start the investment, determining which organization to begin the investment with, and assigning an investment manager and project or program team to the project or the program. This procedure begins with the discovery of the need or an opportunity for growth and ends with the assignment of a project to an experienced project manager. Project Initiation is the project start phase includes duties such as problem creation, investment analysis, understanding stakeholder perspectives, investment decisions, and project description (Yemini, Oplatka & Sagie, 2018). Additionally, Wood, LeRouge, Tulu and Tan (2020) in their study noted that project initiation stage involves the following activities project feasibility, scope identification, stakeholders' identification and project donors' identification.

The second step of project management entails project planning. This is a step that is key when it comes to the planning of all the factors that are needed. The stage ensures that the stakeholders can understand how the project is to be implemented. There is the documentation of the team and the deliverables as well as the scheduling of all the activities (Yemini, Oplatka & Sagie, 2018).

Execution is the third stage. The project cycle's execution phase is when the plan created in the preceding stage is implemented. The goal in the project's executing stage's is to achieve project's desired outcomes (Lin et al., 2018). Some of the indicators that have

been used to measure project planning by previous studies include project plan creation, workflow creation, collecting resources and organizing teams (Butt et al., 2021; Burgelman & Vanhoucke, 2018; Matu et al., 2020).

The third stage of PLC is implementation. Implementing a project entails executing the actions detailed as per the form of application with intention of attaining the project goals and realizing outcomes and outputs as specified. Its ability to succeed is dependent on a variety of conditions. Among the most important of these are a well-structured team of professionals and effective tracking of how the project is going and associated costs (Mahmud, Ramayah & Kurnia, 2017). Samonova and Pavlov (2018) in their study used tasks creation, workflow organization and managing budget and team organization as some of the key factors that are used when implementing construction activities.

The M&E is the fourth stage. Ongoing project monitoring usually focuses on current affairs. Monitoring data is widely used by managers to keep tabs on topics like project outcomes, budgets, and procedure compliance (Callistus & Clinton, 2018). Evaluation of projects is the process of determining if the project has met its goals. By making conclusions, the evaluation hopes to offer suggestions for improving the project's future direction as well as lessons gained for future projects. When evaluating large businesses, some employ specific criteria. The most commonly applied evaluation criteria are impact, effectiveness and efficiency, but relevance and sustainability are frequently included as well. Quality control, project tracking, and project team monitoring are some of the indicators employed (Kihuha, 2018).

Project conclusion is the last stage in PLC. The project is officially closed at this point, and the sponsor gets a summary of the initiative's ultimate effectiveness (Lin, 2018). The study done by Edwards and Maritz (2019) indicates that some components that are assessed during project closure include performance analysis, team performance analysis, budget compliance analysis and project closure documentation.

1.1.3 Construction Projects in Schools in West Pokot County

The county of West Pokot is within Rift Valley's northern portion. Rugged landscape, steep hills, and arid river valleys characterize the area. The county faces significant development difficulty due to the tough physical conditions. Not only are the project regions nearly inaccessible due to poor road networks and boulder-filled riverbeds, but

seasonal rivers that flood during rains make moving from one project site to another extremely difficult. Furthermore, there are no bridges to span the numerous rivers that crisscross the region.

Among the secondary school infrastructure investments in the County are the creation of laboratories, the Kenya School Equipment Scheme, dining facilities, classes, computer rooms, research labs, dormitory building, sanitary facilities, and water collection and supply (Boswony, 2020). Charitable organizations and the Kenyan government, including national and local governments, are funding these school infrastructure initiatives.

The study looks at infrastructure projects within the school like hostels, modern class facilities, libraries among others and laboratories. West Pokot has also been chosen for the study because, per Mokaya and Samuel's (2021) findings, a number of school infrastructure projects are being carried out there. Additionally, there is limited literature on the effect of project life cycle and construction infrastructure performance in Kenya's West Pokot County secondary schools.

1.2 Statement of the Problem

Vision 2030 adopted by Kenya demonstrates the country's dedication to training and education. The training and education system is singled out as a vehicle to propel Kenya's attempts to become a higher-income economy in its Social Pillar. Education has been documented as a key priority in the nation's five-year Medium-Term Plans, and public education spending has been maintained at close to 6% of the budgetary allocation (MOE, 2018).

In West Pokot, to improve access, quality, and equity of education, the National Government is working hard to ensure that there is initiation of various school-based projects within the secondary schools (Wamui, 2019). However, some challenges are faced when it comes to projects such as the presence of stalled school laboratories, dormitories, and classrooms, among others. Some of the issues that have been found to cause the stalled school projects include poor funds management, insecurity in the region and lack of sufficient government help and in some of the cases there is conflict of interest among the stakeholders (Wekesa & Ongunya, 2016). A study done by Chesitit (2015) noted that ICT related projects in secondary schools in West Pokot face challenges in terms of implementation such as lack of funds indicating poor project

initiation stage analysis in terms of donor identification and the study concluded that about 23% of the projects are completed on time. Morogo and Saina (2019) indicated that most secondary school projects face challenges due to issues related to insecurity which indicated that about 86% of the projects are always stalled for many years. Chepkonga (2018) found out that lack of enough land has led to stalling of some of the school-based projects at a rate of 63%. On the other hand, Chepkonga (2021) found out that stalled school projects affect the quality of secondary school education in West Pokot.

There are gaps that have been identified from the studies that have been done in West Pokot. The first challenge is that the studies have not been done directly in terms of PLC and project performance but as an overview of factors such as effects of funds on project completion. Secondly, the studies that have been captured have not studied all the steps involved in the PLC and thus indicating the need for the current study (Chepkonga, 2021; Morogo & Saina, 2019; Chepkonga, 2021). Thirdly, there was need for thus study in order to eliminate the conceptual problem linked to the aspect of project life cycle management based on the five cycle steps which were no elaborated well in previous studies. Lastly, while most of the studies that were captured were case and descriptive studies, this study also employs both explanatory and descriptive method of research designs. Thus, the study investigated project life cycle management and the performance of infrastructure construction projects in secondary schools in West Pokot County in Kenya.

1.3 Research Objectives

1.3.1 Main Objective

Research's main aim was investigating project life cycle management and the performance of infrastructure construction projects in secondary schools in West Pokot County of Kenya.

1.3.2 Specific Objective

This research's specific objectives were: -

i. To evaluate the effect of project initiation on the performance of school infrastructure construction Projects in West Pokot County, Kenya.

ii. To investigate the effect of project planning on the performance of school Infrastructure Construction Projects in West Pokot County, Kenya.

iii. To establish the effect of project implementation strategies on the performance of school Infrastructure Construction Projects in West Pokot County, Kenya

iv. To examine the effect of monitoring and evaluation on the performance of school Infrastructure Construction Projects in West Pokot County, Kenya.

v. To assess the impact of project closure on the performance of school Infrastructure construction Projects in West Pokot County, Kenya.

1.4 Research Questions

This learning was steered by the hypothesis as follows;

i. What is the effect of project initiation on the performance of school infrastructure construction Projects in West Pokot County, Kenya?

ii. To what extent does project planning affect the performance of school Infrastructure Construction Projects in West Pokot County, Kenya?

iii. In what way do project implementation strategies affect the performance of school Infrastructure construction Projects in West Pokot County, Kenya?

iv. What is the outcome of evaluation and monitoring on the performance of school Infrastructure Construction Projects in West Pokot County, Kenya?

v. How does the closure of a project impact the performance of school Infrastructure construction Projects in West Pokot County, Kenya?

1.5 Studys'Significance

Findings from the research are of assistance for the Ministry of Education (MOE) for the fact that is has given suggestions on how to improve project life cycle phases that will provide for effective and efficient management of the secondary schools projects from initiation to closure.

Secondly, this study also suggests areas for future research that can guide scholars and add to published knowledge while also assisting policymakers in the life cycle management of a project, which determines timely accomplishment of school infrastructure construction.

Thirdly, the study recommendations are expected to be beneficial to the secondary school projects management within West Pokot County. This is because the study highlights the challenges faced in terms of as well as recommendations aimed at eliminating barriers.

1.6 Scope of the Study

This learning explored project life cycle management and the performance of infrastructure construction projects in secondary schools in West Pokot County, Kenya. Research only assessed five project variables: initiation, planning, monitoring and evaluation, implementation strategies, and closure. The study applied the following theories: Project Scheduling Theory, Project Management Competency Theory, and Theory of Constraints. Tehe study targetd 32 public secondary schools that were located in West Pokot County. The investigation was carried out in thirty-two Secondary schools in West Pokot County. The investigation used descriptive and explanatory research designs. The investigation was conducted in September and October 2023.

1.7 Assumptions of the study

First assumption taken was that the population was large enough to generate accurate and thorough questionnaire replies. Second, the investigation was to be done within the specified time frame, with the resources available or provided. Third, project managers and contractors had adequate skills and tools for project management processes. Fourthly, participants were willing to react and honest in their responses. Finally, the school's administration had first-hand knowledge of how construction projects were carried out.

1.8 Study Limitation

Numerous limitations were expected to be present in the research. First of all, respondents might be reluctant to divulge the necessary data out of concern that they will violate their employers' privacy-related contract of employment. In order to address this, the researcher included a preliminary letter outlining the objectives of the study from Kenyatta University. The research request for permission that was sent to

NACOSTI also included a description of the study's objectives and ethical considerations, including confidentiality and privacy. Additionally, the investigator had no influence over the information given because the questionnaire served as the primary instrument for the collection of data. This was lessened, though, by properly sorting the questionnaires so that only those that were completely filled out were chosen for additional processing.

1.9 Organization of the Research

Preliminary pages of this research report include a declaration, dedication, recognition, abstract, abbreviations, and acronyms. The backdrop study, study goals, study questions, the significance of investigation, limitation, and scope of investigation are covered in the first chapter. The study's theoretical underpinnings and conceptual model, review of literature, and research on the matter under study are included in the second chapter. Techniques and steps to be employed for data gathering and analysis are tabled in the Third chapter. The findings from demographics, descriptive results according to the objective, and inferential analysis are presented in Chapter 4, and the final chapter includes a summary, conclusion, and recommendations from the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The second chapter of this research captures the theoretical review and the review of literature that have been done aligning with the objectives that are used in present research. The gaps and summaries that have been identified in the literature review are presented in this part. Lastly, the conceptual framework is captured in this segment.

2.2 Theoretical Review

The following philosophies are covered in this section; Project Scheduling Theory, Project Management Competency Theory, and Theory of Constraints.

2.2.1 Project Management Competency Theory

McBer and Mclelland put forth this concept in mid 1980s. These authors define competence as a personality's natural qualities that result in exceptional performance in a task or environment. In the construction project capacity development scope, competence is described as an amalgam of interrelated attitudes, talents, skills, and other human traits that influence a personality's ability to accomplish a chore. Competence is a prerequisite for success in a project and can be enhanced through personnel education and acquiring knowledge (PMI, 2011).

The theory looks at project management abilities, development project monitoring and assessment, and teams' influence on the dynamics of performance of massive infrastructure. According to Gladder (2010), technical project managers must use the tools, knowledge, competencies and procedures successfully for timely delivery, satisfy the goals of the project, and minimize overall price, scheduling, and work. The analysis found that two of the most significant standards, the PMBOK and the Australian National Competency Standards, are entirely concerned with knowledge, while the third, the PMBOK, is concerned with demonstrated performance. According to the poll, some project managers lack the essential experience to oversee road construction works.

Those in charge of projects should be able to choose from a variety of management strategies and technology to improve infrastructure project performance, according to Garish and Huemann (2014). According to the research, highly skilled project managers

can successfully employ a variety of approaches to a variety of projects to increase project performance (Edum-Fotwe, 2011). Outcome is that businesses increasingly organizing of infrastructure works to ensure that project is executed consistently by personnel having the relevant expertise. The competencies that is involved when it comes to the members of the team are supposed to be evaluated and then kept for future reference as par (Kometa, 2013).

The fact that McClelland and McBer's Project Management Competency Theory fails to adequately take into consideration the contextual nature of project management is one of its main criticisms. The theory frequently emphasizes general competencies that apply to a widespread range of industries and project types. The skills needed for project management, however, differ greatly depending on the industry (e.g., construction, IT, healthcare) and project type (e.g., agile vs. waterfall, small vs. large projects) (Hoffarth, 2020). The competency theory of McClelland and McBer has come under fire for emphasizing technical knowledge and hard skills like risk management, budgeting, and planning. While these are certainly important, managing stakeholder relationships, leading diverse teams, and addressing project challenges all depend on soft skills like communication, leadership, negotiation, and adaptability, which are also crucial in modern project management (Hoffarth, 2020).

The concept is pertinent to present research as it elucidates practical, cognitive, and situational expertise needed to complete secondary education projects within the timeline, on budget, and to the appropriate standard. During the development of infrastructure projects, the idea also highlights the significance of supervising and promoting teamwork and efficiency. The theory relates to all the study objectives as it is necessary for understanding each phase and the life cycle in a project has to be managed to complete the task within time and under budget while maintaining the desired quality.

2.2.2 Theory of Constraints (TOC)

In the book 'The Goal,' Goldratt (1990) proposed the theory. Jacob and McClellard (2001) argue that the majority of the projects are challenging to succeed because of the presence of ambiguity and other obligations such as schedule, scope, and budget. In project management, the capacity to handle these three conditions has become a criterion for project success. This concept has been used in non-profit organizations, as

well as production planning, supervision, project planning, and performance analysis (Blackstone, 2010). The notion of constraints lies in the fact that the systems only have one restriction that stops them from accomplishing more of their goals.

Recognize the system's constraint, determine how to utilize the system restrictions, everything based on the decision made, enhance the constraints, and if a limitation has been overcome in the previous stages, go back to the very first step and don't let stagnation create a system's restrictions (Rand, 2000). Project managers must be constantly on the lookout for crucial barriers as well as chances that are there to remove or mitigate them in order to ensure project success. The restriction must be established and the entire system must be controlled with the constraint in mind for any system to improve significantly.

The theory of constraints helps in the identification of the most substantial bottleneck in processes and the development of systems to improve performance (Tulasi & Rao, 2012). Therefore, those managing projects are supposed to know and deal with the limitations throughout the project, aiming to lower degree of complexity and ambiguity to lessen delay risk, cost overruns, poor quality and the scope creep. If one wants to get the most out of the entire system, the key to project success is to manage these constraints and the system as it comes into contact with them (Tulasi & Rao, 2012). This context explains why this idea was chosen as a basis for this research.

Removing the primary restrictions, according to Parker, Nixon, and Harrington (2012), frees up significant capacity and eliminates needless expenses. According to the gap model as a continuous improvement process, project leaders are required to identify constraints at every phase of a building and adopt steps to alleviate these constraints. The theory of limitations supports all the variables of start, plan, execute, and close, as well as its aid to the improvement of secondary school infrastructure projects in Kenya.

The Theory of Constraints (TOC) has a number of drawbacks, despite its usefulness in streamlining procedures and enhancing system performance (Mabin & Balderstone, 2020). Its potential rigidity in complex environments, its narrow focus on a single constraint, its disregard for human and external factors, and its emphasis on operational efficiency at the expense of more expansive strategic goals are some of these. However, TOC can be a potent tool for process improvement and overcoming organizational

bottlenecks when used carefully and modified for various contexts (Mabin & Balderstone, 2020).

The theory is linked to all the study objectives. Research into the utilization of TOC across the project life cycle provided valuable intuitions into the effectiveness of TOC principles in the real-world of management of projects. Additionally, by adopting TOC, the study established ways to improve school project management practices and increase the likelihood of successful project delivery through the recommendations that were given.

2.2.3 Project Scheduling Theory

Scheduling project activities by priority and/or resource limitations is known as project scheduling (Herroelen, 2005). According to Goldratt (1997), project scheduling practices are irrelevant since they have very little effect on project lead times in any given scenario. Herroelen and Leus (2005) debunk common myths regarding project scheduling in environments with limited resources. They contend that the logic presented above leads the reader to believe that finding the most effective process for resolving resource conflicts is impractical and has little bearing on the estimated duration of the project. There may be schedule delays for school projects. As per Callahan et al. (2006), a delay in construction claims is the period that a portion of the project has been postponed or not started because of an unforeseen circumstance. This might force the project to be rescheduled, which would cause delays in the project's completion date.

While project scheduling theory has been instrumental in advancing the field of project management, it is not without criticisms (Sarkar, Jha & Patel, 2021). These theory often oversimplify project complexity, struggle with uncertainty, and fail to account for human factors and resource constraints. However, with proper adaptation and integration of newer methods, such as Agile, Lean, and Resource-Constrained Scheduling, project scheduling theories can remain effective tools in managing projects successfully in an ever-evolving and dynamic environment (Sarkar et al., 2021).

In relation to this study project life cycle management is done to ascertain that projects that are currently handled are within the timeline that was planned. Additionally, the theory was adopeted as it reflected on the overall study objectives. Through the study applying the principles of scheduling theory such as resource leveling and risk

management as pert of the issues under investigation, the study was ableo to understand how project managers can optimize project timelines, resource allocation, and overall project success when it comes to school construction projects through all the phases involved.

2.3 Empirical Review

2.3.1 Effects of the Process of Initiation on the Performance of a Project

Hussein (2019) explored the relationship between variables associated with project success in Norway and the project initiation process. The study was based on an examination of 21 project incidents from various Norwegian companies.The study samples 120 individuals. The findings of the study shows that there were success features from the projects that were linked to concepts pf trust, openness as well as motivation that was being created from the initiation stage of the project. The study's location gap stems from the fact that it was not conducted in Kenya.

Kanyesigye and Njenga (2023) assessed how in Rwanda energy infrastructure projects are affected by project initiation activities. The study sampled 124 individuals. The study employed a census methodology. The primary tools used in this project to gather data are questionnaires. Respondents were remarkably in agreement, with the great majority completely agreeing on several topics pertaining to project initiation. It is especially noteworthy that everyone agreed that the design of a project plays a critical role in defining technical and commercial terms, indicating its primary function. In a similar vein, the broad consensus that genuine and achievable project scopes and indicators are essential highlights their vital significance. The study was done in Rwanda and not Kenya and also there is a gap in terms of methodlogy as it used mixed method.

Huck-Fries, Nothaft, and Wiesche (2021) investigated the function of key players in agile computer system development projects using a mixed methods approach. The mediation hypotheses were tested using conditional process analysis. During the initiation phase of a project, the research revealed that stakeholders can be helpful in making important decisions. Growth and prosperity are impossible without key people, who play a crucial role in project requirements, assets, and budgets. Building strong relationships with project stakeholders ensures customer satisfaction, and fostering trust and confidence promotes business expansion and the accomplishment of end-user

goals. Involving stakeholders in a project encourages change management as it develops.

Đaković et al. (2020) looked at how to mitigate model sensitivity during early phases of energy projects. Research discovered that a practicable systematic risk model methodology, systematic responsiveness of preventive action plans, and initial systematic project risk monitoring are all needed. This study explains why a risk systematic model instrument is needed at the start of a project, but it fills in the gaps utilizing a systematic sensitivity approach that concentrates on the unified risk systematic model. When the stage-gate approach is being used to evaluate risks and define limits in which they'll be controlled, the sensitivity technique is utilized in the start of a project planning. The study did not look at scholl construction projects which created a gap.

Gichure and Gachengo (2022) looked into how the project initiation process affected the water projects' performance in Kenya. 20 projects were selected for the study. Descriptive study design was adopted and also questionnaires were applied. According to the study's discoveries, the implementation of a well-structured start-up phase that included all participants and addressed all project needs had a positive impact on the efficiency and efficacy of the Murang'a County water projects. The study's flaw is that it was not conducted in the current study's region and failed to include projects about prestigious universities.

The influence of participatory project initiation on the oversight of ecologically sound forests in Kenya's Trans-Nzoia County was examined by Tabot, Owuor, and Migosi (2020). 362 respondents were used. Sustainable forest management has been significantly affected by the start of participatory projects. Hence, this implies that an increase in the number of participatory initiatives has improved Saboti's sustainable forest management. The conservation of forests was significantly impacted by the introduction of participatory projects. Environmentally friendly management of forests was highly impacted by community involvement in the start-up phase. The study did not capture the study area, and it did not capture the application of the project initiation concept in secondary schools.

2.3.2 Effect of Planning of Projects on Its Performance

Lin et al. (2024) looked at the conditional facilitating role of cooperation in the affiliation between project preparation and megaproject performance in China. The findings indicate that the positive relationship between the initial planning stage and megaproject success is mediated by integrating the information and process when it comes to complex areas of the project. The study also demonstrates that one of the most important tools for encouraging integration in complicated projects is project planning.

Heravi et al. (2018) assessed degree of engagement of the stakeholders in building project planning procedures. A sequence of literature evaluations was done to classify and sort important planning phases. A questionnaire survey was created and circulated across almost 200 enterprises active in the large housing sector in Australia for data collecting. The analysis' findings show the degrees of engagement among the four stakeholder groups planning and implementation and provide a foundation for improving stakeholder involvement in the future. The study has a methodology gap as it relied on secondary data unlike the current study that relied on primary data.

Gasana and Njenga (2024) looked at how project planning techniques affected the outcomes of a sustainable intensification of agriculture and security of food project in Rwanda. 95 respondents were used. The findings demonstrated that the successful wrapping up of the project, which was founded on the effective use of material capital, human capital, and stakeholder engagement, was a prerequisite for beneficiary satisfaction. The study also showed that excellent project performance is directly correlated with good project management techniques. The study did not look at the particular study area, project initiation, or school construction projects, so there is still a research gap.

Using data from Nigeria, Mahe and Umar (2021) assessed how strategic planning affected the success of projects. The study reveals that despite its benefits, the conventional project management methodology has disadvantages, such as ambiguous roles and responsibilities, low customer involvement, and risk management issues. It also shows that the agile approach is not widely used; instead, a combination of traditional and flexible methods is more appropriate and efficient for finishing building projects. The study advocates that to raise awareness of the benefit of a blended approach in terms of adaptability and methods that will enhance the completion of

construction projects, workshops and educational events should be conducted. There is a gap because the study did not cover the subject matter under study, project planning, or school construction projects.

Muute and James (2019) did a study in Naiorbi City County that looked into building project planning and performance. The findings demonstrated that allocated funds were sufficient to execute the project. Additionally, the project product was clearly defined and all the supplies were assigned. The survey revealed efficient project planning. It was also evident that precise estimates of activity duration, timetables, and project scope declarations had been generated during the planning stage. The effectiveness of construction projects is enhanced by staffing, time tracking, scheduling of resources, and fiscal management. Planning for projects and the building of school infrastructure were not encompassed in the study, nor was the study area covered.

In order to successfully complete urban roads in Kenya, Matu et al. (2020) investigated the significance of input from stakeholders in project planning. 309 participants were used. The findings demonstrated that involvement from stakeholders had a major and beneficial effect on the successful completion of urban road projects. Furthermore, the study made clear how important it is for stakeholders to be involved in the planning stage in order for Kenyan urban areas road transit projects to be completed. However, the research did not encompass the study area of the current study and was restricted to a single phase of the project life cycle. Furthermore, it didn't look at project planning in relation to building projects for schools.

Muute and James (2019) looked into the scheduling practices and construction project performance in Nairobi County. The learning focused on 125 building works in the county of Nairobi and involved 125 project managers. These managers were given surveys with semi-structured questions. The outcome of the study show that most companies provide training to their employees and view human resource management as a crucial function. The findings also showed that the budget was adequate and that the initiatives were finished with few difficulties. In addition, the project outcomes were well-defined and all allotted material resources were used. The study demonstrated the successful application of efficient project management techniques. Nevertheless, the research did not work on the correlations between the variables or include school infrastructure projects.

2.3.3 Effect of Project Implementation Strategies on Project Performance

Bitesigirwe and Ndede (2023) investigated how project implementation practices influenced the Mnazi Bay Gas works performance in Tanzania. Only 84 of the 100 people involved in the sample which included project executives, authorities, administrators from regional governments, elected representatives, and community members were contacted. Surveys were employed. The findings show that, despite challenges with engagement with the community, there is a positive affiliation between the project's overall success and its effective implementation. However, this study did not look at how carrying out project strategies affected school construction projects.

Mukamugenga and Nkechi (2022) conducted a case study on project performance and implementation strategies in Rwanda, focusing on Africa to Africa Green Solutions Ltd.'s Masaka farm. The study involved 108 project participants and utilized correlation analysis to examine various factors. According to the findings, a clearly defined project scope was significantly correlated with cost effectiveness and efficiency, negatively correlated with on-time completion, and positively correlated with project quality. Discoveries disclosed that 65.7% of respondents strongly supported the establishment of a robust monitoring system, while the same percentage agreed on the need for a comprehensive monitoring and evaluation reporting system. The study recommended that senior staff should carefully identify key components necessary for project design and effectively communicate the design to all stakeholders. However, since the research was not conducted in Kenya, its findings are not representative of that context.

Gashuga, Ndabagaand (2016) analyzed effects of budgetary control on building projects in Rwanda by case studying of a dairy communal processing project within the Burera region. In this study, secondary and primary data were combined in a descriptive-correlational methodology. 91 workers were included in this investigation. This study collected data via questionnaires. A shift from project management to fund raising, budgeting, and fund control is required, from the study's findings. Budgeting, fundraising, control of finances and the resource allocation all contribute to the project's success. The strategies utilized during budgeting are designed to ensure successful fund management. The manager of the project should constantly ascertain that budgets, allocation, fundraising and funds control are understood and follow principles of managing project to curtail any questions that might be raised. The focus of the study was Rwanda and thus cannot be applied to the Kenyan situation.

Dang and Le-Hoai (2016) conducted research in Vietnam on crucial success criteria for design-build project implementation. The correlation's findings suggest that the parties' capabilities have a considerable effect on Design-build (DB) projects. Six critical success factors, including rapidly resolving disputes, good management actions in prepping, arranging, guiding, and managing, involved stakeholders' satisfaction with project earnings, competent cross-disciplinary members of the team' substantial towards their duties assigned and adequate funding, were proven to have a greater impact on DB project performance. Whenever it comes to project success, there seems to be no noticeable difference between DB projects implemented externally and those implemented internally.

Magagan and Ngugi (2021) investigated how project management techniques affected Unilever Kenya LTD's project performance. The study's target population included 60 employees and eight Unilever LTD projects that were implemented in Nairobi, Kenya, between 2010 and 2019. The results of the investigation demonstrate that risk management advances project performance. Project performance is positively impacted by communication regarding the project as well. Project performance is positively impacted by project leadership. Project performance is positively impacted by stakeholder management as well. According to the study, the company should use a comprehensive risk management framework to carry out thorough risk management. The focus of the study is limited to Nairobi County and also there was lack of hypothesis testing.

Simiyu (2018) investigated the performance and management of agricultural projects in Bungoma County, Kenya, by community-based organizations. The study focused on 138 community project groups that were run by Bungoma County-registered CBOs. From the target population, 61 project groups were chosen for the study using stratified sampling. The project implementation mean score was 3.43 overall. According to Likert, respondents somewhat agreed that the management used all necessary implementation techniques both before and during the agricultural projects' execution. The study was limited to Bungoma County.

2.3.4 Evaluation and Monitoring Effects on the Project Performance

Kiss et al. (2019) evaluated how Ghanaian construction project success criteria were affected by project M&E procedures. Questionnaires were applied. The results showed

that successful criteria for construction projects and M&E practices had a positive correlation that was statistically significant. M&E practice also showed substantial correlation with the scope of the project and health and safety performance, indicating that these important concepts should be given serious consideration in developing countries to ensure project success. Ghana was the sole focus of the study.

Umwari, Kamuhanda, and Nyamweya (2021) used the horticulture project at BRAMIN Ltd. as a case study to examine performance of projects and M&E practices in Rwanda. The study used combined research methods, the study used a census sampling technique to get data from 102 respondents. The results showed that M&E is essential to horticulture projects' success. In particular, all computed p-values were below the 0.01 cutoff, suggesting a robust positive relationship between budget planning and on-time project completion and between budgeting and beneficiary satisfaction. The study also discovered a reliable correlation between project accomplishments and monitoring and assessment procedures. Nevertheless, the study was only descriptive and restricted to the Rwandan setting.

Using information from Cotter Dam, Zaman, Ford, and Zagt (2023) examined stakeholder participation in the tracking and assessment of water infrastructure initiatives in Australia.Surveys were used to select 220 study participants from a total of 250 stakeholders. According to the study, involving a variety of stakeholders at every stage of a project improves accountability, transparency, and decision-making. These stakeholders include customers, governmental organizations, environmental organizations, and community members. Future water supply projects can benefit from Cotter Dam's insights by implementing more transparent, cooperative, and inclusive approaches, which will guarantee the long-term viability of significant infrastructure projects. The study's conclusions, however, are limited to Rwanda.

Nabulu (2019) states that Monitoring & Evaluation is paramount to the completion of every project, but it hasn't been successfully implemented in the majority of public projects. Only 22.6% of the learning, budget control, time management, and team strength monitoring roles are unaccounted for. The model of factors impacting M&E performance has P-score of 0.004 (less <0.05), indicating its value. In management of projects, continuous improvement is divided into 3 main operations and that is money, time, and quality.

Tengan and Aigbavboa (2017) looked into the stakeholders' level of commitment and cooperation during the appraisal of building projects in Ghana. Discoveries of the research displayed that while stakeholders were actively involved in project delivery, there was very little involvement from sponsors in project control and validation at the municipal level. Therefore, project monitoring and evaluation suffered from a lack of participation and involvement from key stakeholders. Finally, the multiple problems with Ghana's local government delivery of the project may have been due to less stakeholder participation in monitoring alongside assessment. Only a few of the issues identified throughout the procurement process were late reimbursements, non-compliance with project criteria, delayed delivery, a lack of safety and health at work, customer unhappiness, and corrupt building techniques.

In Garissa County, Kimutai and Abdi (2018) studied monitoring, assessment, and effectiveness of CDF initiatives. It was observed that to provide students with the requisite skills, monitoring, and assessment training should be properly developed and followed. To effectively manage and assess medical camp projects, stakeholders were encouraged to engage actively in planning, decision-making, and design to maximize performance. Additionally, the study emphasized the significance of taking into account the interests of both the community and relevant institutions.

The performance and monitoring procedures of construction projects in Kenya's Kilifi County were examined by Banzi and Tumuti (2024). They used questerioionares. The performance of these projects and M&E systems were significantly positively correlated. The research concluded that the success of health building endeavors in Kilifi County is influenced by M&E systems. The study also noted that a lack of training opportunities on new developments may prevent staff members from learning modern project techniques. The effectiveness of the health construction projects could be enhanced as a result of better M&E procedures.

Njeru and Kirui (2022) examined the performance and monitoring practices of road creation projects overseen by KeNHA in the City of Nairobi, Kenya. Research projects that were both explanatory and descriptive were used. The study focused on seven road-building initiatives in Nairobi City County that the KeNHA finished between 2015 and 2019. There were one hundred people in the observation unit. Structured questionnaires provided the majority of the study's information. One important performance factor, according to the study, was budget allocation. In particular, project cost analysis

assisted in establishing the appropriate budget, which improved the road project's performance. The projects were finished on schedule because the funds were disbursed on time.

Nyabuto and Musembi (2024) looked at the performance and monitoring practices of KURA building projects in the county of Nairobi. 126 employees were used. Questionnaires were used. According to the study, M&E planning and engagement with stakeholders significantly impact the success of KURA building infrastructure in Nairobi County. Given these findings, it is recommended that comprehensive M&E plans be developed through interactive approaches and that stakeholder participation be raised during the project. By ensuring effective engagement of stakeholders, surveillance, and assessment, these steps are expected to improve project performance.

2.3.5 The Influence of Project Closure on Project Performance

The efficacy of teamwork in finishing construction projects in southern Nigeria was investigated by Adu and Opawole (2020). 420 participants took part in the research. The discoveries established that effective teamwork required the team's connections, leadership skills, and upper management support. It was discovered that the biggest barriers to effective teamwork were poor communication, poor team member rapport, and ineffective leadership.

Zohrehvandi et al. (2017) looked at the execution of project closure phase of projects. According to the report, project closing is an essential and obligatory procedure, particularly in megaprojects. The lack of funding, lack of key capitals, conflicts and claims are all common problems that mega projects confront during the close phase. Project planning and continuous project control have been linked in order to carry out and made use of the process group. Results of the research were compared to similar ones in terms of time after the process group was completed.

As defined by Galli (2018), "closure" is the time at which a client has been informed in writing that all contract terms have been met, any longer-term guarantees have been fulfilled, and any replacement parts have been delivered. Check to see if the contract requires any formal documentation regarding client acceptance to be fulfilled. As soon as possible, finish the contract and get the final payment from the customer and the company. Request final payment in writing. If feasible, obtain a confirmation from the

customer stating that all contractual duties have been fulfilled and that the company is no longer obligated, except for any guarantees or service requirements.

Bengtson, Havila, and Berg (2018) noted that while project design provides major administrative benefits during the PLC, there are various worries regarding its long-term effects. They also looked at the causes of connection recurrence while highlighting the role of a network of relationships in project leverages. The authors of this article. After a long-term analysis of three building projects, researchers found that there are repeating relationships that, unlike others, do not need to be reactivated after the project is over.

In North Eastern Kenya, Musili and Nyang'au (2022) assessed the effectiveness of rural electrification projects and the project teams' management strategies. 150 participants were used. Semi-structured surveys were employed to gather data. The data was showcased using graphical representations, tables, and charts. The success of rural energy projects was considerably enhanced by team selection and advancement based on the data. To ensure that the right team members are chosen, the study suggests that the hiring process for project team members be transparent, equitable, and based on qualifications and skill requirements. The study also suggests that a system of rewards and recognition should be in place, as this will encourage the project team to put in extra effort in order to reach project milestones.

2.3.6 Lifecycle Management and Project Performance

For Ethiopia's Defense Construction Enterprise, Yoseph (2019) looked into the factors that affect construction projects' success. The firm's builders were given questionnaires with Likert scales to complete, which made it possible to gather the primary data required for the study. The surveys that were gathered were cleaned and examined using Microsoft Excel and SPSS Version 20. The process includes regression, analysis of variance, descriptive, and correlative methods. The study's main conclusion was that methods of project administration, such as close supervision, user input, and senior-level backing, significantly impact the final success of defense construction endeavors. The study's insufficient examination of mega dam initiatives in Kenya, which lacks research on the life cycle of a project oversight, hazard prevention approaches, and performance, is one of its flaws.

A survey-based study was carried out by Nawaz et al. (2019) to look into risk management procedures in Pakistani construction projects. 22 contractor companies engaged in 100 distinct projects provided the data.

The study found that the industry did not make extensive use of risk management. However, the data indicated a strong affiliation between project success and effective risk management. The findings prompted important stakeholders to embrace risk management techniques by highlighting the importance, use, results, and influence of risk handling from the contractor's point of view. A knowledge gap was also noted by this research, emphasizing the paucity of studies on the connections between risk mitigation techniques, managing the project stages, and the accomplishment of particular mammoth dam building infrastructure in Kenya.

Program organization and overall project success are two different features that affect project performance, as established by Pell et al. (2019). They distinguish between the two, stating that achieving project management objectives includes both the project completion in cost element, schedule, and standards as well as overall management regarding completion of a project. In regards to project lifecycle management, these three parameters show the amount of project execution efficiency. The project's success is determined by the results of the completed effort. Both elements affect how likely it is that a project will succeed.

The implementation of initiatives that will benefit schools and students might profit greatly from the school systems in European countries. Pursuant to scope of a project and level of detail, most, if not all, go through a span cycle. The span of a project which is medium to large typically consists of phases of idea, feasibility, evaluation, approval, execution, completion, operation, and termination. Choosing and defining one project idea occurs during identification. The feasibility process also includes testing for technical, economic, and financial feasibility as well as technical research and investment evaluation plans. A financing request, a risk assessment, as well as a list of potential outcomes, are all included in the evaluation. Financial authorizations, relevant school authorities, permissions, requirements, and project plans are all included in the authorization (Zohrehvandi et al., 2017).

Project initiation, following Olanrewaju, Kineber, Chileshe, and Edwards (2022), is a crucial stage in project management. The process begins with a collaborative meeting

of the project's stakeholders to explicitly define the goals, achievements, and accomplishment criteria throughout the project assortment. The necessity and feasibility of the project are also specified and vindicated. The desired results and advantages are now precisely described, estimated, and accepted. The project plan is created, outlining the actions to take to satisfy the three limitations as well as the anticipated outcomes.

Those who have the ability to affect a project's development and or results, whose quality of life is favorably or adversely impacted by the project, or who have access to related direct or indirect advantages and/or losses are considered stakeholders, according to Li et al. (2016). Individuals or organizations that may be impacted by building projects throughout the life cycle and who may have the power to influence how the project develops in the future are referred to as stakeholder in such initiatives (Yuan et al. 2018a). The intricacy of many building projects necessitates collaboration and participation from key parties. These parties may include both internal and external parties like suppliers and local governments, as well as members of the general public and end users including clients, builders, consultants, and contractors (Andrade-Rhor et al. 2019).

Haverila, Martinsuo, and Naumann (2013) investigated 3129 facility maintenance system delivery projects to determine how customers perceived project management at various project lifecycle phases and the relationship between user satisfaction and relationship quality. A mediating role analysis was also performed on the respondent. The results demonstrate a significant and favorable association between customer happiness, relationship quality, and opinions on the efficiency of management of projects throughout all project phases. The study advances our knowledge of the factors influencing satisfaction of customers and quality relationships in complicated delivery systems initiatives. Also, directions on research to be done in the future is included in this conversation.

KiptooChangole and Onjure (2019) looked at how project life cycle management affected prequalified civil works contractors' performance in Baringo County. 53 prequalified civil works contractors were the learning's target population, and a census was conducted among them using a descriptive research design and self-administered questionnaires as the study's data collection tools. The study's findings showed that project initiation, execution, and monitoring have a substantial and beneficial effect on

the success of the project, and its conclusions recommend that prequalified construction contractors enhance their project planning, execution, and supervision.

Nyang'au and Kamau (2018) explored the effects of methods for project management on the results of infrastructure projects in Laikipia County. The study focused on 350 workers from different building-related businesses. Research was steered using a mixed-methods style to analyze the data. Semi-structured forms were used in the gathering of primary data. The findings demonstrated that technological advancement and innovation significantly impact project performance. Stakeholders were pleased when contractors used cutting-edge software and technology because it produced timely, high-quality work. Furthermore, there was less resource waste and more overall success for projects that incorporated these technologies. Additionally, it was discovered that the majority of workers were adept at utilizing standard ICT resources and structures for project execution and coordination.

2.4 Summary of Reviewed Literature and Gaps

Table 2.1: Summary of Reviewed Literature and Gaps

Author	Emphasis of Study	Discoveries	Gaps
Chepkonga (2021)	In West Pokot County, Kenya, quality education is provided in public early childhood education centers.	It found that stalled school projects affect the quality of secondary school education in West Pokot.	The study only looked at stalled school projects and not based on the PLC phases. The study was also explanatory design while this study looks at all the PLC phases and use mixed methods of descriptive and explanatory design
Đaković et al. (2020)	How to mitigate model sensitivity during beginning phases of energy projects.	Research found a practicable systematic risk model methodology, systematic responsiveness of preventive action plans, and initial systematic project risk monitoring are all needed.	The study was descriptive. The current study uses both descriptive and explanatory designs
Nabulu (2019)	In Kenya, several factors influence the success of governmental initiative monitoring and evaluation.	Research outcomes depicted that Monitoring &Evaluation training is pivotal to the survival of M&E infrastructure works and that there is a strong connection between costs and Evaluation Success.	That study was founded on a case study while this research will investigate various schools and thus make its findings general within the study area
Heravi, Coffey and Triguna	The level to which partakers are engaged	Analysis findings show the degrees of engagement among the four stakeholder groups' planning and implementation and provide a	Research embraced case study methodology while this study is based on investigating various

rsyah (2018)	in planning and project implementation.	foundation for improving stakeholder contribution in the future.	schools thus making its findings general within the study area
Økland, Johansen and Olsson (2018)	Shortening the duration, it takes for a merchandise to reach the market. A study of rapid school from project concept to implementation	Standardization and the usage of modularized building systems, according to the study, can help to reduce delivery time by shortening design and construction intervals. Concerning school situation, costs climbed, but in the prison case, prices decreased. A shallow pool of capable providers is a significant barrier in both cases; the players have handled the challenge in different ways, but neither has been successful in their efforts.	The research espoused the use of both observation and questionare while the current study will mainly use questionnaires to give accurate description of the situation. It will also use explanatory design to explain the findings
Chepkonga (2018)	In West Pokot County, Kenya, classroom environments and excellent instruction are provided in public preschool centers.	Lack of enough land has led to stalling of some of the school-based projects.	The new study will use both a descriptive and an explanatory design, whereas the previous study just used a descriptive study design. Moreover, the study did not include all PLC stages.

2.5 Conceptual Model / Framework

The current study was steered by the conceptual framework revealed in Figure 2.1, which illustrates the relationship between the dependent and independent variables. Life cycle management serves as the independent variable, while project performance is the dependent variable.

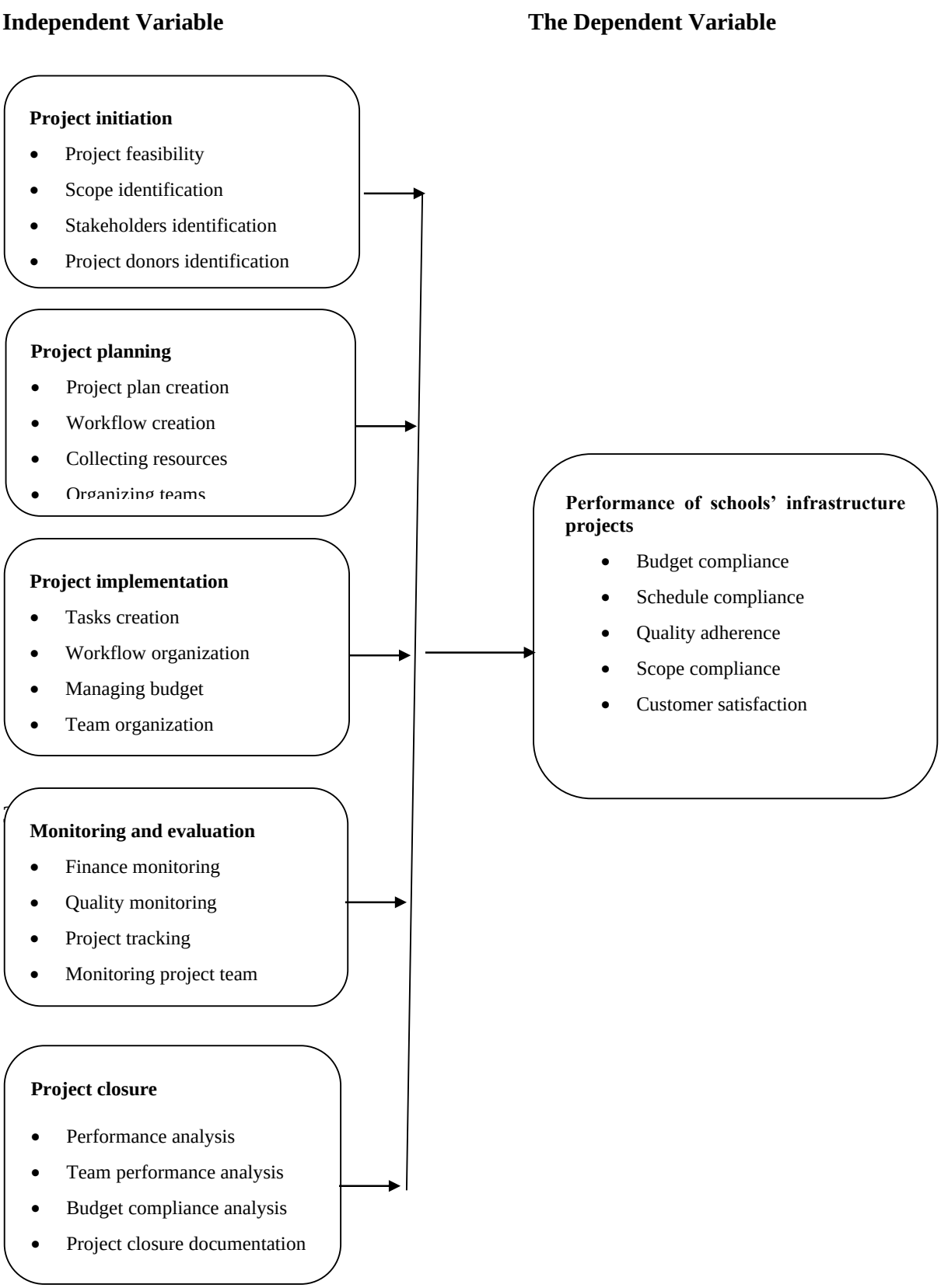

Figure 2.1: The Conceptual Framework

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The segment captures approaches which were employed by the research to make it success.

3.2 Research Design

Research utilized both explanatory and descriptive methods. The Descriptive study design technique is advantageous because it allows the investigator to observe and describe events in their natural setting (Kothari, 2014). Data collection, analysis, and interpretation, the inquiry is guided by a research design (Kothari, 2014). Descriptive research design, by Mugenda (2008), is a method of gathering evidence on people's opinions or actions on societal issues through group interviews or questionnaire distribution. The descriptive research design serves several functions. The design was preferred because it provides a framework for data collection depending on the objective that needs a de90scription as well as data obtained through surveys. Second, this technique enables study of the phenomenon in its natural, unaltered setting (Kothari, 2014).

In the words of Saunders et al., embracing explanatory studies seeks to understand the "why" and "how" of an event or phenomenon (2007). In describing variable properties and demonstrating a link between variables, the explanatory methodology technique was the most successful. The emphasis is on diving into an issue to determine the strength of variables' in the relationship.

3.3 Target Population

The population that is being targeted is a formation of persons to whom an investigator wants to apply a study's results. The study targeted 32 public secondary schools that were located in West Pokot County that have active construction projects and those that had completed their recent projects within the last 5 years (2016-2021). The list of secondary schools is captured in Appendix IV. The study targeted principals/head teachers, BOM members, and technical staff, and PTA chairpersons from the 32 schools as they were directly linked to the implementation of projects within secondary schools. The schools that were being targeted were those that have completed projects in the

past 5 years and this was because it was easier to assess recently completed projects as compared to those that were completed many years ago whereby a majority of the target population might not have been there.

3.4 Sampling Procedure

3.4.1 Sampling Frame

This refers to a list in which a trial is obtained (Groves et al, 2009). For this study, the frame was made up of principals/head teachers, BOM members, and technical staff and PTA chairpersons from the 32 schools as they were directly linked to the implementation of projects within secondary schools.

Table 3.1: Sampling Frame

Population	Number of Schools	Target Population
Head teacher/principal	32	32
Deputy head teacher/principal	32	32
BOM Members	32	64
PTA Chairperson	32	32
Technical staff	32	32
Total	**32**	**192**

3.4.2 The Sampling Approach

This is a procedure of choosing a subsection of a research population to partake in a study. In other words, the whole group of the population cannot be used because of the timeframe allowed for the study and the cost incurred in producing research instruments such as questionnaires (Mugenda and Mugenda, 2008). That is why the study had to use a given technique to pick a few individuals from the large group who will represent the others.

The study sampled 5 individuals from each secondary school and technical staff at the National Government Ministries of Education and of Lands, Public Works, Housing, and Urban Development based at West Pokot County. The breakdown of the population was as follows. 1 head teacher/principal, 1 deputy head teacher/principal, 2 BOM members, 1 PTA chairperson per school and 7 technical staff. Thus, the study sampled 167 individuals in total.

Table 3.2: Sampling

Population	TheTarget population	Sampled population
Headteacher/principal	32	32
Deputy headteacher/principal	32	32
BOM Members	64	64
PTA Chairperson	32	32
Ministry of Education Officials involved in the construction	3	3
Lands Ministry, Public Works, and Housing Development involved in school's infrastructure	4	4
Total	**167**	**167**

A census is a sampling method that gathers information about every member of the population (Kothari, 2004). Head teachers/principals selection, deputy head teachers/principals, and PTA chairperson was done through census sampling. The selection of the two BOM members and the seven technical staff was done through simple random sampling, whereby entire participants accross whole population had an equivalent possibility to be chosen in this study. To guarantee that the population chosen for this study was representative and that every participant had a similar likelihood of being chosen, simple random, stratified, and deliberate sampling techniques were employed (Thomas, 2020).

3.5 Gathering of Data

3.5.1 Data Collection Instruments

Questionnaires were applied to gather research's data. The tool had been separated into Two parts. First part had background data for the responders, while study's questions were in the second. There were many benefits to using questionnaires as a research tool. A questionnaire made it possible to gather much information in a short amount of time. The tool also guaranteed that the respondents' identities were kept private (Kothari, 2004). Closed and open ended questions were both adopted in the study.

3.5.2 Validity

Validity, as per Garg and Kothari (2014), establishes that instruments of research precisely measure what it is supposed to be determined or whether the results of the research are accurate. The researcher will apply construct and content validity in the context of the investigation. According to Zikmund et al. (2010), construct validity occurs when a measure accurately measures and depicts a single notion. A concept,

idea, or action has been operationalized when it has been successfully transformed into a true statement that operates as intended (Trochim, 2006). The supervisor's opinions were used to determine the study's validity. Regarding the data collection tool, the supervisor shared her thoughts. The actual percentage of participants was established by analyzing the replies using the content validity index.

3.5.2 Reliability

Tools dependability was appraised by use of Cronbach alpha test. Kombo and Tromp (2006) state that the level of consistency that is evaluated determines dependability. As a result, a tool's dependability should be determined by the consistency of the findings it produces when the test is repeated. To confirm the dependability, piloting was performed. This was conducted in Trans Nzoia County. Cronbach's alpha coefficient was utilized as the reliability metrics basis, and a value of >0.7 was considered reliable (Kombo & Tromp, 2006). The study conducted a pilot study in 5 schools that were chosen using a simple random sampling method by the researcher. The instruments had a reliability value of .834 indicating that it was adequate for the research. The questionnaire may then be improved based on the pilot study's findings before the final version is developed.

3.5.3 Procedure for Gathering Data

It’s a technique that allows a researcher to obtain and measure data on variables of interest to make sure that there are accurate answers generated from the questions that have been asked. However, before collecting data from selected people, the investigator must follow procedures (Price & Murnan 2004).

The investigator obtained letter of introduction from the institution and forwarded it to the ministries' respective administrations. A drop-and-pick approach was used in this investigation. Control was used to make sure that every questionnaire that was distributed was returned by keeping track of the ones that had to be filled out.

3.6 Analysis of Data and Presentation

Prior to statistics being analyzed, preparation of data was performed. It covered coding, modifying, data entering, and quality assurance throughout the data handling process. Descriptive statistics were then applied to the acquired data to analyze it. Upon collection of data, the questionnaires were scrutinized before being analyzed to verify that the information acquired had been cleaned before coding. The collected data was

then entered into SPSS 25.0, which was utilized to generate the study's findings. All variables in the research were coded. Descriptive statistics, including standard deviation and mean were employed in this research. Graphs and tables illustrated the information.

Regression coefficients and Pearson correlation were used as inferential statistics to assess the relationships between the study variables. Linear regression analysis and the coefficient of product-moment correlation from Pearson were used to ascertain how the variables that were independent and dependent were related. The alpha level for the tests of significance was set at 0.05.

Using linear regression, correlation between dependent and independent variables was evaluated.

On the equation:

$Y = b_0 + b_1X_1 + b_2X_2 + b_3 X_3 + b_4X_4 + b_5X_5 + e$

Y = performance of schools Infrastructure construction Projects

X_1 = project initiation

X_2 = project planning

X_3 = project implementation

X_4 = monitoring and evaluation

X_5 = project closure

ℓi is the error term

3.7 Diagnostic Tests

3.7.1 Multicollinearity

This section outlines the degree of correlation between variables. To assess multicollinearity, the researcher will utilize the Variance Inflation Factor (VIF). A VIF value greater than 10 signifies a multicollinearity concern, whereas a VIF of 3 or lower for all independent variables indicates no multicollinearity. Multicollinearity occurs when there is a strong correlation between independent variables, potentially affecting the reliability of regression estimates (Martz, 2013).

3.7.2 Heteroscedasticity

When the error term varies between observations, this situation is referred to as heteroscedasticity. The null hypothesis for the study's Breusch-Pagan/Cook-Weisberg test was that terms of error have a constant variance (Homoskedastic). Residuals finally exhibit autocorrelation when they develop serial time correlation. Durbin-Watson test for autocorrelation was used. A test statistic from the Durbin Watson test ranges from 0 to 4, with 0-22 indicating negative autocorrelation and 2 showing no autocorrelation. According to the decision criteria, test statistic levels in the range of 1.5-2.5 are regarded as being quite usual. Values outside of this range need to be taken seriously with caution (Field, 2009).

3.7.3 Normality Test

The Shapiro-Wilk and Kolmogorov-Smirnov test was utilized to determine whether data are normal. In case the probability exceeds 0.05, information is generally regarded to be consistently dispersed. When two variables relate to one another in a straight line, this is referred to as linearity. In statistics, the skewness of a distribution is frequently examined using P-P charts, which compare two cumulative distribution functions. P-P plots are used to gauge the degree of agreement between two data sets (Saunders and Thornhill, 2012).

3.8 Ethical Considerations

Before beginning the data-gathering stage, the researcher requested NACOSTI for a license to undertake this research. Also, a letter from Kenyatta University allowing data gathering was also obtained by the researcher. The responders were guaranteed of anonymity and confidentiality by the researcher not taking their names. The exercise was completely optional; there was no coercion.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

The findings' analysis, interpretation, and presentation were elucidated in this section. The primary goal of this research was to explore project life cycle management and the performance of infrastructure development projects in secondary schools in West Pokot County, Kenya. Descriptive methods were embraced to evaluate the data, including means, standard deviation, and frequencies. Regression analysis, or inferential statistics, was used to determine whether there is a correlation between the variables. Data was provided in the form of charts and tables to facilitate analysis and results interpretation.

4.2 Response Rate

According to the analysis, 110 respondents, or 66% of the 167 people who participated in the sample group, filled the items on questionnaires and handed them over for analysis. Calls were effected by the researcher, further made efforts to see the responders to prompt them to fully fill as well as return them, which led to a remarkable rate of response. This suggests that research had a high enough response rate. According to Schindler and Cooper (2014), research can be considered sufficient if the response rate is greater than 50% of the total response rate. Therefore, the study's rate of response was considered sufficient.

4.3 Background Characteristics

4.3.1 Responders' Gender

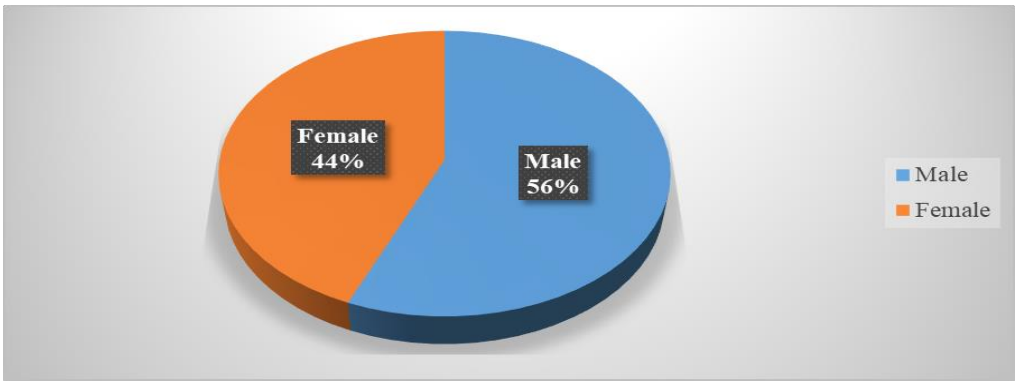

Figure 4.1: Respondents' Gender

Source: Research Data (2023)

Figure 4.1 above shows 48 (43.6%) and 62 (56.4%) of the respondents were female. It is possible to interpret the study's results to suggest that men predominate among those in control of school administration. Furthermore, the research suggests that gender representation exists in the participating schools.

4.3.2 Respondents Age

Respondents were requested to specify their age. The outcomes of the study are tabulated in the below table.

Table 4.1: Respondents' Age

Age	Frequency	Percentage
18-24 years	2	1.8
25-34 years	23	20.9
35-44 years	32	29.1
45-54 years	24	21.8
Over 55 years	29	26.4
Total	**110**	**100.0**

Source: Ground Data (2023)

The study findings indicate that 35-44 years were the majority with 29.1%. This was followed by 26.4% who were over 55 years old. 21.8% were between 45 and 54 years old. It was then followed by 20.9% who were between 26 and 35 years and the least were 1.8% who were of the age of 18 to 24 years.

4.3.3 Academic Level

Research aimed to analyze the academic level of the participants. Outcomes are tabulated in the Figure 4.2. below.

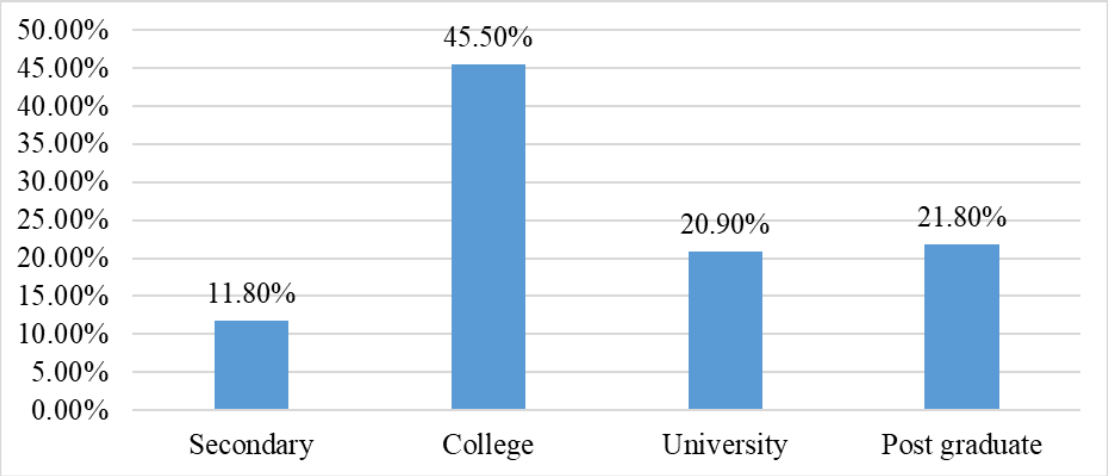

Figure 4.2: Level of Education

Source: Data from (2023) Reserch

Discoveries of the research indicate most of the respondents had a college education (45.5%). Followed by 21.8% who had post-graduate education, 20.9% who had university education, and then 11.8% who had secondary education. Outcomes indicate that participants had sufficient education to read and understand the questionnaires and also give well-informed responses.

4.4 Descriptive Analysis

4.4.1 Project Initiation and the Performance

The foremost research goal was to find out the effect of project initiation on performance of school's infrastructure construction Projects in West Pokot County, Kenya. Outcomes of the research is depicted in Table 4.2.

Table 4.2: Project Initiation and Performance

Statements	N	Lowest	Highest	Mean	Std. Deviation
Project feasibility is ussually done before the start of any project	110	1.0	5.0	3.409	.8482
Project scope identification is often before the start of any project	110	1.0	5.0	2.673	.6582
There is always stakeholder identification before the start of any project	110	1.0	5.0	3.300	.8686
All the projects that are identified and planned for by the school must have a project donors identification stage	110	1.0	5.0	2.864	.7374
Proper initiation process is key to achieving an effective project plan	110	1.0	5.0	3.873	.8210
There is always establishment of the project charter to guide the entire process	110	1.0	5.0	3.445	.9450
Average	**110**			**3.023**	**.5416**

Source: Ground Statistics (2023)

The learnings captured in Table 4.3 shows that there was a neutral response that project feasibility is always done before the begeining of a project as deduced by a mean of 3.409 and a SD of .8482. There was a disagreement that project scope identification is often done before the start of any project whereby a 2.673 mean with a SD of .6582 was reached. There was a neutral in that stakeholder identification is usually done before the start of a project as deduced by a mean of 3.300 and a SD of .8686. There was an almost neutral response that all the projects that are identified and planned for by the school must have a project donor's identification stage as reinforced by (mean 2.864) and a SD of .7374. There was almost an agreement that a proper initiation process is key to achieving an effective project plan (mean 3.873) and a SD of .8210. It was a neutral score on the response that there is always the establishment of project charter to guide the entire process (mean 3.445) and a standard deviation of .9450.

The global mean of the responses about project initiation activities was 3.023, standard deviation of .5416. The overall mean hints that most responses were leaning towards

neutral and that most of the respondents keept on neutral when it came to all the statements.

Therefore, the start of projects has no effect on how well the school does on them. The research's conclusions run counter to those of Gichure and Gachengo (2022), who discovered that project initiation significantly and favorably affected the success of water initiatives in Murang'a County.

Yemini, Oplatka and Sagie (2018) did a study on project initiation. The study discovered that allocating substantial resources regarding time, involvement of various school investors, and management consideration to the initial study the lifecycle of the project, particularly the stages of initiation and planning, is critical. Paying very close attention to this stage can help to reduce risk and unpredictability during the project, as well as raise the chances of success.

Huck-Fries, Nothaft, and Wiesche (2021) conducted a study on stakeholder identification and project performance. Stakeholders can be useful for key decision-making when launching a project, according to the research. Stakeholders have a critical role in project requirements, assets, and budgets, and without them, growth and prosperity would be impossible. Customer satisfaction is ensured by developing great relationships with project stakeholders, and creating trust and confidence leads to company growth and the accomplishment of end-user objectives. Participation of stakeholders in any project promotes change management as it proceeds.

Đaković et al. (2020) in their research braced the learnings of the study. They noted there is a need for an initial systematic project risk monitoring, a workable systematic risk model methodology, and the systematic responsiveness of preventative action plans. This study fills in the blanks by focusing on the unified risk systematic model through a systematic sensitivity method, while also explaining why a risk systematic model instrument is important at the initiation of a project. The sensitivity technique is applied at the outset of project planning when the stage-gate approach is being used to assess risks and create boundaries within which they will be controlled.

4.4.2 Project Planning and Performance

The next research aim was to identify effect of project planning on the performance of school Infrastructure Construction Projects in West Pokot County, Kenya. Study outcomes are presented in the table below.

Table 4.3: Project Performance on Planning

Statements	N	Minimum	Maximum	Mean	Std. dev
Project planning creation is often done to ensure planning is effective	110	1.0	5.0	3.700	.922
There is workflow creation that is required for the project planning	110	1.0	5.0	3.182	.775
All the resources that are needed to ensure that the planning phase is done	110	1.0	5.0	3.564	.475
Team organization is done at this stage to ensure that all the needed manpower is made available for the project	110	1.0	5.0	3.591	.809
There is always review and the approval of the overall plan and activities	110	1.0	5.0	3.809	.610
Overall	**110**			**4.361**	**.5365**

Source: Field Statistics (2023)

The verdicts of the study show that regarding sentence that project planning creation is often practiced to ascertain that effective project planning had a mean of 3.700, SD of .922 thus revealing that most responses were leaning towards an agreement. There was a neutral response to the creation of the workflow that is needed when planning a project with a mean of 3.182; SD.775. There was a neutral response that all the resources that are needed to ensure that the planning phase is done as braced by a mean of 3.564 and a SD of .475. There was a neutral response that team organization is done at this stage to ensure that all the needed manpower is availed for the construction infrastructure projects with a mean of 3.591;SD.809. Responders almost concurred that there is always review and approval of the plan and activities having the mean being 3.809 and the SD being .610 indicating that the findings were leaning towards an agreement.

An overall mean of 4.361 on the statements on project planning was arrived at indicative that most of the responses leaned to agreement and a standard deviation of

.5365 that indicated an insignificant dissimilarity in the general mean of the answers. The results of the research disagrees with the discoveries of Ahmed and Anantatmula (2017) who established that creating a project plan can significantly improve a project's success in the public sector. The data shows that forecasting for projects in the civic sector has a superior influence on project performance.

According to Morlhon, Pellerin, and Bourgault (2014), the use of flexible and adaptive technology, top management commitment, accurate organizational analysis and job definition, and systems that support an open information architecture are all important factors in ensuring workflow success. These discoveries are steady with the learnings of this study. The study also discovered that technical factors that affect project planning and success, such as preparation, documentation, education, and systems testing, are equally important.

Muute and James (2019) undertook a study on planning and the performance of building works in Nairobi City. Their outcomes showed that the project could be completed with the finances allotted. Additionally, the project product was precisely defined and all material resources were assigned. According to the poll, project planning is done well. Furthermore, it was evident that precise activity duration estimates, timetables, and project scope statements had been generated throughout the planning stage. Construction project performance is enhanced by resource planning, budgeting planning, staffing, and timekeeping.

4.4.3 Project Performance at Implementation

Project implementation strategies' effects on the performance of school Infrastructure Construction Projects in West Pokot County, Kenya, was the Third goal of the research. Findings are depicted in the presentation below;

Table 4.4: Project Implementation and Performance

Description	N	Minimum	Maximum	Mean	Std. Dev.
There is always tasks creation to ensure that there is smooth implementation of the school projects	110	1.0	5.0	4.064	.886
There is workflow organization to ensure that we have an effective implementation	110	1.0	5.0	4.164	.669
Budget management is often done to ensure that there is effective project implementation	110	1.0	5.0	3.782	.681
Team organization and assignment to each member roles to ensure that there is smooth implementation is always done	110	1.0	5.0	4.055	.556
The stage also involves continuous application for funds for the project	110	1.0	5.0	4.036	.604
Overall	**110**			**4.020**	**.5458**

Source: Field Data (2023)

The statement there is always tasks created to ensure that enforcement of the school construction projects are smooth had a mean of 4.064; standard deviation .886 thus indicating an agreement from the respondents. There was an agreement that there is workflow organization to ensure that there is an effective implementation as braced by 4.164 mean with a standard deviation of .669. The participants leaned towards agreement that budget management is often done to ensure that the construction project implementation is effective whereby mean 3.782; standard deviation of .681. There was an agreement that team organization and assignment to each member's roles to ensure that there is smooth implementation is always done whereby the mean was 4.055 with the standard deviation being .556. There is an agreement that there is a continuous

application for funds to fund projects as indicated by a mean of 4.036 and a standard deviation being .604.

The general mean of the statements was 4.020 indicating that there was a consensus with the statements and the standard deviation was .5458 demonstrating negligible variance in reactions issued by the responders. Thus, project implementation influences the performance of school projects.

The study aligns with the verdicts of Simiyu (2018), who initiated that most of the respondents somewhat agreed that the management used all necessary implementation techniques both before and during the agricultural projects' execution. Inferential statistics that demonstrated that project implementation also had an advantageous impact on agricultural project results validated the researcher's objectives.

Research outcomes align with the results of Dang and Le-Hoai (2016) that established six critical project success factors, including rapidly resolving disputes, good management actions in prepping, arranging, guiding, and managing, involved stakeholders' satisfaction with project earnings, competent cross-disciplinary members of the team' substantial towards their duties assigned and adequate funding, were proven to have a greater impact project performance. Whenever it comes to project success, there seems to be no noticeable difference between projects implemented externally and those implemented internally.

According to the results of a study by Gashuga, Kule, and Ndabaga (2016), fundraising, budgeting, and financial control must replace project management. The project's success is influenced by resource allocation, budgeting, fundraising, and financial control. The techniques used in budgeting are intended to guarantee effective fund management. To guarantee that all potential questions are answered, the project manager should constantly make sure that the budgets, allocation, fundraising, and money control are understood and adhere to project management standards.

4.4.4 Monitoring, Evaluation, and Performance

The fourth research aim was to examine the consequence of evaluation and monitoring on the performance of school Infrastructure Construction Projects in West Pokot County, Kenya. The outcomes of the study are obtainable in below table 4.5.

Table 4.5: Monitoring, Evaluation and Performance

Statements	N	Minimum	Maximum	Mean	Std. Dev
Financial monitoring is done to ensure there is no misuse or misappropriation	110	1.0	5.0	3.500	.5116
Quality monitoring and evaluation is always done to the projects that are being undertaken	110	1.0	5.0	3.673	.6643
There is the project tracking by the team to enable use to assess how the project is going	110	1.0	5.0	4.064	.8162
The project team is also monitored to ensure that there they are effective and delivering as per the requirements and timeline	110	1.0	5.0	4.173	.8660
The active monitoring and evaluation ensure that stakeholder needs are implemented as planned	110	1.0	5.0	4.300	.9096
Overall	**110**			**3.942**	**.4983**

Source: Field Data (2023)

The statement financial monitoring is done to ensure there is no misuse or misappropriation and had mean; 3.500 and .5116 standard deviation. Outcomes infers that most of the participants were neutral regarding whether financial monitoring is done. The response on whether financial monitoring and evaluation is always done to the construction projects being undertaken was neutral as indicated by a 3.673 mean; standard deviation .6643. Those polled concurred that there is tracking of the project by the stakeholders to enable assessment of how the project is going as supported with mean 4.064; standard deviation being 8162. Most participants affirmed that the project team is also monitored to ensure that there they are effective and delivering as per the requirements and timeline as reinforced by a mean of 4.173 with a standard deviation of 0.8660. Additionally, those polled affirmed there is an active monitoring and

evaluation to guarantee that stakeholder needs are realized as planned with mean 4.300; standard deviation being 0.9096.

The statements had a global mean being 3.942 and 0.4983 being the standard deviation suggesting that there was an orientation towards an agreement among the participants.

The discoveries of the learning are in concurrence with the conclusions of Kasim et al. (2019) who looked into how to track materials automatically in construction infrastructure projects. Research summarized that good building supplies M&E are critical for project performance and competitiveness. Thus, accurate monitoring and evaluation of project materials is critical in material management. Material monitoring is critical when transporting items to the job site or storage regions.

Nabulu (2019) states M&E is vital to the accomplishment of every plan, but it hasn't been successfully implemented in the majority of public projects. Only 22.6% of the learning, budget control, time management, and team strength monitoring roles are unaccounted for. At the 95 percent confidence level, the model of factors impacting M&E performance has a P-value of 0.004 (less <0.05), indicating that it is noteworthy. In project management, continuous improvement is divided into 3 main operations and that is money, time, and quality.

While stakeholders were actively engaged in project delivery, Tengan and Aigbavboa (2017) found that they were not at all involved in project monitoring and assessment at the municipal level. Lastly, it's plausible that a deficiency in stakeholder participation in monitoring and assessment has contributed to the various issues with Ghana's local government's project execution. A number of the hitches that were found throughout the procurement process included unsatisfactory customers, late reimbursements, non-compliance with project requirements, delayed delivery, unsafe and unhealthy working conditions, and dishonest building practices.

Kimutai and Abdi (2018) noted that adequate development in addition to implementation of monitoring and evaluation training is necessary to equip students in Garissa County with the necessary abilities. As part of monitoring and evaluation, stakeholders were urged to fully be involved in making decisions, designing, and planning medical camp projects to guarantee optimal performance. It was also mentioned that the interests of the community and pertinent institutions have to be taken into account.

Effective evaluation and monitoring of construction supplies is decisive for project performance and competitiveness, according to Kasim et al. (2019). For this reason, precise tracking and assessment of project resources is essential to material management. When moving goods to the job site or storage areas, material monitoring is essential.

the appropriateness of the chosen M&E methodology.

Banzi and Tumuti's (2024) established that the effectiveness of Kilifi health establishing initiatives was thus determined by M&E systems, according to the study's findings. Since staff members are not given the chance to receive education regarding new developments, it has been determined that they may miss out on opportunities to learn modern project strategies that could be used to improve M&E thus enhancing the effectiveness of health development initiatives in Kilifi County.

4.3.5 Project Closure and Performance

The last research aim was to find out the impact of project closure on the performance of school Infrastructure Construction Projects in West Pokot County, Kenya. The findings of the study are obtainable in the below table.

Table 4.6: Project Closure and Performance

Statements	N	Minimum	Maximum	Mean	Std. Dev.
When we close the project, we often conduct a performance analysis	110	1.0	5.0	4.191	.6525
At the closure of the project, there is analysis of team performance	110	1.0	5.0	2.309	.8761
When closing a project there is always Budget compliance analysis	110	1.0	5.0	4.091	.5455
During project closure, there is always documentation	110	1.0	5.0	4.127	.4502
During project closure, we conduct post-project review and evaluation	110	1.0	5.0	2.445	.6174
Overall	**110**			**3.433**	**.5615**

Source: Ground Data (2023)

Outcomes captured in table 4.7 indicate there was an agreement that when a project is closed, the school conducts performance analysis as shown by mean 4.191; standard deviation of 0.6525. There was a disagreement that at the closure of the project there is team performance analysis as supported by a mean of 2.309 and a standard deviation of .8761. There was concurrence amongst participants that during closure of the project, there is always Budget compliance analysis as reinforced by a mean of 4.091 with a standard deviation of .5455. Study outcomes indicate most responders affirmed that at the closure of the project, there is always the project closure documentation as braced on a mean of 4.127 with a standard deviation of .4502. Additionally, there was a disagreement that at the closure of the project, we conducted post-project review and evaluation as hinted by a mean 2.445; standard deviation of .6174.

Lastly, the report's general mean is 3.433 and a standard deviation of .5615 indicating that the overall response pointed at the fact that the responses from the participants were neutral on whether project closure affects performance of school projects.

Study discoveries are in disagreement with outcomes of Zohrehvandi et al. (2017) which established that project closing is an essential and obligatory procedure, particularly in megaprojects. Lack of funding, lack of key resources, conflicts, and claims are all common problems that mega projects confront during the close phase. Project planning and continuous project control have been linked to carrying out and making use of procedural group. Research outcomes were juxtaposed to similar ones in terms of time after the process group was completed.

According to Zohrehvandi et al. (2017), megaprojects frequently face disagreements, claims, a lack of money, and a shortage of essential resources during the closing phase. To implement and utilize the process group, project planning, and continuous project control have been connected. The research findings were contrasted with comparable ones about the duration following the completion of the process group.

While project design offers significant administrative benefits during the PLC, Bengtson, Havila, and Berg (2018) pointed out that there are several concerns about its long-term impacts. In addition, they examined the reasons behind connection recurrence, emphasizing the significance of a network of links as project leverage. The writers of this piece. Following an extended examination of three construction projects,

researchers discovered that certain linkages are recurring and do not require reactivation once the project is completed.

4.3.6 Performance of School Infrastructure Construction Projects

This study aimed to find out performance of school construction projects. Table 4.7 below presents study outcomes.

Table 4.7: Performance of School Infrastructure Construction Projects

Statements	N	Minimum	Maximum	Mean	Std. Dev
Project quality is always checked	110	1.0	5.0	2.609	.4148
Project scope compliance is always assessed	110	1.0	5.0	2.336	.6480
Schedule compliance is always a top priority	110	1.0	5.0	1.918	.8328
Budget compliance is followed when executing a project	110	1.0	5.0	2.900	.5586
Student and teacher's satisfaction is often evaluated	110	1.0	5.0	2.073	.9182
Overall	**110**			**2.367**	**.6169**

Source: Ground Data (2023)

The discoveries presented in Table 4.8 designate that there was a disagreement that quality of the project is always checked as indicated by a mean of 2.609 with a SD of .4148. There was a disagreement that project scope compliance is always assessed as revealed by a mean of 2.336 with a SD of 0.6480. There was a disagreement that schedule compliance is always a top priority with the mean being 1.918 and a SD of 0.8328. Many of the responses indicated a disagreement that budget compliance is followed when executing a project as indicated by the mean being 2.900 and the SD of 0.5586. Additionally, there was a disagreement that student and teacher satisfaction is often evaluated with a mean of 2.073 and a SD being of 0.9182.

The global mean of the statements was 2.367 and the standard deviation was 0.6169 thus suggesting that there was a disagreement about there is performance of the school construction projects. This study's findings contradict the discoveries of Zohrehvandi et al. (2017) which indicated that life cycle of projects that are medium to large typically consists of phases of idea, feasibility, evaluation, approval, execution, completion, operation, and termination. Choosing and defining one project idea occurs during

identification. The feasibility process also includes testing for technical, economic, and financial feasibility as well as technical research and investment evaluation plans. A financing request, a risk assessment, as well as a list of potential outcomes are all included in the evaluation. Financial authorizations, relevant school authorities, and permissions, requirements, and project plan are all included in authorization.

According to Li et al. (2016), stakeholders are those who can influence a project's development and/or outcomes, whose quality of life is positively or negatively impacted by the project, or who have access to connected direct or indirect advantages and/or losses. Stakeholders in such efforts are people or organizations that could be affected by construction projects at any point in their life cycle and who might have the ability to shape the project's future course (Yuan et al. 2018a). Due to their complexity, many building projects require cooperation and involvement from important stakeholders. These parties could be the general public, end users like clients, builders, consultants, and contractors, as well as internal and external parties like suppliers and local governments (Andrade-Rhor et al. 2019).

Haverila, Martinsuo, and Naumann (2013) found a positive correlation between customer satisfaction, the quality of relationships, and perceptions of the effectiveness of project management across all project phases. Our consideration of the variables affecting client gratification and quality relationships in multifaceted delivery system projects is improved by this study. This discussion also includes recommendations for future study directions.

4.4 Diagnostic Tests

4.4.1 Multicollinearity

To ascertain if the predictors are multicollinearity, this examination was run by means of the variance inflation factor (VIF) values which were acquired as part of multiple regression analysis. Outcomes are specified in below presentation.

Table 4.8: Multicollinearity

Variable	Tolerance	VIF
Initiation of projects	.673	1.034
Project planning	.734	1.007
Project implementation	.982	1.025
Monitoring and evaluation	.590	1.022
Project closure	.679	1.057
Mean tolerance /VF		

Source: Field Data (2023)

Multicollinearity occurs when the calculated coefficients of a number of independent variables exceed the standard errors. The study tested for multicollinearity using the Variance Inflation Factor (VIF) method. In this study, the VIF value of 10 was selected as the threshold and general principle (Martz, 2013). The occurrence of multicollinearity would be indicated by VIF values larger than 10. The tolerance numbers are all above 2.0, and the VIF values are all below 10, or better yet, below 5. As per the outcomes in table 4.9, it is determined that there is multicollinearity among the study variables is not a concern.

4.4.2 Normality Test

Saunders and Thornhill (2012) asserted that normality test is a form of the distribution of data for a particular metric variable and it's relation to a normal distribution, which is the golden standard of statistical techniques. Since there were more than 50 participants in the sample, Kolmogorov-Smirnov test was done, making it most appropriate test for normality. Visual observation of the residuals' normally distributed demonstrates the suitability of the model for the investigation. Table 4.9 below tabulates the outcomes for the normality test.

Table 4.9: Kolmogorov-Smirnov Test for Normality

Variables	Statistic	Df.	Sig.
Initiation of Projects	.314	7	.200
Planning of Projects	.173	22	.132
Project Execution	.182	21	.140
Monitoring and evaluation	.153	18	.129
Closure of Projects	.132	15	.117

Source: Field Data (2023)

In case the probability exceeds 0.05, information is generally regarded to be consistently dispersed, in the words of Saunders & Thornhill (2012). The finding indicate that; project initiation had a value of .200, project planning had a value of .132,

project implementation had a value of .140, evaluation and monitoring had a value of .129 and project closure had a value of .117. Thus, all the variable had a higher coefficient than 0.05 indicating that there was a consistent dispersal of information. The findings, therefore, indicate that the data utilised was valid and could be used in conducting other analysis.

4.4.3 Heteroscedasticity Test

The Breusch-Pagan test was embraced to determine heteroscedasticity. It was assumed that the residuals were homoscedastic. Heteroscedasticity was found if the F statistics at a 95% confidence level strongly rejected the null. If the p-value is greater than 0.05, the variance remains constant. The model's reported value was 0.7302, hence the null hypothesis was accepted. Consequently, as Table 4.10 below shows, there was no heteroscedasticity in the data.

Table 4.10: Heteroscedasticity Test

Model 1
Chi2 (1) = 0.06
Prob>chi2 = 0.7302

4.5 Inferential Analysis

Multiple regression models, ANOVA, and correlation analysis were used as inferential analyses. Using a five percent significant level, they were utilized in the study. As a consequence, the study's hypothesis was tested using the results.

4.5.1 Correlation Analysis

The study used correlation analysis to test the interrelation amongst the initiation, execution, planning, evaluation and monitoring closure and its performance. The Pearson correlation was utilized and a *p* value of 0.05 was used as the threshold for the study. Findings of the correlation are presented in tabulation 4.11 below, which tabulates the correlation of the research's findings.

Table 4.11: Correlation Analysis

Correlations		
	Performance of Infrastructure Construction Projects	
	Pearson Correlation (r)	Sig.
Initiation of Projects	.517	.013
Planning of Projects	.498	.003
Project Execution	.652	.000
Monitoring and evaluation	.573	.004
Closure of Projects	.476	.002

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

Source: Research Data (2023)

Outcomes presented in Table 4.11 display that there was a moderate association between project initiation and project performance ($r=0.517$, $p<0.05$). Correlation between project planning and project performance ($r=0.498$, $p<0.05$) was moderate. There was a moderate link between project implementation and project performance ($r=0.652$, $p<0.05$). According to Gashuga, Kule, and Ndabaga (2016), effective project implementation affects project performance positively. There is a moderate relationship between evaluation and monitoring and project performance ($r=0.573$, $p<0.05$). Kimutai and Abdi (2018) stated that there are some positive links between monitoring and evaluation and the performance of projects. A moderate association between project closure and performance of projects ($r=0.476$, $p<0.05$). Zohrehvandi et al. (2017) established that project closure activities are linked to project performance.

4.5.2 Linear Regression Analysis

In senior schools in West Pokot County, Kenya, the connection among project life cycle management and the performance of infrastructure development projects was investigated using linear regression analysis. This was done at a five percent significant level to test the hypothesis. The nature of the link between Tables 4.12 and 4.14 was examined using the summary model, ANOVA, and coefficient of regression.

Table 4.12: Regression Summary Model

Model Summary[b]										
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**Change Statistics**					**Durbin-Watson**
					R Square Change	**F Change**	**df 1**	**df 2**	**Sig. F Change**	
1	.742[a]	.584	.564	.6252	.584	13.426	5	104	.003	2.784

a. Predictors: (Constant), Project planning, project initiation, project implementation, monitoring and evaluation, project closure
b. Dependent Variable: Project performance

Source: Research Data (2023)

The result in Table 4.12 showed that a variation of R^2=0.564 for the dependent variable is attributable to the variations in the independent variable as a 56.4% change in the performance of school construction projects is attributed to project initiation, project planning, project implementation, monitoring and evaluation and project closure and the remaining 43.6% are explained by other factors. Hence, project initiation, planning, implementation, evaluation and monitoring, and closure had substantial effects on project performance ($p<0.05$).

Table 4.13: Analysis of Variance

ANOVA[a]						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	.833	5.0	.167	12.1269	.034[b]
	Residual	40.649	104.0	.391		
	Total	**41.482**	**109.0**			

a. The Dependent Variable: Performance of Schools Infrastructure Construction Projects
b. The Predictors: (Constant), Project planning, Project initiation, Project implementation, monitoring and evaluation, project closure

Source: Research Data (2023)

A significant relationship between project lifecycle and project performance ($F(5, 104) = 12.1269$, $P<0.05$) as depicted in table 4.13. Thus, overall regression was substantial.

Table 4.14: Coefficient for Regression Summary Model

Model		Coefficients[a] Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.545	.828		3.073	.003
	Project initiation	.412	.112	.110	1.105	.002
	Project planning	.330	.113	.326	3.268	.020
	Project implementation	.278	.112	.569	2.702	.001
	Monitoring and evaluation	.174	.126	.260	1.587	.000
	Project closure	.146	.113	.133	1.293	.043

a. Dependent Variable: Performance of schools infrastructure construction Projects

The study used the following regressioin equation: Y = b0+ b1X1 + b2X2 + b3 X3 + b4X4 + b5X5 + e

The established regression equation was; +Y = 2.545+ .412X_1 + .330X_2 + -.278X_3 + .174X_4 + 0.146X_5 + e

Where; Y = Project performance, X1 is project planning, X2 is project initiation, X3 is project implementation, X4 is monitoring and evaluation and X5 is project closure. According to the results, project planning had a positive significant effect on the performance of school infrastructure construction projects (β=0.330, P<0.05). Project initiation had a positive significant relationship with the performance of school infrastructure construction projects (β=0.412, p<0.05). Project implementation had a positive significant association with the performance of school infrastructure construction projects (β=0.248, p<0.05). Monitoring and evaluation had a positive significant relationship with the performance of school infrastructure construction projects (β=0.174, p<0.05). Lastly, project closure had a significant relationship with the performance of school infrastructure construction projects (β=0.146, p<0.05).

For the first null hypothesis **$H0_1$:** There is a substantial affiliation between the initiation of projects and performance of school infrastructure construction Projects in West Pokot County, Kenya. The findings indicate that project initiation affected the performance of school infrastructure construction Projects (p<0.05). This implied that an increase in project initiation results to more performance of school infrastructure

construction projects. Gichure and Gachengo (2022) supported the study by finding that project initiation had a positive and significant impact on the performance of water initiatives. The study concluded that the project initiation procedure aims to define the project at a high level and connect it to the operationally required solution to a company's problem.

The second null hypothesis **$H0_2$:** A substantial relationship between project planning and the performance of school Infrastructure Construction Projects in West Pokot County, Kenya. The results of the study show that project planning has an impact on how well infrastructure construction projects at schools perform ($p<0.05$). This suggests that the infrastructure construction projects at the school perform better when there is more project planning. According to Heravi et al. (2018), the four stakeholder groups' levels of involvement in project planning guaranteed a favorable impact on the projects' performance.

The third null hypothesis **$H0_3$:** There is a substantial relationship between project implementation strategies and the performance of school Infrastructure construction Projects in West Pokot County, Kenya. The findings indicate that project implementation affects the performance of schools' Infrastructure Construction Projects ($p<0.05$). It indicates that an increase in project planning activities leads to an increase in the performance of school infrastructure construction projects. Magagan and Ngugi (2021) demonstrate that project risk management improves project performance. Additionally, project performance is positively impacted by project communication. Project performance is positively impacted by project leadership.

The fourth null hypothesis **$H0_4$:** There is a significant relationship between the evaluation monitoring and performance of school Infrastructure Construction Projects in West Pokot County, Kenya. Monitoring and evaluation improve the performance of school infrastructure construction projects, according to the study ($p<0.05$). It suggested that increased monitoring and assessment efforts result in improved school infrastructure construction project performance. The findings of the study are supported by Nabulu (2015), who found that M&E is essential to the success of any project. Additionally, continuous improvement in project management is made up of three main processes: quality, time, and money.

The fifth null hypothesis **$H0_5$:** There is a significant relationship between project closure and performance of schools' Infrastructure construction Projects in West Pokot County, Kenya. The findings of the study show that project closure has a positive ($p<0.05$) impact on the performance of infrastructure projects for schools in West Pokot County, Kenya. This suggests that school infrastructure construction projects in West Pokot County, Kenya, perform better the more project closure activities are implemented. Project closing is an essential and required procedure, particularly for megaprojects, claim Zohrehvandi et al. (2017). During the closing phase, megaprojects often encounter disputes, claims, financial constraints, and a lack of necessary resources.

CHAPTER FIVE

SUMMARY OF THE FINDINGS, CONCLUSION AND RECOMMENDATION

5.1 Introduction

The researcher concluded a study summary before drawing conclusions and suggested recommendations based on the research thesis outcomes and analysis in chapter five.

5.2 Summary of the Findings

This research thesis aimed to examine project life cycle management and the performance of infrastructure construction projects in secondary schools in West Pokot County, Kenya. The Project life cycle variables were the project initiation, project planning, project implementation, monitoring and evaluation, and project closure.

5.2.1 Effects of the Process of Initiation on the Performance of a Project

This study's first goal was to determine the effect of project initiation on the performance of school infrastructure construction Projects in West Pokot County, Kenya. Findings indicate that there was almost an agreement that a proper initiation process is key to achieving an effective project plan with a mean of 3.873 while the standard deviation being .8210. The overall mean of the responses about project initiation activities was 3.023 with a standard deviation of .5416. Overall mean depicts that most of the responses as leaning towards neutral and that most of the respondents remained neutral when it came to all the statements. Correlation outcomes indicate the existence of a moderate connection between project initiation and project performance ($r=0.517$, $p<0.05$). Additionally, the regression outcomes indicate that there was a substantial relationship between project initiation and the performance of school infrastructure construction Projects (($p=.002$).

5.2.2 Effect of Project Planning on the Performance of a Project

The second research goal was to identify impact of project planning on the performance of school Infrastructure Construction Projects in West Pokot County, Kenya. Some of the key findings are as follows; most responses were inclined towards an agreement in terms of the statement project planning creation is often undertaken to ensure that there is effective planning of the project. There was a neutral response that all the resources that are needed to ensure that the planning phase is done and there was almost an agreement that there is always review and approval of the plan and activities. Outcomes

of correlation indicate that affiliation between project planning and project performance ($r=0.498$, $p<0.05$) was moderate. On the other hand, the regression analysis shows a significant association between project planning and project performance ($p=.020$).

5.2.3 Effect of Project Implementation on Performance of a Project

The third study aim was to establish the effect of project implementation strategies on the performance of school Infrastructure construction Projects in West Pokot County, Kenya. There was an agreement that there is workflow organization to ensure that there is an effective implementation as braced by a mean of 4.164 with a standard deviation of .669. There was an agreement that team organization and assignment to each member's roles to ensure that there is smooth implementation is always done with a mean of 4.055 and a standard deviation of .556. There is an agreement that there is a continuous application for funds for the project as indicated by a mean of 4.036 and a standard deviation being .604. The overall mean of the statements was 4.020 suggesting that that there was an acceptance of the statements and the standard deviation was .5458 showing minor variation in reactions issued by responders. Thus, project implementation influences the performance of school projects.

Correlation outcomes hint that there was a moderate association between project implementation and project performance ($r=0.652$, $p<0.05$). On the other hand, regression analysis depicted a considerable connection between project implementation and project performance ($p<0.05$).

5.2.4 Effect of Monitoring and Evaluation on the Performance of a Project

Research's fourth goal was to examine the effect of monitoring and evaluation on the performance of school Infrastructure Construction Projects in West Pokot County, Kenya. There was an agreement by the respondents that there is project tracking by the team to enable assessment of how the project is going as supported by a mean of 4.064 and a standard deviation of 8162. Most of the respondents agreed that the project team is also monitored to ensure that there they are effective and delivering as per the requirements and timeline as supported by a mean of 4.173 and a standard deviation of 0.8660. Additionally, there was an agreement among the respondents that there is an active monitoring and evaluation to ensure that stakeholder needs are implemented as planned with a mean of 4.300 and the standard deviation being 0.9096. The overall mean for the statement was 3.942 and the standard deviation being .4983 indicating that

there was an inclination towards agreement among the respondents. This means that the performance of a school's infrastructure projects is influenced by monitoring and evaluation. There is a moderate relationship between monitoring and evaluation and project performance ($r=0.573$, $p<0.05$). Additionally, monitoring and evaluation have a helpful effect on performance of school infrastructure construction projects ($p<0.05$).

5.2.5 Effect of Project Closure on the Performance a Project

The fifth goal of the research thesis was to find out the influence of project closure on the performance of school Infrastructure Construction Projects in West Pokot County, Kenya. There was an agreement that when a project is closed, the school conducts performance analysis as revealed by the mean being 4.191 with a standard deviation of 0.6525. There was an agreement among the respondents that at the closure of the project, there is always Budget compliance analysis as reinforced by a mean of 4.091 and a standard deviation of .5455. The research findings indicate that most of the respondents agreed that at the closure of the project, there is always the project closure documentation as braced by a mean of 4.127 and a standard deviation of .4502. The overall mean of the statements is 3.433 and a standard deviation of .5615 indicating that the overall response pointed at the fact that the respondents were neutral on whether project closure affects the performance of school projects. There is a moderate relationship between project closure and project performance ($r=0.476$, $p<0.05$). There is a significant association between project closure and the performance of school Infrastructure construction Projects in West Pokot County, Kenya ($p<0.05$).

5.3 Conclusions

This study has come up with various deductions based on the obtained findings.

The research concludes that project initiation affects the performance of the school infrastructure construction Projects in West Pokot County, Kenya. Some features of project initiation that affect school infrastructure construction projects include ineffective project feasibility, poor scope identification, and lack of effective stakeholder identification and the application of the project charter.

The project planning do affect the performance of the school's infrastructure construction Projects in West Pokot County, Kenya. Some of the project planning aspects that affect the performance of school infrastructure construction Projects in West Pokot County, Kenya include lack of effective planning, inadequate workflow

arrangement, inadequate resources being allocated, and challenges with the review and approval of the project plan.

Project implementation strategies impact the performance of school Infrastructure Construction Projects in West Pokot County, Kenya. Additionally, some of the issues that have been found to affect the performance of school Infrastructure construction Projects include task creation, workflow organization, budget management, roles and assignments given to each member, and continuous lobbying for more project funds.

Monitoring and evaluation influences performance of school infrastructure construction projects. Furthermore, some of the features of monitoring and evaluation that do affect the performance of school Infrastructure construction projects include financial monitoring, quality monitoring, project tracking, project team monitoring, and active monitoring and evaluation.

The study's conclusion is that project closure does affect the performance of schools Infrastructure construction Projects in West Pokot County, Kenya. Some of the project closure aspects that affect project performance include performance analysis, team performance analysis, budget compliance analysis, project closure documentation, and post-project review and evaluation.

5.4 Recommendations

Based on the discoveries of the study, some recommendations can be adopted to improve the life cycle management and performance of infrastructure construction projects in secondary schools in West Pokot County, Kenya. The recommendations are as follows:

In terms of project initiation, there is the need to ensure that there is effective and thorough school project feasibility to ensure that there is a better understanding of the projects before they are executed. Scope identification should be done by factoring in the objective of the project and the requirements of the users of the project. Relevant and essential stakeholder should be identified for the project and their needs should be factored in the project. The opinion of the teachers, students, parents, community, and partners such as the donors and the Ministry of Education should be taken into consideration.

Regarding project planning, the study's recommendation is that there should be effective planning that is done in schools in relation to all the relevant areas of the

project that are crucial for success. First, there is the need to ensure that workflow is well planned to ensure that is no confusion that can delay or affect the quality of the project. Secondly, all the resources needed should be made available even before the project begins to ensure smooth implementation. Thirdly, there is the need to have an expert to do the review and approve the project plan and this is to ensure that all dangers that might distress the project are recognized and eliminated earlier enough.

When it comes to project implementation, the study recommends that there should better practices to ensure smooth implementation in schools. First, there is the need to improve task creation and that is having tasks assigned to individuals who are experts in those areas. Secondly, the workflow must be organized against certain gaols and completion time to guarantee that the project is always on track. Thirdly, the cost must be managed well and this through having a budget committee that approves the expenditure and review the budget allocation. Assignment given to each member should have performance indicators to ensure that all those involved know what is expected of them.

In terms of monitoring and evaluation of the performance of infrastructure construction projects, there are areas that need improvement when implementing school projects. The first recommendation is that there is the need to ensure that there is financial monitoring. Money allocated for the project should not be misused as it affects the project. Secondly, quality monitoring should be done regularly at each stage and should be done by an expert. Thirdly, project team should be monitored to ensure that there are conflicts among the employees which can derail the project and also the team should be monitored to ensure that they are doing what is expected of them. Lastly, continuous monitoring and evaluation should be done, and this should be based on a check list that is reviewed daily or at certain stages of the project.

Regarding project closure, there are recommendations that have been made by the study regarding school projects. The first recommendation is that there is the need for the school management to conduct performance analysis of the projects and this is by assessing if the project has meet the needs of the users or what it was intended for, and this can be through assessing all the aspects of the project. Secondly, budget compliance analysis should be done, and this is to ensure that there has been no misuse of the money allocated for the project that can result to poor quality such as the purchase of poor-quality materials. Thirdly, a report should be documented about the project based on

how the implementation was done, challenges that were faced and how they were overcome. Lastly, there is the need for an elaborate post project review and assessment to guarantee that that the project is performing as envisioned and if there are issues, they can be rectified earlier enough.

5.5 Areas for Further Research

This study did not exhaust all study areas as it was only limited Project life cycle variables were; project initiation, project planning, project implementation, monitoring and evaluation, and project closure effects on the performance of infrastructure construction projects in secondary schools in West Pokot County, Kenya. Thus, it is the study's recommendation that it be replicated within other counties in Kenya since the study is not representative. What was analyzed was limited to the responses given with the regression analysis indicating that the project life cycle only affects 56.4% of the performance of infrastructure construction projects in secondary schools in West Pokot County, Kenya, thus indicating that other factors affect the performance that have not been captured in this study hence they should be considered for future studies.

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APPENDICES

Appendix I: Introductory Letter

To Responder,

RE: REQUEST FOR RESEARCH DATA

I am a master's student at the School of Business at Kenyatta University. I'm working on a management research study as part of my degree requirements. Research title is ***life cycle management and performance of infrastructure construction projects in secondary schools in West Pokot County, Kenya***. You have been picked to take part in this study. Please fill out the included questionnaire, which I will collect, in order to help me collect data. Your private data will only be employed for scholarly purposes. We and my supervisor agree to treat whatever information you share as absolutely confidential. Your identity will never be printed in my report. I shall issue you a copy of the completed document if you request for it. I appreciate your cooperation in advance and am looking forward to working with you.

Yours faithfully,

Festus Cheruiyot

Appendix II: Research Questionnaire

SECTION A: BIO-DATA

This section seeks to obtain general information from respondents.

Instructions:

Please respond to the questions honestly by marking (√) in the brackets provided or giving brief explanation where necessary.

1. What is your gender? Male [ ] Female [ ]
2. Which age bracket do you belong to?
    a) 18 – 25 Years [ ]
    b) 26 – 35 Years [ ]
    c) 36 – 45 Years [ ]
    d) 46 –55 Years [ ]
    e) Over 56 Years [ ]
3. What is your highest completed level of Education?
    a) Primary Certificate [ ]
    b) Secondary Certificate [ ]
    c) College Diploma [ ]
    d) University Degree [ ]
    e) Post Graduate[ ]

Section B: Project Initiation

Instructions:

Please indicate your response by putting an X to each itemusing the Likert scale of strongly disagrees to strongly agree.

To what extent do you agree or disagree with the following statements?

Likert scale whereby 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree.

Project initiation	**5**	**4**	**3**	**2**	**1**
Project feasibility always done before the start of any project					
Project scope identification is often before the start of any project					
There is always stakeholder identification before the start of any project					
All the projects that are identified and planned for by the school must have a project donors identification stage					
Proper initiation process is key to achieving an effective project plan					
There is always the development of the project charter to guide the entire process					

How else does project initiation influence project performance?

_____

_____-

Section C: Project Planning

Instructions:

Please indicate your response by indicating on Likert scale of strongly disagrees to strongly agree your level of agreement.

To what extent do you agree or disagree with the following statements?

Project Planning	**5**	**4**	**3**	**2**	**1**
Project planning creation is often done in order to ensure that there effective planning of the project					
There is the creation of the workflow that is needed for the project planning					
All the resources that are needed to ensure that the planning phase is done					
Team organization is done at this stage to ensure that all the needed manpower is made available for the project					
There is always review and the approval of the overall plan and activities					

How else does project planning influence project performance?

_____

_____

Section D: Project Implementation

Instructions:

Please indicate your response by putting an X to each item using the Likert scale of strongly disagrees to strongly agree.

To what extent do you agree or disagree with the following statements?

Project implementation	**5**	**4**	**3**	**2**	**1**
There is always tasks creation to ensure that there is smooth implementation of the school projects					
There is workflow organization to ensure that we have an effective implementation					
Budget management is often done to ensure that there is effective project implementation					
Team organization and assignment to each member roles to ensure that there is smooth implementation is always done					
The stage also involves continuous application for funds for the project					

How else does project planning influence project performance?

_____

_____

Section E: Monitoring and Evaluation

Instructions:

Please indicate your response by putting an X to each item using the Likert scale of strongly disagrees to strongly agree.

To what extent do you agree or disagree with the following statements?

Monitoring and Evaluation	**5**	**4**	**3**	**2**	**1**
Financial monitoring is done to ensure there is no misuse or misappropriation					
Quality monitoring and evaluation is always done to the projects that are being undertaken					
There is the project tracking by the team to enable use to assess how the project is going					
The project team is also monitored to ensure that there they are effective and delivering as per the requirements and timeline					
The active monitoring and evaluation ensure that stakeholder needs are implemented as planned					

How else does monitoring and evaluation influence project performance?

_____

_____

Section F: Project closure

Instructions:

Please indicate your response by putting an X to each item using the Likert scale of strongly disagrees to strongly agree.

To what extent do you agree or disagree with the following statements?

Project closure	**5**	**4**	**3**	**2**	**1**
When we close the project, we often conduct performance analysis					
At the closure of the project there is team performance analysis					
At the closure of project there is always Budget compliance analysis					
At the closure of the project, there is always the project closure documentation					
At the closure of the project, we conduct post-project review and evaluation					

How else does project closure influence project performance?

_____

_____

Section G: Performance of School Projects

Instructions:

Please indicate your response by putting an X to each item using the Likert scale of strongly disagrees to strongly agree.

To what extent do you agree or disagree with the following statements?

Project closure	**5**	**4**	**3**	**2**	**1**
Quality of the project is always checked					
Project scope compliance is always assessed					
Schedule compliance is always a top priority					
Budget compliance is followed when executing a project					
Student and teacher's satisfaction is often evaluated					

Section H: Recommendations

What are some of the recommendations that you think that can be adopted to improve the life cycle management and performance of infrastructure construction projects in secondary schools in West Pokot County, Kenya?

_____

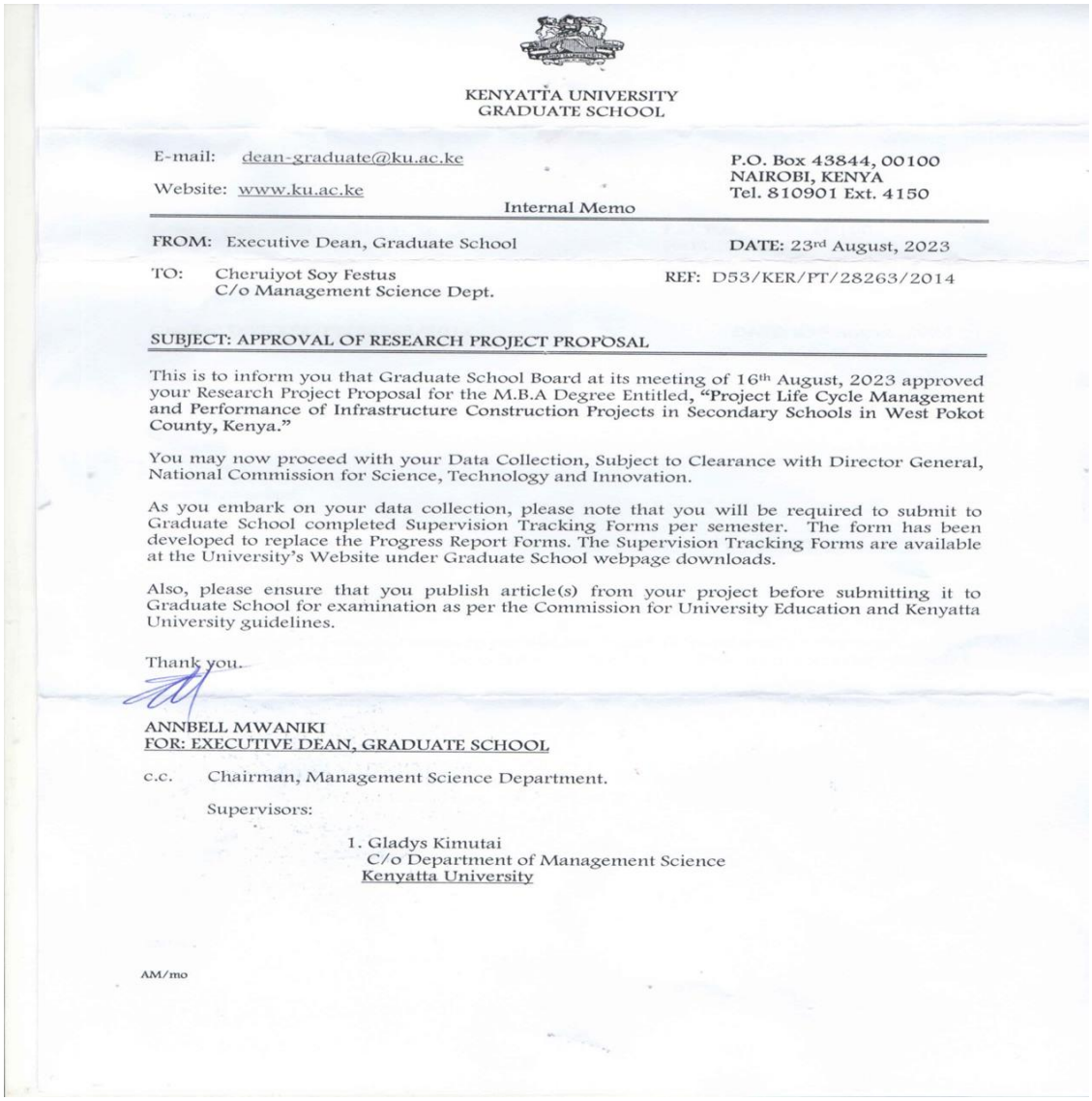
_____

_____

_____

_____

Appendix III: Research Approval



KENYATTA UNIVERSITY
GRADUATE SCHOOL

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Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 810901 Ext. 4150

Internal Memo

FROM: Executive Dean, Graduate School

DATE: 23rd August, 2023

TO: Cheruiyot Soy Festus
C/o Management Science Dept.

REF: D53/KER/PT/28263/2014

SUBJECT: APPROVAL OF RESEARCH PROJECT PROPOSAL

This is to inform you that Graduate School Board at its meeting of 16th August, 2023 approved your Research Project Proposal for the M.B.A Degree Entitled, "Project Life Cycle Management and Performance of Infrastructure Construction Projects in Secondary Schools in West Pokot County, Kenya."

You may now proceed with your Data Collection, Subject to Clearance with Director General, National Commission for Science, Technology and Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking Forms per semester. The form has been developed to replace the Progress Report Forms. The Supervision Tracking Forms are available at the University's Website under Graduate School webpage downloads.

Also, please ensure that you publish article(s) from your project before submitting it to Graduate School for examination as per the Commission for University Education and Kenyatta University guidelines.

Thank you.

ANNBELL MWANIKI
FOR: EXECUTIVE DEAN, GRADUATE SCHOOL

c.c. Chairman, Management Science Department.

Supervisors:

1. Gladys Kimutai
C/o Department of Management Science
Kenyatta University

AM/mo

Appendix IV: Research Authorization

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 8710901 Ext. 57530

Our Ref: D53/KER/PT/28263/2014

DATE: 23rd August, 2023

Director General,
National Commission for Science, Technology
and Innovation
P.O. Box 30623-00100
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR CHERUIYOT SOY FESTUS – REG. NO. D53/KER/PT/28263/2014

I write to introduce Cheruiyot Soy Festus who is a Postgraduate Student of this University. He is registered for M.BA degree programme in the Department of Management Science.

Cheruiyot intends to conduct research for a M.BA Project Proposal entitled, "Project Life Cycle Management and Performance of Infrastructure Construction Projects in Secondary Schools in West Pokot County, Kenya."

Any assistance given will be highly appreciated.

Yours faithfully,

PROF. ELISHIBA KIMANI
EXECUTIVE DEAN, GRADUATE SCHOOL

AM/mo

Appendix IV: NACOSTI Research License

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **553255**

Date of Issue: **20/September/2023**

RESEARCH LICENSE

This is to Certify that Mr.. Festus cheruiyot Soy of Kenyatta University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Westpokot on the topic: PROJECT LIFE CYCLE MANAGEMENT AND PERFORMANCE OF INFRASTRUCTURE CONSTRUCTION PROJECTS IN SECONDARY SCHOOLS IN WEST POKOT COUNTY, KENYA. for the period ending : 20/September/2024.

License No: **NACOSTI/P/23/29531**

553255

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

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See overleaf for conditions