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Strategic Management Practices Influencing Implementation of Road Maintenance Projects in Kiambu County, Kenya

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ABSTRACT

Purpose: The general objective of this study is to establish the strategic management practices influencing implementation of road maintenance projects in Kiambu County, Kenya. Specifically, the study sought to investigate whether staff competence and access to funding influences the implementation of road maintenance projects in Kiambu County. This study was guided by Human Capital Theory and Resource-Based View (RBV) Theory.

Methodology: The study adopted a descriptive research design. The target population for this study comprised employees and officials involved in the implementation of road maintenance projects in Kiambu County, Kenya. The target population included technical officers from Kiambu County, regional road agencies. The study targeted a total of 23 projects implemented in Kiambu County by the three road agencies in Kenya. The study targeted a total population of 180 respondents drawn from various departments associated with road maintenance projects in Kiambu County. The sample for this study was arrived at using the Slovin's sample size determination formula. Therefore, the study sample size was 126 respondents. The study used a structured questionnaire as the primary data collection instrument. The researcher carried out a pilot study to ensure the data collection tool is reliable and valid. The pretesting sample was made of 13 respondents, representing 10% of the sample size. This study collected quantitative data. The quantitative data was coded then analyzed using Statistical Package for Social Sciences (SPSS) computer software version 28. Descriptive statistics was used to analyze the data in frequency distributions and percentages which was presented in tables and figures. The study also adopted multiple regression analysis to test the relationships between the variables.

Findings: The study concludes that staff competence and access to funding have a positive and significant influence on the implementation of road maintenance projects in Kiambu County.

Unique Contributions to Theory, Policy, and Practice: Based on the findings, the study recommends that road maintenance projects in Kenya should prioritize strengthening staff competence through continuous professional training, skills development programs, technical workshops, and capacity-building initiatives. Enhancing the knowledge and expertise of project personnel will improve their ability to execute project activities effectively, make informed decisions, and address emerging challenges promptly

Keywords: *Strategic Management Practices, Staff Competence, Access to Funding, Road Maintenance Projects*

Background of Study

According to the World Bank, road transport accounts for more than 80% of passenger and freight movement in many developing countries, making roads one of the most important forms of infrastructure (Kiprop & Wanyoike, 2025). The implementation of road maintenance projects is important because it helps preserve road quality, improve safety, and extend the lifespan of road infrastructure. Maintenance activities such as pothole patching, resurfacing, and drainage improvement prevent roads from deteriorating quickly due to heavy traffic and harsh weather conditions (Jebitok & Nzulwa, 2023). The World Bank states that every dollar spent on timely road maintenance can save four to five dollars in future rehabilitation costs. Properly maintained roads also reduce vehicle operating costs, minimize travel time, and improve the efficiency of transporting goods and services. In addition, improved roads support economic growth by encouraging trade, tourism, and investment opportunities while creating employment during maintenance and construction activities (Nzuki & Mutuku, 2024).

Road maintenance projects also contribute significantly to social welfare, road safety, and environmental sustainability. Good roads improve access to schools, hospitals, and markets, especially in rural areas, thereby enhancing the quality of life and reducing regional inequalities (Bouraima, *et al*, 2022). According to the African Development Bank, proper road maintenance can reduce transport costs in Africa by up to 50%. Furthermore, poorly maintained roads increase the likelihood of accidents due to potholes, damaged bridges, and unclear road markings. The World Health Organization estimates that road traffic accidents cause about 1.19 million deaths globally each year. Well-maintained roads reduce accidents, lower fuel consumption, and decrease vehicle emissions, contributing to safer and more environmentally sustainable transportation systems (Ngugi, Nzulwa & Kwena, 2025).

Strategic Management Practices refer to the systematic actions, methods, and managerial approaches adopted by an organization to formulate, implement, monitor, and evaluate strategies aimed at achieving organizational goals and improving performance (Ahmad & Shibly, 2025). These practices involve setting objectives, allocating resources, making informed decisions, establishing policies, coordinating activities, and continuously assessing both internal capabilities and external conditions to ensure effective achievement of desired outcomes (Pournasir, 2023). Staff competency refers to the knowledge, skills, experience, and abilities possessed by employees that enable them to perform their duties effectively and efficiently. Competent staff contribute to improved decision-making, quality service delivery, innovation, and achievement of organizational objectives through their technical expertise and professional capability (Abeygoonesekera & Pushpakumari, 2024). Access to funding refers to the availability of adequate financial resources required to support organizational activities, operations, and development initiatives. Sufficient funding enables organizations to acquire necessary resources, maintain operations, invest in infrastructure, and implement planned activities without unnecessary interruptions (Bakar, *et al*, 2020). This study sought to establish the strategic management practices influencing implementation of road maintenance projects in Kiambu County, Kenya.

Road maintenance projects in Kiambu County play a critical role in improving transport efficiency, enhancing accessibility, and supporting economic growth within the county. The county government has invested heavily in the rehabilitation, grading, graveling, and upgrading of feeder and rural access roads to ensure that residents can move goods and services more effectively (Kiprop & Wanyoike, 2025). Recent initiatives have focused on the use of county-owned machinery such as graders, rollers, excavators, and water bowsers to reduce construction costs and improve efficiency in project implementation. According to the county government, more than 700 rural access roads had been rehabilitated across 40 wards, while over 1,687 kilometres of roads had been graded and 725 kilometres gravelled across the county. These projects have significantly improved connectivity between rural farming zones, trading centres, schools, and health facilities (Jebitok & Nzulwa, 2023).

Road maintenance projects in Kiambu County have also contributed to reducing transport challenges caused by poor road conditions, especially during rainy seasons. Many roads in areas such as Ruiru, Juja, Kiambaa, Limuru, and Thika had previously become impassable due to flooding, potholes, and poor drainage systems (Nzuki & Mutuku, 2024). To address these challenges, the county government has integrated drainage improvements into road rehabilitation works through the installation of culverts, gabions, and stone pitching in flood-prone areas. Projects such as the rehabilitation of Church Road and Gachichio Road in Kiamumbi and the upgrading of the Muchatha–Kaiyaba road have improved mobility, reduced dust pollution, and enhanced road durability. Improved roads have also reduced travel time and vehicle operating costs while increasing safety for pedestrians and motorists (Bouraima, *et al*, 2022).

Additionally, road maintenance projects in Kiambu County have stimulated socio-economic development and increased investment opportunities within the region. Improved road infrastructure has enhanced access to markets for agricultural producers, boosted property values, and encouraged commercial and residential development in rapidly urbanizing areas near Nairobi (Ngugi, Nzulwa & Kwena, 2025). The county has allocated substantial financial resources toward infrastructure improvement, including billions of shillings for road upgrading and rehabilitation programmes. For example, the county's infrastructure programme includes major road reconstruction initiatives and urban road upgrades supported by both the county government and development partners such as the World Bank and Agence Française de Développement (AFD). These maintenance projects therefore contribute not only to better transportation but also to employment creation, business growth, and long-term regional development in Kiambu County (Kiprop & Wanyoike, 2025).

Statement of Problem

In Kenya, road infrastructure supports regional integration and rural connectivity under development frameworks such as Vision 2030. In counties such as Kiambu County, road maintenance is especially important due to high population density and strong economic links with Nairobi, which depend on reliable transport networks for commuting, trade, and service delivery (Nzuki & Mutuku, 2024). Road maintenance projects in Kiambu County face significant budget-related constraints, which often delay implementation and reduce the quality of outcomes. Although funds from the Road Maintenance Levy Fund, are allocated to counties, they are frequently insufficient, compared to the scale of road deterioration and maintenance needs (Bouraima, *et al*, 2022). Across Kenya, road maintenance funding has experienced fluctuations, with reports showing a 28% decline in road repairs and rehabilitation in the 2024/2025 period, largely due to budget cuts affecting national and county road agencies (Ngugi, Nzulwa & Kwena, 2025). In Kiambu specifically, audit reports have also highlighted cases where large allocations (over Sh430 million in previous years) still left many roads in poor condition, suggesting inefficiencies and funding gaps in translating budgets into tangible road quality improvements. These financial limitations are worsened by competing county priorities, pending bills, and delays in disbursement, all of which disrupt continuous maintenance schedules (Kiprop & Wanyoike, 2025).

Time constraints and failure to achieve project objectives further compound the challenges facing road maintenance in Kiambu County. Many projects experience delays in completion and cost overruns, over 50% of road construction and maintenance projects in Kenya are completed late (Jebitok & Nzulwa, 2023). Such delays are often caused by procurement bottlenecks, contractor inefficiencies, and inconsistent funding flows, which slow down planned maintenance activities. As a result, objectives such as improving road accessibility, reducing transport costs, and enhancing economic connectivity are only partially achieved or delayed beyond intended timelines (Nzuki & Mutuku, 2024). In Kiambu, some roads remain in poor condition for extended periods despite allocated resources, showing a gap between planning and actual implementation. Ultimately, these time delays reduce the effectiveness of maintenance efforts, leading to deteriorating road conditions that require more costly rehabilitation in the future (Bouraima, *et al*, 2022).

Strategic management practices influence the implementation of road maintenance projects by guiding planning, resource use, and performance monitoring. Various studies have been conducted in different parts of the world on strategic management practices and project implementation. For instance, Ali and Wambua (2022) examined on strategic management practices and performance. Vita and Genga (2023) assessed on strategic management practices and implementation of projects and Mwando and Muturi (2021) investigated on strategic management practices in the government of Kenya ministries and their role on change implementation. However, none of these studies focused on staff competency and access to funding on implementation of road maintenance projects in Kiambu County, Kenya. To fill the highlighted gaps the current study sought to establish the strategic management practices (staff competency and access to funding) influencing implementation of road maintenance projects in Kiambu County, Kenya.

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Research Objectives

General Objective

The general objective of this study is to establish the strategic management practices influencing implementation of road maintenance projects in Kiambu County, Kenya.

Specific Objectives

The specific objectives of this study are:

i. To investigate whether staff competence influences the implementation of road maintenance projects in Kiambu County.
ii. To determine whether access to funding influences the implementation of road maintenance projects in Kiambu County.

Theoretical Review

Human Capital Theory

Human Capital Theory developed by Gary Becker and Theodore Schultzin (1964), entails the view that individuals possess productive value that can be enhanced through investment in their knowledge, skills, competencies, and health. It conceptualizes human abilities as a form of capital that contributes to economic output and organizational performance (Hutchinson, Hogan & Newsom, 2022). The theory emphasizes that the accumulation of such capabilities is not incidental but results from deliberate investments that increase an individual's productive capacity over time. At its core, Human Capital Theory explains the relationship between investment in people and improvements in productivity and efficiency (Musafiri & Dushimimana, 2024). It assumes that education, training, and skill development are forms of capital formation that yield future economic returns. This perspective positions individuals not merely as labor inputs but as assets whose value can grow through continuous development and enhancement (Muriuki & Nkirina, 2021).

The theory also highlights the role of decision-making in allocating resources toward human development. It suggests that rational actors whether individuals, organizations, or governments evaluate the expected benefits of investing in human capital against the associated costs (Toroitich, Mburugu & Waweru, 2020). The emphasis is therefore on optimizing returns through improved performance, adaptability, and innovation capacity. Human Capital Theory provides a framework for understanding how improvements in human abilities contribute to broader economic and organizational advancement. It underscores the importance of sustained investment in human potential as a key driver of long-term productivity and development (Wafula & Makokha, 2025). This theory was used to investigate whether staff competence influences the implementation of road maintenance projects in Kiambu County.

Resource-Based View (RBV) Theory

The Resource-Based View (RBV) Theory developed by Jay Barney (1991) is a strategic management perspective that explains organizational performance and competitive advantage based on the internal resources and capabilities that a firm possesses. It posits that organizations are heterogeneous in terms of their resource endowments, and these differences are central to explaining variations in performance (Hussein, 2025). The theory emphasizes that sustained competitive advantage arises not from external positioning alone, but from the effective development, acquisition, and utilization of internal resources that are valuable in achieving organizational objectives (Siborurema, Shukla & Mbera, 2020).

RBV further argues that for resources to generate sustained competitive advantage, they must possess specific attributes. These include being valuable in enhancing efficiency or effectiveness, rare in comparison to competitors, difficult to imitate due to unique historical conditions or complexity, and non-substitutable such that no equivalent alternative resources can easily replace them (Kiambi & Njeri, 2023). When these conditions are met, organizations are able to achieve performance outcomes that are difficult for competitors to replicate over time. Additionally, the theory highlights the importance of organizational capabilities in coordinating and deploying resources effectively. It recognizes that resources alone are not sufficient unless they are properly integrated within organizational processes and supported by appropriate structures and systems. Through continuous improvement and strategic alignment of internal assets, organizations can maintain long-term competitiveness in dynamic environments (Mugira & Simiyu, 2024). This theory was used to determine whether access to funding influences the implementation of road maintenance projects in Kiambu County.

Conceptual Framework

A Conceptual framework is a hypothesized model identifying the model under study and the relationships between the dependent variable and the independent variables. A variable is a measurable characteristic that assumes different values among the subjects (Mugenda & Mugenda, 2018). The conceptual framework of this study will be based on two independent variables and one dependent variable as represented diagrammatically in figure 1. According to the research, implementation of road maintenance was conceptualized as being dependent on staff competency and access to funding.

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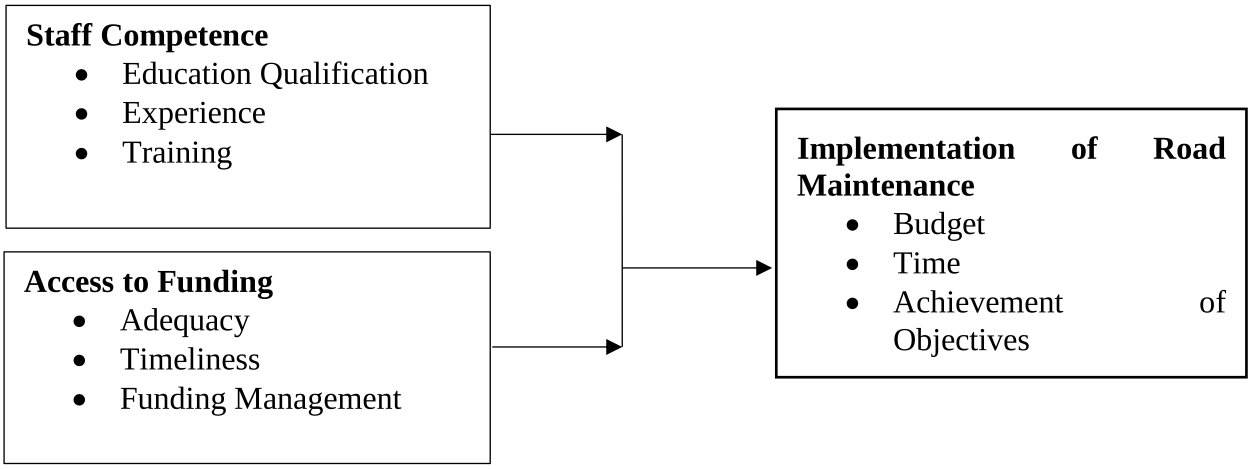

Independent Variables **Dependent Variable**

Figure 1: Conceptual Framework

Staff Competence

Staff competence refers to the combination of knowledge, technical skills, abilities, experience, and professional attributes that enable employees to perform assigned duties effectively and efficiently (Hutchinson, Hogan & Newsom, 2022). It encompasses the capacity of individuals to apply expertise, problem-solving skills, communication abilities, and professional judgment in carrying out organizational tasks and responsibilities. Staff competence also involves continuous learning, adaptability, teamwork, and adherence to professional standards, which collectively contribute to improved productivity, quality performance, and achievement of organizational objectives (Musafiri & Dushimimana, 2024). Education qualification refers to the level of formal academic achievement attained by an individual through structured learning and certification processes. It equips employees with theoretical knowledge, analytical abilities, and professional understanding necessary for effective performance of duties and responsibilities (Muriuki & Nkirina, 2021). Higher educational qualifications enhance the capacity to interpret information, make informed decisions, and apply technical concepts in organizational activities. Educational attainment also contributes to improved innovation, professionalism, and the ability to adapt to changing work environments and operational requirements (Toroitich, Mburugu & Waweru, 2020).

Experience refers to the practical knowledge and skills acquired by an individual through prolonged involvement in specific tasks, duties, or professional activities over time. It enables employees to develop expertise, confidence, and efficiency in handling responsibilities and solving work-related challenges (Wafula & Makokha, 2025). Experience enhances decision-making abilities, improves understanding of operational processes, and increases the ability to respond effectively to dynamic situations. Employees with adequate experience are often better positioned to achieve organizational goals through improved productivity, accuracy, and performance consistency (Hutchinson, Hogan & Newsom, 2022). Training refers to the systematic process of developing employees' knowledge, technical skills, competencies, and abilities to improve their effectiveness in performing assigned tasks. It involves structured learning activities designed to enhance professional capabilities, increase efficiency, and promote adaptability to new methods, technologies, and organizational changes (Musafiri & Dushimimana, 2024). Training contributes to improved employee performance by strengthening problem-solving skills, teamwork, communication, and technical proficiency. Continuous training also supports professional growth, enhances employee confidence, and promotes the achievement of organizational objectives through improved service delivery and operational efficiency (Muriuki & Nkirina, 2021).

Access to Funding

Access to funding refers to the ability of an organization or project to obtain adequate financial resources required to support operations, activities, and achievement of objectives. It involves the availability and acquisition of financial support from internal or external sources to facilitate planning, implementation, and sustainability of organizational activities (Opiyo, Tibbs & Odhiambo, 2022). Access to funding enhances the capacity to acquire necessary resources, meet operational costs, support innovation, and ensure continuity of activities. Adequate funding also contributes to improved efficiency, timely execution of responsibilities, and overall organizational performance. Adequacy refers to the sufficiency of financial resources available to support the successful execution of organizational activities and responsibilities (Hussein, 2025). Adequate funding ensures that necessary materials, equipment, personnel, and operational requirements are fully supported without interruptions or resource shortages. Financial adequacy enhances efficiency, productivity, and the ability to achieve planned objectives within the expected scope and quality standards. It also reduces delays, operational constraints, and challenges associated with insufficient resource allocation (Siborurema, Shukla & Mbera, 2020).

Timeliness refers to the availability and disbursement of financial resources at the required time to support smooth and continuous implementation of organizational activities. Timely funding enables organizations to meet operational schedules, fulfill financial obligations, and avoid disruptions that may affect performance and productivity (Kiambi & Njeri, 2023). Delays in funding can hinder planning, slow down execution of activities, and negatively affect achievement of objectives. Timeliness therefore enhances coordination, efficiency, and the ability to complete activities within established timelines. Funding management refers to the process of planning, allocating, controlling, monitoring, and utilizing financial resources in an efficient and accountable manner (Mugira & Simiyu, 2024). It involves ensuring that available funds are properly budgeted, utilized for intended purposes, and monitored to minimize wastage and financial mismanagement. Effective funding management promotes transparency, accountability, and optimal utilization of resources, thereby improving operational efficiency and organizational performance. Proper management of funds also supports financial sustainability, informed decision-making, and achievement of organizational goals and objectives (Opiyo, Tibbs & Odhiambo, 2022).

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Empirical Review

Staff Competence and Project Implementation

Hutchinson, Hogan and Newsom (2022) conducted a study on the effect of staff competence on project implementation of government funded projects in USA. The study was literature based. The study found that staff competence has a significant impact on project implementation and includes the combination of observable and measurable knowledge, skills, abilities and personal attributes that contribute to enhanced employee performance and ultimately result in organizational success. The study concluded that staff competence influences the effective implementation of projects.

Musafiri and Dushimimana (2024) examined on the effect of staff competence on project performance: a case of the national union of disabilities' organizations of Rwanda project implemented in Rubavu District, Rwanda by University of Rwanda - college of agriculture, animal sciences and veterinary medicine. The study employed a mixed-methods approach and targeted project team members, personnel engaged in project administration, and project beneficiaries. The study found strong positive correlations between staff competence and project performance. The study concluded that staff competence is connected with improved overall project performance.

Muriuki and Nkirina (2021) assessed on project staff competence a determiner of effective implementation of water sanitation and hygiene projects in Kenya: analysis of selected projects in Kibera, Nairobi County. The study employed a descriptive design and targetged a population of 435 from which a sample of 208 respondents was selected. The study found that staff competence influenced positively the implementation of the projects. The study concluded that it is important to recruit competent staff when implementing technical such as the Water, Sanitation and Hygiene.

Toroitich, Mburugu and Waweru (2020) investigated on the influence of employee competence on the implementation of electronic procurement in the selected county governments in Kenya. Descriptive research design was used and the target population was the 47 county governments in Kenya. A sample of 5 county governments was used in the study. The study found that employee competence has a significant positive influence on the implementation of e-procurement in county governments. The study concluded that training of staff on the use of e-procurement tools enhances the implementation of e-procurement.

Wafula and Makokha (2025) researched on project staff competency and implementation of road construction projects in western region, Kenya. The study adopted a descriptive research design. The target population was 85 professionals in road construction projects in Western Region. The study found that project staff competency had significant effect on implementation of road construction projects in Western region, Kenya. The study concluded that there was a very strong relationship between project staff competency and implementation of road construction projects in Western region.

Access to Funding and Project Implementation

Hussein (2025) researched on the impact of access to funding on organizational performance: a case study of NGOs in Jordan. The study used surveys conducted among 350 executive-level respondents in different sectors of registered NGOs. The study found that access to funding has direct impact on organizational performance. The study concluded that there is significant and positive relationship between access to funding and organizational performance in Jordanian NGOs.

Siborurema, Shukla and Mbera (2020) assessed on the effects of funding management on their performance in Rwanda. This research applied both qualitative and quantitative methods and the study used 60 people as the target population. The study found that funding management has a positive and significant effect on project performance in Rwanda. The study concluded that the relationship between funding management and project performance is positive and significant.

Kiambi and Njeri (2023) investigated on the influence of access to funding on implementation of government-funded projects in Imenti North Sub-County, Meru County. This study adopted the descriptive cross-sectional survey research design. The targeted population comprised 113 staff working in the selected five departments in Meru County Government. The study found that access to funding has significant weight on the successful implementation of projects. The study concluded that access to funding is essential for the successful implementation of projects.

Mugira and Simiyu (2024) conducted a study on the influence of access to funding on the implementation of constituency development fund projects in Kenya: a case of Juja Constituency. A survey research design was used in this study and a census sampling was composed of all the 80 employees from Juja CDF offices. The study found that access to funding influence strategy implementation on development funded projects in Juja constituency. The study concluded that access to funding had a significant effect on implementation of projects.

Opiyo, Tibbs and Odhiambo (2022) examined on funding management and project implementation in Butere, Kenya. The study adopted a case study design. The study targeted a population of 135 and a sample of 100 was selected using purposive sampling method. The study found that funding management affect project implementation in Butere, Kenya. The study concluded that funding management had a great effect on project implementation in Butere, Kenya.

RESEARCH METHODOLOGY

Research Design

The study adopted a descriptive research design. A descriptive research design was appropriate because it enable the researcher to collect quantitative and qualitative data in order to describe the characteristics, opinions, attitudes, and behaviors of the respondents regarding the influence of strategic management practices on the implementation of road maintenance projects. The design is suitable for this study since it facilitated the establishment of relationships between the independent variables, namely staff competence, management support, access to funding, and stakeholder participation, and the dependent variable, implementation of road maintenance projects.

The descriptive research design also enabled the researcher to gather information from a large population within a short period and at a relatively low cost. The design further allowed the use of structured questionnaires for data collection, thereby enhancing objectivity and uniformity in the responses obtained from the respondents.

Target Population

The target population refers to the entire group of individuals or objects possessing characteristics relevant to the study. The target population for this study comprised employees and officials involved in the implementation of road maintenance projects in Kiambu County, Kenya. The target population included technical officers from Kiambu County, regional road agencies [Kenya National Highways Authority (KeNHA), Kenya Urban Roads Authority (KURA) and Kenya Rural Roads Authority (KeRRA)] and road contractors implementing road maintenance projects in Kiambu County. The study targted a total of 23 projects implemented in Kiambu County by the three road agencies in Kenya. The study targeted a total population of 180 respondents drawn from various departments associated with road maintenance projects in Kiambu County.

Table 1: Target Population

Category	**Target Population**
County Engineers	20
Project Managers	25
Procurement Officers	30
Finance Officers	35
Road Inspectors	40
Administrative Officers	30
Total	**180**

Sample Size and Sampling Design

A sample is a representative of certain known percentage, frequency distributions of elements' characteristics similar to the corresponding distributions within the whole population (Kasomo, 2019). The sample for this study was arrived at using the Slovin's sample size determination formula for categorical data.

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

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Where n is the sample size, and N is the population size, e- acceptable sampling error (0.05)

$$= \frac{184}{1+184(0.05^2)}$$

$$= \frac{184}{1.46} = 126$$

n≈ 126

Therefore, the study sample size was 126 respondents.

Data Collection Instruments

The study used a structured questionnaire as the primary data collection instrument. The structured questionnaire was appropriate because it enabled the researcher to collect standardized data from the respondents in a consistent and organized manner. The instrument also allowed respondents to provide information conveniently within a short period of time.

The questionnaire consisted mainly of closed-ended questions based on a five-point Likert scale. The Likert scale ranged as follows:1 = Strongly Disagree,2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly Agree. The structured questionnaire was preferred because it enhanced uniformity in responses, reduce interviewer bias, and facilitate easier coding and analysis of data using the Statistical Package for Social Sciences (SPSS).

Pilot Testing

A pilot study, or pilot test or pre-test is defined as small-scale preliminary research that is conducted to evaluate time, cost, and feasibility to improve on the design of a particular study prior to conducting the actual one or full-scale research project (Kultar, 2019). The researcher carried out a pilot study to ensure the data collection tool is reliable and valid. The pilot test helped correct some of the challenges encountered before undertaking the final study. According to Lancaster, Dodd, and Williamson (2019), the sample size for high precision pilot studies should be between 1% and 10%. The pretesting sample was made of 13 respondents, representing 10% of the sample size. The results from the pilot test were not used in the main study. In addition, the respondents used in the pilot test weree excluded from the final study.

Data Analysis and Presentation

This study collected quantitative data. The quantitative data was coded then analyzed using Statistical Package for Social Sciences (SPSS) computer software version 28. The choice of the software is influenced by its ability to appropriately create graphical presentation of questions, data reporting, presentation and publishing. SPSS is also able to handle large amount of data and it is purposefully designed for social sciences.

Descriptive statistics was used to analyze the data in frequency distributions and percentages which were presented in tables and figures. Discussions and presentations of the analyzed data were done in tables of frequency distribution, percentages, bar graphs and pie charts. Measures of dispersion were used to provide information about the spread of the scores in the

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distribution. The study also adopted multiple regression analysis to test the relationships between the variables.

The multiple regression model was as follows:

$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \varepsilon$

Where;

Y = dependent variable (the implementation of road maintenance projects in Kiambu County, Kenya)

X_1 = Staff Competence

X_2 = Access to Funding

β_0 = the constant term

β_{1-2} = the Beta coefficient

ε = the error term

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

Response Rate

The researcher sampled 126 respondents who were each administered with the questionnaires. From the 126 questionnaires 108 were completely filled and returned hence a response rate of 85.7%. The response rate was considered as suitable for making inferences from the data collected. As indicated by Ngechu (2018), a response rate that is above fifty percent is considered adequate for data analysis and reporting while a response rate that is above 70% is classified as excellent. Hence, the response rate of this study was within the acceptable limits for drawing conclusions and making recommendations.

Descriptive Statistics Analysis

Staff Competence and Project Implementation

The first specific objective of the study was to investigate whether staff competence influences the implementation of road maintenance projects in Kiambu County. The respondents were requested to indicate their level of agreement on statements relating to staff competence and the implementation of road maintenance projects in Kiambu County. The results were as presented in Table 2.

From the results, the respondents agreed that staffs involved in project implementation possess relevant academic qualifications for their assigned roles (M=3.871, SD=0.876). In addition, the respondents agreed that the educational background of staff enhances their ability to perform project tasks effectively (M=3.852, SD=0.521). Further, the respondents agreed that experienced staff contributes to efficient execution of project activities (M=3.830, SD=0.917).

From the results, the respondents agreed that the level of staff experience positively influences the quality of project implementation (M=3.818, SD=0.888). In addition, the respondents agreed that staffs regularly receive training relevant to their roles in project implementation (M=3.804, SD= 0.707). Further, the respondents agreed that training programs improve staff skills and effectiveness in project execution (M=3.794, SD=0.756).

Table 2: Staff Competence and Project Implementation

	Mean	Std. Dev
Staffs involved in project implementation possess relevant academic qualifications for their assigned roles.	3.871	0.876
The educational background of staff enhances their ability to perform project tasks effectively.	3.852	0.521
Experienced staff contributes to efficient execution of project activities.	3.830	0.917
The level of staff experience positively influences the quality of project implementation.	3.818	0.888
Staffs regularly receive training relevant to their roles in project implementation.	3.804	0.707
Training programs improve staff skills and effectiveness in project execution.	3.794	0.756
Aggregate	**3.828**	**0.778**

Access to Funding and Project Implementation

The second specific objective of the study was to determine whether access to funding influences the implementation of road maintenance projects in Kiambu County. The respondents were requested to indicate their level of agreement on various statements relating to access to funding and the implementation of road maintenance projects in Kiambu County. The results were as presented in Table 3.

From the results, the respondents agreed that the funds allocated for project implementation are sufficient to meet project needs (M=3.833, SD=0.833). In addition, the respondents agreed that available funding adequately supports all planned project activities (M=3.821, SD=0.733). Further, the respondents agreed that funds for project implementation are released at the right time when needed (M=3.807, SD=0.673).

From the results, the respondents agreed that timely disbursement of funds enhances efficiency in project execution (M=3.793, SD=0.912). In addition, the respondents agreed that funds allocated for projects are managed effectively and transparently (M=3.780, SD=0.693). Further, the respondents agreed that proper financial controls are in place to ensure accountability in fund usage (M=3.777, SD=0.687).

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Table 3: Access to Funding and Project Implementation

	Mean	Std. Dev
The funds allocated for project implementation are sufficient to meet project needs.	3.833	0.833
Available funding adequately supports all planned project activities.	3.821	0.733
Funds for project implementation are released at the right time when needed.	3.807	0.673
Timely disbursement of funds enhances efficiency in project execution.	3.793	0.912
Funds allocated for projects are managed effectively and transparently.	3.780	0.693
Proper financial controls are in place to ensure accountability in fund usage.	3.777	0.687
Aggregate	**3.802**	**0.755**

Project Implementation

The respondents were requested to indicate their level of agreement on various statements relating to implementation of road maintenance projects in Kiambu County, Kenya. The results were as presented in Table 4.

From the results, the respondents agreed that the allocated budget for road maintenance projects is sufficient to complete planned activities (M=3.817, SD=0.781). In addition, the respondents agreed that funds for road maintenance projects are released in a timely manner to support implementation (M=3.803, SD=0.519). Further, the respondents agreed that road maintenance projects are completed within the scheduled timelines (M=3.767, SD=0.602).

From the results, the respondents agreed that time planning in road maintenance projects is realistic and effectively adhered to (M=3.731, SD=0.900). In addition, the respondents agreed that the outcomes of road maintenance projects meet the expectations of stakeholders (M=3.718, SD=0.710). Further, the respondents agreed that performance indicators set for road maintenance projects are fully realized upon completion (M=3.701, SD=0.847).

Table 4: Project Implementation

	Mean	Std. Dev
The allocated budget for road maintenance projects is sufficient to complete planned activities.	3.817	0.781
Funds for road maintenance projects are released in a timely manner to support implementation.	3.803	0.519
Road maintenance projects are completed within the scheduled timelines.	3.767	0.602
Time planning in road maintenance projects is realistic and effectively adhered to.	3.731	0.900
The outcomes of road maintenance projects meet the expectations of stakeholders.	3.718	0.710
Performance indicators set for road maintenance projects are fully realized upon completion.	3.701	0.847
Aggregate	**3.756**	**0.727**

Inferential Statistics

Inferential statistics in the current study focused on correlation and regression analysis. Correlation analysis was used to determine the strength of the relationship while regression analysis was used to determine the relationship between dependent variable (implementation of road maintenance projects in Kiambu County, Kenya) and independent variables (staff competence and access to funding).

Correlation Analysis

The present study used Pearson correlation analysis to determine the strength of association between independent variables (staff competence and access to funding) and the dependent variable (implementation of road maintenance projects in Kiambu County, Kenya). Pearson correlation coefficient range between zero and one, where by the strength of association increase with increase in the value of the correlation coefficients.

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Table 5: Correlation Coefficients

		Project Implementation	Staff Competence	Access to Funding
Project Implementation	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	108		
Staff Competence	Pearson Correlation	.851**	1	
	Sig. (2-tailed)	.000		
	N	108	108	
Access to Funding	Pearson Correlation	.835**	.431	1
	Sig. (2-tailed)	.001	.066	
	N	108	108	108

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

From the results, there was a very strong relationship between staff competence and implementation of road maintenance projects in Kiambu County, Kenya (r = 0.851, p value =0.000). The relationship was significant since the p value 0.000 was less than 0.05 (significant level). The findings are in line with the findings of Hutchinson, Hogan and Newsom (2022) who indicated that there is a very strong relationship between staff competence and project implementation.

Moreover, the results revealed that there is a very strong relationship between access to funding and implementation of road maintenance projects in Kiambu County, Kenya (r = 0.835, p value =0.001). The relationship was significant since the p value 0.001 was less than 0.05 (significant level). The findings are in line with the findings of Kiambi and Njeri (2023) that there is a very strong relationship between access to funding and project implementation.

Regression Analysis

Multivariate regression analysis was used to assess the relationship between independent variables (staff competence and access to funding) and the dependent variable (implementation of road maintenance projects in Kiambu County, Kenya)

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Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.804	.646	.645	.10129

a. Predictors: (Constant), staff competence and access to funding

The model summary was used to explain the variation in the dependent variable that could be explained by the independent variables. The r-squared for the relationship between the independent variables and the dependent variable was 0.646. This implied that 64.6% of the variation in the dependent variable (implementation of road maintenance projects in Kiambu County, Kenya) could be explained by independent variables (staff competence and access to funding).

Table 7: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	52.371	2	26.186	95.919	.000[b]
1	Residual	28.704	105	.273		
	Total	81.075	107			

a. Dependent Variable: implementation of road maintenance projects in Kiambu County, Kenya

b. Predictors: (Constant), staff competence and access to funding

The ANOVA was used to determine whether the model was a good fit for the data. F calculated was 95.919 while the F critical was 3.083. The p value was 0.000. Since the F-calculated was greater than the F-critical and the p value 0.000 was less than 0.05, the model was considered as a good fit for the data. Therefore, the model can be used to predict the influence of staff competence and access to funding on implementation of road maintenance projects in Kiambu County, Kenya.

Table 8: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.280	0.075		3.733	0.000
	staff competence	0.361	0.095	0.360	3.800	0.000
	access to funding	0.345	0.090	0.344	3.833	0.001

a Dependent Variable: implementation of road maintenance projects in Kiambu County, Kenya

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The regression model was as follows:

$$\mathbf{Y = 0.280 + 0.361X_1 + 0.345X_3 + \varepsilon}$$

According to the results, staff competence has a significant effect on implementation of road maintenance projects in Kiambu County, Kenya β_1=0.361, p value= 0.000). The relationship was considered significant since the p value 0.000 was less than the significant level of 0.05. The findings are in line with the findings of Hutchinson, Hogan and Newsom (2022) who indicated that there is a very strong relationship between staff competence and project implementation.

The results also revealed that access to funding has significant effect on implementation of road maintenance projects in Kiambu County, Kenya $\beta 1$=0.345, p value= 0.001). The relationship was considered significant since the p value 0.001 was less than the significant level of 0.05. The findings are in line with the findings of Kiambi and Njeri (2023) that there is a very strong relationship between access to funding and project implementation.

CONCLUSION AND RECOMMENDATIONS

Conclusions

The study concludes that staff competence has a positive and significant influence on the implementation of road maintenance projects in Kiambu County. Findings revealed that education qualification, experience and training influence implementation of road maintenance projects in Kiambu County.

In addition, the study concludes that access to funding has a positive and significant influence on the implementation of road maintenance projects in Kiambu County. Findings revealed that adequacy, timeliness and funding management influence implementation of road maintenance projects in Kiambu County.

Recommendations

The study recommends that road maintenance projects in Kenya should prioritize strengthening staff competence through continuous professional training, skills development programs, technical workshops, and capacity-building initiatives. Enhancing the knowledge and expertise of project personnel will improve their ability to execute project activities effectively, make informed decisions, and address emerging challenges promptly.

In addition, the study recommends that road maintenance projects in Kenya should ensure adequate, timely, and predictable funding for road maintenance projects to enhance their successful implementation. This can be achieved through improved budgetary planning, timely disbursement of allocated funds, and diversification of financing sources to minimize financial constraints that may delay project activities.

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