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AGILE PROJECT MANAGEMENT STRATEGIES ON ELECTRICAL PROJECT SUCCESS IN NAIROBI COUNTY, KENYA

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ABSTRACT

Purpose: The main objective of this study was to examine the effect of agile project management strategies on electrical project success in Nairobi County, Kenya. Specifically, the study sought to examine the effect of management support and to assess the effect of project team training on electrical project success in Nairobi County, Kenya.

Methodology: A cross-sectional survey design was used in this study. The study unit of analysis was 150 electrical projects in Nairobi County. The unit observation was 150 project managers involved in the electrical projects.

Findings: The study found management support had a positive (β1=0.279) significant (p value= 0.000) effect on electrical project success in Nairobi County. The study also found that project team training had a positive (β2=0.305) and significant (p-value = .000) effect on electrical project success in Nairobi County.

Recommendations: It is recommended that organizations enhance management support by increasing the involvement of senior management in all phases of the project lifecycle. Organizations managing electrical projects should prioritize continuous and targeted training programs that address both technical and soft skills development.

Keywords: Agile Project Management Strategies, electrical project success, project team training, management support

Background of the study

Urban areas worldwide are experiencing unprecedented growth, driven by factors such as population expansion, urbanization, and technological advancements (United Nations, 2018). This growth has necessitated substantial investment in infrastructure development, including electrical projects. The success of these projects is vital for urban development, as they play a crucial role in supporting economic activities, improving the quality of life, and enhancing overall city functionality (Glaeser, 2021). However, electrical projects in many urban areas often face common challenges, including cost overruns, project delays, and stakeholder dissatisfaction.

Traditionally, construction and infrastructure projects in urban areas have been managed using conventional project management methodologies. These traditional approaches often follow a linear and rigid sequence. While they have been effective for many types of projects, they may struggle to adapt to the dynamic nature of modern construction, where changing requirements, evolving technologies and stakeholder demands are the norm. This rigidity has been identified as a contributing factor to the challenges faced in the infrastructure sector (Shenhar et al., 2021). In response to the limitations of traditional project management approaches, Agile project management methodologies have gained prominence globally. Agile is characterized by its iterative and flexible approach, emphasizing collaboration, adaptability, and stakeholder involvement. It has demonstrated success in a variety of industries, including construction (El-Diraby & Ayer, 2018).

Nairobi County, Kenya, reflects the broader challenges faced by urban areas worldwide. Rapid urbanization and population growth have led to increased demand for electrical infrastructure development (World Bank, 2018). Nairobi County, as a significant urban center in Kenya, is not immune to the challenges experienced in urban infrastructure projects, including cost overruns, project delays, and stakeholder dissatisfaction. In this context, where the need for electrical projects is pressing and their success is essential for urban development, the potential benefits offered by Agile project management methodologies become particularly relevant. While existing research highlights the advantages of Agile project management, there is a need for empirical evidence specific to Nairobi County to understand how Agile methodologies can mitigate cost overruns, alleviate project delays, and enhance stakeholder satisfaction within the electrical construction sector in this urban area.

Agile project management strategies

Nairobi County, Kenya, reflects the broader challenges faced by urban areas worldwide. Rapid urbanization and population growth have led to increased demand for electrical infrastructure development (World Bank, 2018). Nairobi County, as a significant urban center in Kenya, is not immune to the challenges experienced in urban infrastructure projects, including cost overruns, project delays, and stakeholder dissatisfaction. In this context, where the need for electrical projects is pressing and their success is essential for urban development, the potential benefits offered by Agile project management methodologies become particularly relevant. While existing research highlights the advantages of Agile project management, there is a need for empirical evidence specific to Nairobi County to understand how Agile methodologies can mitigate cost overruns, alleviate project delays, and enhance stakeholder satisfaction within the electrical construction sector in this urban area.

Aduma, and Kimutai (2018) pointed that in Central Africa the output of a project as the measure at which the project attains the set objectives including duration, standard, capital and above all customer satisfaction. As pointed out by Antill (2017) the outcome of the project is a very important parameter that can dictate the achievement of the project. A project is beneficial when achieved or serves the intended purpose hence customer satisfaction and therefore it is viable and sustainable. Globally, many firms have been struggling over the great production of

projects that underperform hence finance wastage (Chandra et al., 2018). Projects ought to take place for the benefit of the company and the satisfaction of the customer.

In Kenya, the productivity of projects comprises of tasks that ought to be accomplished with minimum cost of risk, span, range, capital, and standard. Project management is paramount since includes the proper and active designing, risk analysis, estimation, examining, and financial management practices in the entire process of project management. Project monitoring and Evaluation have become one of the vital elements as projects become more complex and huger. It consists of analyzing and recounting the progress concerning project objectives. The process of monitoring and evaluate involves planning, implementing the plan, monitoring and preparing the report, giving the results, and discrepancies if there are any, and finally rectifying the discrepancies (Mathenge, 2020).

Statement of the Problem

In recent years, Agile project management strategies have gained widespread popularity in various industries, including the electrical construction sector. This shift towards Agile methodologies reflects a global trend in modern project management practices (Dikert et al., 2018). Nairobi County, like many urban areas, is experiencing an increasing demand for electrical infrastructure development due to population growth, urbanization, and technological advancements (United Nations, 2018). However, the success of electrical projects in the county remains a significant concern, characterized by challenges such as delays, and budget overruns.

A study by the Kenyan National Bureau of Statistics (KNBS) indicates that a significant percentage of electrical projects experience cost overruns, with actual costs exceeding the initial estimates (KNBS, 2018). These overruns can lead to budget constraints, financial strain, and decreased stakeholder satisfaction. In a similar vein, empirical studies have shown that cost overruns are a pervasive issue in construction projects globally (Flyvbjerg et al., 2019). Another critical problem in the electrical project sector in Nairobi County is project delays. A report by the Nairobi City County Government (NCCG) indicates that many projects face delays, impacting economic development and the well-being of the local population (NCCG, 2020).

Traditional project management approaches may lack the flexibility needed to adapt to changes in project requirements and technology (Shenhar et al., 2021). Hence, this study sought to determine whether Agile project management strategies could be a solution by examining the impact of Agile project management strategies on electrical project success in Nairobi County, thereby addressing this critical research gap and offering valuable insights specific to the local construction industry.

Objectives of the study

The main objective of this study was to examine the effect of agile project management strategies on electrical project success in Nairobi County, Kenya.

Specific Objectives

i. To examine the effect of management support on electrical project success in Nairobi County, Kenya.

ii. To assess the effect of training on electrical project success in Nairobi County, Kenya.

THEORETICAL REVIEW

The study was anchored on Transformational leadership theory and the Human Capital theory. Transformational leadership theory, developed by James McGregor Burns, is a leadership approach that encourages groups to work towards common goals and achieve higher self-actualization (Yusuf, 1998). It involves inspiring followers to transcend self-interest for the organization's sake, fostering trust and confidence. Effective leaders appeal to followers' ideals and emotions, making them aware of the importance of their work (Veale, Worthen & McKay,

2017). This theory has been used to assess the effect of management support on the success of electrical projects in Nairobi County, Kenya.

Human capital theory, introduced by Schultz in 1961, posits that knowledge and skills are forms of capital that are a product of deliberate enterprise growth (Schultz, 1961). The theory suggests that the difference in earnings between people is due to differences in access to education and health. Investment in education and training leads to increased human productivity, positive returns, and organizational growth. People are considered assets, and investments in them generate worthwhile returns. This theory aligns with Barney's (1991) resource-based view of strategy, which suggests that organizations can achieve sustainable competitive advantage by having a human resource pool that cannot be imitated or substituted by competitors. Therefore, organizations should invest in training and development to attract and retain the best talent, resulting in improvements in performance, productivity, flexibility, and innovation capacity (Becker, 1964).

LITERATURE REVIEW

The independent variables in the study were the individual agile project management: management support to the project management teams. training on agile project management methods. The dependent variable was project success. Figure 1 shows the conceptual framework.

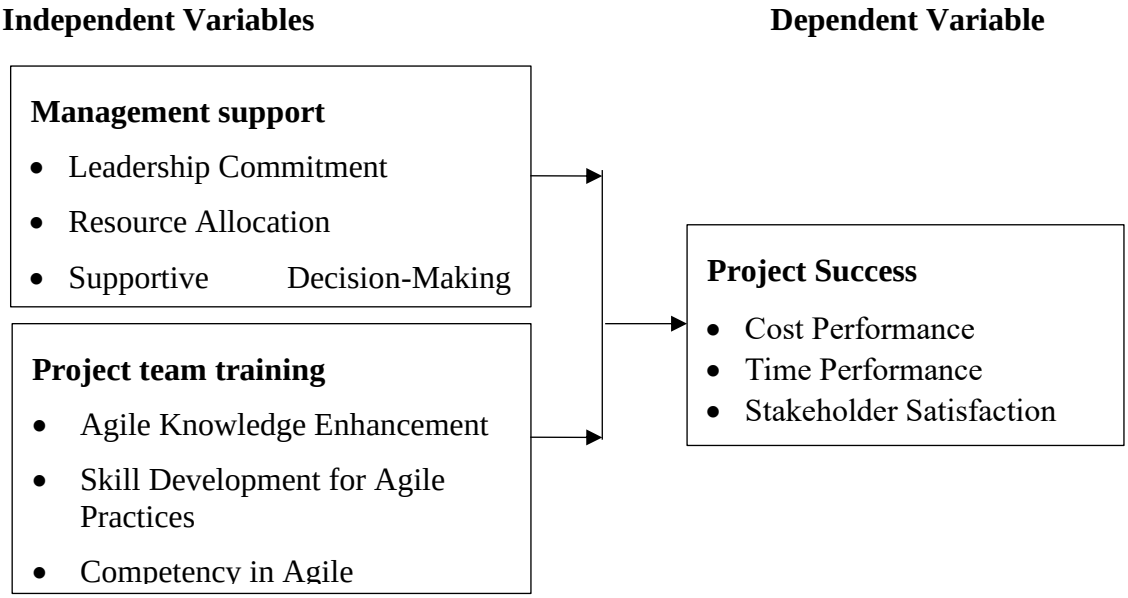

Figure 1: Conceptual Framework

Management Support

Management support is a critical element in the success of any organization or project. It involves the commitment, endorsement, and active involvement of top-level management in guiding and facilitating the implementation of organizational goals, initiatives, and projects. Effective management support is essential across various aspects, including strategic planning, resource allocation, decision-making, and fostering a positive organizational culture. Management support ensures that organizational objectives align with strategic goals. Leaders at the top level must communicate a clear vision and mission, providing direction for the entire

organization. When there is alignment between strategic objectives and day-to-day operations, it fosters a sense of purpose among employees and contributes to overall organizational success (Ahmed, Mohamad & Ahmad, 2018).

Adequate resources, including financial, human, and technological resources, are vital for the successful execution of projects and organizational initiatives. Management support involves the allocation of resources based on priority, ensuring that projects with strategic significance receive the necessary support. This helps in overcoming potential bottlenecks and promotes project success. Management support provides project managers and teams with the authority to make decisions aligned with the organization's goals. Empowering teams at various levels encourages innovation, efficiency, and responsiveness to changing circumstances. It also fosters a sense of ownership and accountability among employees (Ahmed, 2018).

Project Team training

Project team training is a critical component of project management that aims to enhance the skills, knowledge, and collaboration capabilities of the team members. Training is essential for ensuring that the team is well-equipped to meet project goals, adhere to timelines, and overcome challenges. Project team training focuses on enhancing the specific skills required for the successful completion of the project. This may include technical skills related to the project's scope, such as software proficiency, engineering expertise, or specialized knowledge relevant to the project's domain. Soft skills, such as communication, collaboration, and problem-solving, are also emphasized to ensure effective teamwork (Nyambura, 2018).

Different team members have diverse roles and responsibilities within a project. Training programs are designed to cater to the specific needs of each role. For instance, project managers may receive training on leadership, risk management, and project planning, while technical team members may undergo specialized technical training aligned with their responsibilities. Training often covers project management methodologies and frameworks, providing team members with a common understanding of the project management approach adopted for the specific project. This may include methodologies such as Agile, Scrum, or traditional Waterfall, depending on the project's nature and requirements (Zureehan & Lee, 2022).

Project Success

Project success is a multifaceted concept that serves as a cornerstone for evaluating the effectiveness and impact of project management efforts. It encompasses various dimensions, including cost performance, time performance, and stakeholder satisfaction. Each of these measures plays a pivotal role in determining the overall success or failure of a project. Cost performance is a fundamental aspect of project success, reflecting the ability of a project to adhere to its budgetary constraints and achieve financial objectives. Research by Flyvbjerg, Skamris Holm, and Buhl (2018) emphasizes the prevalence of cost overruns in large infrastructure projects and their detrimental impact on project success. Recent studies, such as those by Zwikael and Smyrk (2022), have further underscored the importance of effective cost management in ensuring project success. These findings highlight the continued relevance of cost performance as a critical measure of project success in contemporary project management literature.

Timeliness is another crucial dimension of project success, reflecting the efficiency and effectiveness of project execution in meeting established deadlines. Turner and Zolin (2018) stress the significance of completing projects on time to achieve organizational objectives and maintain stakeholder confidence. Lim and Mohamed (2019) highlight the negative consequences of schedule delays on project success, further emphasizing the importance of time performance. Recent research has reaffirmed the enduring relevance of time performance as a key determinant of project success (e.g., Shenhar et al., 2017), underscoring its continued importance in contemporary project management practice.

Stakeholder satisfaction represents a vital aspect of project success, encompassing the contentment of various project stakeholders, including clients, end-users, sponsors, and team members. Pinto and Slevin (2018) emphasize the significance of meeting stakeholder expectations in determining project success. Shenhar et al. (2021) further advocate for aligning project objectives with stakeholder expectations to enhance satisfaction levels and contribute to project success. Recent studies have continued to highlight stakeholder satisfaction as a critical dimension of project success (e.g., Crawford et al., 2016), reaffirming its importance in contemporary project management discourse. Therefore, cost performance, time performance, and stakeholder satisfaction emerge as key measures of project success, drawing from both seminal works and recent research in project management literature. These dimensions underscore the multifaceted nature of project success and its continued relevance in contemporary project management practice.

EMPIRICAL REVIEW

Management Support and Project Success

Ahmed, Mohamad, and Ahmad (2018) researched on the effect of multidimensional top-management support on project success. This paper examines the effect of multidimensional top management support on project success through cross-sectional data collected from 208 project management professionals across the world. In addition, regression analysis reveals that 'provide resources' and 'power' dimensions of top management have significant influence on project success. The result of this study allowed better understanding and appropriateness support of top management support for successful completion of the projects. The results can also be used for development of training programs for both the top management and the project managers who are eventually responsible for successful completion of the projects.

Ahmed (2018) researched on top Management Support and Project Performance: An Empirical Study of Public Sector Projects. The objective of this study is to investigate the relationship between multiple dimensions of top management support and project performance. This quantitative study employed random sampling techniques on cross sectional data collected through an online survey from public sector projects. The respondents were the project managers and project directors working on public sector projects in Pakistan. Explanatory and confirmatory factor analyses were employed to test the validity of the construct. For testing of research hypotheses, correlation and regression analyses were conducted. Findings indicate that all dimensions of top management support have significant positive influence on project performance in the public sector of Pakistan.

Nyambura (2018) researched on the influence of management strategies on project success, the case of projects undertaken by construction companies in Mombasa County, Kenya. The population of the study included the employees of Bamusa construction Ltd. The primary data for this study was collected using both closed and open-ended structured questionnaires. The data was summarized, coded and tabulated. Descriptive statistics like means, standard deviation and frequency distribution was used to analyze the data. Data presentation was done by frequency tables for ease of understanding and interpretations. Inferential statistics such as correlation analysis were used to determine the relationship between management strategies and project success in the construction industry. The study established level of top management support including holding of regular meetings, support in risk identification and involvement in solving conflicts and mediating between groups were the greatest roles of the top-level management.

Zureehan and Lee (2022) researched on the effect of top management support and collaborative teams on project performance in the Malaysian construction industry: moderating effect of trust. The population of 2342 companies is obtained from the Malaysian Construction Industry Development Board (CIDB) 2020. The minimum sample size is 107 companies, as suggested by G-power. A total of 150 online survey questionnaires were distributed using a simple random

sampling technique and received 123 responses. The data is analyzed by using Partial Least Square Structural Equation Modelling (PLS-SEM) with the support of SmartPLS software. The findings show that the effect of top management support on project performance and the moderating effects of trust are not supported. While the collaborative team has a positive effect on project performance.

Project Team Training and Project Success

Angela (2019) researched on the effects of training on employee performance: a case study of the United Nations support office for the African Union mission in Somalia. A survey research design was used for this study. The survey design was appropriate for this study because it allowed the investigation of possible relationships between variables as well as data collection from broader categories and comparisons between variables. The study population was 144 staff of the United Nations Support Office for the African Mission in Somalia. A sample of 45 was drawn using a random stratified sampling approach from a list of sample frame provided by the employee register at UNSOA. On the role of training on employee engagement, the study showed that in general training enhances employee engagement in change processes. As a measure of engaging in change process, the top-level management and non-management management staff were more likely to be induced to take new tasks after undergoing training compared to those in the middle-level management. Similarly training most likely motivates the top level to be committed to taking initiative in helping other employees. This case may not apply to the middle-level management and non-management staff.

Elnaga and Imran (2013) studied the effect of training on employee performance in Saudi Arabia so as to provide suggestions as to how firm can improve its employee performance 29 through effective training programs. This was achieved by investigating the meaning and importance of training; identifying the significance of employee performance; exploring the relationship between training and employee performance; and developing guidelines for assessing employee performance. The study adopted a qualitative research approach and found that effective training is the thoughtful intervention designed at attaining the learning necessary for upgraded employee performance and managers do not recognize the importance of training and its effect on employee performance or they believe that training increases the company cost.

Nassazi (2013) evaluated the effects of training on employee performance, using the telecommunication industry in Uganda as a case study. To understand the study aim, four goals were developed and these focused particularly on identifying the training programs' existing in the industry, the objective of the training offered, the methods employed and finally the effects of training and development on employee performance. The study was based on three case studies of the biggest telecommunication companies operating in Uganda. The study adopted a qualitative research approach the results obtained indicated that training have a clear effect on the performance of employees. The findings can prove useful to Human resource managers, Human resource policy decision-makers, as well as government and academic institutions.

Kepha, Assumptah and Omoke (2019) researched on the influence of training and development on the Performance of Employees in Research Institutes in Kenya. The study adopted descriptive and correlation research designs while the study population was drawn from all Government owned research institutes formed under the Science & Technology Act. Cap 250. The target population was drawn from the research institutes that were within Nairobi County and its environs. The study adopted a stratified sampling technique and the sample size was 256 employees. The study used questionnaires to collect data while Cronbach's alpha was used to test the validity and reliability of the instruments. A statistical package for social sciences (SPSS) was used to analyze quantitative data while data was presented using statistical techniques such as tables, bar-graphs and pie charts. The results of the study revealed that the correlation between employee performance and Training and Development were highly significant at 0.383 (P=0.000).

RESEARCH METHODOLOGY

A cross-sectional survey study design was used because data was collected from different individuals at a single point in time. It uses surveys so it gathers data through questionnaires and interviews. The target population of the study included individuals actively engaged in overseeing and executing electrical projects within Nairobi County. According to data sourced from the Kenya Power and Lighting Company (KPLC), there are 150 electrical projects in the county. Therefore, the target population for the study was 150 project managers. The Yamane formula was adopted to calculate the study sample size and thus, 109 was obtained. The study used simple random sampling in selecting a sample from the project managers. A semi-structured questionnaire was used to collect primary data.

RESEARCH FINDINGS

The study distributed 199 questionnaires and 102 were completed and returned the questionnaires, resulting in a high response rate of 93.6%. This high response rate is commendable and significantly enhances the credibility and validity of the study findings.

Descriptive Statistics

The analysis utilized mean and standard deviation to gauge agreement levels based on a 5-point Likert scale. The mean values and standard deviations were calculated to interpret the findings. A mean value of 1-1.4 was strongly disagree, 1.5-2.4 disagree, 2.5-3.4 neutral, 3.5-4.4 agree and 4.5-5 strongly agree. On the other hand, a standard deviation greater than 1.5, suggests that the responses were more diverse, with a wider range of scores across the participants.

Management Support

The first objective was to assess the effect of management support on electrical project success in Nairobi County, Kenya. Respondents indicated agreement with statements on management support and the findings presented in Table I.

Table I: Descriptive Analysis for Management Support

Statements	Mean	Standard Deviation
Senior management's clear communication and reinforcement of the electrical project's importance contribute significantly to its success.	4.013	0.728
Adequate resources provided by the management team positively impact the progress and outcomes of the electrical project.	4.157	0.654
The commitment shown by the management team in addressing challenges is crucial for the success of the electrical project.	4.048	0.661
Management's engagement with project stakeholders fosters a collaborative and supportive environment.	4.025	0.691
A culture of openness and communication promoted by the management team encourages team members to share concerns related to the electrical project.	3.954	0.723
Effective project planning and execution have played a crucial role in ensuring the successful implementation of electrical systems or components.	4.065	0.677
Aggregate Mean	4.044	

The analysis findings in Table I show that respondents strongly agree that senior management's clear communication (Mean = 4.013, SD = 0.728) and the provision of adequate resources (Mean = 4.157, SD = 0.654) are crucial for the success of electrical projects. The commitment of management in addressing challenges (Mean = 4.048, SD = 0.661) and their engagement with stakeholders (Mean = 4.025, SD = 0.691) are also seen as vital in fostering a supportive and collaborative environment. A culture of openness promoted by management (Mean =

3.954, SD = 0.723) encourages team members to share concerns, although slightly lower agreement suggests variability in experiences. Effective planning and execution (Mean = 4.065, SD = 0.677) are highly valued, indicating that strategic project management practices significantly contribute to project success.

The aggregate mean score of 4.044 indicates that respondents generally agree that management support plays a critical role in project success. The provision of resources and senior management's commitment were particularly highlighted as crucial factors. This finding aligns with Ahmed et al. (2018), who found that multidimensional top management support significantly influences project success by providing the resources and power necessary for effective project execution. Similarly, the study by Nyambura (2018) supports the importance of management involvement, noting that regular meetings, conflict resolution, and stakeholder engagement by top management greatly contribute to project success.

Project Team Training

The second objective was to assess the impact of project team training on project success. Respondents' level of agreement with the statements is shown in Table II.

Table II: Descriptive Analysis for Project Team Training

Statements	Mean	Standard Deviation
Providing job-specific training ensures that team members possess the technical skills necessary for their roles in the electrical project.	4.102	0.653
Continuous improvement through regular retrospectives enhances the team's ability to adapt and refine processes during the course of the electrical project.	4.015	0.671
Cross-functional teams, with diverse skills, promote shared ownership and collaboration critical for the success of the electrical project.	3.984	0.677
Adaptive planning allows the team to respond effectively to changing requirements, supported by ongoing management training.	3.987	0.688
Soft skills training, including leadership development, fosters a positive team dynamic within the electrical project.	4.036	0.663
Clear communication of project goals and objectives ensures a focused and committed team for the success of the electrical project.	3.918	0.711
Aggregate Mean	4.007	

The findings in Table 4.5 indicate that respondents strongly agree that job-specific training equips team members with the necessary technical skills (Mean = 4.102, SD = 0.653), highlighting the critical role of targeted skill development in project success. Continuous improvement through regular retrospectives (Mean = 4.015, SD = 0.671) is also valued for enhancing the team's adaptability and process refinement. The importance of cross-functional teams with diverse skills (Mean = 3.984, SD = 0.677) suggests that collaboration and shared ownership are essential for project outcomes. Adaptive planning supported by ongoing training (Mean = 3.987, SD = 0.688) allows teams to effectively manage changing requirements, while soft skills training, including leadership development (Mean = 4.036, SD = 0.663), fosters a positive team dynamic.

Clear communication of project goals (Mean = 3.918, SD = 0.711) is seen as vital for maintaining focus and commitment, though slightly lower agreement suggests variability in how well this is implemented across projects. The aggregate mean score of 4.007 suggests that respondents agree that training significantly contributes to project success. The focus on job-specific training, retrospectives, and leadership development aligns with the findings by Elnaga and Imran (2013), who emphasized the role of effective training programs in enhancing employee performance. Similarly, Nassazi (2013) identified training as a key factor in

improving employee engagement and performance, particularly in dynamic and complex project environments.

Electrical Project Success

This section provides a descriptive analysis of statements related to the dependent variable, electrical project success in Nairobi County. Table III includes mean and standard deviation values, reflecting the extent of respondents' agreement with key factors that contribute to project success.

Table III: Descriptive Analysis of Electrical Project Success

Statements	Mean	Standard Deviation
The clear communication of project goals and objectives establishes a foundation for success in the electrical project.	4.035	0.672
Adherence to the defined timeline and milestones ensures the timely and successful completion of the electrical project.	4.102	0.654
Efficient resource allocation and utilization contribute to the overall success of the electrical project.	4.048	0.661
Rigorous quality management practices lead to the delivery of high-quality electrical systems or components.	4.012	0.683
Continuous collaboration and effective communication among team members foster a positive and productive environment, enhancing the likelihood of project success.	3.987	0.688
Proactive risk management, including the identification and mitigation of potential challenges, contributes to the resilience of the electrical project.	4.028	0.677

The findings indicate strong agreement among respondents that clear communication of project goals and objectives is crucial for establishing a solid foundation for project success (Mean = 4.035, SD = 0.672). Adherence to timelines and milestones (Mean = 4.102, SD = 0.654) is also highly valued, reflecting its importance in ensuring projects are completed on time. Efficient resource allocation (Mean = 4.048, SD = 0.661) is seen as vital for achieving overall project success, highlighting the need for strategic management of resources. Rigorous quality management practices (Mean = 4.012, SD = 0.683) are essential for delivering high-quality project outcomes, while continuous collaboration and communication among team members (Mean = 3.987, SD = 0.688) foster a productive environment that supports project success. Proactive risk management (Mean = 4.028, SD = 0.677) helps enhance the resilience of projects by identifying and mitigating potential challenges early.

These findings align with existing literature that underscores the importance of communication, resource management, and risk management in project success. Nyambura (2018) found that regular stakeholder engagement and clear communication significantly impact project outcomes, supporting the emphasis on setting clear goals and maintaining open lines of communication. Similarly, Ahmed et al. (2018) highlighted that adherence to timelines and robust quality management practices are critical for achieving project success, particularly in complex environments. The findings on proactive risk management resonate with Muute and Rosemary (2019), who emphasized that ongoing risk assessments and timely mitigation are essential for maintaining project momentum and achieving desired outcomes. Together, these studies validate the importance of these practices in driving the success of electrical projects in Nairobi County.

Correlation Analysis

The correlation coefficient of 0.755 ($p < 0.05$) indicates a strong positive relationship between management support and project success. This suggests that increased management support, including resource provision and active involvement, enhances project outcomes. This finding is in line with Ahmed (2018), who found a significant positive influence of top management support on project performance in public sector projects. The correlation coefficient of 0.739 ($p < 0.05$) shows a strong positive relationship between training and project success. This implies that continuous training and skill development are critical for enhancing project performance. Elnaga and Imran (2013) also highlighted the direct impact of effective training on employee performance, which translates into improved project outcomes.

Table IV: Correlation Coefficients

		Management Support	Project Team Training
Electrical Project Success	Pearson Correlation	.755**	.739**
	Sig. (2-tailed)	.000	.000
	N	102	102

Regression Analysis

Regression analysis was conducted to quantify the impact of management support, training, planning, and monitoring on project success. The analysis included model summary, ANOVA, and regression coefficients.

Analysis of Variance (ANOVA)

ANOVA was used to test the overall significance of the regression model, evaluating whether the independent variables collectively influence project success. In this study, significance was tested and 5% confidence interval.

Table V: Analysis of Variance

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	56.842	4	14.211	25.634	0.000b
Residual	20.654	97	0.213		
Total	77.496	101			

The F-statistic of 25.634 with a p-value of less than 0.05 indicates that the regression model is statistically significant. This means that management support, training, planning, and monitoring collectively have a significant impact on project success, rejecting the null hypothesis that these variables have no effect. The high F-value underscores the importance of these factors in predicting project outcomes, suggesting that strategic investment in these areas is essential for achieving project success. The significance level ($p < 0.05$) further confirms that these findings are not due to chance, providing strong evidence that agile project management practices play a crucial role in the success of electrical projects.

Regression Coefficients

Regression coefficients provide detailed insights into the specific impact of each independent variable on project success, allowing for a deeper understanding of how each factor contributes to the overall model.

Table VI: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.087	0.134		8.110	0.000
	Management Support	0.279	0.059	0.279	4.729	0.000
	Project Team Training	0.305	0.063	0.305	4.841	0.000

The coefficient for management support is 0.279 ($p < 0.05$), indicating that a one-unit increase in management support leads to a 0.279-unit increase in project success. This underscores the importance of top management's active involvement in project execution, such as providing resources, making strategic decisions, and resolving issues that arise during the project lifecycle. The significant positive relationship aligns with findings from Zureehan and Lee (2022), who highlighted that management support, particularly in terms of resource allocation and decision-making power, directly influences project performance. This suggests that projects are more likely to succeed when top management is visibly supportive and engaged, creating a conducive environment for project teams to thrive.

The coefficient of 0.305 ($p < 0.05$) suggests that every one-unit improvement in training correlates with a 0.305-unit increase in project success. This finding emphasizes the critical role of continuous training and development in equipping project team members with the necessary skills and knowledge to perform their tasks effectively. Training enhances technical competencies, problem-solving abilities, and overall team performance, which directly impacts project success. Angela (2019) supports this view, noting that well-structured training programs significantly motivate employees and enhance their engagement, thereby improving project outcomes. This coefficient highlights that investment in training is not just a formality but a strategic component of project management that drives success.

The regression equation derived from the analysis, representing the relationship between project success and the independent variables (management support and project team training), is as follows:

$$\mathbf{Y = 1.087 + 0.279X_1 + 0.305X_2 \text{ .....(i)}}$$

CONCLUSION

The study concludes that management support is a critical determinant of project success. Effective communication, resource allocation, and active engagement by top management significantly enhance project outcomes. Projects that benefit from visible and strategic management involvement are more likely to overcome challenges and achieve their objectives.

Continuous training and skill development play a pivotal role in project success. The study confirms that well-structured training programs enhance team capabilities, enabling project teams to adapt to changing requirements and perform effectively. Training equips team members with both technical and soft skills, fostering collaboration and improving overall project performance.

RECOMMENDATION

For electrical projects in Nairobi County, it is recommended that organizations enhance management support by increasing the involvement of senior management in all phases of the project lifecycle. This includes actively participating in regular project meetings, providing strategic guidance, and promptly addressing challenges that arise. Management should ensure that adequate resources, such as funding, equipment, and personnel, are allocated efficiently to meet project demands. Additionally, fostering a culture of open communication between management and project teams will help build a collaborative environment that supports project success.

Organizations managing electrical projects should prioritize continuous and targeted training programs that address both technical and soft skills development. Job-specific training should focus on upskilling team members in areas critical to electrical project management, such as safety standards, new technologies, and project management software. Soft skills training, including leadership, problem-solving, and effective communication, should also be integrated to enhance team dynamics. Regular refresher courses, workshops, and hands-on training sessions will ensure that project teams remain adaptable and well-equipped to handle evolving project challenges.

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