

Monitoring and Evaluation Practices and Performance of Kenya National Highway Authority Road Construction Projects in Nairobi City County, Kenya

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How to cite this article: Njeru, C. M., & Kirui, C. (2022). Monitoring and evaluation practices and performance of Kenya national highway authority road construction projects in Nairobi City County, Kenya. *Journal of Entrepreneurship and Project Management*, 2(1), 11-27.

Abstract

Despite efforts and measures by the government of Kenya to improve the performance of road construction projects, government-funded projects are still seen to face delivery challenges due to various factors associated with quality, completion schedules, and cost. This study examined the effect of monitoring and evaluation practices on the performance of road construction projects done by the Kenya National Highway Authority within Nairobi City County, Kenya. The specific objectives were to identify the impact of budget allocations, baseline studies, performance reviews, and capacity building on the performance of road construction projects. Descriptive and explanatory research designs were utilized. The study found that budget allocation was a key performance factor. Specifically, project cost evaluation helped to determine the right budget which positively affected the performance of road projects. Timely disbursement of funds ensured that the projects were delivered in good time. The study further suggested that baseline surveys were key in validating project scope thus assisting to set realistic expectations in time, cost, and quality. Similarly, the study indicated that performance reviews and capacity building enhanced the performance of road construction projects through employees' feedback sessions, target setting, and reviews as well as adequate resourcing of the project team. The study, therefore, concluded that the specific objectives of this study had a positive effect on the performance of road construction projects within Nairobi City County. It was recommended that road construction budgets be disbursed promptly. Continuous evaluation of gaps in resourcing is critical in building the required capacity. Regular performance reviews should be incorporated to appraise the performance of the project. The study is thought to add to the knowledge base of project management, M&E function as well performance of projects.

Keywords: *Monitoring and Evaluation Practices, Project Performance, Kenya National Highway Authority, Road Construction Projects*

1.0 Introduction

Infrastructure or social projects are initiated to solve a particular problem, meet community needs, or take advantage of opportunities that exist in the business world. Projects perform better in developed countries than in developing countries, which are faced with a variety of challenges, including poor financial allocations, poor strategic plans, poor expertise, poor communication, poor monitoring, and evaluation (Ye et al., 2018). According to Serrador and Turner (2014), project performance is determined by the following key factors: project mission, top management support, project plans, customer service, employees, project support technology, customer acceptance, monitoring, and feedback and communication channels.

Project monitoring involves continuously assessing the implementation of projects concerning schedules engendered during its design, inputs utilization, and services that are offered to those it is meant for. This is done to assess promptly whether the program is adequate, effective, and efficient, has influenced the beneficiaries, whether the intervention is sustainable and whether it is in accordance with the purpose of its creation (Simon, 2015). Project evaluation, on the other hand, is an objective review of ongoing or completed projects in terms of design, execution, and outcomes (Maendo et al., 2018). M&E provides project contractors with useful information on project status for initial and final assessment. This information helps identify the required changes, particularly in the structure of the project, their impacts, and the tentative date for completion. Infrastructure project monitoring and evaluation are regarded as critical management mechanism because it aids in the monitoring of project progress (Tesfaye, 2019).

Countries like the United States of America (US) have achieved successful development by implementing effective and efficient processes that monitor the achievement of development goals all over the world (Katharine & John, 2015). In global efforts for environmental, economic, and social sustainability, project surveillance in Spain is becoming an increasingly important tool (Lombardo & Maetzke, 2019). For clarification, the history of surveillance in France is broken down into stages, showing how concepts typically grow and perceptions have changed over time. In China, special government officials oversee project surveillance (Angus & Mohammed, 2014).

There are regular monitoring activities in India and Malaysia, ranging from comprehensive national ranking systems to baseline monitoring of selected programs in many Middle Eastern countries (Zvoushe & Gideon, 2013). In all areas of government, it is critical to centralize and improve monitoring and assessment capability. A significant number of high-cost projects were undertaken, according to Chofreh et al. (2019), with sustainability issues frequently encountered. Concerns have been raised by the World Bank, the Asian Development Bank, and bilateral aid agencies. There is a shortage of trained workers, as well as inadequate supervision and site management, according to Faridi and El-Sayegh (2016). In the United Arab Emirates, project delays have been caused by equipment shortages and damage caused by inefficient control practices.

Even though the principle of M&E is new in Africa and has yet to be widely embraced as an integral part of operations in organizational ventures, it has recently been copied by a variety of communities, industries, and firms (Kissi et al., 2019). Fonbeyin (2020) established that in Libya, factors like stakeholders' involvement, support and perceptions of M&E, sources of financial resources and the amounts allocated, the government policies and external conditions tied to donors, training, and education for the employees influenced project performance. The South African government attaches great importance to oversight. A study by Muzondo and McCutcheon (2018) reported that service quality and attitude are key factors limiting the

success of monitoring project implementation in South Africa. In Rwanda, poor project execution, as evidenced by rising maintenance costs, may be due to a lack of successful monitoring and evaluation (Umugwaneza & Kule, 2016). In Ghana, both the government and non-governmental organizations face significant difficulties in tracking project funding. Donor funding for development projects has grown to the point that they are now referred to as development partners, reflecting Ghana's reliance on donor support for surveillance development (Ameyaw & Chan, 2013).

In Kenya, a preliminary informal review on the determinants of M&E on construction projects in secondary schools' implementation in Bomet, Kericho, Lamu, and Kisii counties in 2010 found that most projects were caused by multiple problems and did not complete ahead of schedule. Other complex performance issues such as cost, time, poor planning, poor monitoring and evaluation, and security were also cited (Mwangi & Kimenyi, 2014). According to Ochieng and Tubey (2013), the availability of allocated budget, scheduled time, availability of experts in the M&E process, availability of appropriate technology, proper knowledge and proper channels of information flow, and proper perceptions and attitudes toward M&E are all factors that affect M&E on projects, just as they are in other parts of the world.

1.1 Statement of the Problem

The success of road projects is critical to any economy's growth and development. In terms of wealth creation and job prospects, road infrastructure is important to the economy (World Bank, 2018). Kenya's government has taken many measures to increase the performance of road construction projects. KENHA, KURA, and KERRA were formed after the Kenya Roads Act of 2007 was passed (2007). The aim was to create a legal and institutional framework for road construction, reconstruction, and maintenance (Ministry of Transport and Infrastructure, 2019).

Despite the government's action, road construction projects in Kenya continue to experience challenges leading to poor performance. According to the KMPG (2017) report, only 39.4 percent of road construction projects in Kenya are completed within the budgeted cost and timeline. Just 35% of the road projects completed met the desired quality requirements, according to the study. Failure of road projects, according to Wambui et al. (2015), is due to time inefficiency, a lack of sufficient funds, and a lack of advanced working equipment. KURA report of 2017 identified several projects that were left unfinished due to client challenges, a lack of materials, a lack of funds, and a lack of project managers' competency. Project success has been related to M&E activities (Rogito, 2015; Phiri, 2015).

Previous studies have been conducted linking M&E practices to project performance (Wanjiku, 2015; Ochenge, 2018; Muchelule, 2018; Kissi et al., 2019). However, these studies indicate various research gaps including contextual, conceptual, empirical, and methodological gaps. In addition, the researchers were unable to link M&E activities and the performance of KENHA road construction projects in Nairobi County Kenya. As a result, there was a need to address the gaps by investigating the role of M&E practices in influencing the performance of KENHA road construction projects in Nairobi County, Kenya.

1.2 Research Objectives

- i. To establish the effect of budgetary allocation on performance of KENHA road construction projects in Nairobi City County, Kenya.
- ii. To determine the effect of baseline surveys on performance of KENHA road construction projects in Nairobi City County, Kenya.

- iii. To establish the effect of performance reviews on performance of KENHA road construction projects in Nairobi City County, Kenya.
- iv. To assess the effect of capacity building on performance of KENHA road construction projects in Nairobi City County, Kenya.

2.0 Theoretical Framework

2.1 Theory of Change

This theory arose in the 1990s as a reaction to program theory (Stein & Valters, 2012). In 1995, Carol Weiss developed the theory further and described it as “a theory of how and why an initiative works.” She argued that many projects are difficult to evaluate as they are based on poorly articulated assumptions. She proposed that to achieve the envisaged outcomes, stakeholders should look at short-term outcomes that will help them achieve their specified targets (Msila & Setlhako, 2013).

The theory of change usually yields two products: An outcome map and a list of assumptions about change (Reinholz & Andrews, 2020). An outcome map provides awareness about whether a project will be successful, as well as which interventions should be used to achieve success (Cox, 2009). This approach steers the project's course and the objectives to be met.

The theory of change roadmap is refined by monitoring and assessment, while communication aids in the achievement of envisaged objectives and the implementation of improvements. Consequently, it provides success assessments of projects (Msila & Setlhako, 2013). If a contractor clearly outlines the project goals and outcomes the evaluator can track and evaluate the planned results and relate them to the original principle of change (Alcock, 2009). This theory applies to this study since it governs the approach to monitoring and evaluation practices, especially during the design and planning phases.

2.2 Resource-Based View Theory

Wernerfelt (1984), Barney (1991), and Peteraf (1993) adopted RBV from a strategic point of view considering a resource as a strength that firms can use to formulate and implement their strategies. The resources and capabilities of the firm are the main competencies for formulating strategy (Grant, 1991). Pearce (2018) perfected this principle. The Resource-Based View (RBV) is a management framework that considers resourcing to be the key to an organizations' success. The execution of a strategy requires resources of sufficient quality and quantity (Aosa, 2011). An organization's success is anchored on its ability to create a sustainable competitive advantage (SCA) through management activities. This theory sees resources as key to superior firm performance if that resource exhibits attributes that enable the firm to gain and sustain a competitive advantage. The supporters of this view argue that the organizations should look inside the company to find the resources of competitive advantage instead of looking at the competitive environment for it.

Land, plant and equipment, intangible assets, and opportunities are the three sub-groups that make up resources. Stable and existing assets with a fixed long-term capability are referred to as tangible assets. Intangible assets include intellectual property, such as trademarks and patents, as well as name and industry awareness, company networks, and databases (Williams, 1992). Opportunities are also referred to as "invisible properties" or "intermediaries" because they are difficult to explain (Itami, 1987). In essence, skills include individual or group capabilities and organizational processes and interactions that coordinate all company resources (Grant, 1991). The theory is considered appropriate for this study because it informs the independent variables, particularly budget allocation, and capacity building.

2.3 Theory of Constraints

Goldratt (1990) was the first to propose the concept of constraint. It can be used to demonstrate how managers can run organizations efficiently using systematic thinking and constraint management assumptions (Kohli & Gupta, 2010). The theory of constraint-based management philosophy focuses on change at three levels: organizational thought, organizational behavior, and organizational methodology (Gupta & Boyd, 2008). Project management is complicated by requirements and limitations in multi-party work situations (which are required for construction projects) (Lau & Kong, 2006). Hence, constraints must be managed for effective project management.

Most ventures are difficult to handle, according to Jacob and McClelland (2001), since they are full of complexities and require three separate and conflicting commitments: H. Concept, Budget, and Content. In project management, the requirements for the three constraints (time, scope, and cost) are widely accepted indicators of project performance. The triple restriction is seen by executives as a critical requirement for the company's performance. The rationalization of these three elements learns to expand the quality and a favourable result. Each of the three constraints on the scope of the task, cost, and time has an individual effect on firm performance. However, since this component has multiple connections, one must affect the other two in the long run.

This study was focused on the triple constraint theory, which states that most used monitoring and assessment practices may perform well or poorly from an organizational standpoint. In the construction industry, project delays are common, resulting in not only unquantifiable costs to the city but also a debilitating effect on the contractor (Ondari & Gekara, 2013). Cost and quality criteria are other criteria for project success (Nwachukwu & Emoh, 2011). Therefore, this theory informs the dependent variable, project performance. It describes the steps for implementing the project such as cost, quality, and time which are covered in this study.

2.4 Empirical Review

Merino and de Los Rios Carmenado (2014) conducted a study on capacity building in development projects. This study was built on previous literature. According to the research, different forms of development projects are mainly aimed at alleviating poverty and enhancing local people's livelihoods. Focusing on organizations and building on their capacities to boost their living conditions or attempting to create a new organization to work on joint projects, is one of the most widely used techniques. These organizations' social and human capital are two essential components that can influence the performance of their actions. Both can be considered part of a local organization's social capability. This capability can be increased by capacity-building programs as part of development projects. Capacity building was measured in terms of assessor training levels, assigned roles and responsibilities, training frequency, and mission graduation. Even so, the analysis used a desktop survey technique, while this research accepts both descriptive and explanatory research projects.

Phiri (2015) investigated the effect of M&E on program success: a case study from Kenya's Virtual University of Africa (AVU). Some of the objectives that were examined included, assessments of the impact of monitoring and evaluation training on project implementation and how the baseline study affects project implementation. Baseline surveys were measured for data collection, draft plans, baseline reports, and timeframes. A mixed post factum research design and studies were used in this study's methodology. The findings showed that the baseline analysis had a positive impact on the AVU system's management. The research was limited to the education sector, resulting in a contextual void.

Using the example of a youth business development fund, Rogito (2015) investigated the impact of monitoring and evaluation on project execution in Marani County, Kenya. The research was carried out using a descriptive design. The research aimed to see how basic ISA studies influenced youth project implementation and what systems can be used to enhance youth project implementation. The baseline analysis was found to be largely absent in the study. This study investigates the impact of baseline surveys on project performance.

A study in Malaysia by Jatarona, Yusof, Ismail, and Saar (2016) established that time and money are two key aspects of every construction contract. For a predetermined amount of cash, a project worker will be needed to perform inside the predefined timeframe. Notwithstanding, when each financial backer endeavors in a development project subsequently they put away cash inside a predefined time and anticipate that the investment should reimburse itself. As such convenient consummation of the undertaking guarantees the expense caused to be the imperative project cost. Any defer prompts cost invades which raises the task cost. In government projects, the payments are delayed hence affecting the project's timely completion negatively.

A study by Ouma (2016) on the influence of capacity-building programs on project performance in non-governmental organizations with a special interest in the Danish Refugee Council. The study used a descriptive survey design. The study used stratified sampling, simple random sampling, and purposive sampling to collect data from the target sample. The study findings also established that project performance is influenced by the curriculum content of a capacity-building program.

In Nakuru County, Ochieng (2018) investigated the factors that influence the effectiveness of baseline surveys for donor-funded slum upgrading programs. The analysis used the descriptive technique. The method used was stratified random sampling. Stakeholder participation, project cost, and effective baseline survey were significantly correlated. The study concluded that emphasis needs to be placed on transparency and accountability, management must meet stakeholder expectations, effective control of baseline surveys forestalls inevitable cost escalation, and budgeting enhances planning and cost estimation. This research concentrated on slum upgrading programs in Nakuru County.

A study by Poovitha et al. (2018) established that Project Performance Review focuses on evaluating projects efficiently and in context, identifying important improvement opportunities, and leading project and organizational management practices. It advises how these can be put in place to give stakeholders confidence in the control and delivery of their projects without waste.

In another study, Mwangi and Jagongo (2019) focused on the impact of resource allocation on judicial work in Embu District, Kenya. This study was based on budget theory, agenda-based budgeting theory, basic agency budgeting theory, progressive public expenditure theory, and public administration budget theory. Budget allocation was measured in terms of project evaluation costs and translation time. The outcome indicated that the allocation of funds positively impacts the functioning of the judiciary. In addition, the judiciary's clearest achievement in terms of the impact of resource allocation in meeting constitutional requirements on gender balance and greatly improving the quality-of-service delivery. However, the research indicated a theoretical gap since it was anchored on different theories from the ones used in this study.

A study by Oyewobi et al. (2019) on post-project reviews in construction. The findings established that increased stakeholder awareness of expenditures, conservatism, risk

awareness, demands for transparency and accountability, and a greater focus on controls and obtaining value for money means that stakeholders more often are turning to audits and reviews as a mechanism for control, risk management, and trustworthy reporting of project and organizational status.

3.0 Methodology

The paper used descriptive and explanatory research designs. The study targeted seven road construction projects undertaken by Kenya National Highway Authority for the period 2015-2019 within Nairobi City County. The unit of observation was 100 management employees in the ministry of Roads, Public Works, and Transport in Nairobi City County and 7 Kenya National Highway Authority officials. A census of the road construction projects was done. Structured questionnaires were used to obtain primary data for the study. Percentage, Mean, and Standard Deviation were used as descriptive statistics. The relationship between the study constructs was tested using Pearson correlation and regression analysis with a model.

4.0 Results and Discussion

This section provides descriptive and regression analysis results.

4.1 Descriptive Analysis

The study instrument was based on a social scaling measure of Likert type ranging from 1 to 5 where the constructs matched as follows: '1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree'. The means were rounded off to the nearest whole number with zero decimal places. Results were subdivided into specific objectives in the next subsection.

4.1.1 Project Performance

Results of the dependent objective seeking to establish the performance of road projects are indicated in Table 1 with 5 constructs used to attain findings. The aggregate mean of construction project performance (PP1, PP2, PP3, and PP4) was 3.7 which when rounded off to zero decimal place, was 4. This result shows the respondents were overall satisfied with the performance of the road construction projects.

A study by Nalewaik and Mills (2016) also indicates that when reviews or audits are involved, most participants view the performance of projects positively. A study by Ochieng (2018) also showed a leaning toward the positive performance of road projects by the government, when public officers were interviewed. While conducting the construction companies on public road performances, Muzondo and McCutcheon (2018) established that majority of public servants were reluctant to give the correct nature of performance in which they were involved citing victimization as a key factor.

Table 1: Project Performance

CODE	Attribute of Performance	N	M	SD
PP1	There is timely completion of road projects	89	3.5	0.12
PP2	The road projects completed are of quality standards	89	4.4	0.14
PP3	There is cost-effectiveness in undertaking road projects.	89	3.4	0.22
PP4	The efficient process involved in the carrying out of the road projects is.	89	4.1	0.09
PP5	The general level of satisfaction with road projects is high.	89	3.1	0.13
	Aggregate Score	89	3.7	0.14

4.1.2 Budget Allocation

The first objective sought to establish the effect of budget allocation on the performance of KENHA road construction projects in Nairobi City County with constructs (BA1, BA2, BA3, BA4, and BA5) ranging from 2.9 to 4 and an aggregate mean score of 3.5 which when rounded off becomes 4 as shown in Table 2. This was an indication that the respondents agreed that budget allocation was key to the performance of road construction. The standard deviation of the constructs was <1 indicating that the results were suitable for further review.

The findings of the study are in line with other scholars who have previously carried out similar studies. This includes the study by Gitau (2015) who observed that the road construction projects were performed based on the positive allocations accorded to each. Again, it was established that timely allocation of funds to all stages of projects was paramount in the success of projects both for road construction and infrastructures undertaken by governments. Other scholars who found positive effects of budget allocation on road construction were Kissi et al. (2019) in Ghana and as well as Asio (2020) in Italy. On the contrary, other scholars have found contrary results in which budget allocation plays a negative role, especially through corruption since funds allocated are overspent without quality road construction. This was a concluding result found by both Alqahtani et al (2015) and Fonbeyin (2020).

Table 2: Budget Allocation

CODE	Attribute of Budgeting	N	M	SD
BA1	Sufficient finances have been provided for M&E staff hiring.	89	2.9	0.17
BA2	The cost of evaluating a project is considered during budget allocation.	89	4.0	0.19
BA3	The scope of the project is considered during budgetary allocation.	89	4.0	0.42
BA4	There are adequate funds to facilitate benchmarking.	89	3.2	0.40
BA5	The finances are remitted to the M&E team on a timely basis.	89	3.7	0.32
	Aggregate Score		3.6	0.30

4.1.3 Baseline Surveys

The study also sought the second objective to establish the effect of baseline surveys on the construction projects by KENHA in Nairobi City County. This was initially carried out through the results indicated in Table 3. The mean of baseline survey constructs (BS1, BS2, BS3, BS4, and BS5) had aggregate mean scores ranging from 3.3 to 4.1 when rounded off to zero decimal place, which was 4. The results indicate that respondents supported the baseline surveys and that they were seen to add value to the overall performance of the completed road construction. The standard deviation of the constructs was below 1 and this is acceptable by statistical measures. Baseline surveys were therefore a positive factor in the performance of road construction.

From the current results showing, the study matches with other scholarly works by among others Haq et al. (2016) and Lekaram (2014). Other scholars who demonstrated that baseline surveys were critical in establishing good road construction performance include Lee et al

(2018) and Maina (2013). On the contrary, some scholars established that baseline surveys were not strong on the performance of road construction projects. Muchelule (2018) established that baseline surveys had a mild role in the performance of government projects in which stakeholders get a chance to participate in the providing of ideas for the agreeable construction environment.

Table 3: The Baseline Surveys

CODE	The attribute of Baseline Surveys	N	M	SD
BS1	A baseline survey is conducted before the commencement of the project	89	4.1	0.26
BS2	The project team designs the plan for performing the baseline survey	89	3.7	0.45
BS3	The baseline survey is done following the designed plan	89	3.3	0.29
BS4	There is the adequate collection and capturing of data on project demands	89	3.6	0.60
BS5	The baseline reports are formulated, and the results are shared among stakeholders	89	3.7	0.41
	Aggregate score		3.7	0.40

4.1.4 Performance Reviews

In the third objective, the study sought to establish the effect of performance reviews on the performance of road construction projects under the KENHA umbrella in the city-county of Nairobi. The results are dully presented in Table 4 listing all the 5 constructs of the variable on performance reviews. From the field constructs for performance reviews (PR1, PR2, PR3, PR4, and PR5), the aggregate mean was established to range from 3.5 to 3.8 and this was rounded off to 4. This was a fair reflection of the respondents' views indicating the performance reviews positively affected roads performance. Supporting scholars for this finding include studies by Chofreh et al. (2019) in search of sustainability of project performance and Nambiro (2018) in establishing public projects in the education sector in Kenya.

Scholars have carried out similar studies on project performance in public service and found contrary results. Ngacho and Das (2015) studying construction projects by public institutions established that performance reviews were less critical in the maintenance of such projects implying that they had no big effect on performance if well calculated to include all aspects of project performance. Other scholars including Ondari and Gekara (2013) studying road construction projects established that the performance reviews were part and parcel of a successful road project and require careful inculcation of all staff in the project.

Table 4: Performance Reviews and Project Performance

CODE	Performance Review Constructs	N	M	SD
PR1	There is a regular review of employees' work performance.	89	3.8	0.26
PR2	Employees' strengths are identified through performance reviews.	89	3.8	0.47
PR3	Employees' weaknesses are identified through performance reviews.	89	3.5	0.33

PR4	Employees receive adequate feedback after performance reviews	89	3.5	0.11
PR5	Through reviews, the management sets goals for future performance.	89	3.8	0.69
	Aggregate score		3.7	0.37

4.1.5 Capacity Building

Additionally, the study had the fourth objective of establishing the effect of capacity building on the road construction project performance in the city-county of Nairobi as results indicate in Table 5 with five constructs (CB1, CB2, CB3, CB4, and CB5). The results indicate that the mean of capacity-building constructs ranged from 2.9 to 3.8. This aggregate mean when rounded off to zero decimal place, was 4. This was therefore an indication that the respondents agreed that capacity building had a positive effect on the project performance of road construction projects. The result was also backed by the standard deviation of under 1 indicating that the means were within acceptable limits to receive further statistical tests or reviews.

The study results were in line with studies of other scholars including Oseni (2012) who established that projects in Pakistan once allocated budgetary funds had high chances of building capacity that played a positive role in the performance. Another study by Panda et al (2016) seeking to establish how monitoring and evaluation enhanced project performance concluded that the function enhanced capacity building which had a positive effect on project performance. On the contrary, some studies have produced results that show mild effect through capacity building, for example, Rogito (2015) in seeking to establish the Kenya Youth Fund project sustainability found that the capacity building process delayed the take-off of projects resulting in poor performance. Another scholar, Tesfaye (2019) established that during monitoring and evaluation, time wasted on capacity building ends up eating into the life cycle of projects and recommended the pursuit of highly qualified personnel that do not require further capacity building. Tesfaye argues that projects require experience and not learners in the field for efficient performance.

Table 5: Capacity Building

CODE	Performance Constructs	N	M	SD
CB1	The number of M&E staff in the projects is sufficiently provided.	89	3.5	0.45
CB2	There is regular training of evaluators	89	3.7	0.36
CB3	There is continuous training and development of staff	89	3.6	0.24
CB4	The roles and responsibilities are clearly defined.	89	2.9	0.19
CB5	There is a well-developed mission for capacity building.	89	3.8	0.68
	Aggregate score		3.5	0.38

4.2 Regression Analysis

The findings of model summary, ANOVA, and regression coefficients are indicated in this section. Results in Table 6 indicated a coefficient of correlation R was .813 an indication of a

strong positive correlation between the variables. The coefficient of adjusted determination R^2 was 0.849 which changes to 84.9% a great indication of the dependent variable can be explained by budget allocation, baseline, performance review, and capacity building. The remaining 15.1% can be explained by other factors beyond the scope of the current study.

The combined study of the independent variables shows results that are in line with some past studies and contrary to some studies that did not study the variables jointly. Specifically, Chofreh et al. (2019) have results indicating positive significance on performance variables while Faridi and El-Sayegh (2016) found negative significance in the performance variables.

Table 6: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	.813 ^a	.802	.8491	1.31124

The ANOVA results in Table 7 indicated significant effects on the performance of projects $F(2, 87) = 17.234, p < .05$. From the results, it is indicative that the regression model suitably predicted the outcome variable relating road construction to the performance of projects by KENHA in Nairobi City County. The results conform with other scholars including Haverila and Fehr (2016) have demonstrated that there is a positive effect on the performance of projects specifically in road construction. On the contrary, Kusek and Rist (2014) in their study of American road projects established that the performance of these projects can have negative effects from several variables including poor reviews, lack of adequate budget allocation, and specifically poor monitoring and evaluation resulting from lack of retraining.

Table 7: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.320	2	4.640	17.234	.003 ^b
	Residual	38.412	87	.226		
	Total	40.732	89			

a. Dependent Variable: Performance of projects

b. Predictors: (Constant), Budget, Baseline, Reviews, Capacity

The final analysis of the study involved fitting the model of the study into data constructs using a linear regression model of the form $Y = a + bx + c$ as proposed. Using individual coefficients of the study variables as presented in Table 8, the independent variables comprising budget allocation, baseline surveys, performance reviews, and capacity building were respectively matched to their dependent variable which performance, as follows with variables, was presented using R and Y for performance.

$$Y = \beta_0 + \beta_1 R_1 + \beta_2 R_2 + \beta_3 R_3 + \beta_4 R_4 + \epsilon \dots \dots \dots (1)$$

$$Y = 2.311 + 1.632 R_1 + 0.322 R_2 + 1.113 R_3 + .709 R_4 + 2.113 \dots \dots \dots (2)$$

Where R_1 = Budget allocation

R_2 = Baseline survey

R₃ = Performance reviews

R₄ = Capacity building

This according to the model in (2) indicates that performance without the independent variables would perform at 2.311 units of measurement. Otherwise, for every unit of performance, there is a contribution of about 1.632 input of budget allocation, 0.322 input of baseline surveys, 1.113 input units of capacity building, and 0.709-unit inputs of capacity building. Similarly, there is uncaptured 2.113 noise or error from the road construction industry that remains undefined.

Table 8: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	2.311	0.219		2.113	.011
Budget Allocation	1.632	0.672	0.117	1.993	.021
Baseline Surveys	0.322	0.430	0.057	0.413	.034
Performance Reviews	1.113	0.136	0.139	1.902	.022
Capacity Building	0.709	0.682	0.273	1.506	.019

5.0 Conclusion

The first objective sought to establish the effect of budget allocation on the performance of road construction projects and concludes that budget allocation has a positive effect on performance. Specifically, the timely allocation of funds for the M&E function in road construction played a big and positive role in the performance of road construction projects. The significance of the results from the analysis done led to the conclusion that budget allocation if well harmonized and disbursed within the scope of the road projects contributes significantly toward the performance of road construction projects by KENHA in Nairobi City County.

The second objective sought to establish the effect of baseline surveys on the performance of road construction projects by KENHA in Nairobi City County. Results, as presented using the correlation and regression analysis, showed significance and this was an indication that conducting surveys for baseline studies in road construction could be key to the performance of the road construction projects. This finding also led to the conclusion that baseline surveys are to be conducted and shared with all stakeholders to contribute to the performance of road construction projects.

The third objective aimed to explore how performance reviews affected the road construction performance within Nairobi City County by KENHA with a specific focus on 7 road construction projects. The initial results in descriptive statistics and subsequent inferential analysis showed strong significance. Further analysis of inferential statistics indicated that the performance reviews played a key role in the performance of road construction as the personnel involved were pivotal for the review of all stages ensuring positive completion of these projects.

The fourth objective sought to establish the effect of capacity building on the performance of road construction projects by KENHA in the city of Nairobi. Results showed high aggregate means for insufficient M&E staff while indicating agreement for the support of regular training of M&E staff. There was equally a good mean score of clarity on the responsibility allocation for staff in the project. The conclusion was capacity building had a positive effect on the road construction project performance considering all constructs of the objective as pursued by the project handlers including training and staffing of M&E function.

The final objective sums up other objectives in this study which is to link the performance of road construction projects and other variables of the study. From the constructs of performance objectives, it is concluded that quality standards are sought by construction teams. Completion of roads on a timely basis did not achieve an overall perfect score and this negatively affected the performance factor. However, the mean scores of the processes for road completion played a positive role in improving the aggregate score, gauging from the road projects that had been completed within the expected timelines. In general, the results indicated good performance on road construction projects.

6.0 Recommendations

The recommendations of the study are derived from the field findings and conclusion set before this section. These include recommendations for improvements, adding to the body of knowledge as well as suggestions for further research.

6.1 Suggestions for Improvement

To improve the status of road construction projects, M&E teams should actively drive towards timely road completions while closely monitoring quality standards at all stages of road construction. Again, the current study recommends timely allocation of budgets to road construction projects with a clear scope of the budgetary allocations. It is also suggested that KENHA sets a budget to evaluate the cost of construction projects as well as involve relevant stakeholders in ascertaining the most appropriate budget allocations and disbursements during road construction projects. Similarly, the M&E function must receive special budgetary allocations for training and capacity building. These funds should support continuous performance reviews inculcating stakeholders for road construction projects in Nairobi City County. Baseline surveys are highly recommended. With the involvement of relevant stakeholders, M&E practices should span across the road constructions scope. This is expected to accelerate completion rates, as well as enhance quality standards for the city roads under the KENHA umbrella.

6.2 Study Contributions to the Body of Knowledge

This study is thought to have made adequate contributions in adding to the base of knowledge in the M&E field. Specifically, the study findings will be an asset in project management and performance. Given the nature of theories used in the study and the nature of projects in road construction, findings from this study will help understand the theory of change, RBV theory as well as the theory of constraints as explained in budget allocations, and performance reviews and capacity building. Finally, this study will be an asset to project managers, sponsors, and stakeholders in road construction projects.

6.3 Suggestions for Further Research

At no time can this study claim to have exhausted all the knowledge gaps within the field of project performance and specifically of road construction projects. The study suggests that

other scholars take up similar studies by looking at roads under other national bodies, nationally as well as within other counties. It is suggested that another scholar could test the performance of private road construction companies within Nairobi City County or any other County within the country. Otherwise, any scholar would repeat this current study using different variables within a different study location in Nairobi City County.

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