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MONITORING AND EVALUATION AND PERFORMANCE OF KENYA NATIONAL HIGHWAYS AUTHORITY PROJECTS IN NAIROBI, KENYA

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ABSTRACT

The government through the ministry of Transport, Infrastructure, Housing, Urban Development, and Public Works is mandated with the task of ensuring that word class transport infrastructures are developed, managed, and maintained, and this mandate is tasked to the four key players with KeNHA being one of them. Despite the budgetary allocations ranging in billions of Kshs over the years, the ministry through the key players has still kept on reporting failed and stalled roadwork projects. This study therefore sought to examine the relationship between M & E practices and the performance of KeNHA projects in Nairobi, Kenya. Specifically, the study sought to examine the influence of technical expertise M & E practice on the performance of KeNHA projects in Nairobi, Kenya, to determine the effect the planning process M & E practice has on the performance of KeNHA projects in Nairobi, Kenya, to investigate the influence management participation M & E practice has on the performance of KeNHA projects in Nairobi, Kenya and to examine the influence stakeholder involvement M & E practice has on the performance of KeNHA projects in Nairobi, Kenya. This study used a descriptive research design. The subjects of study were drawn from 36 ongoing KeNHA projects within Nairobi County. The target population was 128 respondents. Stratified random sampling technique was used to select 107 respondents. The study's primary data was obtained using semi-structured questionnaires. Quantitative and qualitative data was generated from the closed-ended and open-ended questions, respectively. Descriptive statistics such as frequency distribution, mean (measure of dispersion), standard deviation, and percentages were used. In addition, inferential data analysis was conducted by use of Pearson correlation coefficient, and multiple regression analysis with the help of SPSS. The study results were presented through use of tables and figures. The study concludes that technical expertise M & E practice has a positive and significant influence on the performance of KeNHA projects in Nairobi, Kenya. In addition, the study concludes that planning process M & E practice has a positive and significant influence on the performance of KeNHA projects in Nairobi, Kenya. Further, the study concludes that managerial participation M & E practice has a positive and significant influence on the performance of KeNHA projects in Nairobi, Kenya. The study also concludes that stakeholder inolvement M & E practice has a positive and significant influence on the performance of KeNHA projects in Nairobi, Kenya. From the respondents, this study recommends that the management of KeNHA should ensure regular training of their project teams to equip them with the needed skills to deliver their duties. In addition, the management of KeNHA should ensure proper scheduling of monitoring and evaluation activities to ensure projects are completed within the estimated budget and time.

Key Words: M & E Practices, Technical Expertise, Planning Process, Performance of KeNHA Projects

INTRODUCTION

Development and maintenance of physical infrastructure are key to economic growth and development as well as harnessing poverty reduction. Production costs, employment creation, access to markets, and investment depend on the quality of infrastructure, most especially in transport (Ikiara et al. 2000; Chai & Yusof, 2013). Road transport is the most widely used means of transportation globally. The fragmentary nature of the railway system and the limitations imposed on the scope of inland water transport by geographical factors mean that transport of people and freight by rail and inland waterways has to be supplemented, usually by road transport over long distances (Ikiara et al. 2000 cited by Chai & Yusof, 2013).

Information from the World Bank report on world's paved road indicates that USA had a partly 14.3% of paved roads as a percentage total of the entire roads in year 2010 (World Bank WDI: 2013). The transport sector in Kenya comprises a road network with 169,886 km of roads and 350,000 vehicles, a single-track railway running from Mombasa to Uganda, a major seaport at Mombasa, small ports at Lamu and Malindi, a ferry service to Uganda, an oil pipeline from Mombasa to Kisumu via Nairobi and Eldoret, four international and many small airports, and three inland container depots (IEA 1998). With a 34% share in the total transport sector in 1998, road transport has the highest contribution to national output among the transport systems. It is followed by air transport, with 25%, and water transport, with 16% (Ikiara et al. 2000). Considering that this level of performance was achieved over a period of deficient road maintenance, it is obvious that the subsector and by implication the road infrastructure policy— holds the potential for rapid economic growth and poverty reduction through its influence on production costs, employment creation, access to markets, and investment (Howe and Richards 1984; van de Walle 1996; GoK 2014).

Traditionally in most African countries road building has been given a higher priority than road maintenance and monitoring and evaluation during construction, with scant attention to the imperatives of recurrent costs of road management once the road has been constructed. In a study on road deterioration in developing countries, Harral and Faiz (1988) estimated the annual monitoring, evaluation and maintenance expenditure required to prevent road deterioration. On average, expenditures for 1986–1990 varied from 0.2% of GDP for countries in East Asia and the Pacific to 1% for countries in West Africa. They estimated that the backlog of maintenance work varied from 1.6% of GDP in East Asia and the Pacific to 3.5% in South Asia. Different countries have adopted aspects of this approach. For example, Ghana came up with a commission the National Development Planning Commission (NDPC) as a regulatory policy to assimilate the principle of M&E operations. NDPC adapted the Results Based Monitoring and Evaluation System (RBMES) and Results Based Budgeting (RBB) in the M&E process. This was purposely to ensure cost effectiveness, institutional capacity strengthening, promotion of good governance and accountability as well as credibility to the partners and government.

The performance of the Kenya National Highway Authority (KeNHA) is very consequential in the country's economic growth since good road infrastructure attracts investors both domestic and foreign because it opens up areas for easy access as well enabling good security. Buttrick (1997) noted that projects are mainly undertaken with the motive of affecting business strategies. When a region gets open up by setting up new infrastructure in terms of roads, new investments are set up like new businesses, new industries which in turn create jobs and employment opportunities for the locals as well as to other citizens. It is for this reason that the researcher in this study was motivated to interrogate the topical area further since very little attention has been given to road projects under KeNHA. Ahsan and Gunawan (2010) in support of this ideology noted that the

adoption and implementation of proper monitoring and evaluation (M & E) practices are usually crucial because it ensures sustained retention of the realized benefits from these projects.

The Kenya National Highways Authority statutory body was established in 2007 and inaugurated in 2008 under the Roads Act 2007 and is under the Ministry of Transport, Infrastructure, Housing, Urban Development, and Public Works. KeNHA is responsible for the rehabilitation, development, maintenance, and management of all national trunk roads which comprises classes A, B, and S roads. Class A roads are those that connect Kenya with international boundaries, Class B roads are highways that form an important national route linking economic hubs, national trading, and County headquarters to other important national centers while Class S roads are roads that connect two or more cities (KeNHA, 2008). Since its establishment up to February 2016, KeNHA had already completed 18,101km of road comprising of all three classes of roads (KeNHA, 2016).

Statement of the Problem

The government through the ministry of Transport, Infrastructure, Housing, Urban Development, and Public Works is mandated with the task of ensuring that word class transport infrastructures are developed, managed, and maintained, and this mandate is tasked to the four key players with KeNHA being one of them. Despite the budgetary allocations ranging in billions of Kshs over the years, the ministry through the key players has still kept on reporting failed and stalled roadwork projects and this is attributable to poor management of resources, inflated project costs, incompetence of some stakeholders among other reasons. In this regard, the adoption of M & E in KeNHA can come handy in the regulation and management of its projects hence this has engendered the need to examine the role M & E can play in the performance of KeNHA projects in Nairobi.

As indicated earlier, the number of kilometers that have been completed by KeNHA to date stands at 63,575km for all classes which was an increase from 41,800km done at independence while the paved road length has also grown for the same period from 1,811km to 9,273km to date (KeNHA, 2020). That increment in the total road coverage for 58years since independence can be referred to as sluggish since the state of the economy the country was in during independence is not the same in the present. This implies that the sector has not been doing well in terms of project delivery. For instance, a report by the Kenya Roads Board (2013) indicated that 7.7% of the national budgetary allocation went to the then ministry of transport and infrastructure during the 201302014 financial years. With such an allocation one can only expect that more world-class roads are constructed but still the ones that are already in place are in poor condition or substandard hence the need for adoption of M & E practices in these projects.

Various researches have been carried out by various scholars on the influence M & E practices have on the performance of projects. Gitahi (2015) examined the determinants that influenced M & E as well as evaluation processes of road construction projects in Kenya and made use of both quantitative and qualitative techniques in the data analysis where the results from the study established that road construction projects were highly influenced by the application of M & E practices. Abdi (2017) examined the effects adoption of M & E practices had on the performance of projects in counties by the use of descriptive statistical analysis design in the study and the results indicated a positive significant correlation between projects performance and the adoption of M & E practices in the counties.

Similarly, Maendo et al. (2018) investigated the influence M & E practices had on road infrastructure projects performance done by local firms in Kenya by focusing on the Lake Basin Region and the findings in the study established a significant effect of M & E practices adoption on the performance of road projects in the region. Kihuha (2018) also investigated the influence

M & E practices had on the Global Environment Facility Projects in Kenya performance by surveying the UNEP projects and as indicated in the results of the study, there was a low staff awareness on the availability of M & E practices and the lack of a developed comprehensive strategic operational plans for regular M & E.

Therefore, from the above studies it's evident that the M & E practices were not much utilized in the past although a slow pace adoption is being experienced and thus the need for examining the influence M & E practices adoption has on the performance of KeNHA projects in Nairobi, Kenya hence the reason for this research paper. The research tried to answer this research question; what are the effects of M & E practices on the performance of KeNHA projects in Nairobi, Kenya?

This research was guided by several research objectives designed based on the gaps identified during the literature review work. The key gaps identified relate to the issues of technical expertise, planning process, management participation, and stakeholders involvement.

Research Objectives

i. To examine the influence of technical expertise M & E practice on the performance of KeNHA projects in Nairobi, Kenya.

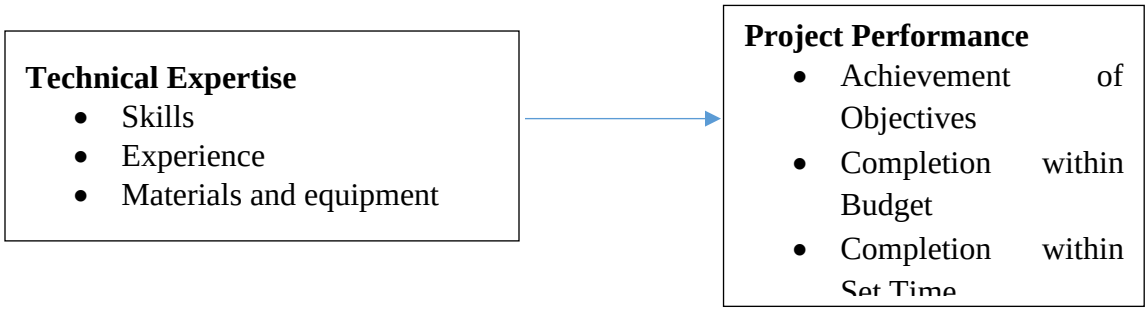
LITERATURE REVIEW

Human Capital Theory

The human capital theory was developed by Schutz (1961) and extended by Becker (1964). The theory holds that the knowledge and skills possessed by the employees can be improved through training and education. In addition, the theory argues that organization employees are not an expense to the organization but are assets having the capability of adding value to the organization and also giving essential contribution to the organization hence ensuring its survival in a very competitive environment (Pope, 2016).

The components of human capital entails the intellectual capacity (entails the unique knowledge as well as skills possessed by the employees), the social capital (which comprises of the flexible networks in the employees which allows the company to link with others hence facilitating diverse knowledge), the organizational capital (which comprises of the knowledge which the company owns and has stored in its manuals and database). Hogarh (2016) holds that emotional capital is concerned with the ability to change the potential in the intellectual capital into the real action. In Sutherland, Wachira, Gakure and Orwa (2016) indicates that organization employees possess a significant organizational value however, when the employees leave the organization, they take with them the organizational value they possess. Therefore, organizational value is created by the knowledge, the skills as well as the individual abilities to create value. As a results, organizations should focus on how to attract, retain, develop and maintain human capital (Ebenezer &Tamatey, 2017).

Conceptual Framework



Technical Expertise M & E Practice

Technical skills refer to the specialized knowledge and expertise needed to accomplish complex actions, tasks, and processes relating to computational and physical technology as well as a diverse group of other enterprises (Abdi, 2017). Technical expertise in technology is important in project monitoring and controlling due to greater challenges in today's technology-enabled project (Kwak (2015). This is especially where technological tools are used in project management practices. This study helped to analyze fundamental connections between technical expertise and project performance. Subsequently, understand the indulgent function of expertise to the project team in cultivating enhanced project performance.

Kwak, (2015) argues that it is difficult to disassociate the use of technology with project performance and the absence of such relation induced project performance, being a technical expert in monitoring and evaluating a project can play a main role in supporting project team in handling projects effectively and efficiently. A study by Sunindijo (2015) Faculty of Built Environment, Australia highlighted on Project manager multi-layered tasks that expressively influenced the project performance. Other studies had recognized four skills for effective project managers, they include mental, human, stakeholders and technical skills.

Empirical Review

Technical Expertise M & E Practice and Project Performance

Ngaira and Malenya (2019) conducted a study on the influence of technical capacity on county road construction projects performance in Busia County, Kenya. The study adopted descriptive survey design and targeted 123 officers consisting of prequalified contractors in Busia County, local community leaders (ward administrators, youth leaders), area MCAs, employees from County Transport and Infrastructure department, Contractors technical staff, Government road engineers, KeRRA officers, KURA officers, technical staff from surveying department, Civic education leaders from civic education department and engineers from National Construction authority (NCA). A pilot study was done in an established road contractors firm in Bungoma County to test instrument validity and reliability. Data was collected by structured questionnaires. The study concluded that technical capacity significantly influences performance of road construction projects, thus, any improvement in the road contractors' technical capacity would yield a significant progress in performance of road construction projects in Busia County.

Kisavi (2019) conducted a study on the critical factors and their influence on performance of road construction projects in kiambu county, Kenya. . The research adopted a descriptive research design. Data was collected from a census of 9 road construction projects in the county. The target population was the 158 officers, who worked in the Kiambu regional offices for KURA, KeRRA, KeNHA and the county's Ministry of Public Works as well as representatives of the contractors undertaking the road construction projects that were ongoing as at the time of the study. A stratified sample of 82 respondents was chosen from which data was collected using self-administrated questionnaires. The study found that contractor capacity had a strong significance ($p=0.00$) on project performance, and was also found to be positively related to the dependent variable. As a result, holding all other independent variables constant and increasing contractor capacity by a single unit would result in an improvement in project performance by 0.68 units

RESEARCH METHODOLOGY

This study used a descriptive research design. These include the technical staff in the resident Engineer's supervisory team, contractor's team and the planning department of KeNHA through the Regional Manager. The total respondents were therefore 128 respondents. The sampling frame of the study was the 128 respondents from the three road categories in Nairobi County. The strata are reached upon on the basis of the shared traits (Singpurwalla, 2017). In this study the strata

comprised of the three road categories in Nairobi County. Primary data was used in this study. Greener (2018) indicates that primary data is made up of first-hand information that has not been processed or analyzed. A questionnaire which is a form of quantitative data collection tool will be used to collect primary data. The study's primary data was obtained using semi-structured questionnaires. The collection of data was conducted by use of the drop-off and pick-up-later method and the questionnaires was collected after one week. This accorded the respondents enough time to answer the questions. The researcher used this method due to the variances in respondents' time availability. Before the data could be analyzed, the researcher ensured the data was checked for completeness, followed by data editing, data coding, data entry, and data cleaning. Inferential and descriptive statistics was employed for analysis of quantitative data with the assistance of Statistical Package for Social Sciences (SPSS version 25).

RESEARCH FINDINGS AND DISCUSSIONS

Response Rate

The sample size for this study was 107 and it comprised of technical staff in the resident Engineer's supervisory team, contractor's team and the planning department of KeNHA. The researcher distributed 107 questionnaires to the respondents by the researcher during data collection process and 92 were fully filled and returned to the researcher. Thus, the response rate of was 85.9%. Kothari (2012) argues that a response rate which is more than 50% is considered adequate while excellent response rate is usually above 70%. This implies that the response rate in this research is good for making conclusions as well as recommendations.

Descriptive Statistics

Technical Expertise M & E Practice and the Performance of KeNHA projects

The first specific objective of the study was to examine the influence of technical expertise M & E practice on the performance of KeNHA projects in Nairobi, Kenya. The respondents were requested to rate various statements on technical expertise M & E practice and the performance of KeNHA projects in Nairobi, Kenya. A 5 point Likert scale was used where 1 symbolized no extent, 2 symbolized little extent, 3 symbolized moderate extent, 4 symbolized great extent and 5 symbolized very great extent. The results were as presented in Table 1.

From the results, the respondents agreed that they have adequate experience on project monitoring and evaluation. This is shown by a mean of 4.284 (std. dv = 0.772). In addition, with a mean of 4.218 (std. dv = 0.682). The respondents agreed that they have adequate skilled human resources on matters relating to project monitoring and evaluation. Further, the respondents agreed that their team has skills on project monitoring and evaluation. This is shown by a mean of 3.999 (std. dv = 0.834). The respondents also agreed that staff training enhances employee skills and experience. This is shown by a mean of 3.928 (std. dv = 0.237). With a mean of 3.714 (std. dv = 0.905). The respondents agreed that technical expertise influences project performance.

Table 1: Technical Expertise M & E Practice and the Performance of KeNHA projects

						Mean	**Std. Deviation**
technical expertise influences project performance	3.8	7.6	13.4	63.7	11.5	3.714	0.905
Our team has skills on project monitoring and evaluation	8.2	26.7	19.1	9.2	36.9	3.999	0.834
I have adequate experience on project monitoring and evaluation	3.8	7.6	7.6	38.2	42.7	4.284	0.772
Our project has adequate skilled human resources on matters relating to project monitoring and evaluation	5.7	7.6	3.8	24.8	58.0	4.218	0.682
Staff training enhances employee skills and experience	3.8	15.3	11.5	23.3	46.2	3.928	0.237
Aggregate						**3.811**	**0.610**

The performance of KeNHA projects in Nairobi, Kenya

The respondents were requested to rate various statements on the performance of KeNHA projects in Nairobi, Kenya. A 5 point Likert scale was used where 1 symbolized no extent, 2 symbolized little extent, 3 symbolized moderate extent, 4 symbolized great extent and 5 symbolized very great extent. The results were as presented in Table 2.

From the results, the respondents agreed that some projects cost more than the estimated budget. This is shown by a mean of 3.907 (std. dv = 0.788). In addition, with a mean of 3.908 (std. dv = 0.880). The respondents agreed that KeNHA projects achieve the intended objective. Further, the respondents agreed that some projects take long time to be completed. This is shown by a mean of 3.855 (std. dv = 0.769). However, the respondents were neutral on the statement indicating that they are satisfied with the performance of KeNHA projects. This is shown by a mean of 3.006 (std. dv = 0.982).

With a mean of 2.008 (std. dv = 0.961). The respondents disagreed with the statement indicating that most of the projects are completed within the stipulated time. In addition, with a mean of 1.827 (std. dv = 0.935), the respondents disagreed with the statement indicating that most of the KeNHA projects are completed within the set budget.

Table 2: The performance of KeNHA projects in Nairobi, Kenya

	1	2	3	4	5	Mean	Std. Deviation
KeNHA projects achieve the intended objective	5.7	5.7	15.3	28.6	44.7	3.908	0.880
Most of the projects are completed within the stipulated time	3.8	11.5	9.5	30.5	44.7	2.008	0.961
Some projects take long time to be completed	3.8	13.4	13.4	32.4	37.0	3.855	0.769
Most of the KeNHA projects are completed within the set budget	8.6	8.6	13.4	20.2	49.2	1.827	0.935
Some projects cost more than the estimated budget	13.4	5.6	13.7	17.9	49.4	3.907	0.788
Am satisfied with the performance of KeNHA projects	5.7	7.6	3.8	24.8	58.0	3.006	0.982
Aggregate						**3.097**	**0.871**

Correlation Analysis

This research adopted Pearson correlation analysis determine how the dependent variable (the performance of KeNHA projects in Nairobi, Kenya) relates with the independent variables (technical expertise, planning process, management participation, stakeholder involvement in M & E practice). The results were as depicted in Table 3.

As illustrated in table 4.6, technical expertise has a positive and significant association with performance of KeNHA projects in Nairobi, Kenya (r=0.884, p value =0.000). The p-value (0.000) was less than the significant level 0.05 hence making the association significant. The results are in agreement with Agarwal and Narayana (2020) findings that technical expertise affects project performance.

Table 3: Correlations Coefficients

		Project Performance	Technical Expertise
Project Performance	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	92	
Technical Expertise	Pearson Correlation	.884	1
	Sig. (2-tailed)	.002	
	N	92	92

Regression Analysis

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.931[a]	0.868	0.869	0.16355

a. Predictors: (Constant), technical expertise, planning process, management participation, stakeholder involvement in M & E practice

The research used analysis of variance to determine if the model was good fit for the data. As depicted in table 4.8, the F calculated was 238.05 which is higher than the F critical value which was 2.476. Besides, the p value was 0.001 which is less than the significant level of 0.05. This implies that the model was a good fit for the data hence can be used to show the impact of independent variables (technical expertise, planning process, management participation, stakeholder involvement in M & E practice) on the dependent variable (the performance of KeNHA projects in Nairobi, Kenya).

Table 5: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	75.222	4	18.806	238.05	.001[b]
	Residual	6.875	87	.079		
	Total	310.097	91			

a. Dependent Variable: Project Performance

b. Predictors: (Constant), technical expertise, planning process, management participation, stakeholder involvement in M & E practice

The results revealed that technical expertise has a positive and significant influence on the performance of KeNHA projects in Nairobi, Kenya (β_1=0.771, p value= 0.004). The p-value (0.004) was less than the significant level 0.05 hence making the relationship significant. The results are in agreement with Agarwal and Narayana (2020) findings that technical expertise affects project performance.

Table 6: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.779	0.119		6.546	0.002
	Technical Expertise	0.314	0.071	0.304	4.423	0.004

a. Dependent Variable: The performance of KeNHA projects in Nairobi

Conclusions

The study concludes that technical expertise M & E practice has a positive and significant influence on the performance of KeNHA projects in Nairobi, Kenya. Findings revealed that skills, experience and materials and equipment influence the performance of KeNHA projects in Nairobi, Kenya.

Recommendations

The study found that staff training on monitoring and evaluation influences project performance. This study therefore recommends that the management of KeNHA should ensure regular training of their project teams to equip them with the needed skills to deliver their duties.

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