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# PROJECT MANAGEMENT PRACTICES AND PERFORMANCE OF GOVERNMENT FUNDED ELECTRIFICATION PROJECTS IN KENYA

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## ABSTRACT

Project management practices are those fundamental issues inherent in the project, which must be maintained in order for team working to take place in an efficient and effective manner. They require day to day attention and operate through the life of the project. The current state of project management practices in developing African countries remain actual serious to the development of innovation, the growing difficulty of program and the shortage of human wealth. The main purpose of this study was to determine the relationship between project management practices and performance of Government funded electrification projects in Kenya. The specific objectives of the study were to determine the effect of stakeholder involvement, resource allocation, risk management and monitoring & evaluation on performance of Government funded electrification projects in Kenya. This study adopted descriptive survey research design for the qualitative data. The target population involved Kenya Power Lighting Company, Kengen and Rural Electrification and Renewable Energy Corporation ((REREC). The research adopted primary data which was done by use self-administered questionnaires. Descriptive statistics was used to present data whereby frequencies, means and standard deviations was used. The study findings showed that the four variables had a significant influence on performance of the government funded electrification projects. The study recommended that a similar research should be conducted with an aim at investigating determinates of project management practices on the performance of government funded electrification projects with other variables or of other firms in other sectors, including other ministries in the Kenya. The findings showed that 69.4 % of the performance is explained by the four variables while 30.6 can be accounted by other factors captured by the standard error.

**Key Words;** Stakeholder Involvement, Resource Allocation, Risk Management, Monitoring and Evaluation, Performance

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#### INTRODUCTION

According to Barriere (2003) project management practices have become a universal tool for optimal performance for any organization that seeks professionalism. Ibbs (2002) Identified professional project management practices as the skills and science of planning, designing, and managing activities throughout the project lifecycle processes. The current state of project management practices in developing African countries remain very critical due to the advancement of technology, the increasing complexity of projects and the scarcity of human capital (Crawford *et al.*, 2006).

Project management practices are those fundamental issues inherent in the project, which must be maintained in order for team working to take place in an efficient and effective manner. They require day to day attention and operate through the life of the project. It is interesting to find out whether project managers in the electrification sector are aware of the project management practices and how the factors under their control impact on the outcomes (Baker and Murphy, 1974).

Globally, 1,456 billion people have no access to electricity of which 83% are in rural areas. This is no exception in Kenya where majority of people in rural areas have no access to electricity and rely heavily on wood for cooking, which has adverse effects related to indoor pollution and health complications. Collecting firewood too takes a lot of time which mainly affects girl education as girls are the ones who usually collect firewood. In Sub Saharan Africa 12% of rural population have electricity which is far less than the 35.4% average access of developing countries worldwide (Kenya national energy policy 2012).

In Africa electrification rate is at 28 percent with North Africa having access rate of 99 percent while Sub Saharan Africa has 18 percent (IEA, 2013). Through the south-south initiative more than 17 African countries have joined with the purpose of accelerating the development of electrification through creating conditions where members can share their experiences in a bid to electrify Africa. Countries under this initiative include: Cameroon, Ivory Coast, Morocco, Mauritania, Niger, Senegal, Burkina Faso, Congo Brazzaville, Guinea, Mali, Madagascar, Mauritania, Niger, Benin, Central African Republic, Gabon, Democratic Republic of the Congo, Chad, Zambia, Uganda, Kenya, Tunisia, Togo, Tanzania, Mali, Malawi, Mozambique, Rwanda and Ghana. Affordability proves to be an obstacle in trying to ensure access to reliable modern energy in Sub Saharan Africa.

The Kenya overall electrification rate in rural area is 14%which far below the sub Saharan Africa level of 23 % (Abdullah, 2017). Lack of enough capital in rural areas has led to poor electrification as the cost increases with distance from the grid, which makes connection cost in urban areas cheaper than in rural areas. The low consumption of electricity in rural areas and low income makes extension of grid to those areas uneconomical. In Kenya wood fuel provides up to 70% of the energy sector except for transport and commercial purposes. This has led to high indoor air pollution (IAP) (Abdullah, 2017).

Kenya has undertaken several electricity connectivity projects in the past few years which have been chiefly funded by the World Bank and Africa development bank. These projects have enjoyed diverse performance ratings during periodic performance reviews (World Bank., 2018b). For example, Kenya Electricity Modernization Project that is World Bank funded commenced in March 31 2015 and is scheduled to end in June 30, 2020. The project that is funded to the tune of 562 US dollars aims at increasing access to electricity, improving reliability of electricity service and strengthening Kenya power financial situation. The latest rating of the project dated first of February, 2018 indicated that the project was satisfactory towards achievement of PDO and progress towards completion of the project (World Bank., 2018).

Since 2013, the Kenya government initiated electrification programs that are intended at distributing electricity all over rural areas in the country. The electrification programs in Kenya was enhanced by the formation of Rural Electrification Authority in 2016, which has since changed to Rural Electrification and Renewable Energy Corporation (REREC) since enactment of the Energy Act 2019, that has come up with a number of policies concerning the adoption of grid and off-grid distribution structures through renewable energy such as wind, solar and biogas (Rural Electrification Authority, 2013). Studies show that rural electrification in Kenya improved from 4 percent in 2013 to 15 percent in 2017 (Ondari, 2017).

# **Statement of Problem**

The electricity supply projects have faced various performance challenges across the globe. The electricity distribution accountability and reliability programs valued at US\$25 million was valued as moderately acceptable and moderately unacceptable in relative to development concerning success of Project Development Objective and General Application Development (World Bank, 2018). Among the difficulties were the rise of customers unsatisfied with the electricity services, and poor meters numbers that had been connected.

Rural Electrification in Kenya has been faced with challenges due to high connection charges. The willingness to pay to be connected to the grid and photovoltaic services is less due to the high cost which the Kenya administration needs to deal with through restructuring the energy industry by giving grants (Sebastiano & Ragnhild, 2014). Kenya Electricity supply project has constantly been faced with various performance difficulties. Kenya power in March of 2017 shown there was a challenge in the capacity of customers to load tokens in their meters. This affected up to 940, 668 customers.

The electricity connection Project has also been hit by challenges which procurement derail its implementation. In 2018, International Engineering Nigeria questioned the granting of a tender for connection of electricity to seven counties. The seven counties were Nandi, Kakamega, Bungoma, Nakuru, Samburu, Laikipia and Nyeri. The financial feasibility of the Project has been raised. This is because a good number of the electrification have been done on semi-permanent homes and the customers being connected without having fully paid the requisite amount which they pay in segments and this has the ability of raising the monthly expenses.

# **Objective of the Study**

The general objective of this study was to examine the relationship between project management practices on performance of Government funded electrification projects in Kenya. The specific objectives were:

- To determine the effect of stakeholder involvement on performance of Government funded electrification projects in Kenya
- To find out the effect of resource allocation on performance of Government funded electrification projects in Kenya
- To establish the effect of risk management on performance of Government funded electrification projects in Kenya
- To establish the effect of monitoring and evaluation on performance of Government funded electrification projects in Kenya

## LITERATURE REVIEW

# Stakeholders' Management theory

Edward Freeman advanced this Theory in 1994. The stakeholder management theory is a theory of organizational management and business ethics that addresses morals and values in managing an organization. A stakeholder is any individual(s), group(s) or organization(s) involved and impacted by the project activity or its outcome, (PMBOK 2013). According to Cooke-Devis *et al*(2006),since the stakeholders in a task unite to capitalize on benefits to the clients, Stakeholder's benefits are the driver for the project. The success of the project requires the involvement and cooperation of all stakeholders. Cooperation, as defined by Freeman (1999), is the development of associations that transpire between the stakeholders of the project. It is a multifaceted system encompassing all the stakeholders around the project and form a mutual project environment, a domain of influence and backing on which projects hinge on for its very existence and success.

Stakeholder theory emphasizes that firms ought to put into consideration the concerns of persons and assemblies that can impact or are influenced by their undertakings while making judgements and accomplishing structural goals (Gibson, 2001). According to Agle et al., (2007), Stakeholder theory considers the associations between a business enterprise and others in its inner and outer environment and the manner in which how the organization carries out its projects is affected by these relationships .Stakeholders can emerge from either the inner or outer organization(Bourne ,2009).For example, project stakeholders encompass consumers, workers, traders, administration and the local community.Freeman,1994 postulates that the core concept of stakeholder theory is that firms that manage their stakeholder associations competently would endure longer and yield better performance than those firms that do not.

Many scholars have had problems with the Stakeholder Management Theory despite its popularity. Key (1999) postulates that stakeholder management theory is not specific and therefore it cannot be operated in a way that allows scientific inspection. Most critics like Teppo argue that stakeholder management theory views are unrealistic according to how organizations operate. Other scholars feel that stakeholder management theory does not offer any decision-making criteria that would adequately guide the governance of an organization. The theory guided the study in assessing the effect of stakeholder involvement on performance of Government funded electrification.

### **Resource-Based Theory**

The theory was developed by Birger Wernerfelt in 1984. The theory mainly lies on the package of intangible resources or valuable tangibles which are at a firm's disposal (Kozlenkova, Samaha & Palmatier, 2014). To form a sustainable competitive advantage from a short-run competitive advantage, the organization needs resources that are diverse in nature and they should not be necessarily perfectly mobile. This will successfully lead into a value which is neither substitutable without a great effort nor imitable. The firm will as a result have sustained its returns where the conditions are held constant (Kozlenkova, Samaha &Palmatier, 2014).

Gillis, Combs and Ketchen (2014) puts emphasis on the difference between resources and capabilities by defining a capability as a resource which is special and is specifically organizationally fixed, it is not transferable, and should purpose in the improvement of other resources that are possessed by the firm. A resource on the other hand is a stock of available factors controlled or and organizationally owned. Capabilities are therefore an organization's ability to organize the resources available in the organization. Basically, building resources builds up capabilities.

Resources are inputs to the process and can be classified into intangible and tangible resources. Tangible resources are physical in nature and include land, buildings, machinery, equipment, finances and human resources (Gillis et al., 2014). Physical resources are readily available in the market and therefore give little advantage since the competitors can easily buy them in the market. Intangible resources are resources that cannot be touched but they are owned by the organization. They include brands, reputation, trademarks and intellectual property. Unlike physical resources, intangible assets are developed over time thus difficult for others to copy and get instant competitive advantage. The theory suggests that resources of a firm determine the firm's performance (Jensen et al., 2016).

These resources include processes in the organization, knowledge, information and attributes as well as assets that enable the organization to acquire and develop strategies that will improve its efficiency, quality, awareness, effectiveness and image, of products or services. When appropriately utilized, performance in the organization is improved through these resources. In non-governmental organizations, resources include finances, equipment, skills and competence of the employees as well as leadership skills. Competencies/skills are a subsection of resources that have administrative and transformational capacities, for example, specialized abilities, sets of activities or practical process learning, and that help an association perform well on vital objectives or against basic achievement elements. Abilities are not procured from the market; rather, an association should produce them. This theory guided the study to find out the effect of resource allocation on performance of Government funded electrification projects in Kenya.

## **Theory of Constraints**

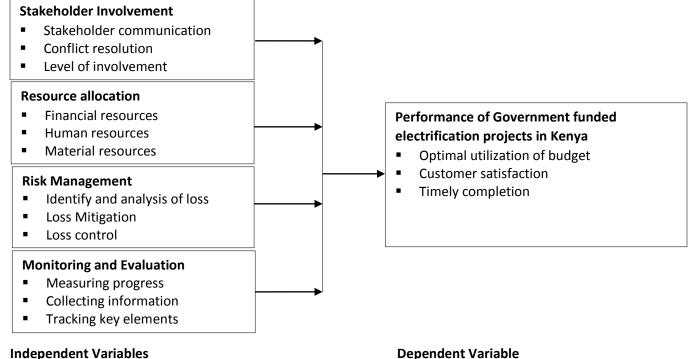
Theory of constraints was developed by Eliyahu Goldratt in the late 1970s, naming it as 'enhanced production time table' and was speedily established into a software package usually recognized as improved technology. Ten years later, due to disappointments affected by the prospects related with a turnkey set, Goldratt and others understood that what was desirable was to persuade people to modification means, fairly than tailor the set to just mechanize their old strategies and processes; changes to their rational and activities were required if the possible improvements were to be recognized (Sebastiano and Ragnhild, 2014).

Sebastiano and Ragnhild (2014), discovered that what is measured as a restriction in project management can be considered in to four; as political restrictions (for example as described vision, mission, scope of practical restrictions (for example program), capabilities, skills, current arrangement and normal circumstances like geology, landscape and temperature), social restrictions (for example as codes of conduct, institutional ladders, individual associations and anticipated conducts) and managerial restraints (for example financial plans, program time frame, scope, printed contractual arrangements). The guided the third objective on establishing the effect of risk management on performance of Government funded electrification projects in Kenya.

### **Prospect Theory**

According to Tversky and Kahneman (2011), prospect theory aids in decision-making decisions frequently comprise in-house clashes over worth trade-offs. This theory is planned to aid institutions and people to well comprehend, describe and foresee decisions in a world of ambiguity. The theory describes how these decisions are outlined and measured in the decision making process. Prospect theory is animated and practical in nature. It stresses on two shares of decision making: the planning stage and the appraisal stage (Tversky, 2012). The planning stage explains how a selection can be affected by the way in which it is offered to a decision maker. The appraisal stage involves of two sections, the worth purpose and the evaluating purpose, where the worth function is described in relations of achievements and harms comparative to the position fact.

Prospect theory is mostly used where the decision maker increases the worth of individual result by its decision heaviness. Decision heaviness is not only an indication of alleged possibility of a result, but also as a demonstration of a literature resulting valuation from how individuals attain at their logic of possibility (Tversky & Kahneman, 2011). Risk is a disclosure to the likelihood of fiscal or monetary loss or gain, as a consequence of the insecurity related with following a positive course of action. When measuring hazards in a programme, related information need be accessible to allow numerical examination, then, the skill and information of the decision makers is used to measure the likelihood of an adversarial incident. Risks impression program in a countless way by touching the strategic expenditures, superiority of effort and predictable program performance. So, risk management is significant in handling program that are unprotected to risks so as to guarantee that the aims of the programs are attained in the restrictions of the plan. The theory was useful in establishing the effect of monitoring and evaluation on performance of Government funded electrification projects in Kenya.



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# Figure 1: Conceptual Framework

#### **Empirical literature review**

According to a research on Leadership–Stakeholder Involvement Capacity and stakeholder management in health projects conducted by Walingo *et al.* (2014), the method of stakeholder involvement incorporates a discourse with its stakeholders. Furthermore, there are possibilities of coaxing from both the firm and the stakeholders whereby each of the parties convince the other to change. Idyllically, as noted by Aanesen *et al* (2014), the firm together with the stakeholders turned as an end outcome of an engagement in a symmetric communication model, to be precise, progressive repetitions of making sense and giving sense tactics. In order to accomplish operational stakeholder involvement, there is need for firms to come up with schemes for involving with stakeholders and paying attention to their concerns and needs, which serves in acquiring accurate data as regards prospects of the stakeholders' (Ayuso, Rodriguez, Garcia & Arifio, 2007). Aanesen *et al.*, (2014) carried out a research on stakeholder involvement in fisheries projects. He pointed out that organizations ought to not only impact but also pursue to be influenced by stakeholders, and subsequently alternate when necessary to, because the method of stakeholder involvement takes the idea of the stakeholder relationship to an extreme.

Hemanta (2012) carried out a study to evaluate stakeholders' impact on social performance of groundwork projects by use of social network analysis found out (SNA) approach. Hemanta that stakeholders' involvement had a substantial impact on the infrastructure project's social performance. A research on the impact of stakeholders' involvement on performance of road projects at Kenya National Highways Authority was conducted by Nyandika and Ngugi (2014). According to the results of the study, creating awareness, feasibility and organizing conferences and seminars in user involvement have a great positive influence in road projects performance. Nonetheless, the study did not show how stakeholders' consultation, stakeholders support and involvement in decision making on projects impact projects' performance.

Kerzner (2013) amplified the importance of resource allocation in identification of time limits and knowing when objectives would not be achieved or exceeded. Due to project management requirements for tight end-date-drive schedules it was imperative that resource scheduling took centre stage to ensure high project performance. Resource allocation would ensure constraints associated with time and resources were communicated to line managers as a step towards better resource control. Studies on resource allocation show they influence project performance significantly.

Elkington & Smallman (2012) have recognized that there is a solid relation between the extent of risk management assumed in a programme and the equal of achievement of the scheme - effective plans use more risk management. Risks recognized here will not only help the making of the essential project products, but will upsurge the accidental of general project achievement. An important risk that is not recognized and alleviated will developed an actual difficult at some point throughout the project life cycle (Tinnirello, 2010).

Baloi and Price (2013) shed a light on two perspectives on how project risks could be analyzed. Wanyona (2015) attributes risks related to project finance to the ineffective cost planning and control of building projects by the cost consultants. Because of the complex nature of construction projects, this approach has resulted to delays, litigation and even bankruptcy.

Kimweli (2013) analyzed the role of monitoring practices to the success of donor funded food security intervention projects in Kenya. The purpose of the study was to find out the role of monitoring and evaluation practices to the success of donor funded food security intervention projects. The study targeted residents of Kibwezi district who have benefited from donor funded food security projects. The study utilized a case study design because it was considered a robust research method particularly when a holistic and in-depth investigation is required.

Stem, Margoluis, Salafsky & Brown, (2014) in their study found that Monitoring and Evaluation is important in demonstrating accountability, M&E promotes accountability to both the donors and the beneficiaries through generation of reports (usually written reports) that show programmatic achievements and financial statements on how resources were utilized. This is critical in demonstrating to the donors and beneficiaries that the resources have been used appropriately and that the organization is effectively working towards meeting the project objectives by sharing documented results of progress made and results achieved so far.

## METHODOLOGY

The study adopted a descriptive survey to make proclamations on how stakeholders' involvement, resource allocation, risk management and monitoring and evaluation affects project management practices on performance of Government funded electrification projects in Kenya. The target population involved Kenya Power Lighting Company, Kengen, and Rural Electrification and Renewable Energy Corporation ((REREC). The unit of analysis involved key informants in the companies mandated to distribute electricity in Kenya.

The study used 15% of the target population, which was 948 projects, to get the sample size for the study; a sample size of 142 of projects was used. The research adopted primary data which was done by use self-administered questionnaires. Descriptive statistics was done to describe basic characteristics of the data whereby frequencies, means and standard deviations was used.

ANOVA and Chi-square data analysis methods was applied to analyze the data that was obtained from open ended questions. The data was presented using tables and figures. Multiple regression analysis was used to establish the relationship between the study variables.

# FINDING AND DISCUSSION

# Stakeholder's Involvement

From the findings, majority of the respondents were moderate that the management involves the stakeholders during project identification phase as indicated by a mean of 3.25 and a standard deviation of 1.090. The respondents neither agreed nor disagreed on the statement that the management involves the stakeholders during project planning phase as shown by a mean of 3.69 and a standard deviation of 0.983. From the study, the respondents were neutral that the management involves the stakeholders during project implementation phase with a mean of 3.95 and a standard deviation of 0.843. The respondents strongly agreed that the management involves the stakeholders in project monitoring and evaluation as indicated by mean of 4.87 and standard deviation of 0.740. Concisely, majority of the respondents agreed that the management involves the stakeholders in identification of project performance gaps with a mean of 3.79 and a standard deviation of 0.926. This study finding is similar with the study by Davis, (2014) who asserts that Partners advantage for having their desires comprehended and oversaw through correspondence of suitable messages on one hand and the other hand guaranteeing that the partners comprehend what bolster the undertaking needs from them. Partners have a stake in the result of the undertaking. It could be an intrigue, a right, possession. Rights can either be legitimate or moral possession in a condition.

·····		
Item	Mean	SD dev
The management involves the stakeholders during project identification phase	3.25	1.090
The management involves the stakeholders during project planning phase	3.69	.983
The management involves the stakeholders during project implementation phase	3.95	.843
The management involves the stakeholders in project monitoring and evaluation	4.87	.740
The management involves the stakeholders in identification of project performance gaps	3.79	.926

# Table 1: Descriptive analysis for Stakeholder's involvement

#### **Resource Allocation**

From the findings, majority of the respondents neither agreed nor disagreed that there is sufficient assets and financial resources to complete a government funded electrification projects as shown by a mean of 3.25 and a standard deviation of 0.700.The respondents were neither in agreement nor disagreement with the statement that the employees have the necessary skills and capability required to complete a government funded electrification projects with a mean of 3.24 and a standard deviation of 0.736. The respondents were neutral on the statement that there is a wellestablished organizational processes required to complete a government funded electrification

Table 2: Descriptive analysis for Resources Allocation

projects as shown by a mean of 3.32 and standard deviation of 0.832.

The respondents were moderate on the statement that there is a well-established information channel in the organization to aid in completing a government funded electrification projects by mean of 3.13 and a standard deviation of 0.710. In conclusion, the respondents neither agreed nor disagreed on the statement that the top management has the required knowledge for implementing a government funded electrification projects. This finding relates to that of Mwathi (2013) who found that that asset reliance designs influence conduct, execution and survival of non-benefits. As per the examination, expanded asset reliance results in the higher execution.

Item	mean	SD dev
There is sufficient assets and financial resources to complete a government funded	3.25	.700
electrification projects		
The employees have the necessary skills and capability required to complete a	3.24	.736
government funded electrification projects		
There is a well-established organizational processes required to complete a government	3.32	.832
funded electrification projects		
There is a well-established information channel in the organization to aid in completing a	3.13	.710
government funded electrification projects		
The top management has the required knowledge for implementing a government	3.25	.775
funded electrification projects		

#### **Risk Management**

The study sought to find out whether there is risk management plan for government funded electrification projects in Kenya. The respondents were neutral that Management of project risks (known-unknown) is a mature component of project management discipline with a mean of 3.312 and a standard deviation of 1.3892. The respondents agreed that Project Risk Management: includes the processes of conducting risk management planning, identification, analysis, response planning, and controlling and mitigating risk on a project with a mean of 3.897 and a standard deviation of 0.8846.

The respondents strongly agreed that Management of project risks is recognized as an essential tool in management of projects in an organization, whether profit or non-profit as shown by a mean value of 3.923 and standard deviation of 0.7329.

The respondents also agreed that management of both risks and uncertainties challenges the implementation of projects as shown by mean of 4.00 and standard deviation of 0.6017.

Concisely, the respondents agreed that there is development of risk management plans for the government funded electrification projects.as shown by mean value of 3.521 and standard deviation of

1.0222. The results are tandem with that of Kerzner, Harold and Harold, (2010) who asserts that risk management Planning when done successfully has

 Table 3: Descriptive Analysis on Risk Management

been known to prompt accomplishment of undertakings utilizing every one of the parameters of time, cost and quality.

Item	Mean	SD
Management of project risks (known-unknown) is a mature component of project management discipline.	3.312	1.3892
Project Risk Management: includes the processes of conducting risk management planning, identification, analysis, response planning, and controlling and mitigating risk on a project.	3.897	.8846
Management of project risks is recognized as an essential tool in management of projects in an organization, whether profit or non-profit	3.923	0.7329
The implementation of projects is challenged by management of both risks and uncertainties.	4.00	0.6017
There is development of risk management plans or the government funded electrification projects.	3.521	1.0222

### **Descriptive Analysis for Monitoring and Evaluation**

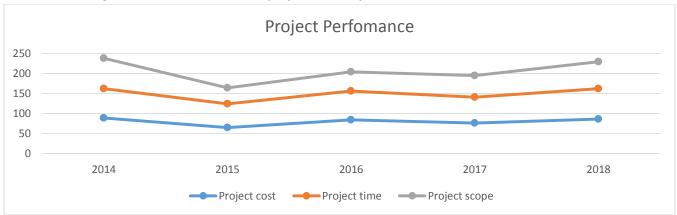
The respondents agreed that organizations gives regular project progress to all project stakeholders (Mean=3.8). The respondents strongly agreed that Participatory M&E ensures that the project objectives and goals are achieved (Mean 3.9). The respondents agreed that the organization has put in place project control systems (Mean 4.2). The respondents agreed that Monitoring and evaluation facilitates transparency and accountability of the use of project resources (Mean 3.6). The outcomes are similar to those of Crawford and Bryce (2002), who in their work discovered that monitoring, evaluation upgrades project administration choices and furnishes administrators, and different partners with consistent criticism on usage thus they had the capacity to recognize potential entanglements or potential victories and subsequently make the applicable change.

Good monitoring and evaluation framework is a basic piece of good undertaking, administration and consequently responsibility enhances project implementation (World Bank, 2004). The examination demonstrates that undertaking monitoring and evaluation is vital since it is useful for the task administration to know whether the project is going on a correct path as indicated by the set objectives and if there is any issue, at that point it could be dealt with instantly thus saving money on the assets and furthermore time. The study also corresponds to the findings by binder, (2016) who argued that Undertaking correspondence administration assesses the procedures required to guarantee auspicious and fitting age, gathering, scattering, stockpiling, recuperation and extreme attitude of the project's data.

## Table 4: Descriptive Analysis for Monitoring and Evaluation

	Μ	SD
The organization has put in place mechanisms that ensure there is regular monitoring of project		
progress.	4.3	0.9
Monitoring and evaluation facilitates transparency and accountability of the use of project		
resources.	3.6	0.8

The organization gives regular project progress to all project stakeholders.3.81.3Participatory M&E ensures that the project objectives and goals are achieved.3.91.4The organization has put in place project control systems that are very effective in their functions.4.21.0The organization has put in place mechanisms that ensure there is regular monitoring of project3.70.5



# Performance of government Electrification projects in Kenya

Figure 2: performance of government funded electrification projects

The research requested the respondents to indicate the extent to which they agree firms implemented the project implementation to enhance the performances of government funded electrification projects. From the research findings, majority of the respondents agreed that; the project management practices positively affects to the performance of government funded electrification projects, As such all the variables have effects on the performance of the government funded electrification projects. The firms incorporated projects management practices aspects also have positive impact on the cost budget, time of completion and the scope of the project completion.

## **Inferential Statistics**

# **Correlation Analysis**

Pearson's correlation analysis was performed in this study. The results indicated that typically, there was a strong positive significant linear relationship stakeholder involvement and performance of government funded electrification projects, r = 0.696;

p = < 0.0001. Stakeholder involvement strategy assumes a dialogue with its stakeholders in decision making which ensures stakeholders feel represented when key decisions are being made (Waligo, 2014). Stakeholders support in decision making influences monitoring sustainable development and hence projects continuity is assured (Hermans et al. 2014).

The results indicated a strong positive linear relationship between performance government funded electrification projects and resources allocation, r = 0.635; p = < 0.0001. These findings agree with Mutula (2013) did a study on the effects of human resource factors on project performance and stated that for any project to be successful there has to be enough workforce for the different roles involved.

Typically, there was a strong positive significant linear relationship between performance of government funded electrification projects and risk management, r = 0.712; p = < 0.0001. In line with the findings, the extant literature has identified risk management as one of the key tools needed by stakeholders to

ensure projects are successful. In his study on the effects of community involvement at the planning phase on project performance in public universities, Migwi (2017) concluded that there was need for community participants to identify their own needs, analyze the factors that lead to the satisfaction of these desires and draw up community action plans and schedules to address these needs as a deliberate step taken to entrench long-term project benefits.

The findings also revealed that there was a strong positive significant linear relationship between performance of government funded electrification projects and monitoring and evaluation, r = 0.707; p = < 0.0001. the findings relates to that of Mwathi, (2013) who expounded that informative distribution, effective monitoring and evaluation strategies and strategic reporting enhances the performance of projects.

		Performance	Shareholder involvement	Resource allocation	Risk management	Monitoring and evaluation
	Pearson	1			management	
Denfermente	Correlation					
Performance	Sig. (2-tailed)					
	Ν	134				
	Pearson	.712 <sup>**</sup>	1			
Shareholder	Correlation					
involvement	Sig. (2-tailed)	.000				
	Ν	134	134			
	Pearson	.707 <sup>**</sup>	.675**	1		
Resource	Correlation					
allocation	Sig. (2-tailed)	.000	.000			
	Ν	134	134	134		
	Pearson	635**	758 <sup>**</sup>	.887**	1	
Risk	Correlation					
management	Sig. (2-tailed)	.000	.000	.000		
	Ν	134	134	134	134	
	Pearson	.696**	.635**	.566**	.712 <sup>**</sup>	1
Monitoring and	Correlation					
Evaluation	Sig. (2-tailed)	.000	.000	.000	.000	
	Ν	134	134	134	134	134
**. Correlation is	significant at the O	.01 level (2-tailed	).			

#### **Table 5: Correlation Analysis**

#### **Regression analysis**

A multiple linear regression analysis was performed and showed that the independent variables explained 69.4% of the variation in performance of real estate projects as indicated by a coefficient of determination  $(R^2)$  value of 0.694. Analysis of Variance was also performed to test for the significance of the whole model. The results revealed that the model significantly predicted performance of the real estate projects, *F*=70.149; *p*=<0.0001.

#### Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.827 <sup>ª</sup>	.694	.657	.19043

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	3.761	4	.940	70.149	.000 <sup>b</sup>
1	Residual	1.741	129	.0134		
	Total	5.501	133			

#### Table 7: ANOVA (Analysis of Variance)

# **Table 8: Model Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		В	Std. Error	Beta	_	
	(Constant)	.016	.456		.034	.973
	Shareholder involvement	.343	.123	.374	2.789	.008
	Resource allocation	.631	.190	.584	3.317	.002
	Risk management	.399	.117	379	3.410	.001
	Monitoring and evaluation	.450	.136	.365	3.294	.002

a. Dependent Variable: Y

## $Y = 0.016 + 0.343 X_1 + 0.631 X_2 - 0.399 X_3 + 0.450 X_4$

Where, Y= Performance of government funded electrification projects, X1= shareholder involvement; X2= resource allocation; X3= risk management; X4= Monitoring and Evaluation.

The results revealed that shareholder involvement, resource allocation, risk management and monitoring significantly predicted performance of government funded electrification projects at 5% level of significance. This was indicated by significant p-values (p= 0.008, 0.002, 0.001 and 0.002 respectively).

#### CONCLUSION AND RECOMMENDATIONS

The findings revealed that the relationship between the stakeholder involvement and performance of government funded electrification projects was significant and that stakeholder involvement influenced the performance of government funded electrification projects. This implied that the explanatory power of the dependent variable was strong enough to explain the variations observed in performance of government funded electrification projects. Therefore, it was established that adopting stakeholders control mechanism on budget performance, schedule performance, and quality performance could lead to performance.

The findings revealed that the relationship between the resources allocation and performance of government funded electrification projects was significant and that resources allocation influenced the performance of government funded electrification projects. This implied that the explanatory power of the dependent variable was strong enough to explain the variations observed in performance of government funded electrification projects.

The the relationship between Project risk management and performance of government funded electrification projects which was insignificant therefore it could not be used to predict the success of the projects. Risk management is a key aspect because they are aimed at correcting detrimental outcomes right from the onset and therefore has an effect on project performance. The study concluded that proper monitoring & evaluation enables effective deployment of human, and financial resources in the implementation of government funded electrification projects. Careful project monitoring and evaluation increases the possibility of the projects succeeding and ending up with better quality projects hence resulting in projects staying for the near future.

The study recommended that firms should consult project stakeholders when making decisions for the project. This would ensure that the projects are steered in the right direction and the end users benefit from the intervention. In order to achieve this, stakeholders should hold progressive meetings every month and ensure everyone is represented, information is shared and progressive updates are given.

The study also recommended that project resources should be adequate to ensure effective running of the government funded electrification projects. A realistic project budget should be prepared and forwarded for approval by the project financiers in the first quarter so that the funds are available at the early stages of implementation. Further, the study recommended that project managers should identify risk management strategies in advance since risk management is key in projects because it include identification, evaluation, and prioritization followed by coordinated and economical application of resources to minimize, monitor, and control the probability or impact of unfortunate events or to maximize the realization of opportunities.

Project managers should ensure that project expenditure is regularly checked and communicated effectively to avoid cost overruns. The project team leaders should assess the effectiveness of the project on a regular basis in achieving its objectives and determining its sustainability.

#### **Areas for Further Research**

Further research should be done in other sectors or any other county. Besides, a review of literature indicated that there has been limited amount of research on project management practices on the performance of government funded electrification projects in Kenya.

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