



**EFFECT OF PROJECT MANAGEMENT DRIVERS ON IMPLEMENTATION OF POWER PROJECTS IN COAST  
REGION**

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## EFFECT OF PROJECT MANAGEMENT DRIVERS ON IMPLEMENTATION OF POWER PROJECTS IN COAST REGION

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### ABSTRACT

*The general objective of the study was to examine the project management drivers affecting implementation of power projects in Coast Region. The target population comprised of 172 project managers implementing the ongoing projects at KPLC, REREC, KENGEN and KETRACO in the Coast region. This study adopted descriptive survey design. Stratified random sampling method was used to select relevant respondents from across the board in the various categories of contractors, site managers, civil engineers, site supervisors and consultants. Structured questionnaires were used to collect primary data from respondents. Quantitative data was analyzed using SPSS version 28. The study found out that there was a positive and significant relationship between project communication and implementation of power projects in Coast Region. There was a positive and significant relationship between project monitoring and implementation of power projects in Coast Region. There was a positive and significant relationship between project stakeholder management and implementation of power projects in Coast Region. Lastly, there was a positive and significant relationship between project planning and implementation of power projects in Coast Region. Based on the findings, the study concluded that project communication, project monitoring, project stakeholder management and project planning have a positive and significant effect on the implementation of power projects in Coast Region. The study recommended that one way for project managers to promote communication is to ensure that reports reach members in time; to schedule times when members gather and communicate; and to ensure that communication records are available to team members. Secondly, monitoring ought to be done consistently with a specific end goal to have the capacity to track the project and distinguish issues sufficiently early before they leave hand. It is also recommended that project teams should ensure that stakeholder's intervention level is always known. Project activities should be planned based on the careful analysis of the project stakeholders and their interests. Lastly, complex projects require a proper and approved plan. This is important because, without this platform, project implementation and completions will not happen.*

**Key terms:** Project Implementation, Project Communication, Project Monitoring, Project Planning, Stakeholder Management

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## INTRODUCTION

According to the International Energy Agency- IEA (2018) and GSM Association – GSMA (2018 - 2019), over 1.6 billion people in the world, have no access to electricity and over 1.0 billion people in the world have access to unreliable electricity. The lack of access to electricity is most acute in developing countries such as Asia and sub-Saharan Africa. Further, the majority of these un-electrified population reside in rural village areas. According to EIA (2018), the average electrification rate (in terms of population) across the developing countries is 76%, with approximately 92% in urban areas and only around 64% in rural areas. According to UNEP (2018), electricity generation technologies include solar photovoltaic (PV) and wind-turbines with battery or other storage systems, biomass gasifiers and biogas digesters with internal combustion engines, pico, micro and mini-hydro turbines, and hybrid systems (a combination of more than one generation technology). Due to their low or often zero fuel costs (except potentially in the case of biomass-based systems), mini-grids can be more cost effective than those utilizing conventional diesel engine generators or kerosene-based lighting. According to Tawiah (2018), most rural communities where the electricity grid is available, access is low at about 30% only. Among other reasons it is clear that the cost of initial connection is a barrier.

Globally, Sergio, Bernardo, Omar and Wood (2016) carried out a study entitled 'Solar Energy Potential in Mexico's Northern Border States'. The authors observed and alluded to the difficulty in obtaining comprehensive data regarding the development and implementation of solar energy in Mexico, much of the information in this report was obtained through site visits, personal communication with state government officials, journal and newspaper articles. The emergence of governmental and non-governmental organizations that seek to promote and regulate the development of renewable energy in Mexico, combined with the lack of a single agency serving as an information clearinghouse,

complicated comprehensive analysis of renewable resource development. According to Markus and Tina (2017), Energy projects under 1 MWp (MW peak power) capacity had no reporting or regulatory obligations. Such small, often unreported projects are the most common use of solar energy in Mexico. In fact, there are only two CRE-approved Photovoltaic (PV) projects, one 3.8 MWp in Aguascalientes and another in 30 MWp in Jalisco.

African countries have not been left out in the adoption and utilization of solar energy and numerous studies have been conducted on the subject. For instance, Tawiah (2018) carried out a review on solar utilization in Ghana. The study found that Ghana has enormous solar radiation capacity that can be harnessed to assist the already existing power generation plants but at the time of the research it was evident that little has been done to utilize this solar potential. African Water Facility (2018) sought to investigate the utilization of solar and wind energy for rural water supply in Ethiopia. According to the study, despite concerted efforts by the Government of Ethiopia (GOE) to increase water supply in the country, over half of the rural population still lack access to water. To improve access, the use of solar and wind energy for water pumping is a viable option in rural areas since over 83% of the population has no access to the electric grid to power mechanized pumps. However, there are no projects that are currently under implementation which comprehensively addresses the use of renewable energy for water supply. Therefore, the GOE approached AWF to fund a pilot project on the utilization of solar and wind energy, in order to draw lessons on how to up-scale the use of these renewable energies in the country.

The current national access to electricity in Kenya is estimated at 15% with rural penetration of 4 % (GOK 2008). Demand for Electricity in Kenya is projected to grow from 6,203 GWh (FY 2006/07) to 30,999 GWh (FY 2029/30) representing an annual growth rate of 6.5 % (King'ara, 2016). This translates to peak demand of 5,282 MW

(FY2029/30) from 1,082MW (FY2006/07) (GOK 2007). There is urgent need to invest in new projects in generation, transmission and distribution (Kenya Power Company, 2015).

The Ministry of Energy (MoE) and Kenya Power and Lighting Company have come up with Updated Least Cost Power Development Plan (ULCPDP) 2008/2028. It is imperative for the power sector stakeholders to ensure that the success rate of these power projects is increased given the high cost and long implementation time for power projects (Gitonga & Njeru, 2017). It is important to increase efficiency and effectiveness of the energy development process at all levels including planning, contracting and construction. This should be done while enhancing the local content (materials and services) and also human resources (Mwangi, 2016).

Statistics from Rural Electrification Authority (REA) indicate that, currently, there are 127 rural electrification projects in the pipeline, out of which funding for 22 projects have already been approved. The REA has adopted in many of these projects, decentralized generation and distribution systems (mini-grids). One successful REA project is the electrification of schools which is a flagship project of the Government to enable digital learning in schools. Besides rural electrification projects by REA, there are other projects being initiated and run by communities in different parts of the country, there are also Energy Service Companies which have been licensed by the Energy Regulatory Commission (ERC) to offer energy access to rural areas using decentralized systems and these will form the source of data for this study (REA, 2017).

### **Hypotheses of the study**

The study was guided by the following hypotheses;

- **H<sub>01</sub>:** Project communication has no significant effect on implementation of power projects in Coast Region.
- **H<sub>02</sub>:** Project monitoring has no significant effect on implementation of power projects in Coast Region.

- **H<sub>03</sub>:** Project stakeholder management has no significant effect on implementation of power projects in Coast Region.
- **H<sub>04</sub>:** Project planning has no significant effect on implementation of power projects in Coast Region.

## **RELATED LITERATURE**

### **Theoretical Review**

#### **Communication Theory**

Communication theory was first proposed by S. F. Scudder in the year 1980 (Atiibo, 2016). Its origin is linked to the development of information theory in the 1920s. Since the mid-twentieth century, information has been an essential building block for research in communication and the development of communication theory (Barrett, 2019). Communication theory involves the principles of conveying information and the systems through which it is relayed (Amudavalli, 2014). Communication involves the transmission of information verbally and non-verbally from a sender to a receiver through a communication medium (Ayusa, 2016). Communication with stakeholders is an important component in stakeholder management whereby it helps in the identification of stakeholders' concerns and issues (Atiibo, 2016).

#### **Theory of Constraints**

The theory of constraints (TOC) in monitoring, is a paradigm that was developed in 1984 by Eliyahu Goldratt (Omollo, 2015). Premised on the belief that every project system has a constraint, limiting factor or bottleneck that hinders performance (Odongo & Ombui, 2019); prudence is bound to find and manage the drawback and evaluate performance with the improvements in place (Ogunleye & Awogbemi, 2018). The theory of constraints is often associated with the adage; "a chain is as strong as its weakest link," because the process of identifying and mitigating a weak link in a chain is very similar to that of a hitch or shortcoming in a project (Oguulana & Bach, 2017). The TOC, in monitoring, demonstrates how



managers can effectively run projects premised on the assumption of project system thinking and constraint management. Based on management philosophies, TOC focuses on transformation at three levels; mind set of the project, measures that drive the project, and methods employed within the project (Breuer, 2016).

### **Stakeholder Theory**

In 1984, Edward Freeman originally detailed the stakeholder theory. Stakeholder theory identifies and models the groups which are stakeholders of a corporation by describing and recommending methods by which management can give due regard to the interests of those groups (Markus & Tina, 2017). The organization itself should be viewed as a community of stakeholders and the organization's aim should be able to handle their priorities, needs, and perspectives (Ocharo & Kimutai, 2018). Stakeholder theory promotes a practical, efficient, effective, and ethical way to manage organizations in a highly complex and turbulent environment (Harrison, Freeman & Sá de Abreu, 2015). Managers find it necessary to balance the needs of different stakeholders in order to create value sustainably and ethically (Deet *al.*, 2017). According to Bryson (2017), studies on stakeholders theory shown that there may be a significant gap between what a focal organization sees as its stakeholders' interests and what stakeholders themselves believe to be their interests (Deet *al.*, 2017).

### **Theory of change**

The Theory of Change's concept first emerged in the 1990s in the United States, in order to improve evaluation theory and practice in the community initiatives' field. This theory was developed by Weiss in 1995 (Gitamo, 2018). Theory of change is a continuous process of reflection to explore change and how it happens and what that means in a certain sector or group of people (Jameel, 2014). In the Theory of Change, the basic components include an overview of how change happens with respect to a specific thematic area; programme

direction's articulation relative to this; and an impact assessment process designed to determine both the course of action and the assumptions made about how change occurs (Barrett, 2019).

### **Literature Review**

#### **Project Communication**

Williams (2019) opines that the life blood of a project is in connection with effective communication. It is believed that 90% of a project manager's time is spent on communicating all the aspects of a project which include initiating, planning, executing, monitoring and closing out the project to various individuals and project stakeholders. However, other factors such as organization structure can be a hindrance to communication flow in a project environment and this can hamper its success (Atieno, 2016). A study by Project Management Institute (2013) as cited by Barrett (2019) views effective communication as bedrock of project success. It further states that organizations that are effective in communications performs better by 80% in achieving their goals and are able to deliver projects within budget and on time. However, to achieve this organization must develop standards and guidelines in order to manage project functions. This requires planning, defining boundaries and putting control measures on how communication should happen so as not to hamper sharing of information between the people and stakeholders (Turner & Muller, 2018). This therefore calls for top management to provide support by acting upon these standards and guidelines. As indicated by Thomas (2017), communication that is focused on individual needs provides feedback, and this boosts trust and loyalty which are key elements of building strong relationships.

#### **Project Monitoring**

Monitoring provides information of how a project is performing in terms of resource use during its implementation through the use of progress reports. In order to ostensibly reduce cost, some contractors risk using inferior and cheap power

projects construction materials, and, incompetent and cheap labour which frequently results in poor quality work and thus compromise construction and safety standards (Naoum, Fong & Walker, 2018). The project team has to monitor and regulate construction quality to secure the minimum standards, at least. In some instances, a contractor might be punished or ousted by government agencies if he fails to obey regulations of construction quality and safety. It is imperative to impress upon contractors that cheap is expensive as it deprives the client of his value for money and unfairly subjugates him to vicious maintenance costs, purging construction cost control during implementation of projects (Mbachu & Nkando, 2017). Worse still, it could lead to total demolition or collapse, denying him a 'dream come true of a life time.' On the contrary, expensive is cheap (Musyoka, 2018)

### **Project Stakeholder Management**

Stakeholder identification largely accounts for the performance of the project particularly that of complex projects (Njogu, 2016). Stakeholders' identification requires the checking of an individual or a group of individuals, who are influenced by or able to influence a project (Nyandika & Ngugi, 2015). Stakeholders can be classified along with a number of dimensions. They could be classified as primary or secondary (Kimemia, 2015). Primary stakeholders have formal and economical relationships with the project, while secondary stakeholders are not directly related to the project despite being able to influence and be influenced by its operation and outcomes (Ogombe, 2015). Stakeholders may also be classified as environmental or process-related, therefore, identifying how stakeholders influence project success is an important and fundamental issue of stakeholder management (Wamugu & Ogollah, 2017).

### **Project Planning**

Complex projects require a proper and approved plan. This is important because, without this platform, project implementation and completions

will not happen (King'ara, 2016). The strategic plans must contain a detailed breakdown of all the levels involved in all the project life cycle. These plans entail goal setting with properly formulated policies and objectives. This will form the decision-making framework by the project teams. According to Gichanga (2017), the components of a proper plan are purpose identification, scope definition, defined user needs, task identification, proper time and cost allocation and responsibility allocation. For proper planning, the following must be adhered to; what the organization intends to achieve and the expected results. Planning requires a detailed evaluation of the implementation process on a stage-by-stage basis and examining in detail of the key timelines of every task, the milestones to be achieved, the alternative plan in case of fallback and re-planning phase (Odoyo, 2018). Essentially this shows that planning is a continuous process that does not stop until the project is successfully implemented.

### **Implementation of Power Projects**

Project implementation is a phase in project cycle. It is the process of carrying out activities as described in the work plan where vision and plans become a reality (Mwangi, 2016). Erkul. (2016) describes project implementation as a schedule that clarifies and describes what project should deliver within certain framework of time. Dancan (2016) views project implementation as a synonymous with project execution which is what is done after project planning is complete. Project's implementation entails the process of seeing the proposed projects being effectively and efficiently completed within the structured time frames, budgets, and other structured limited resources. Just like everything in the world is influenced by time, studies by a number of scholars in Asia, USA, Europe, Africa and many more have shown that the implementation and integration of proper M&E in power projects is closely tied to the time allocated for the activity and how this time is planned in order to achieve the said results (World Bank (2019).

In Kenya, there are government policies such as Public Procurement and opportunity ACT, Public Finance ACT, Environment Management and Coordination ACT among others outlining the policy frameworks involved in project implementation and control of project implementation process. According to Gitamo (2018), good project implementation is essential for the success of the project. According to Njogu (2016), devolution was a strategy meant to recuperate and correct institutional deficiency that were being experienced in the previous centralized government. However, the period has been marred with various challenges towards delivery of services to the public

## METHODOLOGY

This study adopted descriptive survey design. The target population comprised of 172 project managers implementing the ongoing projects at KPLC, REREC, KENGEN and KETRACO in the Coast region. The study purposely concentrated on project implementation team because it was expected that the participants would had the relevant and accurate information needed in this study.

Slovene's formula was used to determine the sample size, (at 95% confidence level and  $\alpha = 0.05$ ) as indicated below.

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

Where,

n = is the desired sample size

N = is the population size

e = margin of error (at 95% confidence level)

$$n = \frac{172}{1+172(0.05)^2}$$

= 120

The data was collected, processed and analyzed with respect to the study objectives, using both descriptive and inferential statistics. The tool of analysis used for this study was Statistical Package for Social Sciences (SPSS) version 28. The data was

analyzed using descriptive statistics such as mode, median, mean, standard deviation. Research hypotheses was tested by use of F-tests (ANOVA) and t-tests to measure and determine the statistical significance between the variables and to draw conclusions of the study. Correlation and multiple linear regression analyses was also used to determine the relationship between the project management determinants and implementation of power projects in Coast Region. The relevancy and relationships was determined by simple regression and correlation analysis techniques where;

$$Y = B_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Y – Implementation of power projects in Coast Region (outcome as a result of changes in any or all the variables,  $X_1$  to  $X_4$ )

' $B_0$  – is a constant, the results when all variables  $X_1$  to  $X_4$  are zero.

$X_1$  – Project Communication

$X_2$  – Project Monitoring

$X_3$  – Project Stakeholder Management

$X_4$  – Project Planning

' $b_1 - b_4$  – Regression coefficients

$\epsilon$  – error term

## RESULTS AND DISCUSSIONS

### Project Communication

The study sought to analyze the effect of project communication on implementation of power projects in Coast Region. The results were as shown in table 1. The study established that the majority of the respondents agreed with the given statements as follows: the statement that we have a policy on communication that guides our interactions had a mean of 3.652. The statement that information is largely shaped by preferences of the communities we serve had a mean of 3.765. The statement that we use project meetings as a communication technique had a mean of 3.922. The statement that there is a formal communication channel to the project stakeholders had a mean of

3.948. The statement that I believe that communication influences behavior of the team members had a mean of 4.078. The statement that external stakeholders are reliably informed of the progress of our projects had a mean of 4.635. The statement that we have always maintained timely communications with external stakeholders had a mean of 3.835. The statement that we communicate project results to stakeholders on time had a mean of 3.739.

The study findings are in line with Ayusa (2016) who argues that internal communication improves organization and enhances achievement of objectives. In the words of Heravi (2015), internal communication characterized by easy accessibility, usefulness, reliability, accuracy and quality such as intranets, newsletters, notice boards, memos,

letters, team briefs among others are valued as project communication. Similarly, Dancan (2016) on external communication, adds that with better communication plan it is easier to communicate with all stakeholders such as suppliers, consultants, contractors, public among others in order to inform them to maintain the project.

According to Boone (2017), lack of communication in a project can break down negotiations, limit alternatives to addressing problems, constrain benefit distribution of development interventions, or lead to marginalization of stakeholders and, ultimately, restrict the attainment of desired outcomes. This in some instances has led to resistance from stakeholders and in some cases, discontinuance of project activities.

**Table 1: Project Communication**

Statement	n	Mean	Std. Dev.
We have a policy on communication that guides our interactions	115	3.652	.676
Information is largely shaped by preferences of the communities we serve	115	3.765	1.020
We use project meetings as a communication technique	115	3.922	.270
There is a formal communication channel to the project stakeholders	115	3.948	.590
I believe that communication influences behavior of the team members	115	4.078	.818
External stakeholders are reliably informed of the progress of our projects	115	4.635	.567
We have always maintained timely communications with external stakeholders	115	3.835	.438
We communicate project results to stakeholders on time	115	3.739	.608

### Project Monitoring

The study sought to analyze the effect of project monitoring on implementation of power projects in Coast Region. The results were as shown in table 2. The study established that the majority of the respondents agreed with the given statements as follows: the statement that we undertake monitoring as a continuous process in all the phases of the project cycle had a mean of 3.983. The statement that monitoring results are used to inform action and decisions had a mean of 4.147. The statement that the lessons from the monitoring process are discussed periodically had a mean of 3.730. The statement that project team members are well trained on monitoring tools had a mean of 3.696. The statement that the organization uses

project management software for monitoring plans had a mean score of 3.765. The statement that we have control systems to ensure compliance with the time and cost requirements had a mean of 3.983. The statement that there are continuous resources risks monitoring for cost revisions to reduce cost overruns had a mean of 4.130. The statement that project assessment is regularly done to ensure project goals and objectives are achieved had a mean of 3.852.

The finding is in consistence with that of Ehler (2017) who notes that project planners ought to incorporate a well-defined monitoring and evaluation strategy and should include activities to be carried out to get feedback, people to be involved in carrying out these activities, frequency



of carrying out the activities, budget expectations for activities and specific insights expected to be achieved from the monitoring and evaluation feedback. Osman and Kimutai (2019) observes that

monitoring enhances project management decision making during the implementation thereby increasing the chances of good project performance.

**Table 2: Project Monitoring**

Statement	n	Mean	Std. Dev.
We undertake monitoring as a continuous process in all the phases of the project cycle	115	3.983	.805
Monitoring results are used to inform action and decisions	115	4.157	.683
The lessons from the monitoring process are discussed periodically	115	3.730	.483
Project team members are well trained on monitoring tools	115	3.696	.740
The organization uses project management software for monitoring plans	115	3.765	.465
We have control systems to ensure compliance with the time and cost requirements	115	3.983	.858
There are continuous resources risks monitoring for cost revisions to reduce cost overruns	115	4.130	.570
Project assessment is regularly done to ensure project goals and objectives are achieved	115	3.852	.920

### Project Stakeholder Management

The study sought to determine the effect of project stakeholder management on implementation of power projects in Coast Region. The results were as shown in table 3. The study established that the majority of the respondents agreed with the given statements as follows: the statement that stakeholder interests and values are well managed had a mean of 4.001. The statement that the project team ensures that stakeholders' intervention level is known had a mean of 3.939. The statement that we plan our project activities based on the careful analysis of the project stakeholders and their interests 4.296. The statement that we identify and incorporate stakeholders at every phase of the project had a mean of 3.878. The statement that we always request for the support of key stakeholders in the course of our work had a mean of 4.348. The statement that we encourage and motivate our stakeholders to participate in the project had a mean of 3.852. The statement that survey to determine stakeholder expectations was done before implementation of the project had a mean of 4.087. The statement that analysis of individuals

of influence was done at the onset of project had a mean of 3.948.

The results are also in agreements with the literature review that states that stakeholders can influence a project by either propelling the project or impede the progress of a project (Pheng, 2017). They have their roles and objectives towards the delivery of projects. One gains structured knowledge about stakeholders through stakeholder planning to facilitate dealing in ways that benefit both the project and stakeholders (Eskerod & Jepsen, 2016). Project stakeholder management is essential in order to cover and take care of their priorities and concerns. This enables strategies to be developed when interacting with different stakeholders for various situations. Vuorinen & Martinsuo (2018) argues that there is a need to incorporate the viewpoints of various stakeholders for sustainability purposes due to the existence of subjectivity of value. According to Vuorinen & Martinsuo (2018), a well-established project stakeholder management could assist to foster trust among all the stakeholders, and hence increase the likelihood of creating successful relationships.

**Table 3: Project Stakeholder Management**

Statement	n	Mean	Std. Dev.
Stakeholder interests and values are well managed	115	4.001	.767
The project team ensures that stakeholders intervention level is known	115	3.939	.358
We plan our project activities based on the careful analysis of the project stakeholders and their interests	115	4.296	.458
We identify and incorporate stakeholders at every phase of the project	115	3.878	.651
We always request for the support of key stakeholders in the course of our work	115	4.348	.761
We Encourage and Motivate Our Stakeholders to participate in the project	115	3.852	.679
Survey to determine stakeholder expectations was done before implementation of the project	115	4.087	.823
Analysis of individuals of influence was done at the onset of project	115	3.948	.759

**Project Planning**

The study sought to determine the effect of project planning on implementation of power projects in Coast Region. The results were as shown in table 4. The study established that the majority of the respondents agreed with the given statements as follows: the statement that project deliverables and project resources are measured against plan had a mean of 4.035. The statement that milestones and benchmarks are used to measure project implementation progress had a mean of 3.991. The statement that plan's capability to adequately accommodate contractor's work had a mean of 4.148. The statement that network diagrams and frameworks are used in scheduling organization projects had a mean of 3.878. The statement that plan's adherence to cost estimate had a mean of

3.670. The statement that plan's adherence to time had a mean of 3.704. The statement that we have a plan for mitigating risks had a mean of 3.861. The statement that plan's adherence to quality had a mean of 3.652.

This finding agrees with that of Kerzner (2003) who asserted that the planning process must be systematic, flexible, disciplined and capable of accommodating input from diverse functions. The planning process is most effective when it occurs throughout the life of the project. Formal planning has a direct impact on project success (Young, 2016). They considered that a rigorously prepared plan is a foundation for project success. A clear and thoroughly defined project plan reduces risks, failure and the cost of the project (Lewis, 2010).

**Table 4: Project Planning**

Statement	n	Mean	Std. Dev.
Project deliverables and project resources are measured against plan	115	4.035	.917
Milestones and benchmarks are used to measure project implementation progress	115	3.991	.538
Plan's capability to adequately accommodate contractor's work	115	4.148	.652
Network diagrams and frameworks are used in scheduling organization projects	115	3.878	.623
Plan's adherence to cost estimate	115	3.670	.953
Plan's adherence to time	115	3.704	.973
We have a plan for mitigating risks	115	3.861	.782
Plan's adherence to quality	115	3.652	.784

**Implementation of Power Projects**

The respondents were requested to state their individual opinions on eight specific statements regarding implementation of power projects in

Coast Region. The results were as shown in table 5. The statement that the projects achieve their purpose had a mean of 4.165. The statement that the project has been delivered within the time had

a mean of 3.817. The statement that the project has been delivered within budget had a mean of 4.235. The statement that project work has been delivered within the scope had a mean of 4.444. The statement that the project has been delivered with the standards required had a mean of 3.757. The statement that the client is satisfied with the project implementation process had a mean of 3.922. The statement that there are records showing all lessons learnt during project implementation had a mean of 3.835. The statement that there is improved economic activities because of the project had a mean of 4.044.

The study findings are in agreement with Oppong (2017) who opines that when it comes to implementation of projects, organizations use a variety of factors to determine whether or not a project has been implemented effectively. Some determine effective implementation based on the satisfaction of their stakeholders, on-time delivery, budget, delivery of benefits, quality, acceptable return on investments (ROI) and other auxiliary factors. Leading practice companies determine whether a project has had effective implementation based on whether it achieves benefits that are in line with strategic objectives and establish mechanisms to track progress along the way (Njogu, 2016).

**Table 5: Implementation of Power Projects**

Statement	n	Mean	Std. Dev.
Projects achieve their purpose	115	4.165	.700
The project has been delivered within the time	115	3.817	.506
The project has been delivered within budget	115	4.235	.426
Project work has been delivered within the scope	115	4.444	.499
The project has been delivered with the standards required	115	3.757	.670
The client is satisfied with the project implementation process	115	3.922	.516
There are records showing all lessons learnt during project implementation	115	3.835	.748
There is improved economic activities because of the project	115	4.044	.693

**Correlation Analysis**

Correlation analysis was conducted in order to determine the direction and the strength of the relationship between the dependent variable and independent variable(s). In this study Pearson correlation coefficient was used to determine the magnitude and the direction of the relationships between the dependent variable and independent variables. The values of the correlation coefficient (R) are supposed to be between -1 and +1. A value of 0 implies no relationship, +1 correlation coefficient indicates that the two variables are perfectly correlated in a positive linear sense, that is, both variables increase together while a values of -1 correlation coefficient indicates that two variables are perfectly correlated in a negative linear sense, that is, one variable increases as the other decreases (George & Mallery, 2016).

Correlation coefficients were the statistical method utilized to explore the five variables: project communication, project monitoring, project stakeholder management, project planning and implementation of power projects. The results of the correlation analysis are presented in Table 6. The correlation between project communication and implementation of power projects was the least significant,  $r = 0.484, P < 0.05$ . The correlation between project monitoring and implementation of power projects was the most significant,  $r = 0.680, P < 0.05$ . The correlation between project stakeholder management and implementation of power projects was also significant,  $r = 0.631, P < 0.05$ . The correlation between project planning and implementation of power projects was also significant,  $r = 0.673, P < 0.05$ .

**Table 6: Pearson Correlations**

		PC	PM	PSM	PP	IPP
PC	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	115				
PM	Pearson Correlation	.741**	1			
	Sig. (2-tailed)	.000				
	N	115	115			
PSM	Pearson Correlation	.679**	.669**	1		
	Sig. (2-tailed)	.000	.000			
	N	115	115	115		
PP	Pearson Correlation	.572**	.691**	.617**	1	
	Sig. (2-tailed)	.000	.000	.000		
	N	115	115	115	115	
IPP	Pearson Correlation	.484**	.680**	.631**	.673**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	115	115	115	115	115

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

Key: PC=Project Communication, PM=Project Monitoring, PSM=Project Stakeholder Management, PP=Project Planning, IPP=Implementation of Power Projects

### Regression Analysis

#### Model Summary

An overall regression analysis was conducted between all the independent variables (project communication, project monitoring, project stakeholder management, project planning) and implementation of power projects. The results presented in Table 7 present the fitness of model used of the regression model in explaining the study

phenomena. Project communication, project monitoring, project stakeholder management and project planning were found to be satisfactory in explaining implementation of power projects. This is supported by coefficient of determination also known as the R square of 0.584. This means that project communication, project monitoring, project stakeholder management and project planning explain 58.4% of the variations in the dependent variable which is Strategic Change Management.

**Table 7: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.764 <sup>a</sup>	.584	.569	.19327

a. Predictors: (Constant), Project Planning, Project Communication, Project Stakeholder Management, Project Monitoring

#### Analysis of Variance (ANOVA)

Study findings in ANOVA table 8 indicated that the above discussed coefficient of determination was significant as evidence of F ratio of 38.644 with p value 0.000 <0.05 (level of significance). Thus, the

model was fit to predict implementation of power projects using adoption of project planning, project communication, project stakeholder management and project monitoring.

**Table 8: ANOVA**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.774	4	1.443	38.644	.000 <sup>b</sup>
	Residual	4.109	110	.037		
	Total	9.882	114			

a. Dependent Variable: Implementation of Power Projects

b. Predictors: (Constant), Project Planning, Project Communication, Project Stakeholder Management, Project Monitoring

### Regression Coefficients

The first hypothesis of the study stated that there is significant relationship between project communication and implementation of power projects in Coast Region. This was supported by the findings since project communication had a positive and significant effect on implementation of power projects basing on  $\beta_1 = 0.207$  (p-value = 0.000 which is less than  $\alpha = 0.05$ ). This suggests that there is up to 0.207 unit increase in implementation of power projects for each unit increase in project communication. The effect of project communication is two times the effect attributed to the error, this is indicated by the t-test value = 2.104.

The second hypothesis of the study stated that there is significant relationship between project monitoring and implementation of power projects in Coast Region. This was supported by the findings since project monitoring had a positive and significant effect on implementation of power projects basing on  $\beta_2 = 0.411$  (p-value = 0.000 which is less than  $\alpha = 0.05$ ). This suggests that there is up to 0.411 unit increase in implementation of power projects for each unit increase in project monitoring. The effect of project monitoring is three times the effect attributed to the error, this is indicated by the t-test value = 3.855.

The third hypothesis of the study stated that there is significant relationship between project monitoring and implementation of power projects in Coast Region. This was supported by the findings since project monitoring had a positive and significant effect on implementation of power projects basing on  $\beta_3 = 0.411$  (p-value = 0.000 which is less than  $\alpha = 0.05$ ). This suggests that there is up to 0.411 unit increase in implementation of power projects for each unit increase in project monitoring. The effect of project monitoring is three times the effect attributed to the error, this is indicated by the t-test value = 3.855.

The fourth hypothesis of the study stated that there is significant relationship between project stakeholder management and implementation of power projects in Coast Region. This was supported by the findings since project stakeholder management had a positive and significant effect on implementation of power projects basing on  $\beta_4 = 0.296$  (p-value = 0.000 which is less than  $\alpha = 0.05$ ). This suggests that there is up to 0.296 unit increase in implementation of power projects for each unit increase in project stakeholder management. The effect of project stakeholder management is three times the effect attributed to the error, this is indicated by the t-test value = 3.206.

**Table 9: Multiple Regression (Coefficients)**

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.713	.301		2.372	.019
	Project Communication	.185	.088	.207	2.104	.038
	Project Monitoring	.445	.115	.411	3.855	.000
	Project Stakeholder Management	.266	.083	.296	3.206	.002
	Project Planning	.318	.087	.325	3.659	.000

a. Dependent Variable: Implementation of Power Projects



$$Y = 0.713 + 0.185X_1 + 0.445X_2 + 0.266X_3 + 0.318X_4$$

Where:

$Y$  = Implementation of Power Projects

$\beta_0$  = Constant

$X_1$  = Project Communication

$X_2$  = Project Monitoring

$X_3$  = Project Stakeholder Management

$X_4$  = Project Planning

$e_i$  = Stochastic term

## CONCLUSIONS AND RECOMMENDATIONS

Based on the findings, the study concluded that project communication has a positive and significant effect on implementation of power projects in Coast Region. From the study results on project communication, it was concluded that most KPLC, REREC, KENGEN and KETRACO have a policy on communication that guides our interactions. Furthermore, information is largely shaped by preferences of the communities where power projects are implemented. It was also concluded that project meetings are often used as a communication technique. It was also established that there is a formal communication channel to the project stakeholders. It is believed that communication influences behavior of the team members. External stakeholders are reliably informed of the progress of our projects. Implementation teams have always maintained timely communications with external stakeholder. Lastly, project results are communicated to stakeholders on time.

Based on the findings, the study concluded that project monitoring has a positive and significant effect on implementation of power projects in Coast Region. From the study results on project monitoring, it was also established that monitoring is undertaken as a continuous process in all the phases of the project cycle. Monitoring results are used to inform action and decisions. The lessons from the monitoring process are discussed periodically. Project team members are well trained on monitoring tools. The organization uses project management software for monitoring plans. There are continuous resources risks monitoring for cost

revisions to reduce cost overruns. Project assessment is regularly done to ensure project goals and objectives are achieved. Lastly, power projects have control systems to ensure compliance with the time and cost requirements.

Based on the findings, the study concluded that project stakeholder management has a positive and significant effect on implementation of power projects in Coast Region. From the study results on project stakeholder management, it was established that survey to determine stakeholder expectations was done before implementation of the project. Stakeholder interests and values are well managed. The project team ensures that stakeholders' intervention level is known. Project activities are planned based on the careful analysis of the project stakeholders and their interests. Project teams identify and incorporate stakeholders at every phase of the project. Stakeholders are encouraged and motivated to participate in the project. Lastly, analysis of individuals of influence is often done at the onset of project.

Based on the findings, the study concluded that project planning has a positive and significant effect on implementation of power projects in Coast Region. From the study results on project planning, it was established that project deliverables and project resources are measured against plan. Milestones and/or benchmarks are used to measure project implementation progress. Network diagrams and frameworks are used in scheduling organization projects. Project implementation teams often plan for mitigating risks. Lastly, project plans adhere to cost, quality and time estimate.

**Recommendation for Policy and Practice:** Project communication, project monitoring, project stakeholder management and project planning all affect implementation of power projects but at varying levels. Project management drivers should be given due consideration during project design, planning and implementation. The study thus, advances the understanding of project management drivers within implementation of power projects with intention of aiding researchers

and policy makers in recognizing their benefits and challenges.

**Managerial Recommendations:** One way for project managers to promote communication is to ensure that reports reach members in time; to schedule times when members gather and communicate; and to ensure that communication records are available to team members. Poor communication during projects affects the schedule, the cost, the safety of workers and the project quality. To be able to implement power projects, each of the parties involved should have a thorough understanding of what is required. Information becomes essential to each of the parties involved in implementation of projects and such information results from effective communication.

Monitoring ought to be done consistently with a specific end goal to have the capacity to track the project and distinguish issues sufficiently early before they leave hand. The normality of observing could be an element of the extent of the venture, however a month-to-month recurrence would be sufficient, monitoring at regular intervals would be worthy. Monitoring would include collecting information, analyzing and composing a report at the predefined recurrence.

Project stakeholder management should be conducted in any project to determine stakeholder expectations before implementation of the project and to ensure that stakeholder interests and values are well managed. It is also recommended that project teams should ensure that stakeholders' intervention level is always known. Project activities should be planned based on the careful analysis of

the project stakeholders and their interests. Project teams should always identify and incorporate stakeholders at every phase of the project. Lastly, it is recommended that stakeholders should be encouraged and motivated to participate in the project.

There is a strong correlation between the success of a project and proper project planning and thus complex projects require a proper and approved plan. This is important because, without this platform, project implementation and completions will not happen. Project plans must contain a detailed breakdown of all the levels involved in all the project life cycle. These plans entail goal setting with properly formulated policies and objectives. This will form the decision-making framework by the project teams. The components of a proper plan are purpose identification, scope definition, defined user needs, task identification, proper time and cost allocation and responsibility allocation.

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

The study sought to examine the project management drivers affecting implementation of power projects in Coast Region. This called for the analysis of Coast region only, thus area for further studies could consider other regions in Kenya for purpose of making a comparison of the findings with those of the current study.

The study used only four variables that is project communication, project monitoring, project stakeholder management and project planning as the only variables that affect implementation of power projects in Coast Region, therefore future studies can incorporate other variables.

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