# PROJECT MANAGEMENT AND PERFORMANCE OF PREPAID ELECTRICITY METERING PROJECT OF KENYA POWER: THE CASE OF NAIROBI CITY COUNTY AND ITS ENVIRONS

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# DECLARATION

This research project is my original work and has never been presented for any degree in any other university or for any other award.

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**D61/81313/2012**

This research project has been submitted for examination with my approval as the University supervisor.

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# DEDICATION

I am proud to dedicate this study to my wife Julian and father Francis Musonye. Without their love, support and encouragement my studies would have been an impossible task to undertake.

# ACKNOWLEDGEMENT

I acknowledge the power of God, the maker and the provider of knowledge for enabling me to complete my Masters in the right spirit. Most importantly, I sincerely wish to acknowledge the support from my supervisor without whom I could not have gone this far with my project work. To the University of Nairobi for offering me the opportunity to do this study and all my lecturers who contributed in one way or another in quenching my thirst for knowledge, I owe you my gratitude.

I owe a great deal of gratitude to my family members for their unfailing moral support throughout my period of study and for understanding and appreciating the demand of the course. I cannot forget the positive influence of my classmates as a source of inspiration throughout my study and for assisting me in sourcing for information and materials for this project. To you all, God bless you.

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# ABBREVIATIONS AND ACRONYMS

**KPLC**---Kenya Power and Lighting Company

**SPSS**---- Statistical Package for Social Sciences

**M&E**---Monitoring and Evaluation

**UK**-----United Kingdom

# ABSTRACT

Project management systems are considered dynamic systems, similar to those in nature, which means they change over time and are hard to predict. Project management provides a framework to help accomplish goals, reduce operational costs and ensure timely delivery of projects. The study established the practice of project management in Kenya Power and the relationship between project management and performance of prepaid electricity metering project of Kenya power**.**

The study adopted a descriptive survey design. Both primary and secondary data was used in this study. Data collection tool was a questionnaire fielded to twelve project engineers in each of the branches of the study. The data was analyzed by obtaining the means and standard deviations of each project management practice and regression analysis was used to establish a relationship between project management and performance of the prepaid metering project.

The study concludes that project performance and status was regularly reported in Kenya Power and that there were problems encountered during the implementation. The study also concluded that Kenya power has efficient project performance when project management is efficient interms of project initiation, project planning, project implementation, and project M&E and stakeholder involvement.

The researcher recommends that project stakeholders to be adequately involved in the project, proper planning, well-structured monitoring and evaluation processes be established. A proper feedback mechanism should be instituted where all stakeholders are able to interact with the project management team for easy problem solving.

# CHAPTER ONE: INTRODUCTION

## 1.1 Background of the Study

Project management in organizations is managed within increasingly complex environments driven by regulatory changes and organisational restructuring. New product development, post-deal integration, outsourcing and policy, implementation, in addition to traditional, but vital, system development and implementation, are amongst the current key project initiatives organisations must manage. The ability to successfully execute these projects is what drives the realization of intended benefits and the achievement of business strategies. Organisations that execute projects successfully employ effective project management practices as a tool to drive change and achieve business objectives. Given the strategic impact that projects have on a business, organisations must follow effective project management processes that measure progress and risks and ensure the right projects can be delivered in alignment with organisational priorities. Modern project management practices include agile project management, lean and extreme project management (Meredith, 2010).

The use of prepayment services either in electricity, water or piped gas has been proposed as an innovative solution aimed at facilitating affordability and reducing the cost of utilities. This mechanism, essentially, requires that users pay for the delivery of goods or services before their consumption. In this way, consumers hold credit and then use the service until the credit is exhausted. Today most companies have adopted prepayment solutions that include mobile telecommunication companies, energy utilities and debit cards for financial institutions, (CO FEK: Kenya Power Presentation, 2013).

The use of project management approach has been widely used in implementing prepayment projects in different organizations. The key practices of project management include: project initiation, project planning, implementation, monitoring and evaluation result to successful implementation of prepayment projects. Project performance is monitored via key indicators that are closely monitored to effectively avert project risks. Project management improves

productivity, monitors progress towards specified outcomes and thus enhances performance of prepayment systems (Ogujor, 2007).

### 1.1.1 Project Management

A project is a unique, finite undertaking with clearly defined objectives, involving many inter-related tasks or activities and the contribution of a number of people working co-operatively under centralized control to produce a specified outcome or product within clearly-defined parameters of time, cost and quality (Gray, 1998). A project is 'unique' in that it will result in the creation of a product, capability or a result (Project Management Institute, 2008) and in some cases the 'change' can be beneficial (Turner, 2009).

The term Project Management is referred to as the "application of knowledge, skills, tools, and techniques to project activities to meet the project requirements" (Project Management Institute, 2008) within a specified period of time. When describing the functions of project management, reference is included to an objective or purpose, a time-frame, budget and resources as well as performance requirements (Larson & Gray 2011). The reference to these elements, that include scope, time, cost, quality, human resources, communications, risk, procurement and finally how to integrate these elements to manage the project describe the nine knowledge areas of the Project Management Body of Knowledge (Project Management Institute 2008). These knowledge areas provide a map to manage a project according to a five step process of initiating, executing, monitoring, controlling, and closing a project to deliver an outcome.

Cleland (1994) described project management as "an idea whose time has come - a distinct discipline to be applied to the management of ad hoc activities in organizations". The importance of adhering to project management methods and strategies reduces project risks, cut costs and improves success rates of projects. Project management is important for several reasons that include: Organizing chaos, managing risk, managing quality, managing integration and change, retaining and use of knowledge and finally learning from failure.

### 1.1.2 Performance of Prepaid Services

Performance management includes activities which ensure that goals are consistently being met in an effective and efficient manner**.** At the workplace, performance management is implemented by employees with supervisory roles. Normally, the goal of managing performance is to allow individual employees to find out how well they had performed relative to performance targets or key performance indicators during a specific performance period from their supervisors and managers. In the public sector, the effects of performance management systems have differed from positive to negative, suggesting that differences in the characteristics of performance management systems and the contexts into which they are implemented play an important role to the success or failure of performance management (Soota & Mishra2012).

The major performance indicators for the prepayment metering project are customer satisfaction, project cost, excellent team work, minimal breakdowns and minimal customer complaints. Cost performance is also very critical to examine the cost of the project at different levels; minimal customer complaints also indicate reduced operational costs. However, customer satisfaction remains vital in evaluating performance of the project because prepayment systems are meant to offer flexibility on the customer side (Nyambega, 2011).

Prepayment services are applied in different fields that include: electricity prepayment meters, water prepayment meters, prepaid transport cards and prepaid tariffs for mobile telephony companies. Nairobi Water Company initiated a pilot project to install prepaid water meters to help reduce debt collection problems. Kenya Commercial Bank recently launched Pepea card: a load and transact card to help streamline payment of services in the transport sector in Kenya. Equity Bank Kenya also launched a prepaid card in conjunction with MasterCard that seeks to deepen the cash lite economy in the country. Holders of the Equity prepaid card will also be able to use the card to pay their fare in trains, buses and taxis in Kenya and while travelling abroad.

### 1.1.3 Project Management and Performance

Project management and performance are linked because projects are designed to achieve a specific unique objective. Thus, performance ensures that the desired goals are met with efficient

and effective utilization of available resources in an organization.Project performance management is an on-going review of the efficiency and importance of a given project. This important concept is used throughout the business and professional world as a means of understanding and improving company, department, and personnel performance. There are many ways to conduct these reviews, most geared toward analysing practices and data in order to improve procedure (Casarin & Nicollier, 2008).

There are many factors that determine whether a project is a success, varying based on the initial goals of the project. If a primary goal is to increase office efficiency by 20%, project performance management will involve looking at the before-and-after data, taking into account whether the strategy for this project was appropriate, and how much the efficiency drive cost versus how much profit or improvement it generated. A primary financial goal will be examined largely for the cost versus profits ratio, although it also may take into account how efficiently and wisely the budget was spent in pursuit of the goal (Nicollier, 2008).

### 1.1.4 Kenya Power Prepayment Electricity Project

Kenya power started prepaid electricity metering in April 2009 on pilot basis. Rollout of the project commenced in March 2011, and by 30th June 2011 a total of 123,000 prepaid meters had been installed throughout the country with a majority of them in Nairobi (Kenya Power corporate strategic plan 2011/12 to 2015/16). KPLC rebranded to Kenya Power in 2011 to turn around the company. The project will roll out to other regions in the country (Kenya Power, 2011).

According to Ondari (2009), the system offers Kenya Power three position developments as for its financial position and ability to attract financing are concerned. It will accelerate its cash flow, meaning less need to a better bottom line. Besides, it will also reduce, if not eliminate the risk of bad debt. The story continues to say that the system has not been without challenges during the pilot phase of the project. Most of the prepaid customers are finding it difficult to understand Kenya Powers complex domestic. Tariff (DC), when applied to prepayment due to its stepped nature and the various taxes and levies charged.

Kenya Power has branches in Nairobi region and surrounding areas that are directly involved in the prepaid metering project. The branches operate independently and are headed by a branch

business head with the respective project engineers handling different projects. The branches are appraised on performance including customer satisfaction surveys, customer complaints and breakdowns that are reported to the top management of the company. The branches include Kitengela, Githunguri, Ongata Rongai, Machakos, Limuru, Kiambu, Tala, Nairobi Stima Plaza, Nairobi Electricity House, Kitengela, Thika and Gatundu.

## 1.2 Statement of the Problem

Project management is the art of managing the project and its deliverables with a view to produce finished products or service (Lipovetsky, *et al.*, 2002). There are many ways in which a project can be carried out and the way in which it is executed is project management. Project management includes: identifying requirements, establishing clear and achievable objectives, balancing the competing demands from the different stakeholders and ensuring that a commonality of purpose is achieved. It is clear that unless there is a structured and scientific approach to the practice of management, organizations would find themselves adrift in the ocean called organizational development and hence would be unable to meet the myriad challenges that the modern era throws at them. Hence, the importance of project management to organizations cannot be emphasized more (Lipovetsky, Tishler, Dvir&Shenhar, 2002).

The causes for project success and failure have been the subject of many studies, no conclusive evidence or common agreement has been achieved so far. One criticism involves the universalistic approach used often in project management studies, according to which all projects are assumed to be similar. A second problem is the issue of subjectiveness, and sometimes weakly defined success measures; yet another concern is the limited number of managerial variables (Shenhar, *et al.*, 2002).

The electricity prepayment service was initially developed in South Africa in the late 1980s with the objective of supplying energy to a large number of low-income and geographically dispersed users. The system was initially geared to minimizing the difficulties arising from users' irregular incomes and to overcoming the limited development of the infrastructure required for the dispatch and reception of credit slips. By the late 1990s, prepayment systems were very popular in India and in some OECD countries (Estache *et al.*, 2000), and had probably reached their highest development in Great Britain (Waddams *et al.*, 1997). In Argentina, prepayment meters

were firstly introduced in 2013, when Energía Mendoza Sociedad del Estado (EMSE) put a few running in small shops at the Mendoza Bus Central Station. The experience was soon extended to other communities in the country.

An inquest into the success of the electricity prepaid metering in Kenya has shown that so far, several consumers have complained on limited places where one can buy tokens, delay in purchasing electricity token through mobile phone money transfer, long digits or codes and varying rates of units for the same amount (Nyambega, 2011). A study conducted by Chege (2012) also established various complaints from Kenya power customers regarding the prepaid meters. Some of the complaints were that pre-paid meters do not give the consumers a breakdown of their consumption, breeding suspicion that it is expensive. This study will establish whether project initiation, project planning, project implementation, project monitoring and evaluation and project stakeholder's involvement determine the performance of prepaid metering project of Kenya Power. The research was guided by research questions that sought to answer what was the practice of project management for prepaid electricity metering project of Kenya Power. The research further explained the relationship between project management and performance of prepaid electricity metering project.

## 1.3 Objectives of the Study

The objectives of the study were:

i. To establish the practice of project management for prepaid electricity metering project of Kenya Power in Nairobi City County and its environs
ii. To establish the performance of prepaid electricity metering project of Kenya Power in Nairobi City County and its environs
iii. To determine the relationship between the practice of project management and performance of prepaid electricity metering project of Kenya Power in Nairobi City County and its environs

## 1.4 Importance of the Study

This research will go a long way to help the stakeholders of the prepaid metering project to effectively manage the project and reduce the operational costs of the company. In particular Kenya Power is set to benefit in that elimination of estimated bills, improvement of billing accuracy, elimination of disconnection and reconnection costs and decongestion of the banking halls.

Customers also stand a chance to understand, appreciate and embrace this new technology as far as electricity metering in Kenya is concerned. Customers benefit in that in case of a disconnection, you can refill the service without paying an additional deposit. It also enables the customers to better manage their consumption.

# CHAPTER TWO: LITERATURE REVIEW

## 2.1 Introduction

Knowledge does not exist in a vacuum, and a researcher's work only has value in relation to other people. The research work and findings will be significant only to the extent that they were the same as, or different from, other people's work and findings (Saunders et al, 2003). In this view the researcher reviews critical literature on project management and its influence on project performance.

## 2.2 The Practice of Project Management

The project management literature has a variety of definitions of the project life cycle and the number of stages it contains. However, there is agreement that a project life cycle exists and that the individual stages can be distinguished from each other (Ford and McLaughlin, 2013). These stages or phases can frequently be reduced to four broad groups. Adams and Barndt (1988) refer to these as Conceptual; Planning; Execution; and Termination, whilst Briner, Geddes and Hastings (1990) argue that "every project goes through the same phases: definition, planning and resourcing, implementation, and hand-over. Project goals and objectives are defined during the conceptual or definition phase. During the planning phase the detailed steps, or work packages, are defined that must be undertaken in order to achieve the desired or specified results. A project is managed in most industries and disciplines according to a project life cycle. This cycle describes a period of time when a project is initiated, planned, executed, and closed (Project Management Institute, 2008). The project is monitored and controlled throughout this project lifecycle to ensure that the project is delivering to the agreed plan.

This study is based on the chaos theory. In common usage, 'chaos' means a state of disorder. However, chaos theory is a field of study in applied mathematics and studies the behavior of dynamic systems that are highly sensitive to initial conditions, an effect which is popularly referred to as the butterfly effect. Small differences in initial conditions, such as those due to

rounding errors in numerical computation, yield widely diverging outcomes for chaotic systems, rendering long term prediction impossible in general (Nicollier,2008).

This happens even though these systems are deterministic, meaning that their future behavior is fully determined by their initial conditions, with no random elements involved. In other words, the deterministic nature of these systems does not make them predictable. This behavior is known as deterministic chaos, or simply chaos. Chaotic behavior can be observed in many natural systems, such as the weather. For a dynamic system, to be chaotic it must have the following properties: It must be sensitive to initial conditions; It must be topologically mixing; and its periodic orbits must be dense (Ford and McLaughlin, 2013).

Project management systems are considered dynamic systems, similar to those in nature, which means they change over time and are hard to predict. This increasingly fast-paced system is 'a breeding ground' for a chaotic management system (Yoke, 2003). This breeding ground is creating a complexity explosion, which is affecting the way project managers need to manage. Even though they are changing, there is usually an underlying predictability that can be identified. This is where chaotic behavior comes into play. Behavior in systems can be placed into two zones. One, the stable zone, where the system, if disturbed, returns to its initial state and two, the zone of instability where some small activity leads to further divergence (Rosenhead, 1998).

## 2.3 Performance of Prepayment projects

Performance management is the process by which activities ensure that goals are consistently being met in an effective and efficient manner**.**A good project manager is one who can adapt to a changing environment as well as allow individuals to manage their own areas of expertise. This business trend is seen in forward thinking companies in the 21$^{st}$ century, and is also known as 'managing by objectives' or 'empowering knowledge workers'. Unfortunately, in most companies this value paradigm is missed because management is focused on the financials rather than on renewing and developing knowledge (Stuart, 1995).

The project manager's main function is to recognize employees' strengths and to empower his group to work individually, both in a team and as individuals. The new project manager needs to

be forward thinking and to have the ability to be flexible, creative, and able to respond to events quickly (Yolk, 2003). Organizations need to embrace disorder and look to the edge of chaos (Stuart, 1995). Perhaps this empowerment of both individuals and teams as a whole, in conjunction with managements' ability to stay nimble in the face of a dramatically changing environment, will allow organizations to better manage the challenge of chaos in the 21st century.

An organic approach to the implementation of project management implies that we can learn tremendous lessons from nature about how to achieve better, more harmonious outcomes from our projects. Thus, by observing nature and paying attention to patterns in human behavior, we in essence create a 'green', as opposed to toxic, environment for project success. This study therefore uses the chaos theory to guide the project manager to study the environment where the project will take place in order to successfully ensure that project initiation, project planning, project implementation, project monitoring and evaluation and project stakeholder involvement are effectively followed to ensure success of the prepaid metering project. It is important to understand the fact that the future of a project is not predictable and each project creates its own future and project documentation is a way to communicate complex ideas about time, cost and the determinants influencing performance of prepaid electricity metering project in Kenya, specifically in Nairobi City County and its environs (Tewari and Shah, 2003).

## 2.4 Project Management and Performance of Prepayment Electricity Metering

A study conducted by Casarin and Nicollier (2008) in Argentina established that despite the fact that prepaid meters have been widely adopted by utilities in different countries, its practice is still controversial. Results indicate that prepaid meters lead to an increase in welfare. They also indicate that the advantages of the system are linked to the reduction of arrears in accounts receivables and of operational and financial costs on the part of the service provider and to a better allocation of resources for the user. Consumer evidence, however, suggest that the main arguments against prepayments relate to the possibility of self-disconnection by low income consumers.

Prepayment systems were introduced for the first time in South Africa but are now widely used in the UK, Turkey and India. Yet, their use is still controversial. On the one hand, those that support the diffusion of prepaid meters claim that they benefit both consumers and utilities because they help users to consume more efficiently and to improve the management of their budget, while allowing firms to reduce financial, operational and bad debts' costs. On the other hand, those that are against to prepaid meters argue that their adoption is expensive for firms and risky for low income consumers, as the insecurity and volatility of their income may force little service usage or, ultimately, involuntary self-disconnection. None of these arguments have been comprehensively examined before, nor has any connection been made between the prepaid meters performance in relation to the project cycle. This study therefore seeks to establish the performance of prepaid metering project in Kenya. Specifically, the study will establish whether project initiation, project planning, project implementation, monitoring and evaluation as well as stakeholder involvement has an effect on the prepaid metering performance in Nairobi City County and its environs (Tewari and Shah, 2003).

## 2.5 Summary and Conceptual Framework

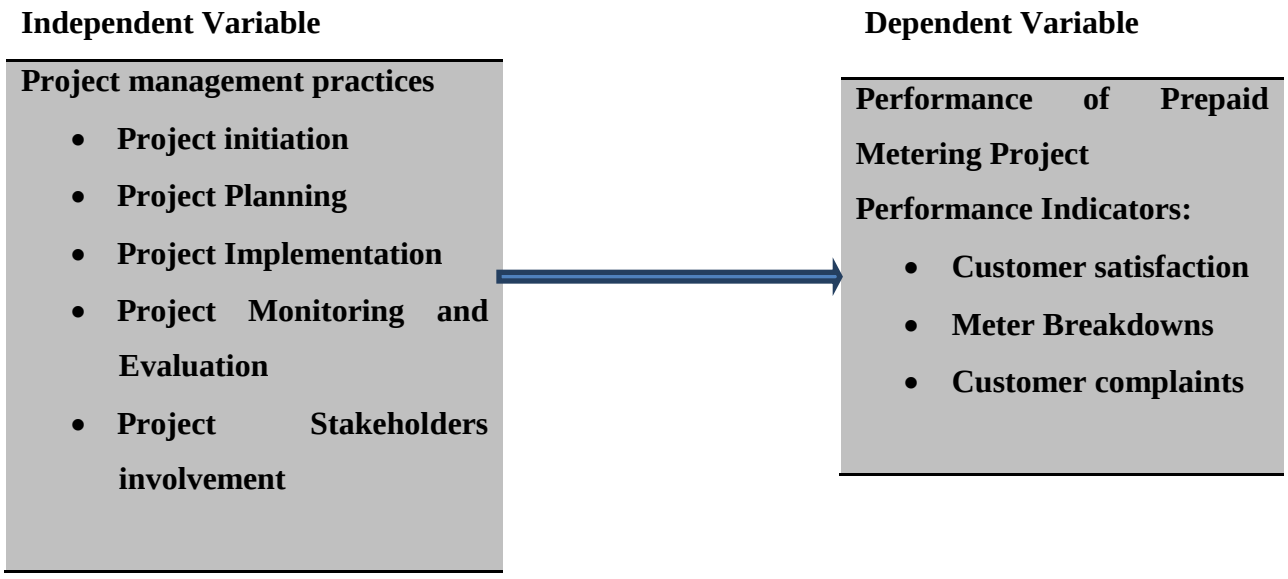
This section gives a summary of the literature review and discusses the conceptual framework of the study.

### 2.5.1 Summary of literature review

Prepayment systems have been proposed as an innovative solution to the problem of affordability in utilities services. In spite of being a popular system in European and African countries, the use of such mechanisms remains controversial. Among the main arguments in favor of its dissemination are the advantages concerning lower costs of arrears, running costs and finance charges for the service provider and the better allocation of resources it implies for users. The arguments against prepaid meters are based on the higher cost of the technology and the possibility of self-disconnection of low-income users. This section contributes to the debate because it uses project management to examine the adoption of the prepayment electricity system in Kenya.

### 2.5.2 Conceptual Framework

The framework above gives a graphical relationship between project initiation, project planning, project implementation, project monitoring and evaluation and project stakeholders' involvement and performance of prepaid metering project in Nairobi City County and its environs. Also highlighted are project performance indicators.



# CHAPTER THREE: RESEARCH METHODOLOGY

## 3.1 Introduction

This chapter presents the methodology that was employed in collecting and analyzing data for the study. It comprises a description of the research design, study population, sampling, data collection and methods employed in analyzing and interpreting data.

## 3.2 Research Design

The study adopted a descriptive survey design. Descriptive survey design is used to obtain information concerning the current status of the phenomena to describe "what exists" with respect to variables or conditions in a situation (Chandran, 2004). Descriptive survey design is appropriate when the researcher intends to describe a situation in terms of "what is" as opposed to analyzing why it is so.

The choice of the descriptive survey design was made based on the fact that in this study, the researcher was interested in the state of affairs already existing in the field, providing further insight into the research problem, by describing the variables of interest. No variable was manipulated. Descriptive research design enables collection of in-depth information about population being studied and describes its behavior, attitude, characteristics and values (Creswell, 2002).

## 3.3 Population

The research was a case study of Nairobi City County and its environs. This was due to the fact that Kenya power was the only organization carrying out prepaid electricity metering project in Kenya and the target population stated was directly involved and affected by the project. The administrative branches of Kenya Power in Nairobi and its environs constituted the population of this study. They are: Kitengela, Githunguri, Ongata Rongai, Machakos, Limuru, Kiambu, Tala, Nairobi Stima Plaza, Nairobi Electricity House, Kitengela, Thika and Gatundu.

## 3.4 Sampling

The study was a census since all the branches in Nairobi City County and its environs were studied. All the project engineers in all the branches were the respondents. Convenience sampling technique was used to select project engineers, whereby responses were sought from the 12 prepaid project engineers in all Kenya Power branches. This was because they were better placed to give relevant information.

## 3.5 Data Collection.

Both primary and secondary data were used in this study. This was because of ease of interpretation of data, availability of data on performance parameters of the prepaid electricity metering project and the need to address specific research issues in this case the practice of project management.

The primary data collection tool for this study was a questionnaire. The predetermined questions were fielded to the engineers regarding the practice of project management of prepaid electricity metering project in their respective branches. The questionnaire was used for data collection because, it offers considerable advantages in the administration: it presents an even stimulus potentially to large numbers of people simultaneously and provides the investigation with an easy accumulation of data.The questionnaire developed was e-mailed to the 12 project engineers to be filled and either picked from their respective offices or e-mailed back.

Secondary data on project performance was obtained using a pre-designed form, from the respective reports processed by the company on performance including customer satisfaction surveys and customer relationship management systems.

## 3.6 Data Analysis

To achieve the first study objective the means and standard deviations for the responses about project management for each of the five practices of project management on a five point Likert scale was determined. High mean values indicated high levels of the practice of project management. Low values of standard deviation show consistencies in project management practices among the branches. The second objective was achieved by establishing performance for each branch by using the mean of the three parameters of project performance.

To achieve the third objective regression analysis was performed. The mathematical expression for the multiple regression model used was;

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon$

Where:

Y was the dependent variable (Project Performance)

$\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ were the regression coefficients

$X_1, X_2, X_3, X_4, X_5$ were the independent variables (Project initiation, planning, implementation, M&E and stakeholder involvement)

$\varepsilon$ was the random error term

Appropriate data analysis tools such as Ms Excel and SPSS was employed to enhance analysis.

# CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSION

## 4.1 Introduction

This chapter presents analysis and findings of the study as set out in the research methodology. The study findings are presented on the project management and performance of prepaid electricity metering project of Kenya power the case of Nairobi City County and its environs. All the 12 respondents filled and returned questionnaires making a response rate of 100%. According to Mugenda and Mugenda (1999), a response rate of 50% is adequate for analysis and reporting. This means that the response rate for this study was adequate for data analysis and interpretation.

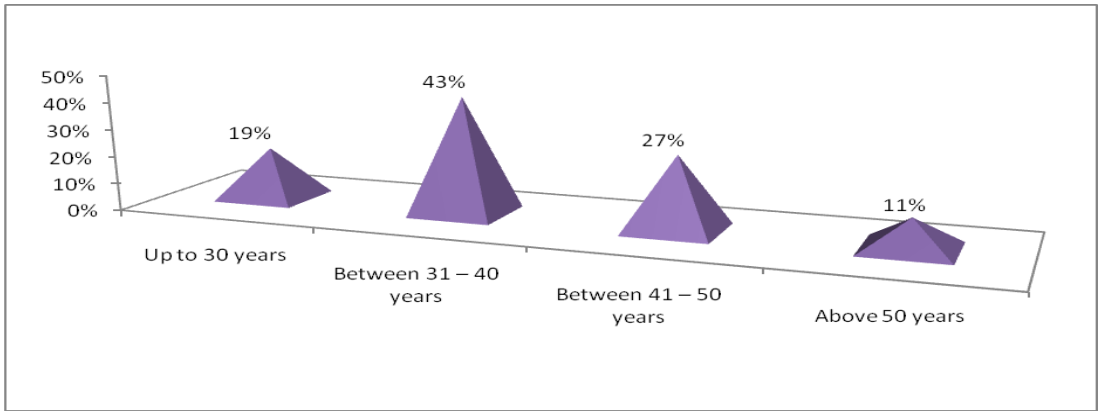
## 4.2 Demographic Information

The study sought to ascertain the background information of the respondents involved in the study. The background information points at the respondents' suitability in answering the questions.

### 4.2.1 Respondents age bracket

The respondents were requested to indicate their age bracket. The findings are as presented in Figure 4.1.

**Figure 4.1: Respondents age bracket**

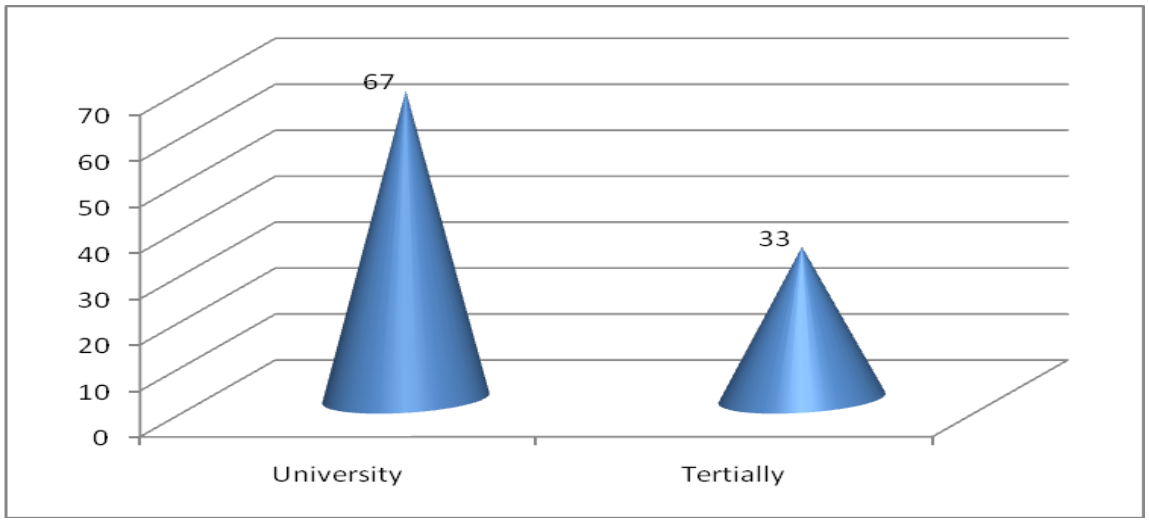


The findings indicate that, most of respondents (43%) were aged between 31-40 years, 27% were aged between 41-50 years, and 19% were aged up to 30 years, while 11% were aged above 50 years.

### 4.2.2 Level of education

The respondents were requested to indicate their level of education. The findings were as shown in the Figure 4.2.

**Figure 4.2: Level of education**

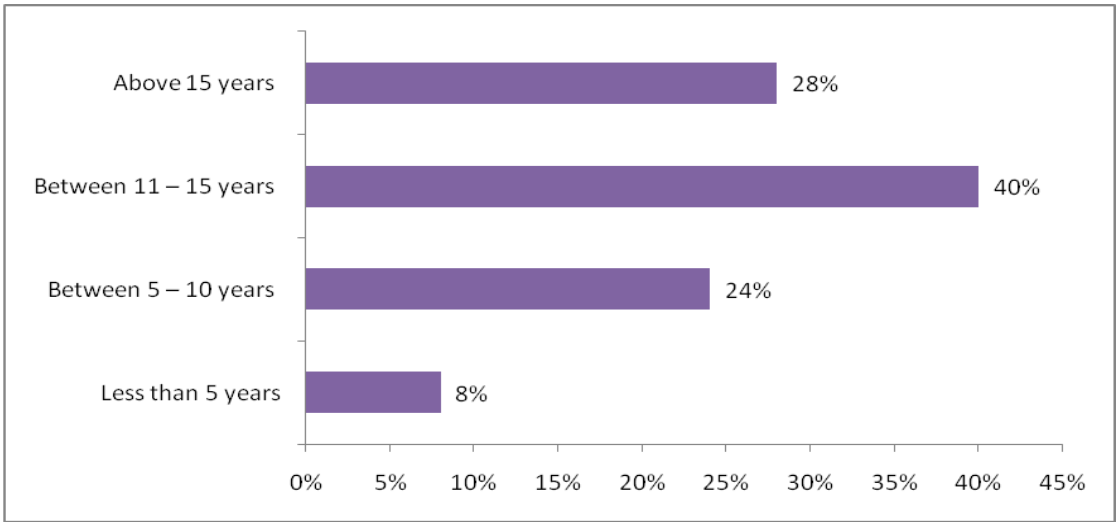



From the findings, majority of the respondents (67%) had universityy degree, 33% were from tertiary college. Thus majority of the respondents in the Kenya Power are well trained and therefore there was high chances that they would offer reliable information

### 4.2.3 Working Experience

In order to find out the period in which the respondents had worked for the company the respondents were asked to indicate the duration in which they have been working for Kenya Power.

**Figure 4.3: Working Experience**

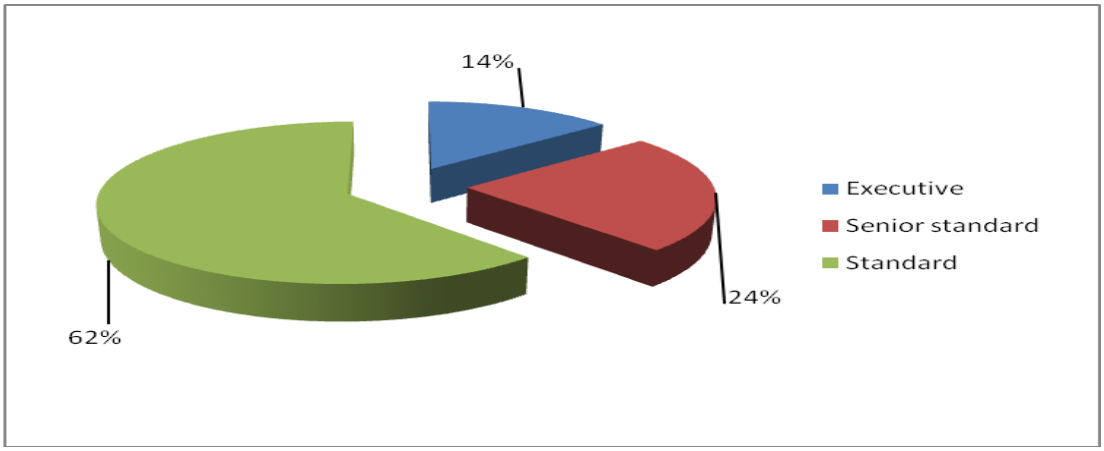



From the findings, majority of the respondents (40%) had a working experience of between 11-15 years, 28% had a working experience of 15 years and above, and 24 % had a working experience of between 5-10 years while 8 % had a working experience of less than 5 years. Therefore the majority of the respondents had an extensive experience hence increasing the reliability of the information given.

### 4.2.4 Current management position in the organization

The respondents were asked to indicate their current management position in the organization. The findings are as shown in Figure 4.4

**Figure 4.4: Current management position in the organization**

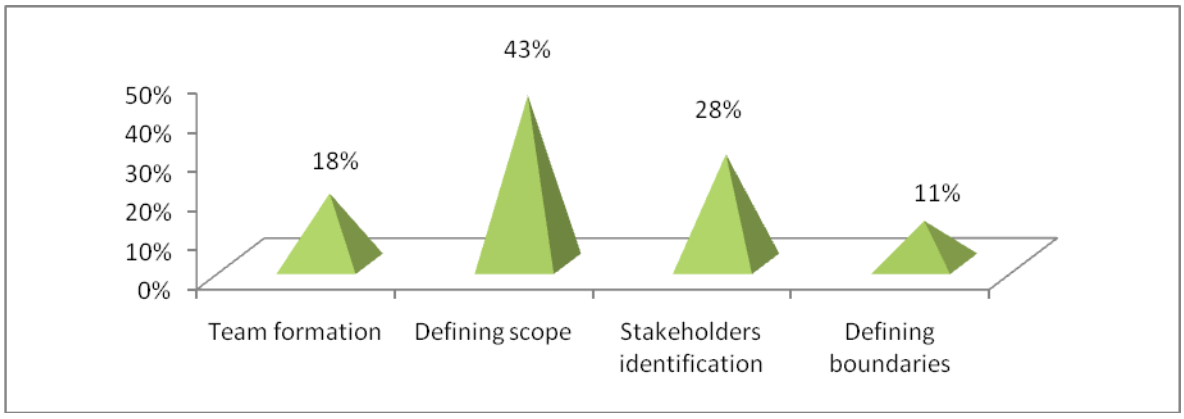


From the findings, majority of the respondents (62%) were in the standard management position, 24% were in senior standard management position, and 14% were in executive management position. The findings indicate that majority of the respondents were in standard management position who were the actual engineers implementing the project on the ground.

### 4.2.5 Steps followed during the initiation of the prepaid metering project

The respondents were asked to indicate the steps followed during the initiation of the prepaid metering project. The findings are as shown in Figure 4.5

**Figure 4.5: Steps followed during the initiation of the prepaid metering project**

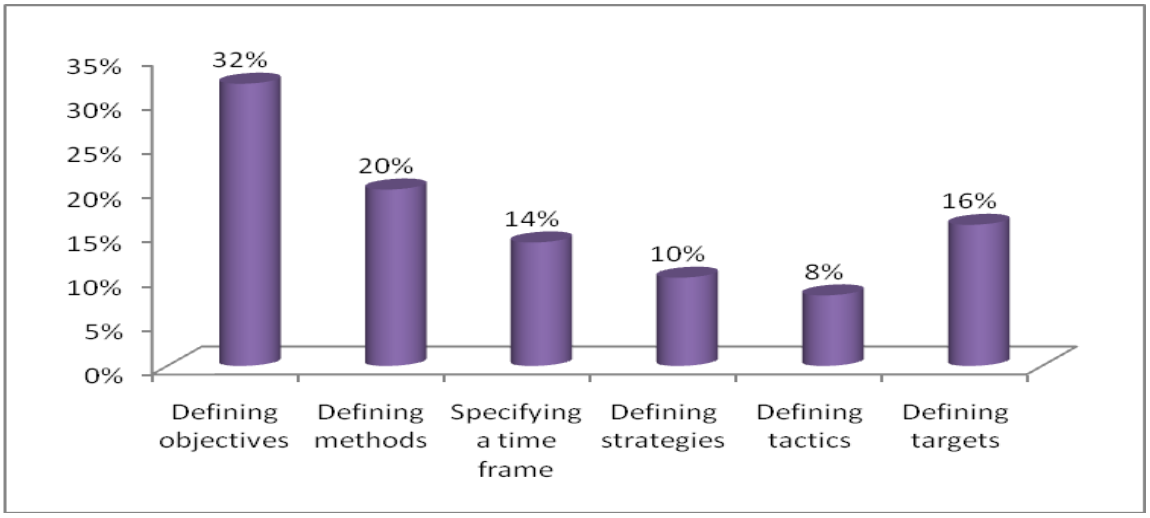



From the findings above, most of respondents (43%) indicated that the step followed during the initiation of the prepaid metering project is defining scope, 28% indicated stakeholder's identification, 18% indicated team formation, while 11% indicated defining boundaries. This indicates that the project scope was well defined during the initiation of the prepaid metering project.

### 4.2.6 Steps followed during prepaid metering planning

The respondents were asked to indicate the steps followed during the prepaid metering planning. The findings are as shown in Figure 4.6

**Figure 4.6: Steps followed during prepaid metering planning**

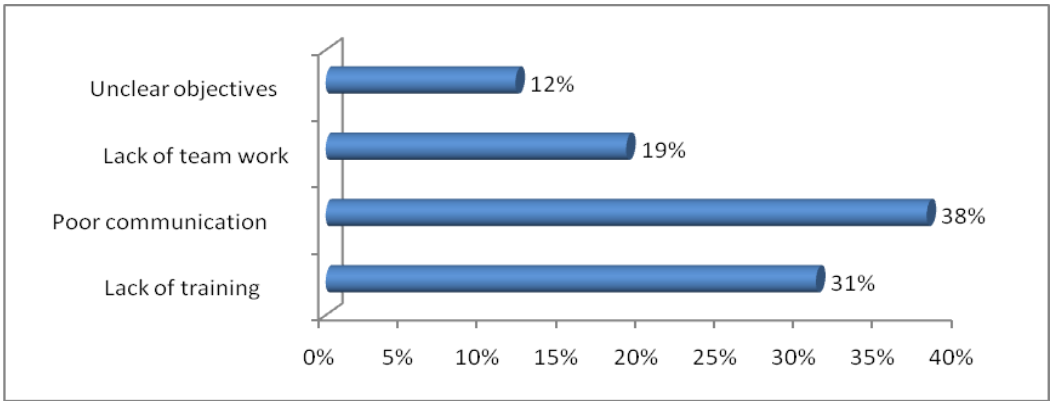



From the findings above, most of respondents (32%) indicated that the step followed during the prepaid metering planning was defining objectives, 20% indicated defining methods, 16% indicated defining targets, 14% indicated specifying a time frame, 10% indicated defining strategies, and 8% indicated defining tactics. This shows that the project objectives were clearly communicated during the initiation of the prepaid metering project is defining scope.

### 4.2.7 Problems encountered while planning for the prepaid metering project

The respondents were asked to indicate the problems encountered while planning for the prepaid metering project. The findings are as shown in Figure 4.7

**Figure 4.7: Problems encountered while planning for the prepaid metering project**

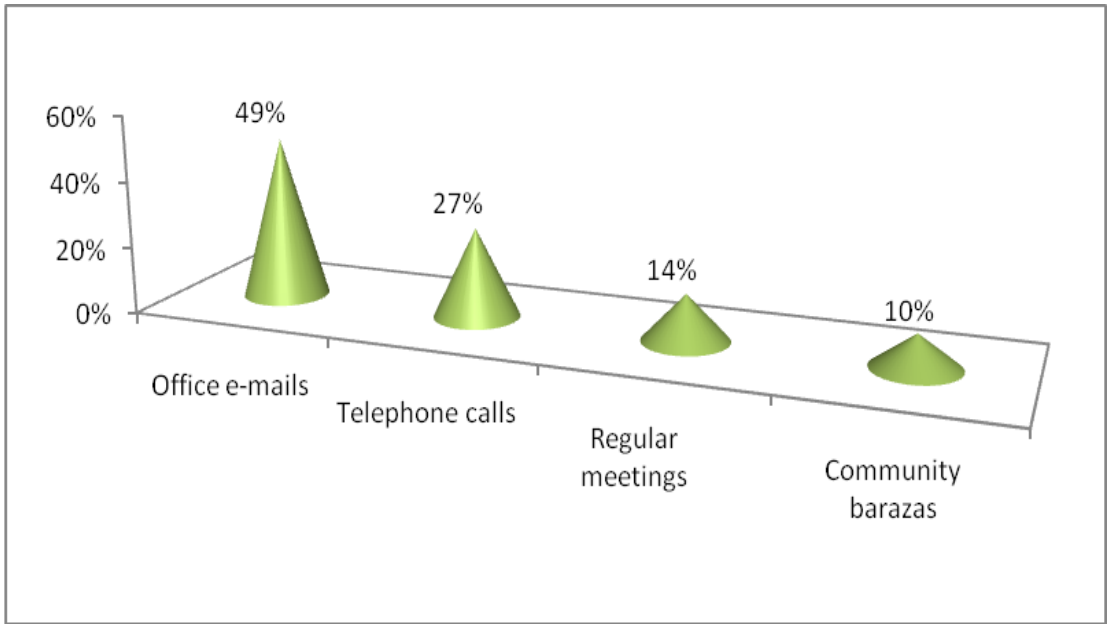


From the findings, most of respondents (38%) indicated the problem encountered while planning for the prepaid metering project is poor communication, 31% indicated lack of training, 19% indicated lack of team work, while 12% indicated unclear objectives. This reveals that the major problem encountered while planning for the prepaid metering project was poor communication.

### 4.2.8 Mode of communication mostly used amongst stakeholders

The study requested respondents to outline the mode of communication mostly used amongst stakeholders. The findings are as shown below

**Figure 4.8: Mode of communication mostly used amongst stakeholders**




From the findings above, most of respondents (49%) indicated that the mode of communication mostly used between stakeholders was office e-mails, 27% indicated telephone calls, 14% indicated regular meetings, and 10% indicated community barazas. Thus, the mode of communication at Kenya Power amongst project stakeholders was office mails.

## 4.3 Practice of Project Management

The study sought to establish the practice of project management in all the branches of the study

### 4.3.1 Project Initiation

The study sought to determine the extent to which project initiation was implemented in prepaid electricity metering project. The respondents were asked to indicate the extent to which they agreed with statements in relation to this. The responses were placed on the five Likert scale where 1= Not sure, 2= disagree, 3= agree, and 4 is strongly agree. The results are as presented in Table 4.1.

**Table 4.1: Project Initiation**

| Project Initiation Aspect | mean | standard deviation |
|---|---|---|
| The project team was composed in good time | 3.0142 | 0.1234 |
| The roles of each team member were clearly defined and understood. | 3.7841 | 0.2346 |
| All the Project stakeholders were identified by the project team | 2.7412 | 0.4174 |
| Project Initiation | 3.1798 | 0.2584 |

The study established that most of the respondents strongly agreed that the roles of each team member were clearly defined and understood (Mean=3.7841), the project team was composed in good time (Mean=3.0142), and all the Project stakeholders were identified by the project team (Mean=2.7412). This indicates that the roles of each team member were clearly defined and understood, and that the project team was composed in good time.

### 4.3.2 Project Planning

The study sought to determine the extent to which project planning was implemented in prepaid electricity metering project. The respondents were asked to indicate the extent to which they agreed with statements in relation to this. The responses were placed on the five Likert scale where 1= Not sure, 2= disagree, 3= agree, and 4 is strongly agree. The results are as presented in Table 4.2.

**Table 4.2: Project Planning**

| Project Planning Aspect | mean | standard deviation |
|---|---|---|
| In your opinion, were all the necessary plans laid in place before the prepaid metering project started? | 1.7849 | 0.2374 |
| Planning meetings were held from the onset of planning | 2.7412 | 0.1234 |
| All the tasks involved in the project were clearly outlined | 3.7481 | 0.9844 |
| Expected duration for each activity was determined prior to project start | 3.9421 | 0.6774 |
| Interrelationship between the project activities was clearly presented and defined | 3.1204 | 0.1212 |
| Were the problems solved in good time | 2.4632 | 0.4631 |
| Project Planning | 2.9667 | 0.4344 |

The study established that most of the respondents strongly agreed that: expected duration for each activity was determined prior to project start (Mean=3.9421); all the tasks involved in the project were clearly outlined (Mean=3.7481); interrelationship between the project activities was clearly presented and defined (Mean=3.1204); planning meetings were held from the onset of planning (Mean=2.7412); and that the problems were solved in good time (Mean=2.4632). However, respondents disagreed that all the necessary plans were laid in place before the prepaid metering project started (Mean=1.7849). This shows that in Kenya Power expected duration for each activity was determined prior to project start, and that all the tasks involved in the project were clearly outlined.

### 4.3.3 Project implementation

The study sought to determine the extent to which project implementation was executed in prepaid electricity metering project. The respondents were asked to indicate the extent to which they agreed with statements in relation to this. The responses were placed on the five Likert scale where 1= Not sure, 2= disagree, 3= agree, and 4 is strongly agree. The results are as presented in Table 4.3.

**Table 4.3: Project implementation**

| Project implementation Aspect | mean | standard deviation |
|---|---|---|
| The project started at the specified time frame. | 3.7642 | 0.7864 |
| In your opinion, was the prepaid metering project implemented properly | 2.1342 | 0.4742 |
| Customers were very cooperative during the exercise. | 2.6132 | 0.1232 |
| Was the expected quality achieved | 2.2364 | 0.2782 |
| Regular meetings were held between project team and project stakeholders. | 3.1242 | 0.4331 |
| Project performance and status was regularly reported | 3.8614 | 0.3124 |
| Were there any problems encountered during the implementation | 3.8461 | 0.6424 |
| Project implementation | 3.0828 | 0.4357 |

The study established that most of the respondents strongly agreed that: project performance and status was regularly reported in Kenya Power (Mean=3.8614); there were problems encountered during the implementation (Mean=3.8461); and that the project started at the specified time frame (Mean=3.7642). Further, respondents agreed that: regular meetings were held between project team and project stakeholders (Mean=3.1242); customers were very cooperative during the exercise (Mean=2.6132); the expected quality was achieved (Mean=2.2364) and the prepaid metering project was implemented properly (Mean=2.1342). This portrays that project performance and status was regularly reported in Kenya Power and that there were problems encountered during the implementation.

### 4.3.4 Project monitoring and Evaluation

The study sought to determine the extent to which project monitoring and evaluation was adopted in the prepaid electricity metering project. The respondents were asked to indicate the extent to which they agreed with statements in relation to this. The responses were placed on the five point Likert scale where 1= Not sure, 2= disagree, 3= agree, and 4 is strongly agree. The results are as presented in Table 4.4.

**Table 4.4: Project monitoring and Evaluation**

| Project monitoring and Evaluation Aspect | mean | standard deviation |
|---|---|---|
| Project performance indices were clearly identified. | 3.1247 | 0.1487 |
| Measurement on the performance indices was carried out during the project | 2.9764 | 0.1244 |
| After the implementation of the prepaid metering project, did Kenya power employ any measures to evaluate its performance in the market | 3.0241 | 0.4764 |
| Were the measures employed by Kenya Power to evaluate performance successful | 3.4212 | 0.0476 |
| Project monitoring and Evaluation | 3.1366 | 0.19927 |

As per the findings in Table 4.4, most of the respondents strongly agreed that: measures were employed by Kenya Power to evaluate performance successfully (Mean=3.4212). In addition, respondents agreed that: project performance indices were clearly identified (Mean=3.1247); after the implementation of the prepaid metering project, Kenya power employed measures to evaluate its performance in the market (Mean=3.0241); and that measurement on the performance indices was carried out during the project (Mean=2.9764). This shows that measures were employed by Kenya Power to evaluate performance successful.

### 4.3.5 Stakeholder involvement

The study sought to determine the extent to which stakeholders were involved in prepaid electricity metering project. The respondents were asked to indicate the extent to which they agreed with statements in relation to this. The responses were placed on the five Likert scale where 1= Not sure, 2= disagree, 3= agree, and 4 is strongly agree. The results are as presented in Table 4. 5.

**Table 4.5: Stakeholder involvement**

| Stakeholder involvement Aspect | mean | standard deviation |
|---|---|---|
| Project performance indices were clearly identified. | 3.4121 | 0.1442 |
| Measurement on the performance indices was carried out during the project | 3.935 | 0.4124 |
| After the implementation of the prepaid metering project, Kenya power employed measures to evaluate its performance in the market | 2.876 | 0.1423 |
| Measures employed by Kenya Power to evaluate performance were successful | 2.246 | 0.2423 |
| There was a clear communication channel between all the stakeholders | 3.7882 | 0.1244 |
| There was an elaborate feedback mechanism adopted during the project | 3.7644 | 0.8796 |
| Were the stakeholders involved in the planning of the prepaid metering project | 2.9124 | 0.3467 |
| Did their involvement have any impact on the performance of the prepaid metering | 3.3142 | 0.6784 |
| Stakeholder involvement | 3.281038 | 0.371288 |

Based on the findings in Table 4.5, most of the respondents strongly agreed that: measurement on the performance indices was carried out during the project (Mean=3.935); there was a clear communication channel between all the stakeholders (Mean=3.7882); and that there was an elaborate feedback mechanism adopted during the project (Mean=3.7644). In addition, respondents agreed that: project performance indices were clearly identified (Mean=3.4121); their involvement had an impact on the performance of the prepaid metering (Mean=3.3142) ; stakeholders were involved in the planning of the prepaid metering project (Mean=2.9124); Kenya power employed measures to evaluate its performance in the market after implementation of the prepaid metering project (Mean=2.876); and that measures were employed by Kenya Power to evaluate performance were successful (Mean=2.246). This implies that in Kenya Power

measurement on the performance indices was carried out during the project and that there was a clear communication channel between all the stakeholders.

## 4.4 Performance of Prepaid Metering Project

Table 4.6 presents secondary data collected from the Kenya Power branches on the performance of the prepaid electricity metering project:

**Table 4.6: Performance of Prepaid Metering Project**

| No | Branch | Customer satisfaction (%) | Prepaid services complaints (%) | Prepaid meter replacements (%) | Mean (%) |
|---|---|---|---|---|---|
| 1 | Kitengela | 74.2 | 48 | 36 | 52.7 |
| 2 | Githunguri | 73.3 | 47 | 38 | 52.8 |
| 3 | Ongata Rongai | 74 | 43 | 27 | 48.0 |
| 4 | Machakos | 70.4 | 48 | 34 | 50.8 |
| 5 | Limuru | 66.9 | 32 | 29 | 42.6 |
| 6 | Kiambu | 62.6 | 29 | 18 | 36.5 |
| 7 | Tala | 64.4 | 61 | 46 | 57.1 |
| 8 | Kitengela | 71 | 43 | 32 | 48.7 |
| 9 | Nairobi Stima Plaza | 73.5 | 46 | 31 | 50.2 |
| 10 | Nairobi Electricity Hse | 72.2 | 38 | 21 | 43.7 |
| 11 | Thika | 71 | 49 | 38 | 52.7 |
| 12 | Gatundu | 63.7 | 61 | 23 | 49.2 |

## 4.5 Relationship between Project Management and Performance

Table 4.7 presents data on the relationship between project management and performance for all the branches.

**Table 4.7: Relationship between project management and performance**

| No | Branch | Y | $X_1$ | $X_2$ | $X_3$ | $X_4$ | $X_5$ |
|---|---|---|---|---|---|---|---|
| 1 | Kitengela | 52.7 | 4 | 3.6 | 3.67 | 3.67 | 3.78 |
| 2 | Githunguri | 52.8 | 4.4 | 4.6 | 4.5 | 4.67 | 4.81 |
| 3 | Ongata Rongai | 48 | 3 | 4.2 | 4.33 | 4 | 4.12 |
| 4 | Machakos | 50.8 | 4.8 | 5 | 5 | 5 | 5.16 |
| 5 | Limuru | 42.6 | 3.8 | 3.4 | 3.33 | 3.5 | 3.61 |
| 6 | Kiambu | 36.5 | 3.6 | 3.4 | 3.33 | 3.5 | 3.61 |
| 7 | Tala | 57.1 | 3.4 | 3.8 | 4 | 3.67 | 3.78 |
| 8 | Kitengela | 48.7 | 4.2 | 4.6 | 4.67 | 4.33 | 4.46 |
| 9 | Nairobi Stima Plaza | 50.2 | 3.8 | 4.2 | 4.33 | 4 | 4.12 |
| 10 | Nairobi Electricity Hse | 43.7 | 4 | 3.6 | 3.67 | 3.67 | 3.78 |
| 11 | Thika | 52.7 | 3.6 | 4.2 | 4.33 | 4 | 4.12 |
| 12 | Gatundu | 49.2 | 4 | 4 | 3.83 | 4.17 | 4.30 |

From Table 4.7 Tala had the highest performance (57.1%) based on Customer satisfaction, prepaid services complaints and prepaid meter replacements indices. Limuru branch had the lowest at 42.6%. The performance had little variation as most scores ranged from 40 to 50%. In addition, average individual mean scores for each branch had little variation. The findings imply that there is a general concurrence that project management influences performance of prepaid electricity metering project of Kenya Power in Nairobi and its environs.

### 4.5.1 Correlation Analysis

The study used Karl Pearson's coefficient of correlation in order to quantify the strength of the relationship between the variables. The Pearson product-moment correlation coefficient determines the strength of a linear association between two variables and is denoted by *r* which can take a range of values from +1 to -1. A value of 0 indicates that there is no association between the two variables. A value greater than 0 indicates a positive association, that is, as the value of one variable increases so does the value of the other variable. A value less than 0 indicates a negative association, that is, as the value of one variable increases the value of the other variable decreases.

The Pearson's coefficient was used to verify the existence or non-existence of linear correlation between and among the project management variables with project performance. The findings are presented in Table 4.8.

**Table 4.8: Pearson's Correlation Coefficient Matrix**

| Project management variables | Project initiation | Project planning | Project implementation | Project M&E | Stakeholder involvement | Project performance |
|---|---|---|---|---|---|---|
| Project initiation | 1 | | | | | |
| Project planning | .395** | 1 | | | | |
| Project implementation | 0.13** | .381** | 1 | | | |
| Project M&E | .283** | .318** | .375** | 1 | | |
| Stakeholder involvement | .321** | .326** | .271** | .3612** | 1 | |
| Project performance | .350** | .313** | .243* | .309** | .412* | 1 |

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

Results from Table 4.8 reveal that there is a significant positive relationship between Project initiation and project performance (r = .350**, P-value < 0.01). This implies that Project initiation influences project performance in Kenya Power. The findings also disclosed a significant positive relationship between project planning and project performance (r = .313**, P-value < 0.01). Thus, implying that project planning influences project performance in Kenya

Power. The findings indicated a significant positive relationship between project implementation and project performance (r = .243**, P-value < 0.01) thus, depicting that project implementation influences project performance in Kenya power. The results in Table 4.7 indicate that there was a significant positive relationship between project initiation and project planning (r = .395**, P-value < 0.01). A significant positive relationship was observed between project planning and project M&E (r = .283**, P-value < 0.01). In addition, there is a significant relationship between project implementation and project M&E (3.75**). The findings imply that there is interrelationship in the various project management practices. Since the correlations among the predictive variables was not very strong there was little evidence of multicollinearity among them and thus all the variables were incorporated into the subsequent regression analysis.

### 4.5.2 Regression Analysis

Regression analysis is the statistical technique that identifies the relationship between two or more quantitative variables: a dependent variable, whose value is to be predicted, and an independent or explanatory variable (or variables), about which knowledge is available. The technique is used to find the equation that represents the relationship between the variables. Multiple regressions provide an equation that predicts one dependent variable from two or more independent variable(s).

**Table 4.9: Model summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .847[a] | .7174 | .687 | .23655 |

a. Predictors: Project initiation; Project planning, Project implementation, Project M&E and stakeholder involvement.

In this study, the coefficient of determination, $R^2$ ,equals 0.7174, that is, project initiation, project planning, project implementation project M&E and stakeholder involvement explain 71.7 per cent of the variance in project performance.

**Table 4.10: Analysis of variance**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | .992 | 3 | .331 | 6.912 | .000[a] |
| | Residual | 1.455 | 26 | .056 | | |
| | Total | 2.447 | 29 | | | |

a. Predictors: (Constant), Predictors: Project initiation, Project planning, Project implementation, Project M&E and stakeholder involvement b. Dependent Variable: Project performance

In this case, the significance value of the F statistic is 0.003 indicating that all the predictor variables explain a variation in project performance and that the overall model is significant.

**Table 4.11: Regression coefficient results**

| Model | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | .260 | 0.046001 | | 5.6521 | .013 |
| Project initiation | 0.875 | 0.074601 | .254 | 11.729 | .032 |
| Project planning | 0.823 | 0.21784 | .300 | 3.778 | .000 |
| Project implementation | 0.551 | 0.248534 | .113 | 2.217 | .000 |
| Project M&E | 0.670 | 0.088007 | -.167 | 7.613 | .023 |
| Stakeholder involvement | 0.477 | .0461 | 0.3412 | 4.316 | .001 |

Table 4.11 presents results of the multivariate regression of project management practices on project performance. From the findings, the coefficients on project performance are positive and significant in all the five variables, indicating that Kenya Power has efficient project performance when project management is efficient interms of project initiation, project planning, project implementation, project M&E and stakeholder involvement. The coefficient on project initiation is 0.875 and is significant. Project planning has 0.823, Project M&E has 0.67 project implementation had 0.551, while stakeholder involvement has 0.477. This indicates that project initiation inflenced project performance greatly followed by project planning.

## 4.6 Discussions of Findings

The study established that that there is a significant positive relationship between Project initiation and project performance (r = .350**, P-value < 0.01), project planning and project performance (r = .313**, P-value < 0.01). Similarly, Barksdale and Lund (2006) emphasizes that a strategic plan provides the path an organization will take in future. When redirection takes place, it is the strategic plan that explains the change in direction and refocuses the organization's efforts by redefining the organizational goals and major tactics. Planning techniques can address many organizational problems and opportunities, including institutional development and planning of disaster preparedness activities. In areas such as capacity building, or even disaster preparedness good planning can increase your chance of success. This is because it helps to analyze critically and also assess current needs and challenges which may come up in future during project implementation. It basically provides the means of testing out various possibilities, think through the difficulties that might occur and prepare to overcome them. Good plans should allow for flexibility to adapt to changing circumstances or needs.

The findings also indicated a significant positive relationship between project implementation and project performance (r = .243**, P-value < 0.01) thus, depicting that project implementation influences project performance in Kenya power. In line with these findings, Kerzner (2013) notes that one primary advantage of developing an implementation methodology is that it there is consistency in an organization. Integration of the project management implementation process increases with increasing interconnected organizational units

The study established that the coefficients on project performance are positive and significant in all the five variables, indicating that Kenya Power has efficient project performance when project management is efficient interms of project initiation, project planning, project implementation, and project M&E and stakeholder involvement. Similarly, according to Pinto & Morris (2007), monitoring and feedback are the project control processes whereby at each stage of the project implementation, the project team receive feedback on how the project is comparing to initial projections. Monitoring also involves feedback about the progress of the project to the donors, implementers and beneficiaries of the project. "The resulting information is used for decision making for improving project performance" (Bartle, 2007). Allowing for sufficient monitoring and feedback mechanisms gives the project manager the capacity to predict challenges, oversee counteractive actions and to ensure that no weaknesses are overlooked.

Mulwa, (2008) states the need for monitoring and evaluation as follows; monitoring and evaluation provides project staff with a clear basis for decision making, enables project staff to strengthen the performance of their projects thus increasing the impact of project results to the beneficiaries, M&E provides the project manager to maintain control of the project by providing him with information on the project status at all times, it promotes greater transparency and accountability in terms of use of project resources, and information obtained through M&E can be used in future for project planning and development.

# CHAPTER FIVE: SUMMARY, CONCLUSION, AND RECOMMENDATIONS

## 5.1 Introduction

This chapter presents the summary of findings on the project management and performance of prepaid electricity metering project of Kenya Power, the conclusions and recommendations drawn there to. The chapter is therefore structured into summary of findings, conclusions, recommendations, limitations of the study and area for further research.

## 5.2 Summary of Findings

The study established that the major step followed during the initiation of the prepaid metering project is defining scope The study also revealed that the major problem encountered while planning for the prepaid metering project was poor communication and that, the mode of communication mostly used between stakeholders was office e-mails.The study established that in Kenya Power the roles of each team member were clearly defined and understood, and that the project team was composed in good time and that expected duration for each activity was determined prior to project start, and that all the tasks involved in the project were clearly outlined.

The study found out that project performance and status was regularly reported in Kenya Power and that there were problems encountered during the implementation. Also it was established that measures employed by Kenya Power to evaluate performance were successful and that measurement on the performance indices was carried out during the project with clear communication channel between all the project stakeholders.

The study established that that there is a significant positive relationship between Project initiation and project performance ($r = .350^{**}$, P-value < 0.01), project planning and project performance ($r = .313^{**}$, P-value < 0.01). The findings also indicated a significant positive relationship between project implementation and project performance ($r = .243^{**}$, P-value < 0.01) thus, depicting that project implementation influences project performance in Kenya Power.

The study established that the coefficients on project performance are positive and significant in all the five variables, indicating that Kenya power has efficient project performance when project management is efficient interms of project initiation, project planning, project implementation, and project M&E and stakeholder involvement.

## 5.3 Conclusion

The study concludes that the major step followed during the initiation of the prepaid metering project is defining scope. The study also concludes that the major problem encountered while planning for the prepaid metering project was poor communication and that, the mode of communication mostly used between stakeholders was office e-mails. The first objective was established in that the practice of project management in each branch was established.

The study concludes that project performance and status was regularly reported in Kenya Power and that there were problems encountered during the implementation. Also it was conclusive those measures were employed by Kenya Power to evaluate performance successful and that measurement on the performance indices was carried out during the project and that there was a clear communication channel between all the stakeholders. The performance of each branch was established with Tala having the highest percentage of 52.

The study concludes that Kenya power has efficient project performance when project management is efficient interms of project initiation, project planning, project implementation, project M&E and stakeholder involvement.

## 5.4 Recommendations

Based on the findings in this study, it is recommended that Kenya Power needs to sensitize its employees to understand the need for project planning, monitoring and implementation at all levels. An involvement of employees on the phasing out of projects simply meant that the employees could be better placed to take over the project implementation.

Monitoring and evaluation should be undertaken in every step of project implementation and not a once as it is common with many projects. This will help identify, loopholes and deviations from overall projects goals, and correct them in time so as to ensure successful projects. Kenya Power should not only invest in technology, but also training of the project team on usage of the

same technology. This will increase skills and their disposal and level of efficiency in increasing project performance.

In an effort to ensure sustainability in project performance beyond their timelines, there seem to be a need for a comprehensive strategy in management practices that will incorporate all actors in development. This could therefore mean that all the implementing agencies, government bodies, private sector and community are all involved right from the beginning to the end.

## 5.5 Limitations of the study

Most the respondents may not be willing to provide data related to their project performance and inner details of the company. It was very hard to convince them of the intention of my research in a bid to collect information from them based on the sensitivity of the sector. However, with the assistance of friends working in the sector and with the introduction letter from the University the researcher was given the opportunity to undertake the research.

Some of the respondents did not respond in time and attempted to ignore the questionnaires. The researcher however, minimized non response cases by taking and collecting the questionnaires by hand from each respondent. Also, by having trustworthy people to distribute and collect the questionnaires.

## 5.6 Suggestions for further Research

This study was done only on Kenya Power. The study can also be done to other companies in order to understand the implication of project management on their project performance in Kenya. Similarly the studies can be done for other companies in other countries.

Given the findings and conclusions drawn from this research, it is apparent that there is a changing landscape as far as project implementation and project management in general is concerned. What was considered critical in yester years may not necessarily be the same today and in future. Technology is among the factors that are significantly changing the landscape of project implementation. It is therefore importance for a study to be undertaken on the emerging trends in project management and their effect on project performance as well as effects of globalization on project performance.

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# APPENDIX I: QUESTIONNAIRE FOR PREPAID PROJECT ENGINEERS

## Introduction

This questionnaire is aimed at collecting data on the practice of project management on prepaid electricity metering project in Nairobi City County and neighboring branches. You are kindly requested to provide answers to these questions as honestly and precisely as possible. Responses to these questions will be treated as confidential and used for academic purposes only. Please tick [√] where appropriate or fill in the required information on the spaces provided.

## I: Background Data and Project Management practices

1. What is your age bracket?

   Up to 30 years [ ] Between 31 – 40 years [ ]

   Between 41 – 50 years [ ] Above 50 years [ ]

2. What is your highest educational qualifications/level?

   Primary [ ] Secondary [ ]

   Tertiary college [ ] University [ ]

   Other (Specify)……

3. For how long have you worked at Kenya Power?

   Less than 5 years [ ] Between 5 – 10 years [ ]

   Between 11 – 15 years [ ] Above 15 years [ ]

4. What is your current management position in the organization?

   Executive [ ] Senior standard [ ] Standard [ ]

5. Which of the following steps is followed most during the initiation of the prepaid metering project?

   Team formation [ ] Defining scope [ ]

   Stakeholders identification [ ] Defining boundaries [ ]

   Other (Specify)……

6. Which of the following steps is followed most during prepaid metering planning?

| | | | |
|---|---|---|---|
| Defining objectives | [ ] | Defining methods | [ ] |
| Specifying a time frame | [ ] | Defining strategies | [ ] |
| Defining tactics | [ ] | Defining targets | [ ] |

Other (Specify)……

7. Which major problem did you encounter while planning for the prepaid metering project?

| | | | |
|---|---|---|---|
| Lack of training | [ ] | Lack of team work | [ ] |
| Poor communication | [ ] | Unclear objectives | [ ] |

8. Indicate the mode of communication mostly used amongst stakeholders

| | | | |
|---|---|---|---|
| Office e-mails | [ ] | Telephone calls | [ ] |
| Regular meetings | [ ] | Community barazas | [ ] |

9. The following statements relate to project management practices. Tick appropriately according to the level of agreement on the specified practices:

| **STATEMENT** | Strongly Agree | Agree | Disagree | Not sure |
|---|---|---|---|---|
| a) The project team was composed in good time | | | | |
| b) The roles of each team member were clearly defined and understood. | | | | |
| c) All the Project stakeholders were identified by the project team | | | | |
| d) In your opinion, were all the necessary plans laid in place before the prepaid metering project started? | | | | |
| e) Planning meetings were held from the onset of planning | | | | |
| f) All the tasks involved in the project were clearly outlined | | | | |

| | | | | |
|---|---|---|---|---|
| g) Expected duration for each activity was determined prior to project start | | | | |
| h) Interrelationship between the project activities was clearly presented and defined | | | | |
| i) Were the problems solved in good time? | | | | |
| j) The project started at the specified time frame. | | | | |
| k) In your opinion, was the prepaid metering project implemented properly? | | | | |
| l) Customers were very cooperative during the exercise. | | | | |
| m) Was the expected quality achieved? | | | | |
| n) Regular meetings were held between project team and project stakeholders. | | | | |
| o) Project performance and status was regularly reported | | | | |
| p) Were there any problems encountered during the implementation? | | | | |
| q) Project performance indices were clearly identified. | | | | |
| r) Measurement on the performance indices was carried out during the project | | | | |
| s) After the implementation of the prepaid metering project, did Kenya power employ any measures to evaluate its performance in the market? | | | | |

| | | | | |
|---|---|---|---|---|
| t) Were the measures employed by Kenya Power to evaluate performance successful? | | | | |
| u) There was a clear communication channel between all the stakeholders | | | | |
| v) There was an elaborate feedback mechanism adopted during the project | | | | |
| w) Were the stakeholders involved in the planning of the prepaid metering project? | | | | |
| x) If yes, did their involvement have any impact on the performance of the prepaid metering? | | | | |

**THANK YOU FOR PARTICIPATING**

# APPENDIX II

## Project Performance data collection form

The table below presents secondary data collected from the Kenya Power branches on the performance of the prepaid electricity metering project:

| No | Branch | Customer satisfaction (%) | Prepaid services complaints (%) | Prepaid meter replacements (%) | mean |
|---|---|---|---|---|---|
| 1 | Kitengela | 74.2 | 48 | 36 | 52.7 |
| 2 | Githunguri | 73.3 | 47 | 38 | 52.8 |
| 3 | Ongata Rongai | 74 | 43 | 27 | 48.0 |
| 4 | Machakos | 70.4 | 48 | 34 | 50.8 |
| 5 | Limuru | 66.9 | 32 | 29 | 42.6 |
| 6 | Kiambu | 62.6 | 29 | 18 | 36.5 |
| 7 | Tala | 64.4 | 61 | 46 | 57.1 |
| 8 | Kitengela | 71 | 43 | 32 | 48.7 |
| 9 | Nairobi Stima Plaza | 73.5 | 46 | 31 | 50.2 |
| 10 | Nairobi Electricity Hse | 72.2 | 38 | 21 | 43.7 |
| 11 | Thika | 71 | 49 | 38 | 52.7 |
| 12 | Gatundu | 63.7 | 61 | 23 | 49.2 |

## APPENDIX III: LETTER OF INTRODUCTION

Allan Saliku Kebeya,

University of Nairobi,

Department of Management Science,

Dear Sir/Madam,

**RE: PROJECT MANAGEMENT AND PERFORMANCE OF PREPAID ELECTRICITY METERING PROJECT OF KENYA POWER: THE CASE OF THIKA TOWN**

I am a post graduate student wishing to carry out a research on the above mentioned topic. The questionnaire attached is meant to gather information for this study. All information given will be treated with utmost confidentiality and privacy. Names or any other form of identity shall **not** be required by any individual when filling out the questionnaire. You are kindly requested to respond to all items in the questionnaire in open honesty. Your positive response will be highly appreciated. A copy of the final report will be made available to you on request. Your assistance and corporation is highly appreciated.

Thank you in advance.

Allan Saliku Kebeya

**University of Nairobi: School of Business**