FACTORS INFLUENCING TIMELY COMPLETION OF ENERGY PROJECTS IN KENYA: A CASE OF ENERGY SECTOR RECOVERY PROJECT BY KENYA POWER AND LIGHTING COMPANY

BY

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DECLARATION

This is my original work and has not been presented for an award in any other university.

Signed ……. Date …….

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

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DEDICATION

Giving reverence to the Almighty God for his abundant grace and mercy, I dedicate this work to my loving parents, Mr. Booker Onyango and Mrs. Elizabeth Onyango, my husband Charles Nyende, my children David, Lescort and Adriel for their prayer, gallant and contributions, moral support and encouragement to the success of my education.

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May God bless you.

TABLE OF CONTENT

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS AND ACROMNYS

CDD	-Critical success Factors
ERC	-Energy regulation commission
GDP	-Gross Domestic Product
GIS	-Gas insulated switch gear
KenGen	-Kenya Electricity generating Company
KPLC	-Kenya power and Lighting Company
KW	-Kilo Watt
M&E	-Monitoring and Evaluation
MW	-Mega Watt
NEMA	-National Environment management Authority
PPA	- Power Purchase Agreement
UNDP	-United Nations Development Programme
WB	-World Bank

ABSTRACT

Energy sector is one of the key drivers of Kenyan economy due to its ability to create job opportunities and massive consumption of resources. Projects delays are a common and regular phenomenon and energy sector in Kenya is no exception. Many projects supervised or implemented by the Kenya power and Lighting Company prior to 2013 stalled or were poorly implemented and Lacked quality. The Construction of 132 kv New Bamburi - Kilifi line for example never kicked off even after design in 2002. A search on studies regarding timely completion of utility energy projects in the public sector revealed that no distinct factors have been identified for the energy sector. This study sought to examine the factors that influence timely completion of utility energy projects in the public sector with a specific focus of Kenya Power and Lighting Company Ltd. This was necessitated by challenges that faced timely completion of utility energy projects in the energy sector. The study had objectives as follows: To establish the extent to which financial resources influence timely completion of utility energy projects in KPLC, to determine how organization strategy influences timely completion of utility energy projects in KPLC, To determine how new technology/innovation influences timely completion of utility energy projects in KPLC, and to establish the influence of stakeholder involvement on the timely completion of utility energy projects in KPLC. Descriptive cross-sectional survey design was used in the study due to its ability to take in to account various aspects of a problem for the purpose of a detailed, intensive and scrupulous study. Rao (2003). This design was used since the collected data allowed the research to provide an insight in to life experiences in a way that other research methods couldn't. It removes barriers of strict academic approaches so that the researcher can witness many other people's experiences in the management of utility energy sector projects. The study population consisted of 350 members of project management teams and other divisions that deal with projects in the company all over the country, where the staff act as the respondents. Other respondents were the top management in the company. A sample size of 105 project team members was selected from the population using stratified random sampling. The study used primary data that was collected from the managers, project engineers and project implementation teams using questionnaires and interviews which contained both closed and open ended questions. Prior to the main research, a pilot study was carried out to pre-test the instruments to enhance validity and reliability. Descriptive statistics was used to investigate the project, the factors influencing timely completion of utility energy projects in the public sector. The study found out that that there exist a strong and positive relationship between financial resources, organizational strategy, technology/innovation, stakeholders' involvement and timely completion of utility energy projects. Financing through effective financial modeling for proposed projects and the procurement process in order to enhance the project management systems was considered. This study may be replicated for studies concerning timely completion of energy utility projects in the private sector too.

CHAPTER ONE
INTRODUCTION

1.1 Background to the Study

Energy regulatory commission (ERC) is established under the energy Act, 2006.Following the operationalization of the energy act, 2006, with effect from July 7 2007.Its main priority is the regulation of electrical energy, renewable energy and other forms of energy. Project execution often involves substantial funds, the loss through failure or abandonment, has a crippling effect on the capabilities of the investors and the financiers because once a decision is made to execute a project, scarce resources are tied down for a long time. According to the World Bank (2008), there are numerous benefits derived from energy projects that contribute to improving the quality of life. Electricity also improves businesses opportunities, thereby providing employment opportunities. The project may be the only future hope of the client; therefore he may expect nothing but success (Nwachukwu et al., 2010). Projects delays are a common problem not only with an immeasurable cost to society, but also with debilitating effects to the contracting parties (Ondari & Gakera, 2013).Projects delays are a reoccurring problem and have negative impacts on project success in terms of quality, cost, time and safety (Knight, Hurst & farahani, 2009).To minimize these impacts, identifying the most significant factors influencing project delay is vital.

According to a report issued at Boston, Massachusetts in the United States of America (CHAOS summary 2009 report) energy projects have been failing to meet the owner's satisfaction. According to the report, 32% of projects were successful because they were able to be delivered on time, within budget and with expected performance of degree of quality, 44% of projects were delivered late, over budget and with less features and functions and a result were challenged and 24% of projects were also cancelled before they were delivered because they failed.

A preliminary informal review by the researcher on the construction projects in Mombasa County revealed that most of the projects are not completed on schedule while others are abandoned before completion because of many problems and complex issues of

performance such as cost, time, poor planning and safety. This among many other factors have prompted the researcher to conduct this study, evaluating the factors influencing timely completion of utility energy projects in the public sector.

In Kenya, projects are referred to as part of the main pillars contributing to economic growth. Delays in Kenya projects are said to be common and re-occurring phenomenon and are experienced in any sector that delivers services through project constructions. The government of Kenya and its developing partners continue to allocate huge financial resources to finance development. However the benefits intended for the developments according to KNBS (2012), energy industry contributed 3.8%, 4.1% towards Gross domestic product (GDP) for the years 2008, 2009, 2010 and 2011 respectively. This is an average of 4.1% as compared to the 10% for the developed economies. The general study objectives of this study are clearly outlined as the distinct factors influencing timely completion of utility energy projects in the public sector, a case of Kenya Power and Lighting Company.

The energy sector has been one of the growth sectors in Kenya's recovering economy, with companies in the energy sector in the country registering rapid growth in size and profitability, as can be seen from oil marketers and retailers, Kenya pipeline company, KENGEN and K.P.L.C. The growing economy is creating a surging demand for more electrical energy stretching the available resources. The country is trying to embark on green energy which according to PPA was the cheapest compared to thermal power. Hydro energy in the past has been faced with water fluctuations due to drought in most part of the country. The 44-million-strong nation's electricity supply capacity is dangerously close to its limit at 2300 megawatts when peak hour demand almost reaches 1652 MW (AFP, 2016.)

With a fast-growing economy and demography, demand is climbing by eight percent each year and the country's hydroelectric capacity is peaking and being strained by chronic droughts and the impact of deforestation on rivers. In an effort to keep with the demand and to attain the goal of electrifying more areas, K.P.L.C has embarked on several reinforcement and capacity enhancement programmes. Several projects have been initiated

all over the country in line with these initiatives. The company is expected to employ high standards and quality in the implementation of these projects and timely completion.

Several projects initiated by the government and implemented and supervised by the company have experienced delays and variations costs. An example is the Energy Sector Recovery project currently being implemented countrywide: the coast region projects were scheduled for completion by January 2015 yet some of the projects are still under the construction stage (K.P.L.C Energy Sector Recovery Project Section, 2014).

1.2 Statement of the Problem

A project that is described as successful will always meet the following specifications as follows: the project must meet its practical performance, sustained the defined plan and stayed in financial cost (Olawale and Sun, 2010). Managing the modern project however is characterized by late time delivery, over budget constraints and abridged functionality as well as quality (Williams, 2003).The 1997 building client forum reported that 75% of clients in the construction industry advocated that cost targets were not being met (Jackson, 2002). Previous study carried out by Olawale and sun, (2010) shows that 65% of energy projects especially in the geothermal category in Kenya e.g Olkaria iv and Olkaria v in Naivasha finished between 2005 and 2014 exceeded the unique project plans as well as cost while 35% were finished within the budget and on time. The issue of completion of projects on stipulated time has become of great importance especially with the ever growing concerns and demands from various players in the market. This has been an ongoing issue, where projects are not implemented on timely delivery, (Higiro & Mbabazi, 2015). In Kenya project delay has been an ongoing issue where proposed and ongoing projects are either delayed or postponed. An example is a top priority is the $300 million Nairobi Gas insulated switch gear project, which was scheduled for completion in 2011 but has been delayed up to 2016.The government of Kenya in 2011 sought $600 million for the construction of a Mutonga power station an extension of 7 Folks hydro power station in MT Kenya region .A station that was to be completed by 2016 but whose inception has not even commenced.

Many projects in the energy sector supervised or implemented by the Kenya power and Lighting Company prior to 2002 under President Daniel Moi regime stalled or were poorly implemented and Lacked quality. The Construction of 132kv Kiambere- Rabai Line never kicked off even after design. The line would have helped alleviate the problem of voltage fluctuations in power supplied to the south coast customers. The company had to make do with capacitor banks which proved to be ineffective and more expensive in the long run. The 132kv Rabai-Kilifi line was built on wooden poles instead of concrete or steel structures as required (Energy Transmission Department, 2009).The sixty –four km line cost approximately Kshs. 16 million on hardware maintenance annually. A line of equivalent length but built on steel towers would cost approximately a quarter the amount. Some projects like the Sondu Miriu power station in Nyanza region was commissioned in November 2008, four years behind schedule (KPLC technical library, 2010). To comment on these postponements on the effective delivery of projects most organization have decided to adopt and implement operations management strategies that have been seen to work elsewhere in as much as quality management is concerned. However, this has not been successful (Salaheldin, 2008).Following the challenges to the energy carried projects raised above, the ministry of infrastructure has recommended projects to adopt and implement their contracts as stipulated Mininfria (2015). The researcher therefore wants to fill the gap by conducting a study to evaluate the factors that influence timely completion of utility energy projects in Kenya and recommend possible ways to avoid any infrastructure projects delay. Government of Kenya (2004)

1.3 Purpose of the Study

The study sought to examine the factors that influence timely completion of utility energy projects with a specific focus on the Kenya power and Lighting Company Ltd.

1.4 Objectives of the Study

The study was guided by the following objectives:

i. To establish the extent to which financial resources influence timely completion of utility energy projects at Kenya power and lighting company.

ii. To determine how organizational strategy influences timely completion of utility energy projects at Kenya power and lighting company.

iii. To determine how new technology/innovation influence timely completion of utility energy projects at Kenya power and lighting company.

iv. To assess how stakeholders' involvement influence timely completion of utility energy projects at Kenya power and lighting company.

1.5 Research Questions

The study sought to address the following questions:

1.5.1 To what extent do financial resources influence timely completion of utility energy projects at Kenya power and lighting company?

1.5.2 To what extent do organizational strategies influence timely completion of utility energy projects at Kenya power and lighting company?

1.5.3 How does technology/innovation influence timely completion of utility energy projects at Kenya power and lighting company?

1.5.4 How does stakeholders' involvement influence timely completion of utility energy projects at Kenya power and lighting company?

1.6 Research Hypotheses

$H_{0\,1}$: Financial resources do not significantly influence timely completion of utility energy projects at Kenya power and lighting company.

$H_{0\,2}$: Organizational strategies have no significant influence on timely completion of utility energy projects at Kenya power and lighting company.

$H_{0\,3}$: New technology/innovation do not significantly influence timely completion of utility energy projects at Kenya power and lighting company. H_0

$H_{0\,4}$: Stakeholders' involvement do not significantly influence timely completion of utility energy projects at Kenya power and lighting company.

1.7 Significance of the Study

The Kenya power and Lighting Company has tremendously improved in its project delivery capacities though there are some areas still wanting. This study was of significance to many both in the public and private sectors.

This study should be of interest to the managers of K.P.L.C in their effort to improve the level the management and implementation of projects. Ways and means can be found to bridge the gaps that was identified in this study, and this can result in improved success rate of projects.

This study can also help project stakeholders to put in measure that will mitigate the causes and/effects of non-completion of energy projects. The study will serve as reliable information to Government agencies and the Academia fraternity. Finally, the study will serve as a source of relevant information for further studies on related topics.

1.8 Basic Assumptions of the Study

This study was based on the following assumption:

1.8.1 Documented information on the study topic were available

1.8.2 Completion time of utility energy projects within Kenya power and Lighting is mainly influenced by the variables stated in the study objectives.

1.8.3 Informants were truthful and honest.

1.9 Limitation of the Study

The study was limited by the following factors:

This study focused on energy projects undertaken in Kenya power and lighting company, while numerous other projects have been undertaken by other organizations hence its findings may not be generalized since it is not a significant representation of all the energy projects in the country. There had been changes in technology over the years which had reduced errors. The study was limited by the magnitude of the area and the resources required to cover the area, especially in terms of financial. The amount of money available to the researcher for the project was limited for the coverage of the study. The business units under study have projects spread all over the country and a lot of money was required

for travelling and collection of data. Sample projects were selected in the four regions of operation.

1.10 Delimitation of the Study

The study focused on K.P.L.C, a major player in the energy sector. The company was chosen for convenience, as a representation of companies in the public sector for the ease of data acquisition.

Quality management system of the organization was critically examined and data collected on the various projects, the competence of staff and contractors too were examined. The relationship between these factors together with other factors that were identified and the success or failure rate of projects were formulated.

To break secrecy and/or lack of openness due to the confidentiality and secrecy policy in most public institutions that may restrict respondents from releasing vital information, the researcher re-assured the respondents of confidentiality and that the information that was collected thereof was purely for academic reasons.

1.11 Definition of Significance Terms

Delay – A prolonged period beyond the contract date or beyond the date that the parties have agreed upon for the delivery of the project.

Electrical energy – Energy made available by the flow of electric charge through a conductor. Sources of Energies include hydro, wind solar etc

Financial Resources –This is the money available to a business for spending in the form of liquid securities, cash and credit lines. Financial resources are offered by different investors such as shareholders, lenders and debt holders in exchange for remuneration which can be interests, dividends and capital gains.

Mega Watt – A unit for measuring power that is equivalent to one million watts. Abbreviated as (MW)

Organization strategy –This is the total of actions a company intends to take to achieve long term goals. The sum of these actions make up a company's strategic plans.

Stakeholder's involvement – The process by which an organization involves people who may be affected by the decisions it makes or can influence the implementation of its decision by supporting or opposing the decisions.

The stakeholders may be influential in the organization or within the community in which it operates and may hold official positions or be affected in the long run. Timely Completion - Well timed or doing something at the most appropriate moment before the date required

Timely Completion - Well timed or doing something at the most appropriate moment before the date required

Utility energy project – Project undertaken by a company in the electric power industry (often a public utility) that engages in electricity generation and distribution of electricity for sale generally in a regulated market

Technology/Innovation - This is the making, modification, usage and knowledge of tools, machines, techniques and systems to resolve problems or improve on a pre-existing solution and attain an ultimate objective. It is the process of translating or introducing new ideas, devices, products, services and systems that create value for end users.

Peak - periods of relatively high system demand by day or by season

1.12 Organization of the Study

This study report featured five chapters with each chapter covering relevant sections/stages of the research work .Chapter one gave a brief introduction to the research topic/ research problem, purpose, significant of the study, research objectives and questions as well as delimitation and limitations are stated in the chapter. Chapter two covered the relevant literature to the study by other scholars who have carried out research or published books and journals in the same field of study. Chapter three presented research methodology which covered the methods and procedures to be used in conducting the study. Chapter four focused on data analysis, presentation and interpretation. The last chapter five gave a summary of the findings, discussions, conclusions and recommendations

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter discusses the literature related to the study. The determination of methodologies used in the past studies that previous researchers have launched as a means of determining what approaches might be of most benefit in further developing this topic by the same token. A review of previously conducted studies has lend itself in determining a new angle for approaching this research .This has given me a solid foundation for this topic and a good feel for the direction this research is going to take .This chapter majors on the research objectives. There are also discussions on the same objectives as outlined by other scholars. The conceptual framework, research gap during the literature review are presented here.

2.2 Timely Completion of Energy Utility Projects

There has been several reports and discussions about changes in energy utility projects and its practices over the previous years. The potential market place and delivery of service have demanded performance improvement and products value. This is experienced in the social environment by creating new value through energy project which creates fixed assets that can then be used to facilitate the achievement of both economic and social ends, (Winch, 2002). Vital assets which include electricity, water, buildings and roads are mostly undertaken by governments of the day to be able to attain goals and targets set towards the improvements of various sections of their territory.

Energy utility projects all over the world just as in Kenya are considered very unique as they adversely contribute to the development of other sectors of the economy and their contribution to the overall growth of gross domestic product is enormous. Ampadu-Asiamah, (2013). Since Kenya gained independence in 1963, the sector has been a key part of administration's outlay. Vision 2030 one of government's development plan, spells out strategically plans of making Kenya a middle income country by the year 2030.

Government funded energy projects in Kenya are mostly beset with problems like delay, cost overruns, lack of funds in the middle of the project implementation and

mismanagement of funds at various stages of the project's implementation. These according to Armah (1999), can be attributed to economic difficulties within Kenya, the nature of the energy industry in Kenya and the manner in which energy projects are managed. There is however the need to identify causes of these problems in order to reduce the reoccurrence. According to (Elbeltagi, 2009) project is well described when a specific objective is targeted, tasks to be carried out are well spelt and a commencement and completion date and resources being expended (Dikmen et al, 2004).

Every Energy utility project has a specific goal which is always to construct something. Energy industry is different from other industries in that its schemes are very enormous and projected on-site. Time, finance, labor, machineries, as well as materials are all examples of resources that the project expend (Elbeltagi, 2009).

2.3 Financial Resources and Timely Completion of Utility Energy Projects

The classical project financing models focuses on equity and debt. In this case security is of paramount importance. This means that the basis of funding a project is dependent on shareholders ability to invest own funds or borrow on the basis of security alone. Since 1990's new trends are emerging that constitute what is referred to as contemporary. The emerging trends constitute project financing that utilized the structure of the project company called special purpose vehicle (SPV), venture capital and other forms. This practice has enhanced funds mobilization for project investment (World Geothermal Congress, 2000).

A classical project financing is structured to provide for the project company to accrue revenue on a daily basis with payment being made in arrears. This revenue structure is however by no means of universal application and it is not now uncommon for a project's revenue to include receipts under options of forward sales (Charlier & Finkl, 2009). Project finance can be raised from a variety of sources that may be classified in different ways. The various forms of financing can be described as internal accruals, securities, term loans, working capital advances, miscellaneous sources, bonds and debentures. All these can be categorised into either equity or debt.

How to prepare financial plan is the rationality of project financing i.e assessing the risks, designing the financial mix and raising of funds. Public financing which is based on tax revenue and government funding is different from project financing. Project financing entails Knowledge regarding contractual arrangements , government legislative provisions, public/private infrastructure partnerships, public/private financing structures, credit requirement of lenders, determination of project's borrowing capacity, projections of cash flow preparations and incorporating them to determine expected rates of return; tax and accounting considerations and analytical techniques to validate the project's feasibility (World Energy Council, 2000). The financier usually has little or no recourse to the non-project assets of the borrower or sponsors of the project in project financing. In a no recourse or limited recourse project financing, the risks for a financier are great. The loan undertaken can only be repaid when the project is operational and if a major part of the project fails, the financiers are likely to lose substantial amounts of money (Bronicki, 2000). It is therefore not surprising that financiers go to great lengths to ensure that the risks associated with projects are minimized or eliminated as far as possible. Also due to the risks involved, the cost of such finance is generally higher and more time consuming for such finance to be provided (Bolinger, 2001).

The World Bank Group has committed more than US$11 billion to energy utilities and energy efficiency in developing countries since 1990. Together, the World Bank and the International Finance Corporation (IFC) constitute a major financier of solar photovoltaics (PV) in developing countries with projects valued at more than US$600 million, serving about 1.3 million households and public facilities in about 30 countries in Africa, Asia, and Latin America. World Bank Group energy efficiency investments since 1990 amount to US$3.1 billion in about 120 projects in 40 countries with a significant concentration in Europe, Central Asia, and East Asia and Pacific. Building on this experience, there has been increasing support for the implementation of the World Bank Energy Efficiency Action Plan - including the target of a 20 percent average annual growth in renewable energy and energy efficiency commitments - and the Clean Energy and Development Investment Framework. (The World Bank Group, 2013).

An estimate by African Development Bank has projected US$ 547 billion the total investment required to implement universal access to reliable and increasingly cleaner electric power in all the 54 countries in Africa by 2030. (Wilkins, 2002). As a result most energy sectors with respect to financing faces serious and numerous challenges. Most African economies are performing badly and some in their worst situation when seen in the context of ongoing financial crisis.

The costs of building energy projects are significantly limited by the capital. Hence their implementation becomes a night mare, especially for newer technologies that have less of a track record and very costly in implementation (Arnulf, 2005). Sources of finance may be provided from either public or private: Availability of public support for energy projects can be through grants or loans: grants are usually describes as having low-interest loans usually through regional or national financial institutions with public subsidy support. Banks and other financial institutions such as venture capital are examples of private sector funding (Bronicki, 2002). Provision can be made either in conjunction with or without public funds, depending on the financial viability of the project. (Bolinger, 2001).

The major factor in all investment projects is the raising of capital. This is one of the requirements especially for the case for infrastructure projects like power generation which often involve large initial costs, and long lifetime. Thus, improved financing terms such as low rate of interest and long repayment horizons can significantly reduce the cost of energy utility project. Governments such as France and China and have created special funding agencies to provide loans for energy utility projects at interest rates below the market rate. Furthermore World Bank provide loan guarantees which reduce risks for commercial lenders and thus lower interest rates (Tomer, 2001).

Subsidies for direct capital investments can be provided per kWH of rated capacity or as a percentage to the total cost of investment. The most straight forward incentive are direct subsidies which are attractive for their simplicity, but strict measures must be employed for monitoring them against abuse and to ensure that project costs are not artificially inflated. Investment tax credits are usually employed to lower capital costs by allowing investors to

reduce their taxes by the amount invested in qualifying projects and are similar to investments subsidies. They can also be useful in enticing profitable enterprises or high investors to enter the energy utility projects investment to reduce their tax liabilities, but they can be less inefficient if the sole goal for investors is maximizing their tax shelter than in achieving actual electricity production (Wiser., 1998; Righter, 1996).

Like capital investment incentives, operating incentives are subsidies to reduce the cost of producing electricity from utility energy projects. Investment incentives just like operating incentives can be paid from the general tax bracket or through a surcharge on customer utility bills. However, investment incentives are paid on the basis of initial capital costs, while operating incentives are paid per kWh of electricity produced (Tomer, 2001).

2.4 Organizational Strategy and Timely Completion of Utility Energy Projects

Strategy can be defined as the 'match an organization makes between its internal resources and skills and the opportunities and risks created by its external environment (Mitchel, 1997). Examples of this are Michael Porter's analysis which focus on industrial structure and competitive positioning and the empirical studies undertaken by the project information management system (PIMS) project.

Ultimately a strategy must gives a direction to the way the business moves; it must be the plan map to succeed in the market place. The performance and success of the business is built on the basis of competitive advantage. A competitive advantage is an idea that the firm possesses, which creates value for its customers and competitors find hard to imitate. (Wickham, 2008).

Three basic types of competitive advantage as identified by Michael Porter can be listed as cost (advantage of lower cost), differentiation (deliver benefits that exceed those of competitors) and focus (on a particular market). Competitive advantage introduces the concept of value chain and provide a framework of thinking strategically about the activities organizations undergo. Most of the time the change is incremental and takes place in a gradual way with small steps. Change is more radical and manifest as a specific management project. Change is often forced upon an organisation by factors such as loss making or other financial difficulties facing the organization. Large new competitors

entering the marketplace, new regulations or trade restrictions, changes in purchasing habits of major customers, new technologies advances change the way business operates, growth driven through delivering of new products or services in the markets and new managerial approaches that are often associated with political maneuvering (Wickham, 2008).

New strategic approach aims to put the organization back on a growth track. This requires major structural or cultural change that is characterised by multiple objectives and projects, resulting in a complex and dynamic situation that is difficult for participants to follow. John Kotte, Leadership and change management guru emphasises the importance of leadership, as opposed to management of change. Leadership establishes direction and aligns people, motivates and inspires to create change. Kotter suggests that for change to be, 75 percent of a company's management needs to "buy into" the change (Biegaa, 1997).

During period of change, Management is about planning, organizing, and problem solving to produce some degree of order and coherence during the change episode. For you to change organization successfully you must work hard. Building proper foundation and implementing change can be much easier by planning well and you'll improve the chances of success. Being impatient and expecting too many results too soon may lead to failure . You must create a sense of urgency, recruit powerful leaders who can bring change, build a vision, effectively communicate and build on your momentum. If you do these things, you can help make the change in your organizational culture (Boyle, 2004). That's when you can declare a true victory and enjoy the change that you envisioned so long ago.

To meet defined strategies an organization must be effective in delivering outputs. Ansoff Matrix is the best known framework for deciding growth strategies for achieving the company's objectives. It uses four main categories (Bolinger, 2001).

Market penetration is the category where the organization advertises its existing products to the existing customers with an intention to increase revenue. Market development is when the organisation markets its existing product range to new market by either exporting or selling to new region. Product development is when a firm tries to improve on a new product that is to be marketed to existing and new customers. Diversification is the last

category where a firm completely market new products to a target of new customers. Diversification related means that the firm remains entirely in a market or industry it is familiar and well conversant with. Unrelated diversification can be well explained as where the firm has no previous industry or market experience (Wickham, 2008).

Another framework for organizational development or growth is the Boston Consulting Group (BCG) Matrix which is a four celled matrix developed by BCG, USA. It is the most renowned corporate portfolio analysis tool. It provides a graphic representation for an organization to examine different businesses in its portfolio on the basis of their related market share and industry growth rates. It is a two dimensional analysis on management of Strategic Business Units (SBU's). In other words, it is a comparative analysis of business potential and the evaluation of environment. According to this matrix, business could be classified as high or low according to their industry growth rate and relative market share (Colombo, 2004). The analysis requires that both measures be calculated for each SBU.

The dimension of business strength, relative market share, will measure comparative advantage indicated by market dominance. The key theory underlying this is existence of an experience curve and that market share is achieved due to overall cost leadership. Resources are allocated to the business units according to their situation on the grid. The four cells of this matrix have been called as stars, cash cows, question marks and dogs. Each of these cells represents a particular type of business (European Commission, 2001).

Stars- Stars represent business units having large market share in a fast growing industry. They may generate cash but because of fast growing market, they require huge investments to maintain their lead. Business units having a large market share in a mature, slow growing industry are referred to as cash cow. They do require little investment and normally generate cash that can be utilized for investment in other business units. These businesses usually follow stability strategies in that when cash cows lose their appeal and move towards deterioration, then a retrenchment strategy may be pursued (European Union, 2001).

Business units having low relative market share and located in a high growth industry are represented as Question Marks. They normally require huge amount of cash to gain market

share and require attention to determine if the venture can be viable. They can be described as new goods and services which have a good commercial prospective. There is no specific strategy which can be adopted. If the firm thinks it has dominant market share, it can adopt expansion strategy, less retrenchment strategy be adopted. Most businesses ventures in the world start as question marks as the company tries to enter a high growth market in which there is already a market-share (Friedman &Miles. 2006). If not observed, then question marks may become dogs.

Businesses having weak market shares in low-growth markets are referred to as Dogs. They neither generate cash nor require huge amount of cash. These business units face cost disadvantages due to low market share. These firms can gain market share only at the expense of competitor's/rival firms hence retrenchment strategies are adopted. These business firms experience high costs thus weak market share, poor quality, ineffective marketing, etc. Unless a dog has some other strategic aim, it should be liquidated if there are fewer prospects for it to gain market share and their numbers should be avoided in an organisation (Friedman & Miles, 2006).

The culture that organizations can change is simply by declaring new values. Deep beliefs and assumptions can only change as experience changes, and when this happens, culture changes. A culture aligned with strategic objectives is one of the most powerful tools that a project team can wield, and research has dearly demonstrated that strong and strategy-aligned cultures achieve significantly better business results (Mitchel et al., 1997). Organizations assess the cultural profile of their business, and develop and implement strategies that build cultural bench-strength and strategy-alignment into their organization (Vig et al., 2004).

2.5 New Technology/ Innovation and Timely Completion of Utility Energy Projects

Energy utility projects would require intensive resource allocation to sustain their innovative edge if they want to stay competitive in the evolving sector. For instance, wind energy investments need continuous technological innovation so as to make wind energy as a viable solution under the current technological regime of the electricity market. The

cost of wind turbines could be drastically reduced through technological advancement in efficiency under mass production (Dhere, 2007).

Moreover, the emerging of green energy sources such as wind, solar, geothermal e.t.c as well as complementarity of national energy policy and technological infrastructure could perplex the landscape (Johnson and Suskewicz, 2009). Investors of green energy as studied by Holbum et al., (2010) when making their investment decisions would evaluate and analyse the risks and returns associated with the supporting policy as there could be uncertainty caused by any changes of such policy by the government.

At the moment no accurate records of solar, wind, hydro and biomass resource availability in the world. The existing few data collection stations in the world stations are furnished with obsolete measuring equipment which is several decades old. Engineers as personnel are not well trained in green energy technology and thus are not conversant with the best applications and limitations of different technologies (Reddy, 2004). Lack of skilled personnel to operate, handle and maintain green energy equipment is another major challenge, especially in rural areas. Particularly in remote areas with restricted access, on-hands maintenance is needed since frequent visits by repair and maintenance staff is difficult, lack of regular maintenance of the equipment leads to their complete breakdown, thereby defeating the purpose of the initial investment (Wilkins, 2002).

Consequently there is lack of knowledge among the people about acceptable quality and standards of technology requirements. This means that users and installers are likely not to distinguish between good and bad equipment hence making wrong choices, translating into potentially high occurrences of sub-standard installations (Lewis, 2007). Green energy education has not been introduced into the academic curriculum of many universities and other higer institutions in many countries. The application and adoption of green energy in fields such as engineering, actuarial science and architecture is not being taught, and as such these professionals are not aware of the value that green energy can add to their work (Pernick & Wilder, 2010).

Research and development support plays a vital role in technological advancement. All green energy technologies benefit from research and development support to ensure continued

advancement. Support is especially important where green energy technologies are still at early stages of development for example solar panels. Technological support focuses also on implementation of new technologies as they mature. For a Member State to build up its indigenous capabilities in a developing market such as the green energy market, it is important for the emerging industry to be given consistent and targeted support for demonstration and implementation projects (Wilkins, 2002).

2.6 Stakeholder Involvement and Timely Completion of Utility Energy Projects

Dealing with the challenges of an increased use of green energy resources, Energy stakeholders must have trustworthy mechanisms to constructive discuss the concerns. For example, introduce forums to allow groups to engage in useful discussions to devise concrete actions for increased use of renewable energy resources. These formed forums would have to deal with regional variations mentioned earlier and a lot of uncertain issues. The forums would also address trust issues within the group members (Mitchel, 1997). Providing timely information to all sectors before policy decisions are final is necessary as it requires stakeholder mechanisms. Hierarchal, top-down approaches are usually key in making energy decisions

Technology and geographic context necessitate key challenges for project management and stakeholder involvement. To the kinds of social networks that builds up around new energy projects generic factors are well spelt and to the negotiation and alignment of expectations. Stakeholders' positions often evolved during the course of the negotiations: and thus not monolithic and their positions are not static (Miles, 2012).

Expectations of stakeholders requires negotiations, as some of them are genuine and others have different interest such as the distribution of costs and benefits. There were also sometimes fundamental value conflicts, for example about the instrumental versus intrinsic or amenity value of nature, or different views on desirable future economic and social development. Moreover limits to knowledge and uncertainties were also present, such as genuine uncertainties about the performance of projects, impacts and relevance of different new energy technologies. Other kinds of issues can more readily be termed as organizational problems-, such as lack of trust when there was a lack or precedents or poor

earlier experiences, communication problems such as articulating the vision of the project or understanding local concerns, culture, tradition and communication patterns, or negotiation problems, such as finding suitable procedures for negotiation, litigation and arbitration or defining roles, functions of each stakeholder and responsibilities (Mitchel, 1997).

2.7 Theoretical frame work

The theoretical review is a logically developed logic that gives description and elaborated network of associations among the variables be it dependent or independent deemed relevant to the problem situation identified in the study (Sekaran & Bougie, 2010). A theoretical framework therefore well introduces and describes the theories that attempt to explain the research problem under study with a keen focus on the specific variables being sought in the study (William, 2006).

2.7.1 Organizational theory and Organizations

Formal social organizations, bureaucracies and their relationship with the environment in which they operate (Draft, 2008). In achieving industrial effectiveness and rationalizes bureaucracy, organizational theory was developed out of different perspectives. Eisenhard, K. M. (2000). Description by the organizational theory during decision making process is one that involves many steps and one has to make choices. Shukla (2008) describes the decision making process as one whose steps provide an opportunity to influence the decision.

Functional units of the organization make up the organization structures. Each of this functional structure is defined into groups that have defined products. With this functional structures there is dependency of each of them to produce an overall output, issues arising that normally prevent organizations in producing rapid changes as well as dealing with the demands they face. It is for this reasons that decision making in an organization process require time and resource to be able to provide solutions that have value addition to the organization.

2.7.2 Financial Distress theory

Different factors that lead to a decline in a firm's performance (Brigham & Enhardt, 2013) are addressed by the financial distress theory .Financial distress is the inability of an organization to pay its financial obligations as they mature, this is According to Correia and Mc Nicholas (2011). Financial distress of an organization is usually importantly to be monitored because it will determine the payout distribution associated with an investment. An organizations financing and investment decisions are separable and very independent. However, not most organizations are able to recognize this therefore holding their balance sheets on debts and equity claims as one which then reduces their leverage on costs (Finnerty, 2013).

2.7.3 Stakeholders Theory

The purpose of a business is to create as much value as possible for stakeholders, this is according to stakeholder concept. In order to succeed and be sustainable over time, executives must keep the interests of customers, suppliers, employees, communities and shareholders aligned and going in the same direction. The shareholders or stockholders are the owners of the company as the traditional view puts it, and the firm has a binding fiduciary duty to make sure their needs come first and increase value for them (Phillips, 2007). However, an argue by stakeholder indicates that there are other parties involved, including governmental bodies, political groups, nongovernmental, international organizations, trade associations, trade unions, communities, financiers, suppliers, employees, and customers. Stakeholders can at times be termed as competitors - their status being derived from their capacity to affect the firm performance. The stakeholder nature is highly contested (Miles, 2012), with thousands of definitions existing in the academic literature (Miles, 2011).

2.7.4 New Technology Theory

The line between exhaustible resources like coal, diesel and green resources is not always clearly drawn. Means of Exploration and technical change can, for a time at least, "renew" exhaustible resources by making possible production from new deposits and low-grade materials. Most green energy are gifts of nature and comes either directly or indirectly from the sun rays. Solar energy, can be used directly for heating and lighting homes and

other buildings in our societies for generating electricity, and for hot water heating, solar cooling, and a variety of commercial and industrial uses (Solanki, 2011). The sun's heat also drives the winds, whose energy, is captured with wind turbines. Then, the winds and the sun's heat cause water to evaporate from the atmosphere (Hemami, 2012). When this water vapor turns into rain or snow and flows downhill into rivers, dams or streams, its energy can be captured using hydroelectric power (Kenya national energy, 2012).

Along with the rain and snow, sunlight causes plants to grow. Biomass is the result of organic matter from those plants. Biomass can be used to produce electricity. Biomass has several uses and the use of biomass to produce electricity is called bioenergy. The most abundant element on the surface of the Earth is called hydrogen. It can be found in many organic compounds. But it doesn't occur naturally as a gas. It's always combined with other elements, such as with oxygen to make water. Once separated from another element, hydrogen can be burned as a fuel or converted into electricity (Rand, 2008). Not all green energy resources come specifically from the sun as Geothermal energy is tapped from the Earth's internal crust. The heat produced has a variety of uses, including electric power production, and the heating and cooling of buildings (Gleason, 2008). And the energy of the ocean's tides come from the gravitational pull of the moon and the sun upon the Earth. (Kippra 2007)

In addition to tidal energy, Ocean energy comes from a number of sources. There’s energy of the ocean's waves, which are driven by both the tides and the winds. The sun also warms the surface of the ocean more than the ocean depths, creating a temperature difference that can be used as an energy source (Charlier & Finkl, 2009). All these forms of energies from the ocean can be used to produce electricity. (Eberhard & Gratwick, 2005).

2.8 Conceptual Framework

The conceptual framework portrays a picture of the proposed relationships between the variables of the study. Independent variables are the force that is presumed to be the causes of the changes in the dependent variables. The dependent variable, also called the criterion variable, indicate total influence arising from the effects of the independent variable. In this study, the independent variable will include factors that influence timely completion of

utility energy projects. The dependent variables are defined as those variables affected by the independent variables. In this case the successful timely completion of project was a function of financial resources, organization strategy, stakeholders' involvement and innovation.

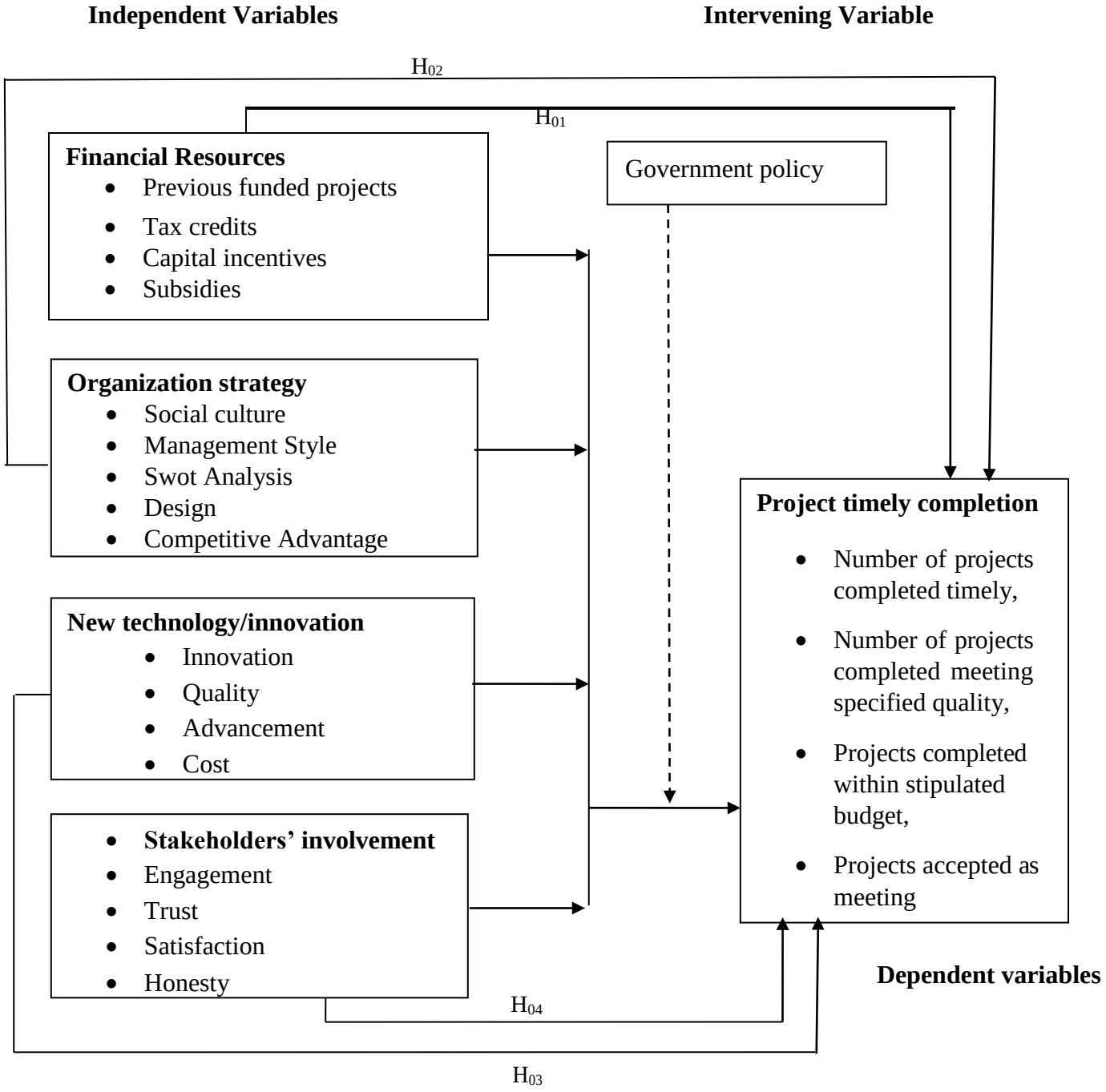

Figure 2.1: Conceptual Framework

2.9 Explanation of relationships of variables in conceptual frame work

Variables are said to be independent if they can systematically be varied by the researcher. Consequently variables whose values are presumed to depend on the effects of the independent variables are termed as Dependent variables (Mugenda and Mugenda 2003). In this case, Financing resources, Organizational strategy, new technology/innovation and stakeholder involvement are the independent variables while dependent variable is timely completion of project.

2.10 Research Gap

There are a number of studies that have been done on energy utility projects in Kenya. One of the studies is on the challenges of timely completion of energy utility projects. The study by Omuoso (2013), perceives energy utility projects as a corporate strategy by the Kenya power and lighting company. He found that corporate social responsibility was key to the successful completion of energy utility projects.

This study addressed the problem by looking at the factors influencing timely completion of utility energy projects in the public sector with special focus on Kenya power and lighting company.

Table 2.1: Research Gap

Author	Findings	Gap
Holbum et al., (2010)	investors of green energy when making their investment decisions would evaluate the risks and returns associated with the supporting policy as there could be uncertainty caused by any changes of such policy by the government	Did not look at how government policy influences timely completion of utility energy projects
Reddy (2004)	Lack of skilled man power to operate and maintain green energy equipment is another major deterrent to their widespread adoption, especially in rural areas.	This study did not look at any of the variables under study
Mitchel, 1997	Any stakeholder engagement mechanism requires some form of common, transparent way of providing timely information to all sectors before policy decisions are final	The study did not look at Kenya Power And Lighting Company which is the case for this study.

2.11 Summary

The review of existing literature reveals that there are several important topics in the study of determinants that influence timely completion of utility energy projects. This section identifies a number of research gaps that this study tries to address to contribute to current theoretical base. However the literature did not have a study which addressed variables like financial resources, organizational strategy, new technology and stakeholders' involvement influence in the timely completion of utility energy projects.

This study examined the determinants that influence the timely completion of utility energy projects. It also investigated the concept of financial resources, organizational strategy, stakeholder involvement and new technology influence in the timely completion of energy utility projects. There are only few studies that looked in to the determinants that

influence timely completion of utility energy projects but none that has been carried out concerning determinants that influence timely completion of utility energy projects in specific KPLC, despite the availability of such studies in the western world. The need is felt to have a research in this field.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This section provides analysing information for answering the study problem. It showed the research design and research philosophical underpinning the study. The target population of study, sampling and sampling procedures adopted, data collection methods, data collection instruments, validity reliability of the instrument, data collection procedures, data analysis methods employed in the study, as well as ethical considerations.

3.2 Research Design

A research design according to (Saunders, 2007) is the plan of how one goes about answering the research question. According to Sekaran (2003) a descriptive cross-sectional survey design was used in the study in order to ascertain and be able to describe the characteristics of the variables of interest in a situation. A descriptive cross-sectional survey design was used to obtain data. For the type of objective of this study and analysis to determine the factors that influence timely completion of utility energy projects in the public sector in Kenya. This research was both descriptive and explanatory. It qualified as descriptive since it sought to portray the phenomenon through describing events, situations and processes and it was described as explanatory in the sense that the problem was examined with an aim of establishing the casual relationship between variables.

The descriptive research survey design refers to a set of methods and procedures that describe variables. This research design involved gathering data that describe events and then organizes, tabulates, depicts, and describes the data. Descriptive studies portray the variables by answering who, what, and how questions .According to Mugenda and

Mugenda (2003), descriptive design is a process of collecting data in order to test hypothesis or to answer the questions of the current status of the subject under study. Its advantage is that, it is used extensively to describe behavior, attitude, characteristic and values.

3.3 Target Population

The target population of this study was the top, middle and low management staff from Kenya power and lighting company. The target population was drawn from a group of individuals who are actively involved in the implementation of energy sector projects in the organization. Some of these projects include last mile project, rural electrification project and street lightning project. The total collection of elements about which the researcher wishes to make some inferences is referred to as population (Cooper & Schindler, 2003).

The research targeted top level managers, middle level employees and low level employees who were actively involved in the projects all over the country, who make a total of 350 respondents.

Table 3.1: Target Population

Category	Population	Percentage
Nairobi Team	30	8.5%
Mount Kenya and Coast Team	65	18.5%
Rift Valley and Nyanza Team	255	73.0%
Total	350	100%

3.4 Sample Design and Sample Size

The study adopted stratified random sampling technique to select 30% of the target population. According to Mugenda & Mugenda (2008), a sample size of 30% of the population is representative of the population and economical viable. The sample size was 25 top level management, 40 middle level employees and 40 low level employees. The sample size for the study consisted of 80 respondents. (Neuman 2006)The Stratified sampling method was used as it involves dividing the target. After this was done the samples were drawn from each group (Chandran, 2004). For the purpose of this study, stratified random sampling was adopted. According to Kothari (2000), a stratified random sampling is used where the population embraces a number of distinct categories, the frame can be organized by these categories into separate "strata." Each stratum was then sampled as an independent sub-population, out of which individual elements can be randomly selected.

The sample from the population was selected on the basis of suitability for the objective research, as a matter of convenience. The study was done in four different geographical regions where the company has ongoing projects. These were Nairobi, Coast, Mount Kenya and west Kenya. It is considered that the regions are representative of the operations of the company.

Table 3.2: Sample Population

Category	Population	Percentage
Nairobi Team	25	23.8%
Mount Kenya and Coast Teams	40	38.1%
West Kenya Teams	40	38.1%
Total	105	100%

3.5 Research Instruments

The primary data for this study was collected using questionnaires and complemented by desk research hence ensuring that relevant and detailed information on the subject of study was collected. Questionnaires were used in data collection and consisted of a mixture of

open ended and close ended questions. According to Kothari (2004) use of question allows for intensity and richness of individual perceptions in respondent responses.

The study used questionnaires because of its flexibility and facilitates the capture of in-depth knowledge of the respondents, promotes respondent cooperation and allowed the respondents to probe further for clarifying issues. As a method of data collection questionnaires are appropriate because they are cost effective and easy to analyze. The questionnaires which mainly contained closed and open ended questions were self-administered to the sample respondents who were Kenya power employees. Personal interviews were used to collect specialized information from managers and engineers who might not get time to fill the questionnaires.

3.6 Pilot- Testing

Conducting a preliminary test of data collection tools and procedures to identify and eliminate problems and allowing programs to make corrective revisions to instruments and data collection procedures by ensuring the data collected is reliable and valid (Mugenda, 2008) is called pilot testing. The reliability and validity of research instruments determines the quality of data collected and hence that of the whole research (Babbie, 1998). The study used 10% of the sample size in the three categories of respondents. Pilot testing was used to establish the reliability and validity of the instrument, the questionnaire was administered to employees of Kenya power to establish its validity and reliability. Mugenda and Mugenda (2003) indicated a pilot study can be carried out on 10% of the target population. Questions within the instrument were altered if found to be resulting in unreliable or invalid information in order to result in more reliable and valid information.

3.7 Validity of instrument

Validity is the degree of accuracy, soundness and effectiveness with which an instrument measures. The researcher in this discussed the instrument with the supervisor in order to get an expert advice and ensure the instrument measures what it was intended to measure (Kumar 2005). The researcher, guided by the supervisor, ensured that the concepts represented here cover relevant issues and are adequate for investigation as per the recommendations of Mugenda and Mugenda (2008). Expert opinions from the managers

and literature reviews was done to help to establish validity, Creswell, J. W. (2003). In order to collect reliable data, the researcher designed the questionnaires under the guidance of the study supervisor and discussion with the colleagues and ask the same question with slightly different wording in different parts of the research instrument or in complementary instruments.

3.8 Reliability of the Instruments

Reliability is a measure of the degree to which a research instrument yields consistent results or data after repeated trial (Creswell, 2003).The most popular methods in the estimation of reliability were the use of internal consistency. The questionnaire was pre-tested through a pilot test together with individuals from the same organization previously involved in energy utility projects but not part of the sample population in the study to avoid double inclusion of pre-test participants in the main study. The feedback received helped in making vital adjustments to enhance reliability and validity of the study findings. The data collection instrument was examined by professionals who included researchers and supervisors to ascertain their reliability. Modification was done based on the response obtained.

3.9 Data collection procedure

The researcher prepared and administered questionnaires to the selected top management in the firm. Where necessary, the questionnaires was sent in advance to the firms prior to visitation to allow them ample time to provide necessary information. Interviews were also encouraged for further clarification. Assurance was given to the respondents that the information collected was only used for the said research. This, the researcher hoped dispel any fear in disseminating pertinent information. Telephone contacts and physical contacts for the respondents was obtained for self-administration of questionnaires. The respondents were required to respond within two weeks' time and the researcher collected the filled questionnaires for analysis.

3.10 Data Analysis Techniques

The collected data was extensively examined and checked for completeness and comprehensibility. The data was then summarized, coded and tabulated. Descriptive

statistics such as means, standard deviation and frequency distribution was used and it integrated both the qualitative and quantitative techniques in the data analysis. Data was collected, examined and checked for completeness and clarity. . Statistical Package on Social Sciences (SPSS) was used in statistical analysis. Simple regression analysis was used to analyse all the four objectives of the study and determine how they influence timely completion of utility energy projects at Kenya power and lighting company. The relationship between variables of the study was determined by Pearson correlation analysis. Multiple regression was conducted to ascertain the influence of financial resources, organizational strategy, technology/innovation and stakeholders' involvement on utility energy projects at Kenya power and lighting company. ANOVA was used to show the significance of the regression model under study. The research study used 95% significance level (p= 0.05) since it is the generally accepted conventional level in social sciences research.

The regression model was as follows:

$y = \beta 0 + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + ę$

Where:

Y = Increased energy supply & socio-economic development
β0 = Constant Term
β1, 2, 3, 4= Beta coefficients X1= Financial Resources
X2=Organizational Strategy
X3= New Technology/Innovation
X4=Stakeholders Involvement

3.11 Ethical Considerations

While conducting the study,the researcher ensured that research ethics were observed. The study did not attempt to infringe on the respondents' rights by treating them fairly and cautiously. The objectives of the study were explained to the respondents who were assured that the data was needed for academic purpose only.

3.12 Operationalization of Variables

The independent variables were posed as statements of facts that seek to establish their relationship with the dependent variable, the respondents agreed or disagreed with based on a measurement scale ranging from one two five for each of the statement. The results from the measurement scale was weighted and analyzed statistically in order to come to a conclusion on how valid they are and hence derive a conclusion on the relationship between the dependent and the independent variable.

Table 3.3: Operationalization definition of Variables

Objectives	Variables	Indicators	Measurement	Scale	Data analysis Techniques
To identify the factors that influence timely completion of energy utility projects with a specific focus on the Kenya power and Lighting Company Ltd	Project Completion time	-Duration -Value for Money -Quality - Cost -Time	Financial Statements Duration	Interval	Descriptive, Means and Standard deviation Chi-Square Test and Regression Analysis
To access the extent to which financial resources influence timely completion of energy utility projects at Kenya power and lighting company.	<u>Independent Variable</u> Financial resources.	-Financial base -financial process Project costs -Budget analysis	-Equity and debt -capital investment -Loan -Tax credit	Interval	Descriptive, Means and Standard deviation Chi-Square Test and Regression Analysis
				Nominal Ordinal	Descriptive, Means and Standard deviation Chi-Square Test and Regression Analysis
To determine how organization strategy influences timely completion of energy utility projects at Kenya power and lighting company	<u>Independent Variable</u> Organization strategy.	-Academic qualification of project members -Established standards and procedures -Decision making quality -Attendance of project meetings -Reporting progress	-Organization culture -Organization change management -Organization competitive advantage -organization design	ordinal	Descriptive, Means and Standard deviation Chi-Square Test and Regression Analysis
				interval	Descriptive, Means and Standard deviation Chi-Square Test and Regression Analysis

Objectives	**Variables**	**Indicators**	**Measurement**	**Scale**	**Data analysis Techniques**
To determine how new technology/innovation influences timely completion of energy utility project at Kenya power and lighting company	Independent Variable Contractor capacity	-No of technical staff -Capacity of construction equipment and plant -No of professional staff -standard of technology advancement	-Depth and frequency of monitoring -project management skills - project management training, -Size in infrastructure	Nominal	Descriptive, Means and Standard deviation Chi-Square Test and Regression Analysis
				Ordinal	Descriptive, Means and Standard deviation Chi-Square Test and Regression Analysis
				Ordinal	Descriptive, Means and Standard deviation Chi-Square Test and Regression Analysis
				Nominal Interval	Descriptive, Means and Standard deviation Chi-Square Test and Regression Analysis
To assess how	Independent	-stakeholder	-Stakeholders	Interval	

Objectives	**Variables**	**Indicators**	**Measurement**	**Scale**	**Data analysis Techniques**
stakeholders involvement influences the process of timely completion of energy utility project at Kenya power and lighting company	Variable Stake holders involvement	identification and analysis -Grievance mechanism -Attending transparency Meetings -Information disclosure - Decisions Making concerning the project	trust -Number of stakeholders forum -stakeholder engagement mechanism -Participation in electing project management committee	Ordinal Nominal	Descriptive, Means and Standard deviation Chi-Square Test and Regression Analysis

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

4.1 Introduction

This chapter focused on data analysis and presentation of findings from the research objectives that are; to access the extent to which financial resources influence timely completion of utility energy projects at Kenya power and lighting company; to determine how organizational strategy influences timely completion of utility energy projects at Kenya power and lighting company, to determine how new technology/innovation influence timely completion of utility energy projects at Kenya power and lighting company; and to assess how stakeholders' involvement influence the process of timely completion of utility energy projects. The data was presented using frequency tables for easy analysis and presentation. Statistical analysis of the findings was by the use frequency tables and percentages.

4.2 Questionnaire Return rate

Table 4.1 below shows the number of questionnaires that were administered, those that were filled correctly and returned and the percentage of the return rate.

Table 4.1: Response rate

Questionnaires	**Frequency**	**Percentage (%)**
Responded	75	93.75
Not responded	5	6.25
Total	**80**	**100**

From Table 4.1, it is clear that out of which 80 questionnaires that were given to the respondents, 75 were filled accordingly and returned. This represented a 93.75% return rate. This response and return rate is considered adequate as according to Idrus and Newman (2002), a response rate of 50% is good enough in social sciences.

4.3 Demographic characteristics of the Respondents

This is basically the information or biodata of the population that was interviewed in this study. This section has analyzed highest level of education and the level engagement in the company.

4.4 Education Level of the Respondents

The respondents were asked to indicate their highest level of academic education. Table below shows the study findings on the highest level of academic education.

Table 4.2: Highest level of academic education

Level of Education	Frequency	Percentage (%)
College level	20	26.7
Bachelor's Degree	45	60
Master's Degree	10	13.3
Total	**75**	**100**

From the findings, 45(60%) of the respondents indicated bachelor's degree as their highest level of academic education, 20(26.7%) indicated college level of education as their highest level of academic education while 10(13.3%) of the respondents indicated master's degree as their highest level of academic education. The findings imply that most of the managers had bachelor's degree. Therefore the majority of these managers had basic education and had a potential of answering questions regarding the factors that influence timely completion of utility energy projects with a specific focus on the Kenya power and Lighting Company Ltd.

4.5 Level Engagement in the Company

The respondents were asked to indicate their level engagement in the company. Table below shows the study findings on the Level Engagement in the Company.

Table 4.3: Level Engagement in the Company

Level of Education	Frequency	Percentage (%)
Top level management	11	14.7
Middle level management	23	30.7
Lower level	41	54.6
Total	**75**	**100**

The findings in Table 4.3 show that 41(54.6%) of the respondents indicated lower level management as their level of engagement in the company, 23(30.7%) indicated middle level management as their level of engagement in the company, while 11(14.7%) indicated top level management as their level of engagement in the company. This results implicate that most of the managers were from the lower level management.

4.5.1 Financial Resources

The various forms of financing can be described as internal accruals, securities, term loans, working capital advances, miscellaneous sources, bonds and debentures. All these can be categorised into either equity or debt

4.5.2 Financing of Energy Projects

The respondents were asked to indicate how they finance their energy project. The findings are illustrated in Table 4.4.

Table 4.4: Financing of Energy Projects

Financing of Energy Projects	Frequency	Percentage (%)
Government support	32	42.7
Company's profits	18	24
Foreign Aid	12	16
Loans from financial institutions	13	17.3
Total	**75**	**100**

From the analysis, 32(42.7%) of the respondents revealed that they finance their energy project through government support, 18(24%) of the respondents revealed that they finance their energy project through company's profits, 13(17.3%) of the respondents indicated that they finance their energy project through loans from financial institutions while

12(16%) of the respondents indicated that they finance their energy project through Foreign Aid. This therefore implied that majority of the managers finance their energy project through government support.

4.6 Statements on Financial Resources

The study asked the respondents to indicate the extent to which they agree with the following statement on how financial resources influence timely completion of utility energy projects at Kenya power and lighting company. The responses were rated on a five point Likert scale where: 3 - highest effect and 1 – least effect. The findings are illustrated in Table 4.5.

Table 4.5: **Statements on Financial Resources**

Statements on Financial Resources	Mean	Std. Deviation
Management of Financial Resources	2.58	.439
Lack of proper cost control mechanisms	2.70	.367
Poor cash flow management	2.54	.293
Non-compliance with the project budgetary	2.83	.207

As shown in table 4.5, the respondents agreed to a highest effect with the statements that non-compliance with the project budgetary with a mean of 2.83 and standard deviation of 0.207, lack of proper cost control mechanisms with a mean of 2.70 and standard deviation of 0.367, management of financial resources with a mean of 2.58 and standard deviation of 0.439, and poor cash flow management with a mean of 2.54 and standard deviation of 0.293. It is evident that there exists factors such as non-compliance with the project budgetary, lack of proper cost control mechanisms, management of financial resources, and poor cash flow management.

4.6.1 Magnitude of Project Funding

The study sought to establish the magnitude of project funding in terms of Millions of Kenya shillings they have been involved in that affect the utility energy project completion time. Table 4.6 shows the responses.

Table 4.6: Magnitude

Magnitude	Frequency	Percentage (%)
Between Kshs.100 Million to Kshs. 200 Million	51	68
Between Kshs.300 Million to Kshs. 400 Million	13	17.3
Kshs.500 Million and above	11	14.6
Total	**75**	**100**

According to the findings, most of the respondents 51(68%) indicated between Kshs.100 Million to Kshs. 200 Million as the magnitude of project funding in terms of Millions of Kenya shillings they have been involved in that affect the utility energy project completion time, 13(17.3%) indicated between Kshs.300 Million to Kshs. 400 Million as the magnitude of project funding in terms of Millions of Kenya shillings they have been involved in that affect the utility energy project completion time while 11(14.6%) indicated Kshs.500 Million and above as the magnitude of project funding in terms of Millions of Kenya shillings they have been involved in that affect the utility energy project completion time. It is therefore evident that the magnitude of project funding in terms of Millions of Kenya shillings that can affect the utility energy project completion time ranges between Kshs.100 Million to Kshs. 200 Million.

4.6.2 Use of Financial Resources

Seeking to establish the use of financial resources, the study sought the views of respondents on the extent to which the company stresses the importance use of financial resources in its operations to influence timely completion of utility energy projects in Kenya Power as indicated by their level of agreement. A Likert scale data was collected rating the extent of agreement in a scale of 1 to 5 where 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree. Findings are as presented in table 4.7.

Table 4.7: **Use of Financial Resources**

Use of Financial Resources	Mean	Std. Deviation
KPLC finance energy utility project by use of equity	3.08	.239
KPLC gets capital investment incentives for energy utility projects	3.90	.347
There is a budget time for monitoring and evaluation for energy utility projects	4.04	.493
KPLC gets subsidies for energy projects	3.85	.117
Previous funded projects have boosted Financial resources that influence the completion of utility energy projects	3.67	.373

From table 4.7 above, the respondents agreed that there is a budget time for monitoring and evaluation for energy utility projects as shown by a mean of 4.04 with a standard deviation of 0.493 and KPLC gets capital investment incentives for utility energy projects with a mean of 3.90 and standard deviation of 0.347. Findings also show that, the respondents agreed (mean = 3.85; standard deviation = 0.117) indicating that KPLC gets subsidies for energy projects and that previous funded projects have boosted financial resources that influence timely completion of utility energy projects as shown by a mean score of 3.67 and standard deviation of 0.373. Most of the respondents were neutral with the statement that KPLC finance energy utility project by use of equity as shown by a mean of 3.08 with a standard deviation of 0.239. The findings therefore imply that there is a budget time for monitoring and evaluation for utility energy projects and KPLC gets capital investment incentives for utility energy projects and that previous funded projects have boosted financial resources that influence timely completion of utility energy projects.

The study therefore revealed that there exist a strong and positive relationship between financial resources and timely completion of utility energy projects. It found that sufficient financial resources leads to process of completion time of utility energy projects. The study findings confirm the views of Correia and Mc Nicholas (2011) who posited that financial distress as the inability of an organization to pay its financial obligations as they mature. It

is important to assess the probability of organizations financial distress because it will determine the payout distribution associated with an investment.

4.7 Organizational Strategy

Strategy can be defined as the 'match an organization makes between its internal resources and skills and the opportunities and risks created by its external environment.

4.7.1 KPLC Business Strategies

The study asked the respondent to indicate the overall KPLC business strategies that have influence in its project completion time. According to the study findings, most of the respondents indicated cost leadership as the overall KPLC business strategies that have influence in its project completion time. Further, most of the respondents stated Differentiation as the overall KPLC business strategies that have influence in its project completion time while some of the respondents indicated Focus as the overall KPLC business strategies that have influence in its project completion time.

4.7.2 Strategies for Implementation of Energy Utility Projects

The researcher sought to establish whether KPLC had strategies for implementation of energy utility projects. The output was shown below in table 4.8.

Table 4.8: KPLC Business Strategies

KPLC Business Strategies	Frequency	Percentage (%)
Yes	75	100
Total	**75**	**100**

From Table 4.8 above, all the respondents (100%) indicated that KPLC had strategies for implementation of energy utility projects.

The study asked the respondents to explain the strategies it uses. The responses are shown below in table 4.9.

Table 4.9: Strategies Used

Strategies Used	Frequency	Percentage (%)
Organization Design	14	18.7
Management Style	21	28
Swot Analysis	17	22.7
Competitive Advantage	23	30.7
Total	**75**	**100**

From the findings, most of the respondents 23(30.7%) indicated Competitive Advantage as the type of strategies it uses, 21(28%) indicated Management Style as the type of strategies it uses, 17(22.7%) indicated SWOT analysis as the type of strategies it uses, while 14(18.7%) indicated Organization Design as the type of strategies it uses.

4.7.3 Impact of Strategies in the Completion Time

The study sought to find out whether the strategies listed above have positive impact in the timely completion of energy utility projects. From the study findings most of the respondents indicated that differentiation is a viable strategy for earning above average returns in an industry because it creates a defensible position for coping with the five competitive forces. Additionally, most of the respondents indicated that differentiation strategy provides insulation against competitive rivalry because of brand loyalty by customers.

The resulting customer loyalty and the need for a competitor to overcome uniqueness provide entry barriers. Achieving differentiation may sometimes preclude gaining a market share; it will imply a trade off with cost position if the activities in creating it are inherently costly, such as extensive research, product design, high quality materials, or intensive customer support. Further, most of the respondents indicated that focus strategy helps to serve its narrow strategic target more effectively or efficiently than competitors who are competing more broadly.

4.8 Statements on Organizational strategy

The study asked the respondents to indicate the extent to which they agree with the following statements related to the importance use of organizational strategy in its operations to influence timely completion of utility energy projects in Kenya Power. The findings are illustrated in Table 4.10.

Table 4.10: **Organizational strategy**

Organizational strategy	**Mean**	**Std. Deviation**
KPLC social culture support implementation of utility energy projects	3.91	.288
KPLC organization design/structure supports implementation of utility energy projects	3.79	.218
KPLC is striving to bring about management style in its operation	4.28	.232
KPLC efficiently adopts SWOT analysis	3.42	.190

The results in the Table 4.10 show the respondents agreed that KPLC is striving to bring about management style in its operation as shown by a mean score of 4.28 and standard deviation of 0.232, KPLC social culture support implementation of utility energy projects as shown by a mean score of 3.91 and standard deviation of 0.288, KPLC organization design/structure supports implementation of utility energy projects as shown by a mean score of 3.79 and standard deviation of 0.218. Nevertheless, most of the respondents were neutral with the statements that KPLC efficiently adopts SWOT analysis as shown by a mean score of 3.42 and standard deviation of 0.190. It is evident that KPLC is striving to bring about management style in its operation, KPLC social culture support implementation of energy utility projects, and KPLC organization design/structure supports implementation of utility energy projects.

The study therefore revealed that there exist a positive relationship between organizational strategy and timely completion of utility energy projects. It concluded that effective organizational strategy leads to timely completion of utility energy projects. The study

findings confirm the observations of World Bank (2011) that organizational strategies are fundamental factors in the production of timely completion of utility energy project results. Koffi-Tessio (2002), states that the poor acquisition of the appropriate organizational systems by companies could be attributed to their lack of emphasis on methodological and conceptual leadership. Jaszcolt (2010), recommends that organizations need to have appropriate leaders in order to develop technical skills among utility energy projects specialists.

4.8.1 Technology

Technology refers to methods, systems, and devices which are the result of scientific knowledge being used for practical purposes to bring an overall change in an organization.

4.8.2 Technology and Timely completion

The respondents were asked to indicate whether technology influence timely completion of utility energy projects. The findings are illustrated in the Table below.

Table 4.11: Technology and Timely completion

Technology and Timely completion	Frequency	Percentage (%)
Yes	73	97.3
No	2	2.7
Total	**75**	**100**

The data in Table 4.11 indicates that most of the respondents 73(97.3%) were in agreement that technology influence timely completion of utility energy projects while only 2(2.6%) were on the contrary that technology influence timely completion of utility energy projects. It is therefore evident from the information that technology influence timely completion of energy utility projects.

4.8.3 Energy Technology Adoption

The study sought to know the factors KPLC consider in energy technology adoption in its timely completion of projects. The responses are indicated in the Table below.

Table 4.12: Energy Technology Adoption

Energy Technology Adoption	Frequency	Percentage (%)
Social factors	17	22.7
Environmental factors	34	45.3
Economic factors	15	20
Legal factors	9	12
Total	**75**	**100**

From the findings, 34(45.3%) of the respondents revealed environmental factors as the factors KPLC consider in energy technology adoption in its timely completion of projects, 17(22.7%) indicated social factors as the factors KPLC consider in energy technology adoption in its timely completion of project, 15(20%) indicated economic factors as the factors KPLC consider in energy technology adoption in its timely completion of projects while 9(12%) indicated legal factors as the factors KPLC consider in energy technology adoption in its timely completion of project . The findings imply that most managers find environmental factors to be the main factors that KPLC consider in energy technology adoption in its timely completion of project

4.8.4 Technologies applied by kplc

The respondents were asked to indicate the technologies applied by KPLC in utility energy projects. Their responses are highlighted in Table 4.13.

Table 4.13: Technologies applied by KPLC

Additional funding	Frequency	Percentage (%)
Geothermal Development	20	26.7
Wind Power	8	10.7
Hydroelectric Power	44	58.6
Solar Photovoltaic Energy	3	
Total	**75**	**100**

The findings showed that 44(58.6%) of the respondents indicated Hydroelectric Power as the technologies applied by KPLC in utility energy projects, 20(26.7%) of the respondents indicated Geothermal Development as the technologies applied by KPLC in energy utility projects, 8(107%) of the respondents indicated Wind Power as the technologies applied by KPLC in energy utility projects while 3(4%) of the respondents indicated Solar

Photovoltaic Energy as the technologies applied by KPLC in energy utility projects. It is evident that Hydroelectric Power is the main technologies applied by KPLC in energy utility projects.

4.8.5 Impact of Technologies

The respondents were asked to indicate whether the level of technologies adopted by KPLC in utility energy projects have positive impact. The findings are illustrated in the Table 4.14.

Table 4.14: Impact of Technologies

Impact of Technologies	Frequency	Percentage (%)
Yes	60	80
No	1	1.3
Average	14	18.7
Total	**75**	**100**

From the findings, most of the respondents 60(80%) were in agreement that the level of technologies adopted by KPLC in utility energy projects have positive impact, 14(18.7%) agreed to an average extent that the level of technologies adopted by KPLC in energy utility projects have positive impact while 1(1.3%) were on the contrary that the level of technologies adopted by KPLC in utility energy projects have positive impact. This implies that the level of technologies adopted by KPLC in utility energy projects have positive impact.

4.8.6 Choice of Technology and Project Completion Time

The respondents were asked to indicate whether the choice of technology affect its timely completion of utility energy project. The findings are illustrated in the Table 4.15.

Table 4.15: Choice of Technology and timely completion of project

Choice of Technology and timely completion of Project	Frequency	Percentage (%)
Yes	70	93.3
No	5	6.7
Total	**75**	**100**

According to the findings in Table 4.15, most of the respondents 70(93.3%) agreed that the choice of technology affect its timely completion of utility energy project while 5(6.7%) were on the contrary that the choice of technology affect its timely completion of project. It is evident that the choice of technology affect its project completion time.

4.9 Statements on use of Technology

The study asked the respondents to indicate the extent to which the company stresses the importance use of Technology in its operations to influence timely completion of utility energy projects in Kenya Power. The findings are illustrated in Table 4.16.

Table 4.16: **Use of Technology**

Use of Technology	Mean	Std. Deviation
KPLC has innovative edge on energy as it allocates intensive resource on technology development	4.11	.312
KPLC has continuous technological innovation so as to make energy as a viable solution	3.99	.463
KPLC cost of energy has drastically reduced because of technological advancement in efficiency under mass production	4.02	.236
KPLC has the right technological infrastructure	3.67	.470
There is general lack of knowledge among the people about acceptable quality and standards of technology	1.08	.375
KPLC lack skilled labour to operate and maintain energy equipment	1.47	.207
KPLC is well equipped to carry out research and development on utility energy projects	3.81	.194

The results in the Table 4.16 show the respondents agreed that KPLC has innovative edge on energy as it allocates intensive resource on technology development with a mean of 4.11 and standard deviation of 0.312, KPLC cost of energy has drastically reduced because of technological advancement in efficiency under mass production with a mean of 4.02 and standard deviation of 0.236, KPLC has continuous technological innovation so as to make

energy as a viable solution with a mean of 3.99 and standard deviation of 0.463, KPLC is well equipped to carry out research and development on utility energy projects with a mean of 3.81 and standard deviation of 0.194, KPLC has the right technological infrastructure with a mean of 3.67 and standard deviation of 0.470.

However, most of the respondents strongly disagreed that KPLC lack skilled labour to operate and maintain energy equipment with a mean of 1.47 and standard deviation of 0.207, there is general lack of knowledge among the people about acceptable quality and standards of technology with a mean of 1.08 and standard deviation of 0.375. It is evident from the results that KPLC has innovative edge on energy as it allocates intensive resource on technology development, KPLC cost of energy has drastically reduced because of technological advancement in efficiency under mass production, KPLC has continuous technological innovation so as to make energy as a viable solution, KPLC is well equipped to carry out research and development on utility energy projects, KPLC has the right technological infrastructure.

The study therefore revealed that there exist a strong relationship between new technology/innovation and timely completion of utility energy projects. It found that new technology/innovation leads to timely completion of utility energy projects. As studied by Holbum et al., (2010), investors of green energy when making their investment decisions would evaluate the risks and returns associated with the supporting policy as there could be uncertainty caused by any changes of such policy by the government. This encompasses a whole range of issues, including insufficient resource data; substandard product quality; inadequate research and development activity; limited human and manufacturing capacities.

4.10 Stakeholders' Involvement

Stakeholder engagement is the process by which an organization involves people who may be affected by the decisions it makes or can influence the implementation of its decisions. They may support or oppose the decisions, be influential in the organization or within the community in which it operates, hold relevant official positions or be affected in the long term.

4.10.1Position and Responsibilities

The study sought to know the respondents' position and their responsibilities. From the findings, most of the respondents indicated that they were managers. Most of the respondents indicated their responsibilities to include; setting of organizational goals and objectives as well as involving them in the governance and direction of the organization through team assignments will increase job contentment and reduce turnover.

4.10.2 Involvement of Stakeholders

The respondents were asked to indicate whether KPLC involve stakeholders' in implementation of utility energy projects. The findings are illustrated in the Table 4.17.

Table 4.17: Involvement of Stakeholders

Involvement of Stakeholders	Frequency	Percentage (%)
Yes	53	70.7
No	22	29.3
Total	**75**	**100**

From the findings, most of the respondents 53(70.7%) were in agreement that KPLC involve stakeholders' in implementation of utility energy projects while 22(29.3%) were on the contrary that KPLC involve stakeholders' in implementation of utility energy projects. This implies that KPLC involve stakeholders' in implementation of energy utility projects.

4.11 Involvement of KPLC in Specific Areas

The study asked the respondents to indicate where KPLC involve its stakeholders. The responses are shown below in table 4.18.

Table 4.18: Involvement of KPLC in Specific Areas

Involvement of KPLC in Specific Areas	Frequency	Percentage (%)
Decision Making	30	40
Research and Development	33	44
Product Marketing	12	16
Total	**75**	**100**

According to the findings in Table 4.18, most of the respondents 33(44%) indicated research and development as the area where KPLC involve its stakeholders, 30(40%) indicated decision making as the area where KPLC involve its stakeholders, while 12 (16%) indicated Product Marketing as the area where KPLC involve its stakeholders. It is evident that KPLC involve its stakeholders in research and development.

4.12 Stakeholders' Involvement and Completion Time

The study sought to establish how stakeholders' involvement influences timely completion of energy utility projects by KPLC. According to the study findings, most of the respondents indicated that stakeholders' involvement helps in mutual understanding of project goals and interests, early identification and dissolve of possible issues preventing costly incidents and juridical and regulatory conflicts leading to time and cost overruns. Most of the respondents also indicated that well-informed stakeholders become knowledgeable observers, critics of your efforts and, eventually, positive agents of change. Furthermore, most of the respondents indicated that stakeholders' involvement offers guidelines such as resolution, replacement, integration, re-aggregation, and balance.

4.13 Statements on Use of Stakeholders' Involvement

The study asked the respondents to indicate the extent to which they agree with following statement on use of stakeholders' involvement. The findings are illustrated in Table 4.19.

Table 4.19: **Use of Stakeholders' Involvement**

Use of Stakeholders' Involvement	Mean	Std. Deviation
Stakeholder are happy with KPLC engagement mechanism	3.97	.309
Stakeholders have deep trust in operations/activities carried out in KPLC	3.72	.262
KPLC frequently hold stakeholders forum	3.85	.395
There is general satisfaction among the shareholders on the completed and ongoing energy projects	3.93	.026
KPLC lack skilled labour to operate and maintain energy utility Projects	1.93	.398
KPLC is well equipped to carry out honest research and development on utility energy projects	4.19	.431

According to Table 4.19, most of the respondents agreed with the statements that KPLC is well equipped to carry out honest research and development on utility energy projects with a mean of 4.19 and standard deviation of 0.431, stakeholder are happy with KPLC engagement mechanism with a mean of 3.97 and standard deviation of 0.309, there is general satisfaction among the shareholders on the completed and ongoing energy projects with a mean of 3.93 and standard deviation of 0.026, KPLC frequently hold stakeholders forum with a mean of 3.85 and standard deviation of 0.395, stakeholders have deep trust in operations/activities carried out in KPLC with a mean of 3.72 and standard deviation of 0.262. However, most of the respondents strongly disagreed with the statements that KPLC lack skilled labour to operate and maintain energy utility projects with a mean score of 1.93 and standard deviation of 0.398. This is an illustration that KPLC is well equipped to carry out honest research and development on utility energy projects, stakeholder are happy with KPLC engagement mechanism, there is general satisfaction among the shareholders on the completed and ongoing energy projects, KPLC frequently hold stakeholders forum, stakeholders have deep trust in operations/activities carried out in KPLC.

The study therefore revealed that there exist a strong and positive relationship between stakeholders' involvement and timely completion of utility energy projects. It found that stakeholders' involvement leads to timely completion of utility energy projects. This concurs with Patton (2008) who states that stakeholders' involvement is paramount for the process of timely completion of utility energy projects to be effective. He however argues that too much involvement could lead to undue influence and bias in the process. He further argues that participation of stakeholders reflects the community needs and stimulates people's interest in the implementation of projects. This view is supported by IFAD (2012) on the role of stakeholder in project process that stakeholders provide valuable insights on priorities and appropriate processes during the design phase, and undertake some of the implementation of the project.

4.14 Timely completion of Utility energyProjects

Meeting of the Stated Needs of the Organization

The respondents were asked to indicate whether timely completion of utility energy Projects in KPLC meet the stated needs of the organization. The findings are illustrated in the Table 4.20.

Table 4.20: Meeting of the Stated Needs of the Organization

Meeting of the Stated Needs of the Organization	Frequency	Percentage (%)
Yes	67	89.3
No	8	10.7
Total	**75**	**100**

From the findings, most of the respondents 67(89.3%) were in agreement that the timely completion of utility energy Projects in KPLC meet the stated needs of the organization while 8(10.7%) were on the contrary that the completion time of utility Projects in KPLC meet the stated needs of the organization. This implies that timely completion of utility energy Projects in KPLC meet the stated needs of the organization.

4.15 Strategy of Timely completion of Utility energy Projects

The respondents were asked to indicate whether they support the strategy of timely completion of utility energy projects that is used in KPLC. The findings are illustrated in the Table 4.21.

Table 4.21: Strategy of Completion Time of Utility Projects

Strategy of Timely completion of Utility Projects	Frequency	Percentage (%)
Yes	75	100
Total	**75**	**100**

From the findings, all the respondents were in agreement that they support the strategy of timely completion of utility energy projects that is used in KPLC. This implies that at KPLC, there is support the strategy of completion time of utility projects that is used.

4.16Timely completion of Utility Energy Projects strategy and Kenyan Energy organizations

The respondents were asked to indicate whether timely completion of utility energy projects strategy works well with the Kenyan energy organizations. The findings are illustrated in the Table 4.22.

Table 4.22: Timely Completion of Utility Energy Projects

Timely completion of Utility Energy Projects	Frequency	Percentage (%)
Yes	49	65.3
No	26	34.7
Total	**75**	**100**

The findings in Table 4.22 revealed that most of the respondents 49(65.3%) were in agreement that timely completion of utility energy projects strategy works well with the Kenyan energy organizations while 26(34.7%) were on the contrary that timely completion of utility energy projects strategy works well with the Kenyan energy organizations. This implies that timely completion of utility energy projects strategy works well with the Kenyan energy organizations.

4.17 Dimensions on the effectiveness of Completion Time of Utility Projects

Furthermore, the study asked the respondents to indicate the extent to which they agree with the dimensions on the effectiveness of timely completion of utility energy projects in Kenya Power and Lighting Company. The responses were rated on a five point Likert scale where: 5 – Strongly agree, 4 – Agree, 3 - undecided, 2 – Disagree, 1 – Strongly disagree. The findings are illustrated in Table 4.23.

Table 4.23: Dimensions

Timely completion of Utility energy Projects	Mean	Std. Deviation
Timely completions	4.22	1.181
Efficient use of resources	4.31	0.812
Desired quality	4.21	1.784
Business value	4.02	1.191

From the findings, majority of the respondents agreed that efficient use of resources was the main dimensions on the effectiveness of timely completion of utility energy projects in Kenya Power and Lighting Company with a mean score of 4.31, timely completions was the main dimensions on the effectiveness of completion time of utility projects in Kenya Power and Lighting Company with a mean score of 4.22, desired quality was the main dimensions on the effectiveness of completion time of utility projects in Kenya Power and Lighting Company with a mean score of 4.21, business value was the main dimensions on the effectiveness of timely completion of utility energy projects in Kenya Power and Lighting Company with a mean score of 4.02.

4.18 Inferential statistics

To evaluate the relationships between the dependent and independent variables, correlation and multiple regression analysis was done and the findings presented in the following subsections.

4.18.1 Correlation Analysis

The study applied Pearson correlation to examine the factors that influence timely completion of utility energy projects. The results are shown in Table 4.24.

Table 4.24: Correlation Analysis

		Timely completion of utility energy Projects	financial resources	organizational strategy	new technology/ innovation	stakeholders' involvement
Pearson	Timely Completion of utility energy projects	1				
	financial resources	0.689*	1			
	organizational strategy	0.565*	0.302	1		
	new technology/innovation	0.311	0.374	0.364	1	
	stakeholders' involvement	0. 636*	0.322	0.189	0.104	1

* Correlation is significant at the 0.05 level (2-tailed).

The findings show a strong positive correlation between financial resources and timely completion of utility energy projects with a correlation coefficient of 0.689. This implies that if organizations get sufficient financial resources, the process of timely completion of utility energy projects will improve.

The findings also show a positive correlation between stakeholders' involvement and process of timely completion of utility energy projects with a correlation of 0.636. This implies that if stakeholders' involvement is up to standard, the process of timely completion of utility energy projects will increase thus contributing to increase in implementation of these projects.

The study shows a strong positive correlation between organizational strategy and process of timely completion of utility energy projects with correlation of 0.565. This implies that better enforcement of organizational strategies within public sector in Kenya can significantly improve the process of timely completion of utility energy projects.

Finally, a strong positive correlation between new technology/innovation and process of timely completion of utility energy projects with correlation of 0.311. This implies that better new technology/innovation leads to improvement of the process of timely completion of utility energy projects.

The findings illustrate the results obtained from the correlation analysis for the sampled population for the period of study at a 0.05 significance level.

4.18.2 Tests of the Hypotheses

The study required the use of chi-square in order to test the research null hypotheses. This is because the test of independence of variables was required in order to answer relevant questions. Under chi-square, if the calculated value is less or equal to α (.05) then you can reject H_0.

Hypothesis One:

H_0: Financial resources do not significantly influence timely completion of utility energy projects at Kenya power and lighting company.

In order to test this hypothesis, the study asked the respondents to indicate the level of agreement with the statements that related to financial resources and timely completion of utility energy projects. Findings are presented below.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	54.160a	37	0.003
Likelihood Ratio	53.348	36	0.002
Linear-by-Linear Association	6.612	1	0.008
N of Valid Cases	71		

a. 37 cells (92.5%) have expected count less than 5. The minimum expected count is .04.

The calculated p value is 0.003. This value is less than 0.05 therefore the H_0 is rejected. That is, financial resources significantly influence timely completion of utility energy projects at Kenya power and lighting company.

Hypothesis Two

H_0: Organizational strategies have no significant influence on timely completion of utility energy projects at Kenya power and lighting company.

In order to test this hypothesis, the study asked the respondents to indicate the level of agreement with the statements that related to organizational strategies and timely completion of utility energy projects. Findings are presented below.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	53.130a	43	0.001
Likelihood Ratio	54.349	30	0.003
Linear-by-Linear Association	4.811	1	0.005
N of Valid Cases	71		

a. 43 cells (90.1%) have expected count less than 5. The minimum expected count is .04.

The calculated p value is 0.001. This value is less than 0.05 therefore the H_0 is rejected. That is, Organizational strategies has a significant influence on completion time of utility energy projects at Kenya power and lighting company.

Hypothesis Three

H_0: New technology/innovation do not significantly influence timely completion of utility energy projects at Kenya power and lighting company.

In order to test this hypothesis, the study asked the respondents to indicate the level of agreement with the statements that related to new technology/innovation and timely completion of utility energy projects. Findings are presented below.

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	71.139a	39	0.004
Likelihood Ratio	57.309	34	0.002
Linear-by-Linear Association	9.819	1	0.007
N of Valid Cases	54		

a. 47 cells (91.3%) have expected count less than 5. The minimum expected count is .04.

The calculated p value is 0.004. This value is less than 0.05 therefore the H_0 is rejected. That is, new technology/innovation significantly influence timely completion of utility energy projects at Kenya power and lighting company.

Hypothesis Four

H_0: Stakeholders' involvement do not significantly influence timely completion of utility energy projects at Kenya power and lighting company.

In order to test this hypothesis, the study asked the respondents to indicate the level of agreement with the statements that related to stakeholders' involvement and timely completion of utility energy projects. Findings are presented below.

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	69.139a	41	0.001
Likelihood Ratio	57.309	33	0.004
Linear-by-Linear Association	9.819	1	0.000
N of Valid Cases	54		

a. 47 cells (91.3%) have expected count less than 5. The minimum expected count is .04.

The calculated p value is 0.001. This value is less than 0.05 therefore the H_0 is rejected. That is, Stakeholders' involvement significantly influence timely completion of utility energy projects at Kenya power and lighting company.

4.18.3 Regression Analysis

The magnitude to which financial resources, organizational strategy, new technology/innovation, and stakeholders' involvement influence timely completion of utility energy projects was determined by performing multiple regression. The findings are presented in Table 4.25.

Table 4.25: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.869.[a]	.755	.293	.3871

a. Predictors: (Constant), financial resources, organizational strategy, new technology/innovation, and stakeholders' involvement.

From the analysis in the Table above, the degree to which level of financial resources, organizational strategy, new technology/innovation, and stakeholders' involvement is related to process of timely completion of utility energy projects and was expressed in the positive correlation coefficient (R) = 0.869 and coefficient of determination, (R^2) =0.755. This implies that the four variables together predicted about 75.5% of the process of timely completion of utility energy projects. In addition the Adjusted R-square =0.293 implies that 29.3% of the variance in process of timely completion of utility energy projects can be explained by the variations in financial resources, organizational strategy, new technology/innovation, and stakeholders' involvement.

Analysis of variance (ANOVA) was used to test the significance of the regression model as pertains to differences in means of the dependent and independent variables. The findings are as follows.

Table 4.26: ANOVA

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.303	4	.434	2.758	.003[b]
	Residual	7.403	70	.158		
	Total	8.706	74			

a. Dependent Variable: Timely completion of utility energy projects

b. Predictors: (Constant), financial resources, organizational strategy, new technology/innovation, and stakeholders' involvement

The findings (P- value of 0.03) in the table above show that there was a strong significant relationship between the independent variables (financial resources, organizational

strategy, new technology/innovation, and stakeholders' involvement) and dependent variable Timely completion of utility energy projects). An F ratio of 2.758 was produced thus indicating that the regression model is significant at 95% confidence level. Thus the regression model is statistically significant in predicting how financial resources, organizational strategy, new technology/innovation, and stakeholders' involvement affect process of completion time of utility energy projects.

The study sought to establish the significance of the relationship between dependent and independent variables. Results on table 4.27 shows the responses.

Table 4.27: Coefficients Distribution

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.841	.803		2.287	.004
	Financial resources	.353	.124	.061	.425	.010
	Organizational strategy	.230	.190	.174	1.212	.003
	New technology/innovation	.164	.220	.107	.634	.002
	Stakeholders' involvement	.328	.119	.273	1.916	.011

a. Dependent Variable: Process of completion time of utility energy projects

From the findings, the level of financial resources, organizational strategy, new technology/innovation, and stakeholders' involvement had positive coefficients, implying that these independent variables were directly proportional to process of timely completion of utility energy projects. Therefore taking all independent variables (financial resources, organizational strategy, new technology/innovation, and stakeholders' involvement) constant at zero (0), process of timely completion of utility energy projects is at 1.841.

Additionally, according to the analysis, the equation was expressed as:

$Y= 1.841 + 0.353X_1 + 0.230X_2 + 0.164X_3 + 0.328X_4$

The regression coefficient for financial resources was 0.353. This means that the relationship between financial resources and timely completion of utility energy projects is positive. This implies that availability of sufficient financial resources results to better actions during implementation of projects thus resulting to better process of timely completion of utility energy projects and vice versa.

The regression coefficient for stakeholders' involvement is 0.328. This means that the relationship between the stakeholders' involvement and timely completion of utility energy projects is positive. This implies that better stakeholders' involvement results to an increase in process of timely completion of utility energy projects and vice versa.

The regression coefficient for organizational strategy is 0.230. This means that the relationship between organizational strategy and process of timely completion of utility energy projects is positive. This implies that effective organizational strategy results to better process of timely completion of utility energy projects and vice versa.

The regression coefficient for new technology/innovation is 0.164. This means that the relationship between new technology/innovation and process of timely completion of utility energy projects is positive. This implies that an improvement in new technology/innovation lead to effective process of timely completion of utility energy projects and vice versa.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the findings presented in chapter four according to the study objectives. This chapter also presents the conclusions and the recommendations to the study.

5.2 Summary of Findings

The study found that majority of the managers finance their energy project through government support. The study also found that there exists factors such as non-compliance with the project budgetary, lack of proper cost control mechanisms, management of financial resources, and poor cash flow management. It found that the magnitude of project funding in terms of Millions of Kenya shillings that can affect the utility energy project completion time ranges between Kshs.100 Million to Kshs. 200 Million.

The study found that cost leadership is the overall KPLC business strategies that have influence in its timely completion of utility energy project. It found that Competitive Advantage was the type of strategies it uses. The study found that differentiation is a viable strategy for earning above average returns in an industry because it creates a defensible position for coping with the five competitive forces.

The study found that technology influences timely completion of utility energy projects. The study found that most managers find environmental factors to be the main factors that KPLC consider in energy technology adoption in its timely completion of energy utility projects. It found that Hydroelectric Power is the main technologies applied by KPLC in energy utility projects. It further found that the level of technologies adopted by KPLC in energy utility projects have positive impact.

The study found that setting of organizational goals and objectives as well as involving them in the governance and direction of the organization through team assignments will increase job contentment and reduce turnover were the main responsibilities. It found that KPLC involve stakeholders' in implementation of utility energy projects and that KPLC

involve its stakeholders in research and development. It further found that stakeholders' involvement helps in mutual understanding of project goals and interests, early identification and dissolve of possible issues preventing costly incidents and juridical and regulatory conflicts leading to time and cost overruns.

5.3 Conclusion

The study concluded that there is a budget time for monitoring and evaluation for utility energy projects and KPLC gets capital investment incentives for utility energy projects, and that KPLC gets subsidies for energy projects and that previous funded projects have boosted financial resources that influence timely completion of utility energy projects.

The study established that KPLC is striving to bring about management style in its operation, KPLC social culture support implementation of energy utility projects, and KPLC organization design/structure supports implementation of energy utility projects.

It concluded that KPLC has innovative edge on energy as it allocates intensive resource on technology development, KPLC cost of energy has drastically reduced because of technological advancement in efficiency under mass production, KPLC has continuous technological innovation so as to make energy as a viable solution, KPLC is well equipped to carry out research and development on utility energy projects, KPLC has the right technological infrastructure.

5.4 Recommendations

The following are recommendations based on the findings of the study:

1. The organization should allocate sufficient funds to project activities (5-10% of overall projects budget) and ensure there is independency in utilization of the funds.

2. Stakeholders should be involved adequately in project activities. Participation should be in both lower and higher level activities from the initial to the last stage. This will ensure ownership of findings and ensure projects are relevant to the beneficiaries needs.

3. Organization leaders should take active part in designing project system and offer timely support and guidance to projects' staff and ensure project activities are well executed and results and findings communicated and used in decision making and planning.

5.5 Suggestions for further Research

This study was limited to the influence timely completion of utility energy projects with a specific focus on the Kenya power and Lighting Company Ltd. It was necessary therefore for a study to be carried out on the influence the completion time of utility energy projects with a specific focus on both public and private sectors.

REFERENCES

Arnulf, J. (2005). Photovoltaics and Renewable Energies in Europe. *Renewable & sustainable energy reviews* 11, 1414-1437.

Biegaa, S., Josephsen L., Meyer N. I. and Crensen, S. B. (1977). Alternative Danish energy planning. *Journal of Energy Policy* 87-94

Bolinger, M., Wiser, R., Milford, L., Stoddard, M. & Porter, K. (2001). *Clean Energy Funds: An Overview of state support for Renewable Energy*, 2001 US DOE.

Borg, W. & Gall, M. D. (2009). Educational research: An introduction. (5th ed.). New York: Longman.

Boyle, G. (.ed) (2004). Renewable Energy: power for a sustainable future, 2nd edition, London: Instream Needs Sub-group Report. Work Group C. Water 35 PP.

Boyle, G. (2004). Renewable Energy. Oxford University press

Brian M (2013). Analyzes of Electricity Transformer vandalism in Nakuru and Murang'a counties, Masinde Muliro University

Bronicki , D. and Lucien, Y. (2000). Financing Private Power Geothermal Energy Projects, Hurdles and Opportunities,

Bronicki, Y. (2002). Geothermal Power Stations, Encyclopedia of physical science and Technology, Third Edition, 2002, PP. 709-718.

Charlier, R. & Finkl, C. (2009). Ocean energy: Tide and Tidal power. Berlin: springer

Colombo U. (2004). A. Strategic View of The World Energy Problem. *Environment International*, 10,347-358.

Cooper, R. D. & Schindler, S. P. (2006). Business research methods (8th ed.). New York: McGraw-Hill/Irwin.

Creswell, J. W. (2003). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. Thousand Oaks: Sage Publications, Inc.

Delphi International (1997). Tail Estimation in small Samples. *Journal of Business and Economic statistics*, 19,208-216, 2001.

Eberhard, A. & Gratwick, K. (2005). The Kenyan IPP experience. program on energy

Eisenhardt, K. M. (2000). Agency theory: an assessment and review. Academic Management Review 1989; 14(1):57–74.

European Commission, Directive (2001). 77/EC of the European Parliament and of the Council of 27 September 2001 on the Promotion of Electricity Produced from Renewable Energy sources in the Internal Electricity market. *Official Journal of the European Communities* L283/33, 2001.

European Union, (2001). Landfill Gas – Current Market Position and Future potential, G8 Renewable Energy Task Force, Final Report.

Freeman, M. & Beale, P. (2002). Measuring Project Success. Journal of Project Management, 23(1), 8-17.

Friedman, A. and Miles, S. (2006). Stakeholders Theory and Practice. Oxford University Press.

Government of Kenya (2004). Sessional Paper Number 4 on Energy. Ministry of Energy, Nairobi.

Gustavsson, M. & Ellegard, A. (2005). The impact of solar home systems on rural livelihoods: Experiences from the Nyimba energy service company in Malawi. Renewable energy, 29, 1059-1072.

Huby M. and Stevenson S. (2010). Meeting need and achieving sustainability in water project interventions. Progress in development studies. University of York, UK,

International Monetary Fund (IMF), 2005. Kenya: Poverty reduction strategy paper. IMF Country Report No. 05/11. IMF, Washington, DC.

IFAD, (2012). *Local Initiative Support Project Evaluation Report.* Rome: Office of the Evaluation Studies.

Jaszcolt, M. (2010). State of the Art in Measuring Development Assistance'. *Address to the World Bank Independent Evaluation Group,* 10 April, Washington, DC

Kelly, G. (2007), Renewable energy Strategies in England, Australia and New Zealand. Science, 37, 326-338.

Kenya Power & Lighting Company (KPLC), (2006). Annual report dated 2005-2006. Nairobi, Kenya: KPLC

Kenya National energy (2012). Household energy consumption survey. Nairobi, Kenya:

Kippra (September, 2007) Strategies for securing energy supply in Kenya; Discussion paper no, 74 and 75

Koffi-Tessio B. (2002). Efficacy and efficiency of Monitoring-Evaluation (MES) for Projects Financed and funded by the world Bank Group. African Development Bank Group. Kenya National Bureau of Statistics (KNBS), (2007). Household energy consumption survey. Nairobi, Kenya

Kurosaki, T. (2003).Specialization and diversification in agricultural transformation:

American Journal of Agricultural Economics, Punjab, 79; 477-87.

Mitchel, K., Agle R. and Wood J.(1997). Towards a theory of stakeholder identification and salience: Defining the principle of Who and What really counts. *Academy of Management Review*, 22 No. 4,853-886.

Mitchel, K., Agle, R and Wood, J. (1997).Towards a theory of stakeholder identification and Salience: Defining the principle of who and what really Counts. *Academy of Management Review*, 22 No.4, 853-886.

Monroy, C. and Hernandez, A. (2007). Strengthening financial innovation in energy supply projects for rural exploitations in developing countries, Renewable and sustainable energy reviews, doi:10.1016/(Article in Press).

Monroy, C. and Hernandez, A. (2007). Strengthening financial innovation in energy supply projects for rural exploitations in developing countries, Renewable and sustainable Energy Reviews, doi: 10.1016/ (Article in Press).

Neuman, W.L (2006) Social Research Methods involving Qualitative and Quantitative Approaches. University of Winsconsin at Whitewater.

Patton, M. (2008). *Developmental Evaluation: Applying Complexity Concepts to Enhance Innovation and Use*. New York, NY: The Guilford Press, 2008.

Philips, R. (2003).Stakeholder theory and Organizational ethics. Berret-Koehler Publishers. ISBN 1-57675-268-2.

Phillips, R. (2007). Stakeholder theory: Impacts and Prospects. Cheltenham: Edward Elgar pub.

Sanvido,V., Grobler, F., Parfitt, K., Guvenis,M. & Coyle, M. (2008). Critical Success Factors for Construction Projects. Journal Construction Engineering and Management,ASCE, 118(1), 91-111

Sekaran, U., (2003) *Research method for business. Askill building approach*, 4th edition, John Wiley & Sons.

Tomer, R. (2001). Financing of small Power Projects, Proceedings WEC/MIEC Symposium on Distributed power, Ramat Gan.

Wickham, S. (2008). Infrastructure and Growth in developing countries: Recent Advances and Research Challenges, *Policy Research working paper* 4460,the World Bank, Washington, D.C.

Wiser. K. and Pickle, E. (1998). Electrifying Rural Guatemala: Central policy and Rural Reality, Environment and Planning C: government and policy, 23, 173-189.

World Bank, (2011). *Monitoring & Evaluation Capacity Development.* The world Bank Group. *http://go.worldbank.org/1FASV17EC0*

World Energy Council (2000). Energy for Tomorrow's World-Acting Now.

APPENDICES

Appendix I: Introductory Letter

Jerusha Achieng Onyango
P.O Box 40285,
Nairobi -Kenya
Date:9th May, 2019

Dear Sir/Madam,

REF: APPLICATION TO CONDUCT RESEARCH PROJECT

I am a Master of Arts Degree in project planning and Management student at the University of Nairobi, Department of Open Learning, Nairobi Centre. My Registration is L50/10210/2018. I am currently undertaking my research project entitled," factors influencing timely completion of energy projects in Kenya: Case of Energy Sector Recovery Project by the Kenya Power and lighting Company." I have attached a questionnaire for gathering the data which was very useful in this research.

You have been randomly selected as a participant in answering the questionnaire. You are requested to respond to all questions as your response was very useful to this study.

Please be assured that any personal information was treated with utmost confidentiality.

Thank you in advance for your co-operation and participation.

Yours faithfully,

Jerusha Achieng Onyango
L50/10210/2018

Appendix II
Questionnaire

My name is Jerusha Achieng. I am a post graduate student at the School of Open and Distance Learning, University of Nairobi. I am carrying out a research on factors influencing timely completion of energy projects in Kenya; Case of Energy Sector Recovery Project by the Kenya Power and lighting Company As one of the professionals/players in the construction industry, I request that you take time and give me your honest answers to the questions below. I will retain your contact and will post you the results of my research after I analyze if you was interested. Thank you for agreeing to participate in this research. Please let this information be as anonymous as possible.

In case the information hereby provided is published respondent identity will not be disclosed.

Section A: Background
Information

1.Name of employee…

2. What is your highest level of education?

(a) Master's Degree [ ]

(b) Bachelor's Degree [ ]

(c) College level [ ]

3. What is your level engagement in the company?

a) Top level management [ ]

b) Middle level management [ ]

c) Lower level [ ]

Section B: Financial Resources

4. How do you finance energy project?

a) Government support [ ]

b) Company's profits [ ]

c) Foreign Aid [ ]

d) Loans from financial institutions [ ]

Others Specify ……

5. Kindly rate the following gaps in the order in which financial resources influence timely completion of utility energy projects at Kenya power and lighting company? Choose from (1) for the least effect to (3) for the highest effect.

	Low	**Medium**	**High**
a) Management of Financial Resources	[ ]	[ ]	[ ]
b) Lack of proper cost control mechanisms	[ ]	[ ]	[ ]
c) Poor cash flow management	[ ]	[ ]	[ ]
d) Non-compliance with the project budgetary	[ ]	[ ]	[ ]

6. Describe the magnitude of project funding in terms of Millions of Kenya shillings you have been involved in that affect timely completion of utility energy project

a) Between Kshs.100 Million to Kshs. 200 Million [ ]

b) Between Kshs.300 Million to Kshs. 400 Million [ ]

c) Kshs.500 Million and above [ ]

7 . Indicate the extent to which the company stresses the importance use of financial resources in its operations to influence timely completion of utility energy projects in Kenya Power?

Key: 1-5, where 1- strongly disagree, 2- disagree, 3- neutral, 4- agree, 5- strongly agree.

(Please put an X as appropriate)

	1	2	3	4	5
KPLC finance utility energy project by use of equity					
KPLC gets capital investment incentives for utility energy projects					
There is a budget time for monitoring and evaluation for utility energy projects					
KPLC gets subsidies for energy projects					
Previous funded projects have boosted Financial resources that influence timely completion of utility energy projects					

8. On a scale of 0-10 indicate the extent to which financial resources influence timely completion of utility energy projects at Kenya Power

0	1	2	3	4	5	6	7	8	9	10

Section C: Organizational Strategy

9.What are the overall KPLC business strategies that have influence in its timely completion of projects?

……

……

……

……

10.Does KPLC have strategies for implementation of utility energy projects ?

i) Yes [ ]

ii) No [ ]

b) If yes explain the strategies it uses

i) Organization Design [ ]

ii) Management Style [ ]

iii) Swot Analysis [ ]

iv) Competitive Advantage [ ]

c) Others Specify …….....

……

……

11. Do the strategies listed above have positive impact in the timely completion of energy utility projects?

……

……

12. Indicate the extent to which the company stresses the importance use of Organizational strategy in its operations to influence timely completion of utility energy projects in Kenya Power?

Key: 1-5, where 1- strongly disagree, 2- disagree, 3- neutral, 4- agree, 5- strongly agree.

(Please put an X as appropriate)

	1	**2**	**3**	**4**	**5**
KPLC social culture support implementation of utility energy projects					
KPLC organization design/structure supports implementation of utility energy projects					
KPLC is striving to bring about management style in its operation					
KPLC efficiently adopts swot analysis					

13. On a scale of 0-10 indicate the extent to which organizational strategy influence timely completion of utility energy projects at Kenya Power

0	1	2	3	4	5	6	7	8	9	10

Section D: Technology

14. Does technology influence timely completion of utility energy projects?

a)Yes [ ]

b) No [ ]

Give reason for your answer

……

……

15. What factors does KPLC consider in energy technology adoption in its timely completion of project?

a) Social factors [ ]

b) Environmental factors [ ]

c) Economic factors [ ]

d) Legal factors [ ]

None of the above (explain) ……

16. What technol ogies are applied by KPLC in utility energy projects?

a) Geothermal Development [ ]

b) Wind Power [ ]

c) Hydroelectric Power [ ]

d) Solar Photovoltaic Energy [ ]

Other Specify ……

……

17. Does the level of technologies adopted by KPLC in utility energy projects have positive impact? Comment

a) Yes [ ]

b) No [ ]

c) Average [ ]

18.Does the choice of technology affect its timely completion of project ?

a) Yes ☐

b) No ☐

19 . Indicate the extent to which the company stresses the importance use of Technology in its operations to influence timely completion of utility energy projects in Kenya Power?

Key: 1-5, where 1- strongly disagree, 2- disagree, 3- neutral, 4- agree, 5- strongly agree.

(please put an X as appropriate)

	1	2	3	4	5
KPLC has innovative edge on energy as it allocates intensive resource on technology development.					
KPLC has continuous technological innovation so as to make energy as a viable solution					
KPLC cost of energy has drastically reduced because of technological advancement in efficiency under mass production					
KPLC has the right technological infrastructure					
There is general lack of knowledge among the people about acceptable quality and standards of technology					
KPLC lack skilled labour to operate and maintain energy equipment					
KPLC is well equipped to carry out research and development on utility energy projects					

20. On a scale of 0-10 indicate the extent to which technology influence timely completion of utility energy projects at Kenya Power

0	1	2	3	4	5	6	7	8	9	10

Section E: Stakeholders' Involvement

21. What is your position and what are your responsibilities ?

……

……

……

22. Does KPLC involve stakeholders' in implementation of utility energy projects?

a) Yes [ ]

b) No [ ]

If yes, explain how it involves the stakeholders?

……

……

……

23. Does KPLC involve its Stakeholders' in the following areas ?

a) Decision Making [ ]

b) Research and Development [ ]

c) Product Marketing [ ]

24. Explain how stakeholders' involvement influences timely completion of utility energy projects by KPLC?

……

25 . Indicate the extent to which the company stresses the importance use of stakeholders' involvement in its operations to influence timely completion of utility energy projects in Kenya Power?

Key: 1-5, where 1- strongly disagree, 2- disagree, 3- neutral, 4- agree, 5- strongly agree.

(Please put an X as appropriate)

	1	2	3	4	5
Stakeholder are happy with KPLC engagement mechanism					
Stakeholders have deep trust in operations/activities carried out in KPLC					
KPLC frequently hold stakeholders forum					
There is general satisfaction among the shareholders on the completed and ongoing energy projects					
KPLC lack skilled labour to operate and maintain energy utility projects					
KPLC is well equipped to carry out honest research and development on utility energy projects					

26. On a scale of 0-10 indicate the extent to which stakeholders' involvement influence timely completion of utility energy projects at Kenya Power

0	1	2	3	4	5	6	7	8	9	10

SECTION F: Timely Completion of Utility energy Projects

27. Does timely completion of utility energy Projects in KPLC meet the stated needs of the organization?

a) Yes [ ] b) No [ ]

If yes explain;

……

……

28 . Do you support the strategy of timely completion of utility energy projects that is used in KPLC?

a) Yes [ ] b) No [ ]

If yes, explain;

……

……

29. Does Timely completion of Utility energy Projects strategy works well with the Kenyan Energy organizations?

a) Yes [ ] b) No [ ] c) Not sure [ ]

30. State the extent to which you agree with the following dimensions on the effectiveness of Timely completion of Utility energy Projects in Kenya Power and Lighting Company

Key: 1=strongly disagree, 2=disagree, 3=undecided, 4=agree, 5=strongly agree

Completion Time Of Utility Projects	1	2	3	4	5
Timely completions					
Efficient use of resources					
Desired quality					
Business value					

31. On a scale of 0-10 state the extent to which you agree on the effectiveness of Timely completion of Utility energy Projects in Kenya Power and Lighting Company

0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**