

INFLUENCE OF ORGANIZATIONAL RESOURCES ON PROJECT  
PERFORMANCE OF KENYA POWER SLUM ELECTRIFICATION PROJECT IN  
NAIROBI, KENYA

by

Michelle Nelima Songa

A thesis presented to the School of Business and Economics

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in Project Management

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APPROVAL

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NAIROBI, KENYA

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DECLARATION

INFLUENCE OF ORGANIZATIONAL RESOURCES ON PROJECT  
PERFORMANCE OF KENYA POWER SLUM ELECTRIFICATION PROJECT IN  
NAIROBI KENYA

I declare that this thesis is my original work and has not been submitted to any other college or university for academic credit.

Signed : \_\_\_\_\_

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## LIST OF ABBREVIATIONS AND ACRONYMS

ARR	Accounting Rate of Return
CCPM	Critical Chain Project Management
CPM	Critical Path Method
ERP	Enterprise Resource Planning
GoK	Government of Kenya
GPOBA	Global Partnership on Output-Based Aid
HRM	Human Resource Management
ICT	Information Communication Technology
IDA	International Development Association
IRR	Internal Rate of Return
IT	Information Technology
KM	Knowledge Management
KPI	Key Performance Indicator
KPLC	Kenya Power and Lightening Company
MIRR	Modified Internal Rate of Return
NACOSTI	National Commission for Science, Technology and Innovation
NPV	Net Present Value
PB	Payback period
PERT	Program Evaluation and Review Technique
PM	Project Management
ROI	Return on Investment
SPSS	Statistical Package for Social Science
TOC	Theory of Constraints
WBS	Work Breakdown Structures

## ABSTRACT

The purpose of the study was to determine the influence of organizational resources on project performance of Kenya Power slum electrification project in Nairobi, Kenya. The objectives of the study were to evaluate different forms of organizational resources, assess project performance, and determine the influence of organizational resources on project performance of slum electrification projects undertaken by Kenya Power in Nairobi, Kenya. The study used descriptive research design and the target population comprised staff from the marketing department, business development department, construction and metering department, projects department, customer relations department, and finance department. Purposive sampling technique was used to select a sample of 51 respondents. Questionnaires were used to collect data which was then analysed using the Statistical Package for the Social Sciences (SPSS) version 25. Findings indicated that organizational resources influenced the performance of the slum electrification project to a certain extent. Physical resources 77.8%, human resources 61.8%, financial resources 54.2% and technological resources 50.6%. The study found that project performance at Kenya Power was assessed through project cost, quality, time and safety. However, factors other than organizational resources also played a part in the performance of projects. The study recommends that the management of Kenya Power needs to consider giving incentives to promote performance among the employees. The study also recommends further research on projects related to road construction, and other development projects taking place in Nairobi, Kenya.

## CHAPTER ONE

### INTRODUCTION AND BACKGROUND TO THE STUDY

#### Introduction

According to Turner and Müller (2003), a project is a short-term entity to which assets are allotted to undertake a temporary and unique endeavour overseeing uncertainty and need for integration in order to achieve beneficial objectives of change. Ofori (2013) defined project management as the discipline of planning, managing an organizations assets to accomplish successful completion of specific goals and objectives. In project management, management is defined as planning, coordinating, directing and controlling all information, financial resources, human resources and material resources to realize the time, cost, scope and quality objectives (Prdanjani et al., 2015).

Martin (2006) noted that all projects are different but exhibit certain similar features such as they are a one-off activity, have clear end and purpose, have specific outcomes, and have a sponsor who expects the outcomes to be delivered on time. A project being completed at the scheduled time, estimated cost and accepted quality standards are the most common objectives that a project aims to achieve (Mathur, Jugdev, & Fung, 2013).

Resources are classified as either tangible (physical assets) or intangible assets (knowledge, skills and experience). The value of resources is determined by how an organization successfully deploys and formulates their strategies to improve performance (Othman et al., 2015). An organization cannot afford to misappropriate its resources due to scarcity and are not able to afford to employ labour that does not contribute to the organization's objectives. Therefore, companies are focusing on

hiring experts at higher pay rather than lower income workers who may not be equipped to deliver projects within the constraints of quality, time, and cost (Itegi, 2015).

As stated by Mir and Pinnington (2013), many studies have been carried out to explain project success as some conceptualize it in terms of meeting quality, cost, and time. However, others consider success as a multi-dimensional concept containing many attributes. Project success should be linked to competitive advantage for an organization and should include: the impact on customers, efficiency by meeting budget, quality and schedule, and lastly business success (Kihoro, 2012). Resources are essential in organizations but there is limited sufficient empirical verification about their impact on the means they affect project performance (Fernandez & Rainey, 2006).

## Background of the Study

### Organizational Resources

Organizations use various assets, tools and equipment to manufacture and produce goods and services for their clients, as well as to add value to client companies. The type of resources an organization needs depends on its products and services, business area and situation at hand. As stated by Tokman et al. (2013), organizational resources include: production, work processes, facilities human or intellectual resources, information systems, machinery, computers and investments. An organization groups its resources based on their significance, functions and features. Tangible resources are defined as those that can be seen and touched while intangible resources are those that cannot be seen or touched.

Miller and Ross (2003), indicated that, in accordance with the Resource Based View (RBV) of a firm, superior performance can only be achieved due to resources that are heterogeneity, that is unique resources which an organization possesses and imitable. These resources once coordinated are allocated towards specific activities. Miller and Ross (2003) further explained that it is important to understand how one activity impacts others as interdependent resources can be combined through activities. The production of a Master Schedule involves the identification of interrelationships among project activities (Cori, 1985). The two widely and best known techniques are Critical Path Method (CPM) and Program Evaluation and Review Technique (PERT) which use a graphic technique to illustrate clearly activity interrelationships and sequences (Abdullah, 2015). Precedence network scheduling techniques relate its component activities to focus attention on those that are vital to a project's execution which facilitate budgeting and resource allocation. The proper allocation of tangible and intangible resources can influence system performance and thereby bringing about a comparative advantage for a firm. This study will focus on the influence of human, physical, financial and technological resources on project performance of slum electrification projects in Nairobi, Kenya.

As explained by Lee and Whitford (2013), physical resources include an organizations equipment, raw materials, infrastructure and physical technology such as tools and equipment (surveying equipment, machines, measuring devices, vehicles, computers and laptops), materials and supplies (marketing materials, safety equipment). The amount of physical resources possessed is important as it enables an organization to execute strategies that improve its success and productivity. Adequate and regular supply of project materials is critical as irregular or late delivery of

materials or the wrong type of materials delivered affect the utilization of other resources such as machinery and manpower (Randunupura & Hadiwattege, 2013).

Successful project completion can be achieved by controlling the cost, time, quality and provision of safety equipment for tasks. For instance, in construction projects, the type of equipment is determined by the time to complete the work, the method of doing the work, availability of equipment and cost of transportation (Thete & Baviskar, 2016). As mentioned by Sharma (2017), a manager should control the equipment used in a project as equipment management continuously interacts with technical, financial, human, and production systems in order to achieve cost effectiveness and efficiency.

The role of the human resource management (HRM) contributes to the achievement of organizational objectives by providing adequate numbers of qualified and motivated workers and promoting the efficient use of this workforce (Martinsons, 1995). Human resources are essential in any project as people contribute their energy and intelligence to carry out projects (Martin, 2006). Moreover, they perform roles such as managers, leaders, team members etc.

According to Huemann, Keegan, and Turner (2007), an ideal project company has a organizational culture where there is an existence of procedure orientation and people working together, empowered employees, constant and intermittent organizational change, networking with clients as well as suppliers, and customer orientation. Moreover, competencies and skills are needed by the project team to successfully work together on projects and encouraging factors notably influence the performance of the team. Research discovered that project team commitment is one of the most

important factors during the implementation stages of a project (Githenya & Ngugi, 2014). Therefore, HRM practices, policies and processes should be designed to meet the expectations of a project.

Technological resources in a project can be defined as the different tools and infrastructure such as office lay-out, communication, collaboration technologies, and project control systems which are used by the project team to perform their activities (Rolstadås et al., 2014). In the era of globalization, information systems are very important for organizations to effectively manage their activities both in private and public sectors (Helo, Anussornnitisarn, & Phusavat, 2008). Information systems are considered fundamental tools for competitive organizations.

As stated by Jugdev et al. (2013), the various techniques, methods, tools and software of project management (PM) are software such as Primavera, Microsoft Project and Microsoft Excel and tools which include Program Evaluation and Review Technique (PERT), Critical Path Method (CPM), Work Breakdown Structures (WBS) and Gantt charts. Information Communication Technology (ICT) supporting tools include; video conferencing, integrated groupware (collaborative tools, email, shared access to web portals) etc. Electronic communication systems such as web camera, emailing and video conferencing can assist in projects and studies show that the more tools used by project managers the more effective the employees will be (Ziek & Anderson, 2015).

As mentioned by Gorshkov and Epifanov (2016), financial resources in a project are funding resources which include cash and other investments which are indicated in monetary terms such as loans, grants, intangible assets and, current and fixed assets required for the implementation of a project. Before a project is initiated, a financial



analysis needs to be performed to assess a project expected cash flows and efficiency. As explained by Dobrovolskienė and Tamošiūnienė (2015), a project can be assessed using financial indicators such as payback period (PB), modified internal rate of return (MIRR) accounting rate of return (ARR), net present value (NPV), internal rate of return (IRR) and return on investment (ROI).

Project finances need to be managed efficiently and effectively for a project to run smoothly. This will require systems to be put in place which can accurately account for all the income and expenditures for a project. A financial management plan should be put in place during the initiation phases to indicate how the finances will be utilized throughout the project cycle (Verstina et al., 2015). Additionally, the plan will act as a source of accountability which will prevent issues that may arise between the donor and other stakeholders. This could also be achieved by having a financial policy which will set out the procedures to be implemented when managing projects finances.

#### Project Performance

Krause (2005) defined performance as the degree to which the achievement of objectives is met concerning the vital characteristics of an organization, expressed through a multidimensional set of standards. Majority of projects fail to perform as expected despite advances in the field of project management (Njeri & Were, 2017). In the opinion of Humaidi and Asarani (2012), factors such as lack of project expertise, project preparation deficiencies, lack of assets, lack of support from top management, unqualified leaders, and communication breakdown between the project team contribute to project failure. There has been fairly little effort spent on clarity

concerning the performance concept despite relevance of individual performance and job performance outcomes in empirical research (Kihoro, 2012).

Effective project execution can be enhanced when the employees understand the value of certain techniques essential in scheduling. These include; critical path, scheduling specifications, the necessary software involved and most importantly advantages and disadvantages associated with the various schedule and delay methodologies (Brown, 2008). Top management support is required for every project to be successful as they affect the mobilization and utilization of an organization's resources for project goals (Njeri & Were, 2017). This support endears the managers to allocate enough resources to ensure less chances of project failure which could be occasioned by resource constraints. The success of a project is observed through the capacity of the process to meet the technical goals of the task and effective utilization of the output.

Ofori (2013) stated that favourable outcomes are normally measured against the overall objectives of the task while project management success is measured against the traditional measures of performance against quality, time and cost. Gardiner and Stewart (2000) noted that the use of time, quality and cost is considered a good practice for some projects but fail to cover all aspects of performance management adequately. This is because their rigidity in performance evaluations makes them unable to adequately cover all aspects of performance management. For instance, lack of risks such as accidents or injuries in construction and energy projects could be measure of success. The project team should be able to recognise vital conditions of success or failure by enquiring whether the task has the support of top administration,

if it meets the needs of the clients and whether it has individuals with the necessary knowledge and expertise to support the venture.

Since a project can be expensive and subject to continuous uncertainty, management of time is important for efficient project execution. To ensure successful project delivery, Kerzner (2006) highlighted that using simple scheduling specifications, reducing user changes and reducing inadequate timing extensions should be taken into consideration. There is still uncertainty concerning what establishes justifiable standards for excusable delay and their impacts. Axson (2013) found that while scheduling software and computers have greatly enhanced scheduling capabilities, issues dealing with quality have risen. This was due to absence of the project manager and the project team failing to recognize scheduling issues from the initiation stage and lack of prompt resolution of delays as well as keeping the schedule up to date.

According to Wysocki (2014), quality management must involve every aspect of an organization's tangible and intangible resources as this is often used to determine the excellence of a completed project according specified by the expected measured performance standards. Quality is a continuous examination of the necessary requirements and a projects ability to meet them. Moreover, if a completed project meets the demand of a client's requirements in terms of results, it is seen to be successful. In addition, a project team may require technical expertise depending on the nature of the project such as external specialists (Harris & Short, 2014). This will ensure that the project is capable of proficient execution and approved quality standards.

Cost management is vital as the price of workers may be one of the largest expenses of a project (Melton, 2011). Moreover, the cost of the materials and equipment must

be considered in the project expenses and thus the project leader must rely on scheduling estimates to complete a project. Any performing organization needs to take into consideration the size of a project which will be necessary for cost planning to ensure a proper and successful cost estimating process.

Safety management in electricity projects must consider all risks and accidents that may put project employees and all other workforce at risk. It is believed by Saeed (2017), health and safety policies of any organization are important to reduce such risks for both legal and ethical reasons. Therefore, it is essential to identify potential safety precautions that strictly follow rules of safety, and appropriate tools to conduct electrical work. Safety precautions could reduce the possibility of electric shocks or any hazards which could be experienced.

#### Influence of Organizational Resources on Project Performance

Pinto (2016) and Klastorin (2004) asserted that, top administration support, a competent project leader, sufficient asset allocation, ample communication channels, and proper control mechanisms are critical for the successful performance of projects. An organizations employees such as top management, production, and administrative workers affect how decisions are made and executed, which also affects the comprehensive effectiveness of organizations (Abdullah, Rose, & Kumar, 2007). Technical experts and the project team must ensure that they have access to constant information in order for them to benefit from the latest technological advancements which could influence successful outcomes in a project (Itegi, 2015).

Bakker, Demerouti, and Euwema (2005) believe that organizational assets are essential to a company's success because they contribute to its growth and development, reduce job stress, and enhance employee skills. King (2007) argued

that certain resources possess the potential to generate a competitive advantage for an organization leading to superior performance. These resources are tangible (human and physical) and intangible (knowledge and skills). Organizations which possess more advanced physical resources such as equipment and machinery are more likely to have better performance than those that lack these resources (Ainuddin et al., 2007).

Resources need to be available and managed during projects to avoid cost over-runs. Resource management includes planning, allotment, scheduling of project resources which include materials, apparatus, and people (Crawford, 2002). A project manager works with a given specific budget, which means that there is no margin for misuse or waste of materials. Provision of protective clothing and safety equipment such as fire extinguishers reduce risks which could occur in electricity projects.

Organizational resources require collective responsibility by determining their acceptable level of usage, daily usage as well as proper allocation for projects to perform successfully during implementation. Project performance is measured based on completing a project within cost, quality, and time specifications. However, this study also investigated safety in electrification projects. Project performance is a topic that needs to be conversed about with the objective of ensuring that projects are undertaken within the estimated time, cost, quality, and safety standards (Alqahtani et al., 2015).

### Overview of Electrification Projects in Nairobi, Kenya

The energy sector is rapidly growing in Kenya due to Kenya's Vision 2030 which has the aim of transforming the country into a newly industrializing, middle-income

country by the year 2030 (Government of Kenya, 2007). The demand for electricity in Kenya is continuously increasing due to the growth of the economy which has led to several electricity projects being undertaken in the country. People living in informal settlements have faced infrastructural challenges such as lack of proper electricity connectivity. The slum electrification project was initiated in the year 2007 in Kibera slum situated in Nairobi, Kenya. It was implemented by the Kenya Power and Lightening Company (KPLC), now known as Kenya Power and co-funded by the World Bank's International Development Association (IDA) and the Global Partnership on Output-Based Aid (GPOBA) (Wanyoike & Kinyua, 2017). The Government of Kenya and Kenya Power introduced a reduced connection fee for people in settlements or slum residents to encourage them to switch to the electricity services provided through the slum electrification project.

In Kenya, the key player in the supply of electric power is Kenya Power which has a mandate to transfer and dispense high quality electricity throughout the country. Kenya Power marketing staff provided training to the residents to enable them to comprehend the value of the task and provide assistance during the process of electricity application (Betty, Ombui, & Kagiri, 2015). The main purpose of the slum electrification project is to expand electricity connectivity in informal settlements by providing safe electricity at subsidized connection rates. The project includes the introduction of pre-paid meters, constructing of low voltage lines as the main feeder line above the high voltage lines, substituting timber poles with concrete poles and using small transformers on several poles to step down the voltage to distribution levels for a small number of households (Kenya Electricity Expansion Project Additional Financing [KEEP-AF], 2016).

It also includes the installation of pre-payment systems, using ready boards which would limit the need for house wiring (Wanyoike & Kinyua, 2017). This involved replacement of the previous analogue meters with prepaid electricity dispensers. The customer buys power units in advance and the meter disconnects automatically once the amount purchased has been exhausted. As stated by Tirop and Nganga (2018), a prepayment meter is a special type of energy meter that can be mounted in domestic buildings which documents the amount of electricity being consumed and records this information for purposes of billing.

Apart from the slum electrification project, a rural electrification project was launched by the Government of Kenya to stimulate economic growth in line with the Vision 2030 strategic plan. The rural electrification project plans to provide electricity in peri-urban settlements in seven geographical regions of the country (Rural Electrification Authority, 2008). The project aims to expand power distribution systems to be within reach to more Kenyans at an affordable cost. The project was endorsed by the Kenyan government and the locations for the electrification projects were identified by KPLC (Kenya Power, 2018). The government plays an important role in these projects since they are responsible for policies that establish regulations that improve electricity services to the citizens.

The slum electrification project was initiated to cater to residents living in informal settlements in urban areas. Nairobi County has several people settlements/ slums in the Nairobi West, Nairobi North, and Nairobi South sub regions which include Kibera, Kawangware, Kangemi, Ngando, Kuwinda, Baba Ndogo, Majengo, Mathare, Dandora, Fuata Nyayo, Korogocho, and many others (Kenya Power, 2018). This

study sought to establish the influence of organizational resources on the performance of slum electrification projects undertaken by Kenya Power in Nairobi, Kenya.

### Statement of the Problem

Successful project implementation involves completion of projects on time, quality standards, within the budget and safety standards agreed and utilised by the customers for whom it is expected (Githenya & Ngugi, 2014). In a study done by Nyanje and Wanyoike (2016), the findings indicated that the factors leading to project failure in Kenya were inadequate experience, poor design methods, poor cost estimation, and underestimation of project duration. However, the study failed to address safety standards as one of the contributing factors to poor performance which this study investigated.

Densford, James, and Ngugi (2018) investigated the influence of project asset mobilization on the performance of road infrastructure projects constructed by local company's in Kenya and found that the performance of road infrastructure projects undertaken by local firms are affected by the tasks resources. Delays in road projects have been caused by factors such as inadequate site management and oversight, lack of skilled workers, poor workmanship, poor leadership and equipment failure to name a few. The research summarised that resources have a significant effect on the performance of road infrastructure projects. However, this study did not indicate whether moderating factors such as government policies and organizational policies affect project performance which is a gap this study investigated.

Memon, Rahman, and Azis (2012) sought to investigate the cost output and time performance in construction ventures in central and southern regions of peninsular Malaysia. The study found that construction projects in Malaysia face challenges of



inadequate performance leading to non-performance in achieving successful and efficient cost and time performance. However, having committed leadership and management, effective communication, hiring skilled workers, training and development, focusing on quality and using new construction technologies were some of the mitigation measures mentioned to combat these challenges of poor project performance. The study did not delve into the quality, safety or organizational resources in projects but focused on time and cost. The gap was addressed in this study as quality and safety in projects was considered when investigating project performance.

The study assessed the extent to which human resources, physical resources, financial resources and technological resources affect the performance of slum electrification projects. The study also investigated whether moderating factors such as government policies and organizational policies influenced project performance. However, despite the significance of slum electrification projects in Kenya, there remains very limited empirical documentation on the extent to which organizational resources influence project performance in electrification projects in Nairobi, Kenya. This informed the motivation of the study.

#### Purpose of the Study

The study sought to determine the influence of organizational resources on project performance of Kenya Power slum electrification projects in Nairobi Kenya.

#### Objectives of the Study

The study sought to achieve the following specific objectives:

1. To evaluate different forms of organizational resources in slum electrification projects undertaken by Kenya Power in Nairobi, Kenya.
2. To assess project performance of slum electrification projects undertaken by Kenya Power in Nairobi, Kenya.
3. To determine the influence of organizational resources on project performance of slum electrification projects undertaken by Kenya Power in Nairobi, Kenya.

### Research Questions

The following research questions were formulated in line with the research objectives:

1. What are the different forms of organizational resources utilized in slum electrification projects in Nairobi, Kenya?
2. What is the project performance of slum electrification projects undertaken by Kenya Power in Nairobi, Kenya?
3. What is the influence of organizational resources on project performance of slum electrification projects undertaken by Kenya Power in Nairobi, Kenya?

### Justification for the Study

As several projects are conducted throughout the country, there is need to have sufficient knowledge on what factors contribute to their success or failure. Many projects are said to be exceeding the scheduled time, budgeted cost and not prioritizing quality and safety standards. This study sought to measure the degree to which organizational assets impact project performance and create awareness amongst project personnel as to factors which contribute to poor performance in projects. Additionally, it was necessary to investigate the extent to which organizational resources are affected by government and organizational policies

which may interfere with a projects performance. Government influence includes; taxation, legal framework and bureaucracy while organizational influence includes; human resources, financial policies etc.

Resources are necessary in projects which need to be managed and utilized efficiently and effectively. Project scheduling depends largely on the availability of resources and thus having a resource management plan is of great importance in projects. Resource management involves resource planning, resource allocation and resource levelling which ensures that resources are available in a timely manner. This study will be instrumental in ensuring project managers engage in practices that take resources into consideration.

The findings of the study present tangible information indicating the level of significance in the association between organizational resources and project success. An optimistic relationship between resources and performance will encourage the project manager and team to ensure proper management of resources from the planning to finishing stages of the undertaking. Moreover, this will ensure availability of resources at the right time, reduction in resource conflicts and maximum utilization of resources. This may result in delivery of quality projects within the budget and time which could translate to better performance by venture work personnel.

The main intention of the slum electrification project is to increase electricity connectivity in informal settlements by providing safe electricity at subsidized connection rates. The Kenyan government and donors are aware of the need to upgrade the standards of living of people living in informal settlement areas. One of the objectives of Kenya's Vision 2030 is to improve the infrastructure of the country. The success of the slum electrification project is of great importance to the external

parties such as the donors and government as this provides tangible information about the viability of the project. This study presents information about the capabilities of an organization and how well it uses its resources during projects.

### Significance of the Study

The findings and the recommendations of the study would be significant in the growth of project management practices in the country in line with the expected outcomes: The study sought to determine the connection between organizational resources and project performance; by having this knowledge, a project manager would be able to allocate resources accordingly and extricate from project management exercises that have negative associations with the effectiveness of success. The study would be beneficial to Kenya Power as it would present tangible evidence of reasons why some projects are not completed in regards to the expected performance standards. The results would provide information to project managers, scholars and researchers which would help them to increase general knowledge and, areas the related variables would provide useful reference to future studies.

The study would be beneficial to Kenya Power as the project and finance managers would be able to focus budget decisions on results and outcomes. This would ensure consistency of operating processes and establish linkages to broad organizational goals. Furthermore, this would provide a clear direction for a project manager to incorporate long-term perspectives thus improving internal controls which would eliminate cases of resource misappropriation.

### Assumptions of the Study

The study made several assumptions captured hereunder. Firstly, organizational resources were presumed to possess a strong association with project effectiveness. In addition, the research assumed that project performance of slum electrification projects was measured over time and data on the same was available. Lastly, the study assumed that electrification projects had clear and well documented project performance measurement systems in place.

### Scope of the Study

The study dwelt on slum electrification ventures in Nairobi, Kenya. The Kenya Power slum electrification projects are divided based on the region the informal settlement is located. The three regions are: Nairobi North, Nairobi West and Nairobi South (Kenya Power, Human Resource (HR) Department, 2019). The study focused on slum electrification projects implemented and completed during the following financial years at Kenya Power: 2014/ 2015 – 2016/ 2017.

### Limitations and Delimitations of the Study

There was a significant volume of data for the respondents to read and respond to the content in the questionnaire. The respondents included project personnel whose availability was limited due to their busy schedule as some worked on-site. The researcher used the drop and pick method to collect the questionnaires later giving the respondents enough time to fill them.

There was limited empirical literature on slum electrification projects in urban areas in Kenya on which the study findings could be compared. The researcher therefore assessed and evaluated literature on slum electrification projects from other

developing countries. In particular, respondents were reluctant to reveal such details about the success of the slum electrification project. However, the researcher assured the respondents that all data and information would only be used for academic study. In addition, an introductory letter from Daystar University was sent to the respondents to clarify that the requested data would be used for academic purposes only, thereby maintaining confidentiality.

### Definitions of Terms

The study maintained these definitions:

**Influence:** The capacity to have an effect on the character, development, behaviour, opinions, attitudes, goals, needs and values of someone or something in a particular direction (Hall & Barrett, 2006).

**Project:** This is defined as a temporary endeavour initiated to meet unique objectives, goals and criteria with a defined budget, scope and time frame (Project Management Institute, 2008).

**Organizational resources:** All the means of production, information, people and finances that an organization possesses or uses (Wojciechowska, 2016).

**Project performance:** This is described as a corporation's capability to satisfy expectations of cost, time, quality, functionality demands and achieving business goals (Olaniran, 2015).

**Financial resources:** Financial resources are the funds necessary to run a project which are obtained through sponsors, banks or any other stakeholders who financially invest in a project (Pinto, 2017).

**Human resources:** This is defined as the people that staff and operate an organization (Osibanjo & Adeniji, 2012).

Physical resources: Physical resources are tangible items necessary for an organization to operate. These include; buildings and facilities, materials, tools and equipment used by organizations (Shaik, Sivakonda, & Chaudhuri, 2012).

Technological resources: Technological resources include electronic programs and machines for storage, processing, control, analysis presentation and transfer of data and information during the life of a project (El-Mashaleh, 2007).

### Summary

This chapter has given a brief overview of the background of the study which investigated the independent variable of organizational resources (physical, financial, human and technological resources) and the dependent variable of project performance (cost, time, quality and safety). It has also set out the statement of the problem, purpose and objective of the study. Presented in this chapter also are the research questions, justification and significance of the study, assumptions, the scope of the study, its limitations and delimitations, and the definitions of key terms. The next chapter presents literature review for the study.

## CHAPTER TWO

### LITERATURE REVIEW

#### Introduction

Literature review is a detailed description of what has been published by accredited researchers and academicians. This chapter reviews theories used in the study whereas the general literature dwells on project performance and is related to specific organizational resources, empirical literature. Finally, the chapter captures a conceptual framework which indicates the association between the independent and dependent variables (Kombo & Tromp, 2011).

#### Theoretical Framework

A theoretical framework describes essential concepts in research, suggests relations between them and provides reasons why the research problem under study exists (Adom, Hussein, & Agyem, 2018). The study focused on four theories which include; theory of constraints, Deming's theory, Juran's theory and path goal theory.

#### Theory of Constraints

As stated in Ricketts (2007), the theory of constraints (TOC) focuses on improving the performance of organizations by focusing on its scarce resources. It is an approach that can be used to enhance project management processes such as scheduling and managing resources shared by concurrent projects (Steyn, 2002). The budget typically increases as the schedule of a project with a set scope increases. The TOC emphasizes that organizational processes are cross-functional and are viewed as a chain of interdependent functions, procedures, divisions or resources where inputs are transformed into outputs (Gupta & Boyd, 2008). The constraint could be a physical



constraint such as absence of qualified manpower or intangible constraints such as poor relationships with suppliers, procedures, policies or behaviours.

The theory of constraints (TOC) suggests that duration is considered a major constraint in projects. In traditional project scheduling, the major focus is on timing, but it does not consider the organizations resources. Critical chain which was later developed considers the resources by providing feeding buffers (Steyn, 2002). These buffers prevent any delays from non-critical activities. Critical Chain Project Management (CCPM) is a tool in TOC that is used for planning where there is utilization of resources. It considers the relationship between all the project resources, tasks and scheduling. In order for constraints to be easily identified, project managers should select resources with the highest workload.

#### Deming's Theory

As reported by Krüger (2001), improving quality is a never ending and continuous process which requires the effort of all individuals involved in a task. Deming's theory states that an organizations management must find avenues of improving quality by reducing waste in all company activities. This process involves all functions in the organization such as sales, accounting, customer service, procurement etc. Employee training should be a continuous process as customer needs are constantly changing. Quality also includes constantly acquiring additional skills for operating the latest materials and equipment such as technology as well as new methods of production. Deming considers training to be a long-term investment as it enables improvement of overall quality performance and work processes.

Deming's theory suggests creating constancy of purpose by improving products and services to become more competitive in business through; constantly improving the

quality and effectiveness while regularly decrease costs; initiate on the job training; corporate leadership and encourage supervision of people and machines to do a better job (Best & Neuhauser, 2005). Deming emphasizes that job-related capabilities can be sustained through ongoing training and development activities with regard to quality-related knowledge and skills (Waldman, 1994).

The study informed the theory in work situations where having the right people with the required qualifications is essential to project performance. Moreover, these people need to be up to date with new methods of performing tasks through training and retraining. Training should be a continuous process due to changes in the environment for example, technological changes and innovations. Managers should pursue long-term goals of being competitive through constant quality improvement processes. An organization that has the right project management software that performs tasks such as scheduling, reporting, budgeting etc. are essential to reduce misuse of tangible and intangible resources. Moreover, a project team that receives continuous training may discover new innovative ways of completing their tasks.

#### Juran's Theory

Juran's theory was developed by Joseph Juran which states that quality can be viewed as a trilogy. This trilogy is made up of quality planning, quality improvement and quality control (Juran Institute, 1992). In the quality planning stage, it is important to recognise both internal and external clients and discover their needs (Juran, 1989). After the needs of customers have been identified; products, services, systems and processes that respond to these needs should be developed. Additionally, quality goals that meet the obligations of customers, suppliers and other associates should be

established. A process that can produce the needed product or service should be developed and controls established and transferred into operations.

During the quality control stage, what needs to be measured should be determined and goals for performance set. Moreover, obtaining feedback through evaluating actual performance and comparing it with quality goals ensures that any differences can be discovered and rectified. The quality improvement stage includes proving the need for improvement and thereafter, establishing the necessary infrastructure. The improvement projects will then have to be identified and project teams will be formed. These teams should be provided with the necessary training, resources and motivation to diagnose the causes and provide solutions. Wood and Wood (2005) noted that quality improvement projects provide a high return on investment. Controls need to be established to ensure changes are maintained.

The study informed the theory during quality processes in organizations. An organization can ensure that quality processes are implemented by creating a quality culture among the employees that focuses on quality planning, improvement and control. Employee training can succeed if evaluations are conducted to provide tangible information as to whether the training was successful. As stated by Abbaszadeh, Ebrahimi, and Jamali (2010), training should be conducted to stimulate the project team's development as they continuously work in various projects. The human resource department must ensure training is available for all the project personnel for them to keep up with the changing environment. This could be through just in time training which is provided when it is needed or using an expert on a scheduled or regular basis. Quality awareness in an organization ensures that the principles and foundations of Juran's theory of quality planning, improvement and

control are implemented through the introduction of quality standards. Training should begin from the top management of an organization to create an environment of quality and guidance to the rest of the employees.

#### Path-Goal Theory

The Path-goal theory is a supervisory theory that is concerned with the manner supervisors control subordinate motivation and satisfaction (House, 1996). The primary purpose of this leadership theory is to increase followers' goal target by offering incentives in the work environment. In accordance with this theory, effective leadership must be able to motivate subordinates to exploit all their potential and do their best to contribute to the organization's development. Moreover, it could contribute to job satisfaction which would then contribute to reduced turnover rate among employees.

The path-goal theory was enhanced by Robert House and he suggested four leadership styles which include: directive, participative, achievement oriented and supportive (Alanazi, Alharthey, & Rasli, 2013). As explained by Ani et al. (2017), a directive leader provides guidance to the subordinates, explains what is expected from them, and ensures procedures and rules are implemented; a participative leader inspires the subordinates to partake in decision making; an achievement oriented leader defines standards, enhances performance and ensures that these standards are achieved by subordinates; and a supportive leader focuses on paying high attention to the subordinates wellbeing and needs. As mentioned by Farhan (2018), leadership acts as a motivational factor for subordinates when the path to the goal is clear. This is achieved through removing obstacles, coaching and providing direction to subordinates hence, making the work personally satisfying.

Path-goal theory entails various components which include; leader behaviours, follower characteristics, motivation and task attributes (Dixon & Hart, 2010). The theory offers advice concerning avenues leaders can assist subordinates to successfully accomplish their work in a efficient manner. The study directed the path-goal theory in areas where a project manager's leadership style towards the project team comes into focus. A project manager should be directive when tasks are challenging and provide support when tasks are dull. A project manager should be participative when the project team needs control and achievement oriented when they need to excel. The theory offers project managers a guide that provides direction concerning ways to upgrade a project team's satisfaction which could motivate them to perform more effectively and efficiently.

#### General Literature Review

This section provides an overview of literature from scholarly articles, books and any other relevant sources to demonstrate how the study relates to the research problem being investigated.

#### Organizational Resources

Resources are valuable assets in any organizations as they enable firms to carry out their activities. Tangible resources refer to physical assets such as physical resources, financial resource and human resources while intangible assets include reputation, brand, culture and intellectual property rights (Mathur, Jugdev, & Fung, 2013). Organizations need these different kinds of resources to create value. Organizational resources must be systematically and continuously developed and managed to accommodate changes in the business environment while at the same time be made for management purposes (Kantola, 2016).

The Resource Based View model suggests that resources possessed by an organization are the primary determinants of its performance and success which contribute to a sustainable competitive advantage (Mwai, Namada, & Katuse, 2018). The concept of resources includes; organizational processes, assets (tangible and intangible), capabilities, knowledge, information and a firm's attributes that improve its efficiency and effectiveness. Rose, Abdullah, and Ismad (2010) argued that organizations must continue to strive to upgrade and develop resources if they desire to grow and maintain competitiveness in a changing organizational environment. This study focused on physical, technological, financial and human resources.

#### Physical Resources

Project equipment and materials should be readily available when requested to enhance successful completion of a projects at the appropriate time. A study conducted by Donyavi and Flanagan (2009) observed that common challenges associated with managing project materials include delivery of materials at the wrong time, ordering the wrong materials and theft of materials. They recommended that a project manager should ensure that a project has an integrated material handling process from the planning stages to the usage of materials on site. A study was conducted by Balaji and Venugopal (2017) to investigate resource utilization in construction projects and its impacts on high ranked variable during time over-run. The study found that equipment which was owned by the organization caused delays and poor-quality work due to poor quality equipment and lack of maintenance. Moreover, 70% of project delay was due to operators using equipment without proper training.

Rahman, Memon, and Karim (2013) investigated the relationship between factors of construction resources affecting project cost and discovered that materials represent a large proportion of the total value of the project. Some of the cost overruns in projects were caused by material related issues. Therefore, systems to ensure efficient materials management were needed to be put in place. Arijeloye and Akinradewo (2016) assessed materials management on building projects in Ondo State, Nigeria. The study found that material management brought positive results in achieving early completion in building projects. The study also indicated the importance of managing project materials from the design stage to the completion stage as poor management of materials and equipment affected the performance of construction projects in terms of productivity, cost, time and quality.

Pande and Sabihuddin (2015) defined material management as a process that coordinates planning, sourcing, purchasing, storing and controlling of materials to minimize wastage and optimizing profitability by reducing the cost of materials. The project manager must ensure that equipment and materials are readily available and in good working condition throughout the project duration. Kumar and Nayak (2018) studied construction material management on project sites and discovered that poor material management resulted in increased costs and slowed progress in projects. Additionally, they noted that materials which were purchased too early led to capital held up and interest charges incurred on the excess inventory of materials. Moreover, delays and extra expenses would be incurred when equipment and materials required for activities were unavailable or mishandled which would affect total project time, cost and quality.

Providing workers with safety equipment such as protective clothing could prevent injuries during the implementation of a project. Saeed (2017) sought to investigate safety management in construction projects and reported that protective clothing should be relevant to the type of work done. This was supported by Joyston-Bechal and Grice (2004) who pointed out that a project manager must ensure that clothing and equipment for construction projects were appropriate for the job. Davies and Tomasin (1990) noted that sufficient protective clothing for employees such as special gloves and insulation boots should be provided for electricians working on projects. Additionally, OSHA (2007) states that employers must secure the safety, health and welfare of persons at work in connection to the activities of an employee's job.

#### Human Resources

Human resource management (HRM) is of strategic importance in project management as its practices and policies affect the employee's experience of work (Huemann, Keegan, & Turner, 2007). Human resources in project management include the project manager and the project team. The project team needs to have the necessary knowledge and skills to perform their tasks. In addition, Kerzner (2010) reported that a project manager must be able to communicate effectively to the projects stakeholders and be very business minded with an ability to motivate and lead people. He also mentions that project managers should be able to understand contracts, deliver project requirements which meet customers' expectations and ensure the clients are satisfied.

A project manager has to ensure that teams are formed and that the members work together to ensure successful project completion (Chiocchio, 2007). Based on Mishra (2005), there are several parts to planning for the human resources needed for a



project such as: determining the resource pool; estimating the skill requirements; determining the size of the project team; resource profiles; forming the team and creating resource charts. The employees who are part of the project team should have the required qualifications to perform their work.

Once a project team comes together, what has been formed is a new environment where employees need training and development, motivation, competence and job satisfaction. According to Stulgienė and Čiutienė (2012), in a project organizational structure where individuals may only be required for that particular project, work overlapping, and provision of continuity can affect an employee's productivity. The workforce must be motivated in order to facilitate successful flow of activities throughout the project. In a functional organizational structure, the workforce is less committed to the company due to the temporary nature of the project (Minavand, Farahmandian, & Minaei, 2013). Hence, the nature of their contracts is on short-term and if they find better employment with stability, they may decide to leave the project.

As mentioned by Verma (1996), project managers must emphasize the importance of human factors throughout the project. This is essential as it creates effective and open communication, and an atmosphere where the project team feels motivated and committed to produce the best. Fabi and Pettersen (1992) emphasize that employees involved in a project want; a sense of accomplishment, job satisfaction, achievement and growth, financial compensation and other rewards for motivation. Therefore, a project manager must understand the dynamics of human behaviour in order to create an environment where the project team feels motivated.

## Technological Resources

As stated by Schwalbe (2012), technology can facilitate the process of creating and distributing information as most people rely on e-mail, websites, telephones etc. to communicate. Moreover, Schwalbe (2012) stated that if an organization has an information system, it will facilitate the organization of project documents, scheduling of activities and store information which could be available online. This would require equipment such as computers, laptops, tablets etc. especially if the project team were dispersed or working in remote locations. Moreover, if an organization has an information system, the system would be able to facilitate; the organization of project documents, scheduling of activities and storage of information which would enable it to be available online.

In the construction industry, the use of information communication technology (ICT) has become vital in areas such as: quality control, budgeting, scheduling, planning, cost control which in turn create opportunities for efficient and effective project execution (Ikediashi & Ogwueleka, 2016). Traditional means of communication such as face to face meetings and exchange of paper documents have restricted the efficiency in projects. However, the shift from traditional methods of communication to digital-based information has greatly increased project performance.

The amount of technological resources possessed is valuable as it enables an organization to implement strategies that improve its efficiency and effectiveness. Enterprise Resource Planning (ERP) systems are a source of technology which are used to improve processes in project management. Ara and Al-Mudimigh (2011) define an ERP as a system that integrates all the information flowing through different

departments in an organization such as customer information, human resources, finance, accounting and supply chain. Munkelt and Völker (2013) define an ERP as a system that aides in planning, documentation, control and managing all business processes and resources in an organization.

There are numerous business registered cases about the success and failure of the implementation of ERP systems (Saravanan & Sundar, 2014). Benefits have been measured in terms of standardized processes and operational benefits while failures have led to organizations abandoning ERP implementation before project completion. However, when an ERP system is implemented effectively, it brings the benefit of better resource management, improved decision-making and reduction of cost improvement.

The ERP systems are used by some organizations involved in projects to improve responsiveness to customers, improve financial management, reduce inventory, increase productivity, fasten information transaction, tighten supply-chain links and convert knowledge from tacit to explicit (Zhang et al., 2003). Dezdar and Ainin (2011) define an Enterprise Resource Planning (ERP) system as an integrated software package that is used to integrate all departments and functions of a company into a single computer system. This system can manage organizational resources and serve different departmental needs (Botta-Genoulaz & Millet, 2005).

#### Financial Resources

Project cost management is one of the knowledge areas in project management and is concerned with the processes needed to ensure a project is completed within the required budget (Pinto, 2009). These costs are mainly concerned with the cost of

resources required to complete the project. This requires cost estimation which involves developing an approximation of the cost of resources for all the project activities (Shinde & Mata, 2016). The costs are estimated based on the following but are not limited to; supplies, labour, materials, equipment and factors such as inflation. The financial resources need to be monitored and controlled to prevent inappropriate, incorrect or unauthorized changes from the financial plan. The project stakeholders must be informed of the progress of the finances through performance reports. This will also alert the project manager and the team on issues which may cause challenges or problems in the future. Computerized tools and project management software could be used to track planned versus actual costs, and to forecast effects of any cost changes.

A financial management plan contains a budget which is a financial plan of expenditure and income activities for a specific period cycle (Verstina et al., 2015). A project budget requires realistic and careful planning and should be prepared during the planning stages of a project. According to Purnuú and Bodea (2015), a budget could be used to prioritize activities in a project and manage the utilization of finances. The budget acts a control for spending during the project cycle and would provide tangible evidence of the actual performance with the budget. Keeping proper records and ensuring the appropriate approval of all payments when making purchases is essential for effective and efficient financial management.

### Project Performance

Project planning involves ensuring that resources are committed in an economical manner and indicates the materials, human resources, equipment, and other resources needed to complete a project (Umulisa et al., 2015). Additionally, the primary objective of project management is to meet or exceed the expectations of the sponsors

of the project. The expectations include; quality, cost and time and safety performance for energy projects. Every successful project produces a unique item or service in which users have certain expectations about its features (Stewart, 2010).

Project processes can be improved if an organization automates part or all the processes, replaces or eliminates them. For example, a finance department's spreadsheets could be replaced with an ERP system. Studies initiated by organizations have indicates that innovation is necessary in order to improve value of work performed (Stewart, 2010). Efficiency of task execution, personal growth, customer satisfaction, technical and business performance are key performance indicators to project success as highlighted by Prabhakar (2008).

Project success is measured against the overall objectives of the project and project management success which is measured against the traditional measures of performance which include: cost, time and quality. He further suggested another definition of project success which is the difference between the measures by which success or failure of a project or business will be judged and those inputs to the management system that leads directly or indirectly to the success of the project or business. For example, safety management has to be taken into consideration in slum electrification projects. Construction projects face financial implications due to litigations due to injuries in construction sites (Saeed, 2017). Safety programs to eliminate or reduce safety risks need to be put in place to reduce delays in projects and financial implications from litigations. Successful implementation of projects increases a company's competitive advantage in local, regional and global markets (Markič et al., 2012).

## Organizational Resources and Project Performance

The reason for the success or failure of projects may differ from one project to another depending on the circumstances present during the project cycle. Rolstadås et al. (2014) argue that projects are diverse and different factors influence the outcome of projects, thus, a project-specific approach to identify the causes of project success or failure is more suitable. As explained by Nguyen (2004), a project is acknowledged as successful when it is completed within the budget, time and quality outlined in the project plan to the satisfaction of the stakeholders. Moreover, to reduce the risk of site accidents, project employees must be provided with protective equipment and protective clothing (Nguyen, 2004).

During the planning stages of a project, the resource requirements need to be defined and this involves identifying the type of resources needed and the quantity required (Project Management Institute, 2017). These resources are classified based on their specifications and other criteria which may affect the cost, quality, safety requirements and schedule depending on their availability. A project schedule is created during the planning stages to determine the exact period when the resources are needed. A project manager must ensure efficient utilization of equipment, labour and materials to improve productivity. This involves creating a procurement management plan that will act as a guide during the process of purchasing equipment and materials (Obuba & Kimutai, 2017).

Proper control systems need to be put in place to ensure that materials and equipment are not misappropriated and are being used efficiently. The people involved in projects whether directly or indirectly have an important role to play. While discussing the success factors in project management, Spalek (2014) highlighted the

importance of senior management commitment and accountability, adequate human resources and developed cross functional teams for the success of projects. Moreover, the performance of projects was also dependent on contributions of function managers, contractors, suppliers and other people directly involved in the project.

Proper communication channels need to be established to ensure constant and timely flow of information concerning the project. This is especially important for project teams that are working from different locations. An Information Communication Technology (ICT) system can be useful to capture important information for purposes of decision making. Brewer and Runeson (2009) surveyed managers, engineers and contractors involved in construction projects in Brunei and noted that slow decision making was one of the factors that contributed to project delay. They discovered that organizations needed to make use of new technology by adopting innovative ICT-driven business practices which could improve the projects results. Additionally, lack of proper communication among the project managers, engineers, contractors and the team were noted as a significant issue which resulted in cost overruns, conflicts, delays and failures in projects (Jolly et al., 2016).

#### Empirical Literature Review

The section reviews various studies which are key regarding organizational resources and project performance. Ruba et al. (2016) sought to explore the project management elements influence enterprise resource planning projects' effectiveness in Jordan. In line with the study, it was discovered that Jordan had started to acknowledge the essence of investing in IT and automating the crucial processes. Developing countries are attempting to shift from using traditional information systems to new and upgrade data systems such as management

information systems and ERP systems. However, in some instances, there have been failures in using these systems which limit their benefits. The study highlighted four management areas that can affect project performance. These include human resource management, communication management, risk management and time management.

The study found that a strong connection between team members' qualifications and successful implementation of an ERP system existed. Therefore, it was important to have qualified employees who possess the ability to monitor and track the allocation of resources. Proper communication channels were seen as crucial for organizing tasks and synchronisation between the project manager and the team. Moreover, it was discovered that communication management in ERP projects was important because the involvement of different departments requires constant flow of information. Risks which are discovered as the project is ongoing should be investigated, mitigated and monitored on a regular basis. It was discovered that one major risk identified was resistance to change in the implementation of the system.

Top administration support and personnel commitment is required to avoid a project from halting, delaying or failing. Accordingly, the project leader confirmed the value of employees having understandable roles and responsibilities who are provided with necessary training. If the wrong selection of people are part of the project team, it would lead to failure of the ERP. A project managers skills were also seen as important because lack of proper qualifications could play a role in unsuccessful implementations. Moreover, it was found that incentives and motivations connected to performance and results would result to better commitment and performance.



Mathur, Jugdev, and Fung (2014) sought to investigate the relationship between project management process characteristics and performance outcomes. The objective of the research was to investigate and provide an improved understanding of project management as a source of competitive advantage for management theory and practice. The study investigated organizational resources to discover whether they could be considered a competitive advantage or strategic asset to the firm. This would be determined by whether these resources provided; an economic value, rare, inimitable and had organizational support to leverage the assets. Resources of an organization are seen to include physical, social, technological, physical, financial and human assets. Studies have shown that intangible project resources are more likely to be inimitable and rare and are more likely to be seen as a competitive advantage.

The Mathur et al. (2014) study found that project performance was linked to organizational support for its assets which in turn made these assets a competitive advantage. Both inimitable intangible and tangible assets were found to contribute to an organization's performance. The study highlighted that organizations should prioritize project management education and training to understand the importance and value of project management assets. The study also found that organizational support from the management and its manager's act as a guide towards more strategic investments in their resources. This would enable them to work efficiently and effectively thereby provide a competitive advantage for the organization.

Anantatmula and Kanungo (2008) assessed the role of Information Technology (IT) and Knowledge Management (KM) in improving project management performance. The purpose of the research was to discover whether there was difficulty associating IT and KM with business performance to project management performance. The

research proposed that not only should an organization invest in IT, it should also be effective in collecting, organizing and maintaining its information. It should also ensure that employees manage information effectively and efficiently. Intellectual capital is a source of competitive advantage and lack of knowledge of how to measure and evaluate its impact acts as an obstacle for effective performance.

Measuring the success of KM systems aides, the management to make correct investments decisions and enable them to benchmark for future projects. However, it is difficult to measure intangible knowledge assets unlike materials and equipment. In order to maximize the benefits of these intangible knowledge resources, an organization must ensure that employee skills communication, decision making, and productivity are improved. Another objective was to measure the benefits of the project team in terms of motivating the team members, career development and opportunities for improving employee skills.

The Anantatmula and Kanungo (2008) study found that when trust and collaboration exist in an organization, a culture of knowledge sharing is enhanced among the project team. This helps in improving employees' skills by encouraging an environment of learning and active team participation. The results also indicate that team synergy among employees promoted the transfer of knowledge that led to innovations. The study suggested that knowledge sharing, collaboration, perceived value of information and information behaviour should facilitate organizations; managing, processing collecting, organizing and information management. It was found that organizations should develop IT in projects to improve business results. The results also indicate that knowledge and project management practices support each other and influence information behaviour among a project team.

Jugdev and Mathur (2012) sought to classify project management resources by complexity and leverage. The objective was to discover whether project management resources contribute to a firm's competitive advantage. Specific attention was focused on project resources based on their degree of complexity and leverage and the competitive advantage attained from these resources. This was determined through whether these resources were inimitable, valuable, had organizational support and created value for sustainable competitive advantage. Therefore, the research focused on the level of competitive advantage from different project management resources as a source of competitive advantage. The Jugdev and Mathur (2012) study also focused on classifying resources based on their contribution to an organization as a competitive advantage. The Resource Based View (RBV) examines how an organization's resources (physical, financial, technological, social, human and organizational) are drivers of a firm's competitive advantage. The strategic resources highlighted are explicit and tacit knowledge that are found in a firm's unique skills, resources and knowledge.

The Jugdev and Mathur (2012) study found that managers could make better investment decisions when project resources were classified specified by their degree of complexity and level of leverage. These resources were classified based on the level of competitive advantage namely: expected competitive advantage, temporary competitive advantage and sustained competitive advantage. The advantages were based on whether these resources were inimitable, rare, had organizational support and created value for sustainable competitive advantage. The research also found that tangible resources were valuable but imitable which were unlikely to create a competitive advantage for the organization. However, intangible resources which are

knowledge-based could be leveraged to develop other resources and therefore seen as inimitable and be able to create a competitive advantage.

Makau and Moronge (2018), sought to investigate the determinants of project team performance in building construction projects in Nairobi County, Kenya. The objective of this study was to establish the extent to which monitoring and evaluation, project leadership, communication and project management skills influence team performance in building construction projects in Nairobi County, Kenya. Monitoring and evaluation were seen to be vital in ensuring effective and efficient use of resources and establishing project controls. Project leadership focused on different leadership styles in team motivation and team building to facilitate the achievement of success in projects. Project communication highlighted the importance of coordination and communication to reduce delays in projects. Project management skills were seen to be necessary due to increasing complexity in projects which required varying skill sets.

The Makau and Moronge (2018) study further found that monitoring and evaluation influenced project team performance by ensuring quality standards were upheld during different stages as milestones were reached. A project manager with good leadership skills was seen to contribute to the team's satisfaction and motivation towards the projects. Proper and clear communication channels were seen to be important during the implementation of projects as one of the methods to eliminate delays. Project management skills were seen to influence team performance as the necessary knowledge and skills were seen to be instrumental in understanding project management techniques. Therefore, training was seen to be necessary for upgrading the knowledge of project personnel.

Karina and Moronge (2018) assessed the determinants of implementation of power distribution projects in Kenya, with a specific reference to Rural Electrification Authority. The objective of this study was to assess the effect of quality, time, cost and risk management in the implementation of power distribution projects in Kenya. The target population for this study were project managers, supervisors, contractors and consultants at Kenya Rural Electrification Authority. The study found that lack of support from top management affected quality management in power distribution projects. The study recommended that top management should support the quality management team to ensure successful implementation of projects.

Karina and Moronge (2018) found that lack of support from management was one of the factors which affected project quality management. The study recommended that top management should give the required support to the project quality management team to ensure successful project implementation. The study found that majority of power distribution projects had experienced cost overruns. The study recommended that organizations should improve on project cost control, project cost budgeting and project cost estimation.

The Karina and Moronge (2018) study found that time management influenced the performance of power distribution projects. The study recommended that project managers must accurately estimate project activities and ensure timely availability of resources. This would limit cost overruns or changes in material prices due to inflation. Additionally, plans were not put in place to mitigate risks in projects. The study recommended that organizations should have a risk management plan which would identify, analyse and control any risks which could occur. This would enable early response to issues which could arise and procedures to mitigating the risks.

Waswa and Moronge (2019) examined the challenges facing implementation of photovoltaic power plants in Nairobi County. The objective of the study was to establish the effect of project planning, project funding, project leadership and project management skills on the implementation of photovoltaic power projects in Nairobi County, Kenya. The results of the study showed that resource allocation, budgets and schedules had a significant effect on implementation of photovoltaic projects. The study also established that project planning had a significant and positive effect on the implementation of photovoltaic power plants. The study recommended that project managers should establish realistic schedules during the planning stages and avail all work-related items in a timely manner. Limited financial resources restricted the ability to purchase materials and other relevant resources needed in the project.

The Waswa and Moronge (2019) study recommended that project managers find additional sources of finances through grants and enhance their venture capital to purchase resources and cater for miscellaneous expenses. Project managers were seen to lack necessary knowledge and skills on technological requirements which would improve processes in the project. In addition, the study established team building skills, communication skills and technical skills had a significant effect on the implementation of power projects. The study recommended that the management should invest in staff training and career development to enhance the competency skills of project managers.

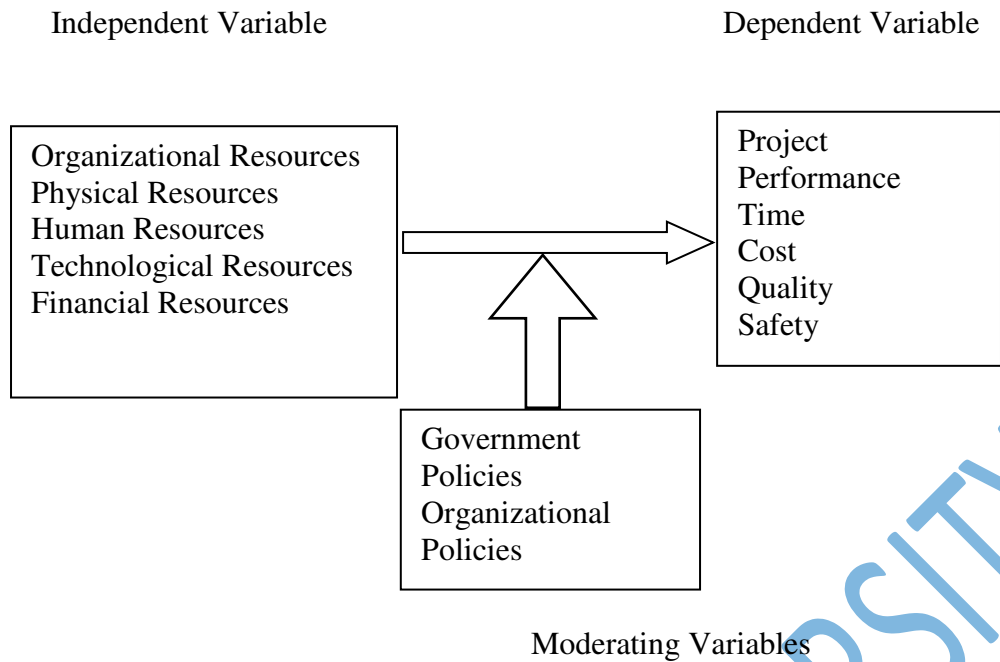
Gachohu, Nzulwa, and Kwena (2018) sought to establish the determinants of successful completion of donor funded projects at Kenyatta National Hospital. One of the main objectives of the study was to establish the degree to which project resource management contributed to successful completion of donor funded projects in

Kenyatta National Hospital. The study found that proper and sufficient planning was done by the project manager and the team. Effective financial planning led to realistic budgets and the establishment of effective controls to ensure money was spent as planned and authorized. However, issues still arose because financial auditing and reporting were not conducted frequently. The project personnel also placed measures to ensure project schedules were strictly adhered to during implementation. However, the project team did not embrace new technology which could further enhance timely completion of the project. The study recommended that project personnel should conduct more effective financial auditing and reporting and embrace new technology during the implementation of projects.

Benny and Jaishree (2017) investigated construction safety management and accident control measures in projects. The objective of the study was to determine safety issues that occurred in construction projects and to identify factors which affect safety in construction sites. One of the challenges regarding safety in construction projects was that effective safety management on project sites was viewed as important but not a top priority. Safety was considered necessary and important only after an accident had occurred. The study found that equipment, safety training, safety awareness, workers attitude towards safety and organization safety policies affect safety in construction sites. If these factors are addressed and monitored by project personnel, injury occurrences would be minimized.

#### Conceptual Framework

The study's independent variables were organizational resources, dependent variable of project performance and moderating variables which included government and organizational policies.



*Figure 2.1: Conceptual Framework.*

Source: Author (2020)

#### Discussion

The independent variable in this study was organizational resources. Organizational resources include all knowledge, assets, organizational processes, capabilities, information, and firm attributes controlled by a firm that enable it to implement its strategies and objectives (Rose, Abdullah, & Ismad, 2010). The main resources in this study include physical, human, technological and financial resources. Physical resources include materials, equipment and physical assets that an organization possesses. Human resources are the people directly involved in the project from the initiation stage to project implementation. Technological resources include tools and software that are used for scheduling, cost and time management purposes. Moreover, technological resources are used for communication purposes. For example, by using web cameras, remote teams are able to communicate face to face from different locations. Financial resources are the funds required to run a project. These funds are



obtained through government agencies, donors and other stakeholders who have invested in a project.

The dependent variable in this study was project performance. Project performance can be viewed by the extent to which an organization's main tasks are accomplished and finalized effectively and efficiently. In this study, project performance is measured based on cost, quality, time and safety. Time is concerned with ensuring a project is completed in line with the estimated schedule. Cost is concerned with ensuring a budget is available and that the project is completed according to the estimated cost. Quality is concerned with the ability of a product or service that is able to perform satisfactorily as per the expected standards. This includes the quality of resources such as materials, equipment, knowledge and skills of the human resources and the quality of all the processes involving a project.

Safety is concerned with the provision of suitable protective clothing and appliances where necessary. Protective clothing includes; goggles, suitable gloves and footwear, head covering. Safety also includes having adequate and suitable equipment such as fire extinguishers and having safety manuals which contain procedures of managing any safety risks on site. Project performance aides in the assessment of progress made towards fulfilment of mission and achievement of goals.

The moderating variables in this study were government policies and organizational policies. Firman et al. (2017), defined government policies as a set of principles and guidelines formulated and enforced by the government that intend to influence and determine actions and decisions. In a project situation, government policies that could affect projects include obtaining permits to get approval to run projects, tax increments that could increase the cost of materials and labour laws that affect human

resources. Organizational policies are a set of rules, guidelines and principles adopted by an organization which influence and determine the decisions and actions taken by a firm (Firman et al., 2017). For example, policies that affect employees such as: training, rewards and recognition, promotion and safety at the workplace.

### Summary

This chapter has presented the theoretical framework of the study, the general literature review, and an empirical analysis of similar works done by other researchers. A conceptual framework detailing the relationship between the independent, moderating and the dependent variables has been provided. The next chapter covers the research methodology.

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## CHAPTER THREE

### RESEARCH METHODOLOGY

#### Introduction

This chapter contains discussions of various components of the research methodology and an overview of how it was executed. It includes the research design, target population, sampling procedures sample size, data collection instruments and procedures, types of data, piloting, data analysis plan and ethical considerations.

#### Research Design

Cooper and Schindler (2003) defined research design as a systematic plan that specifies the study type, data collection methods and a plan for statistical analysis. It is the framework for the research study which ensures that data is collected and analysed accurately (Kumar, 2011). The research design impacts on the reliability of the results of a study and acts as a foundation for the research (Vaus, 2005). A descriptive research design was used in the study. This style of design systematically explains the facts and features of a given population or area of interest (Kombo & Tromp, 2011). A descriptive approach was applied in determining the influence of organizational resources on project performance on slum electrification projects in Nairobi, Kenya.

#### Population of the Study

As stated by Cooper and Schindler (2003), population is defined as a complete group of components that inference can be made which has an objective of taking a portion of the population and sampling in order to draw conclusions from an entire population. Kenya Power employs about 11,000 employees nationally in the Nairobi region, Western region, Mount (Mt.) Kenya region, Coastal region, South Nyanza

region and North Eastern region (Kenya Power, 2019). The populace for this research consisted of employees of Kenya Power in Nairobi, Kenya. The Nairobi region is divided into three sub regions which employs a total of 3,941 employees (860 employees in the Nairobi West sub region, 700 employees in the Nairobi North sub region, 849 employees in the Nairobi South sub region and 1,532 employees at Stima Plaza (Kenya Power, HR Department, 2019).

### Target Population

Asiamah, Mensah, and Oteng-Abayie (2017) defined the target population as the total group of individuals that a researcher is interested in researching and analysing from which the sample might be drawn. The target population for this study consisted of employees at Kenya Power engaged in slum electrification projects in three regions namely: Nairobi North, Nairobi West and Nairobi South regions. Hence, the target population comprised of 246 such employees. The employees were from the following six departments from each region: Marketing department, Business Development (and Design and Construction) department, Construction (and Metering) department, Projects department, Customer Relations department (New Connections and Billing) and Finance department. The target population is illustrated in Table 3.1.

*Table 3.1: Target Population*

Departments	Number of Employees
Marketing Department	24
Business Development Department (and Design and Construction) in collaboration with the Finance Department	93
Construction (and Metering) Department in collaboration with the Projects Department	114
Customer Relations Department (New Connections and Billing)	15
<b>Total</b>	<b>246</b>

Source: Kenya Power, Human Resource (HR) Department (2019)

### Sample Size

As defined by Given (2008), a sample is a portion of a population or universe. The sample size included employees working in the slum electrification project at Kenya Power in Nairobi, Kenya during the time period of 2014/ 2015 – 2016/ 2017. To determine the sample size of the population, the research adopted a sampling technique by Gay (2003) which suggests that the sample size of a populace should be sizeable enough to be representative of the population. Gay (2003) proposed that as the size of the population increases, the fraction needed for a sufficient sample decrease. To determine the adequate sample size, the author recommends that 10% of the population should be sampled for large populations and 20% for small populations (Gay, 2003). In this case, the study sampled 20% of the total population of 246 employees from Kenya Power (HR Department, Kenya Power, 2019) who were engaged in the slum electrification projects in Nairobi, Kenya, that is 51 respondents. The sample size is illustrated in Table 3.2.

*Table 3.2: Sample Size*

Departments	Sample Size per Region
Marketing Department	6
Business Development Department (and Design and Construction) in collaboration with the Finance Department	18
Construction (and Metering) Department in collaboration with the Projects Department	24
Customer Relations Department (New Connections and Billing)	3
Total	51

Source: Kenya Power, Human Resource Department (2019)

## Sampling Technique

The sampling technique this study adopted was purposive sampling. According to Etikan, Musa, and Alkassim (2016), a non-random technique that does not involve a fixed number of participants or any underlying hypothesis is purposive sampling. The researcher makes a decision concerning which information will be required and sets out to find groups or individuals that are well-informed and proficient with a phenomenon of interest. Hence, the study adopted this approach to select the 51 respondents.

## Data Collection

Data collection sets out how data for the study will be collected. It includes data collection methods, validity and reliability of research instruments and their administration. The data was collected from employees of Kenya Power in Nairobi, Kenya.

## Reliability and Validity of Research Instrument

Reliability is the extent to which interventions are free from error and achieve reliable results (Huck, 2011). In order to determine the reliability of the research instruments, test - retest method was used to measure the reliability of the questionnaire. This was done by administering five questionnaires to the sample population after a period of two weeks. The questionnaires reliability was estimated by examining the consistency in responses of the two tests. As mentioned by (Coopers and Schindler, 2009), if the coefficient is greater than 0.7, the research instrument is considered sufficiently reliable.

*Table 3.3: Reliability Statistics*

Cronbach's Alpha	Number of Items
0.798	10

Validity is the specification that indicates the extent to which the intended measurement goals will be accomplished by a research instrument (Ghauri & Gronhaug, 2005). Prior to using the questionnaires, the content validity was achieved by soliciting expert opinions from supervisors. This helped in checking the vocabulary in the questionnaire and how well the questions posed would be understood by the respondents.

#### Data Collection Instruments

In accordance with Ombwatho (2014), data collection instruments should be constructed to collect information which translates the individual objectives of the study. Some methods of obtaining data in a study include questionnaires, interviews, case studies, focus groups, projective techniques and field observations (Parveen & Showkat, 2018). To collect data for this analysis, the study used questionnaires as they offer a quick and efficient way to obtain large quantities of information even though respondents are scattered. A questionnaire is a collection of questions asked to collect statistically relevant data on a given research subject from individuals (Reddy, 2007). The questionnaire included objects for both open and closed endings.

Questionnaires have a potential to reach out to a sizeable number of respondents within a limited period of time, offer a sense of confidentiality and privacy to the respondents and have the ability to give respondents adequate time to respond (Gangrade, 2006). Closed ended questions were formulated because they were easy to analyse and administer. A likert scale was used to construct some of the items. On the likert scale, one extreme was favourable while the other extreme was an unfavourable

perception towards an aspect of interest. Open ended questions were also used which required respondents to fill in for clarification and enhancement of quantitative data.

### Types of Data

The type of data depends on whether the variable is quantitative or qualitative. According to Chandran (2004), quantitative data has numerical information or statistics while qualitative data has non-numerical characteristics that are related to value or value assessments, qualities such as people's opinion. The study applied primary data which is information that is being obtained for the first time. The data was collected through anonymously filled questionnaires which were distributed to the respondents from Kenya Power in Nairobi, Kenya.

Prior to commencing data collection, the researcher obtained a letter of introduction from Daystar University. Permission was also sought from the learning and development manager and project manager at Kenya Power before data collection to reassure the organization that the exercise was academic in nature.

### Data Collection Procedures

The researcher sought clearance from Daystar University to collect data by submitting a correct proposal. An approval letter from the Ethics Review Board was also requested by the researcher. The researcher also sought an approval letter from Daystar University's School of Business and Economics that introduced the researcher to the respondents involved in the analysis. The objective of the letter was to seek authorization from the Kenya Power management and senior administration. Thereafter, the researcher also obtained a research permit from the National



Commission for Science, Technology and Innovation (NACOSTI). Data collection was done after obtaining authorization from the management.

A research assistant was engaged to facilitate data collection and was trained before commencing in distributing and collecting questionnaires. The questionnaires were distributed in hard copies to the respondents, accompanied by a cover letter detailing the research subject, intent of the study and confidentiality guaranteed. The 'drop-and-pick up later' technique was applied to retrieve the filled questionnaires. In this process, the researcher organises to return at a particular time and date to collect the questionnaires (Thomas, et al., 2016). Therefore, the questionnaires were circulated to respondents at their place of work and collected later.

#### Pretesting

Pretesting is described as testing a series of questions on topics that appear on a questionnaire from a selected number of individuals who may or may not form part of the target population (Hilton, 2017). The researcher carried out a pretesting of the questionnaire to establish the adequacy of the instrument to check if the questions were clear and unambiguous. Connelly (2008), suggested that a pretest should be 10% of the sample projected for the study. The researcher used Connelly's (2008) suggestion and used 10% of the sample for the study. Hence, the researcher administered questionnaires to five respondents for pretesting purposes from the Project Management Department who had enough knowledge about projects. This aided in taking corrective action with wording, questions, structure and instruction that could be discovered in the questionnaire.

## Data Analysis Plan

Wong (2008) defined data analysis as the activities of extricating, assembling and modelling raw information that a researcher collects in order to increase an understanding of the occurrence. Descriptive statistics was used to describe and examine data to analyse the relationship between variables. This was in the form of frequencies, percentages, means and standard deviations. To analyse the details, descriptive statistics of mean and standard deviation were essential to interpret the information.

In order to determine the variables most affected the dependent variable and determine the nature of the effect, Pearson's correlation analysis and multiple linear regression analysis were carried out. The data collected from this study was analyzed using Statistical Package for Social Science (SPSS) version 25. The presentation was in form of pie charts, tables and graphs accompanied by explanations. The data was edited for uniformity, accuracy, completeness and consistency to enable tabulation before finally analyzing the data.

## Ethical Considerations

Ethical measures are standards which a researcher adheres to while conducting research (Chandran, 2004). The researcher sought permission from the relevant authorities before carrying out the research. This assisted in assuring the organization being studied that the analysis was for educational purposes. The participants in the research were given adequate information pertaining to the study. This included the advantages and disadvantages for their participation in taking part in the study and how the results would be used. Moreover, the study was objective and therefore, there was no manipulation of data. The information of the participants was confidential

unless otherwise agreed on through consent. The research findings were therefore presented without revealing the names of the participants.

### Summary

This chapter has presented the methodology that was used in the study. It includes the research design, study population, sampling and sample size, and data collection instruments. In addition, it has documented data collection procedures, the analysis plan, pretesting, ethical considerations that the study observed. The following chapter presents an analysis and interpretation of data that was collected for the study.

## CHAPTER FOUR

### DATA PRESENTATION, ANALYSIS, AND INTERPRETATIONS

#### Introduction

This chapter presents results of the study and subsequent interpretation and presentation of the findings obtained from analysing the results. The demographic profile of participants, and the results and findings arising thereof in view of the objectives of the study are present. Descriptive statistics were used to present the results. Findings are interpreted accordingly besides capturing the key findings on each research objective.

#### Analysis and Interpretations

##### Response Rate

A sample size of 51 respondents was targeted in the research, of which 48 filled out and returned the questionnaire which yielded a 94% of the response rate. This response rate was satisfactory to make findings and conclusions for the study as it was representative enough. As mentioned by Mugenda and Mugenda (2003), for analysis and reporting, a response rate of 50% is sufficient, a rate of 60% is decent and a

response rate of 70% is outstanding. Based on the assertion, the response rate was excellent. This response rate could be attributed to the data collection procedures, where the researcher, enlisted assistance of aggressive and highly motivated research assistants and through the administration of Kenya Power pre-notified the potential participants before carrying out the research.

### Respondents' Demographic Characteristics

This section covers data related particularly to gender of the respondents, level of education of the respondents, department working in, job designation, job position, project role and years worked at Kenya Power. These specific details are discussed separately in the following sections below.

#### Gender of the Respondents

The study sought to find out the gender of the respondents and the findings are as indicated in Figure 4.1.

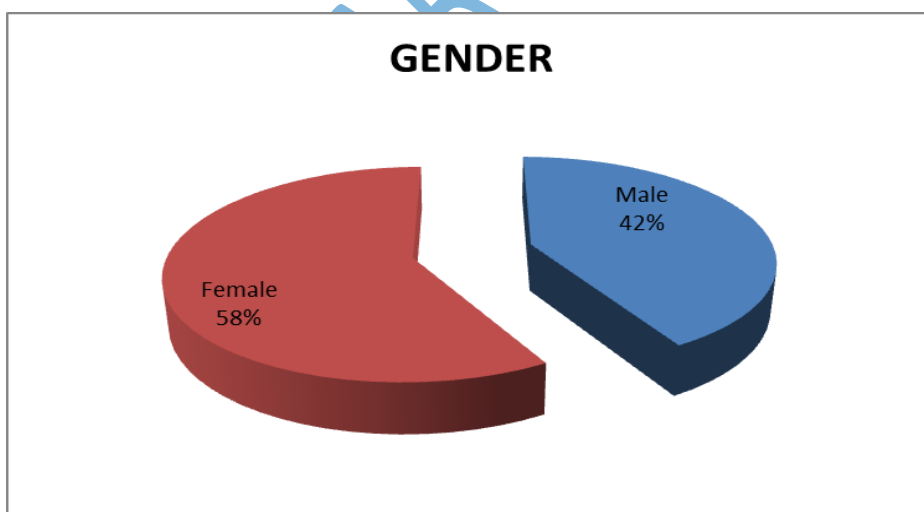


Figure 4.1: Gender

Most of the respondents were female 58% (28) while male respondents were only 42% (20). This indicates that all genders were considered in the targeted population of staff at Kenya Power who were engaged in the slum electrification project in Nairobi,

Kenya. Therefore, this informs us that Kenya Power ensures an almost equal distribution of genders in their hiring practices.

#### Level of Education

The study sought to investigate the level of education of respondents involved in the slum electrification project in Nairobi. The findings are shown in Table 4.1.

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*Table 4.1: Level of Education*

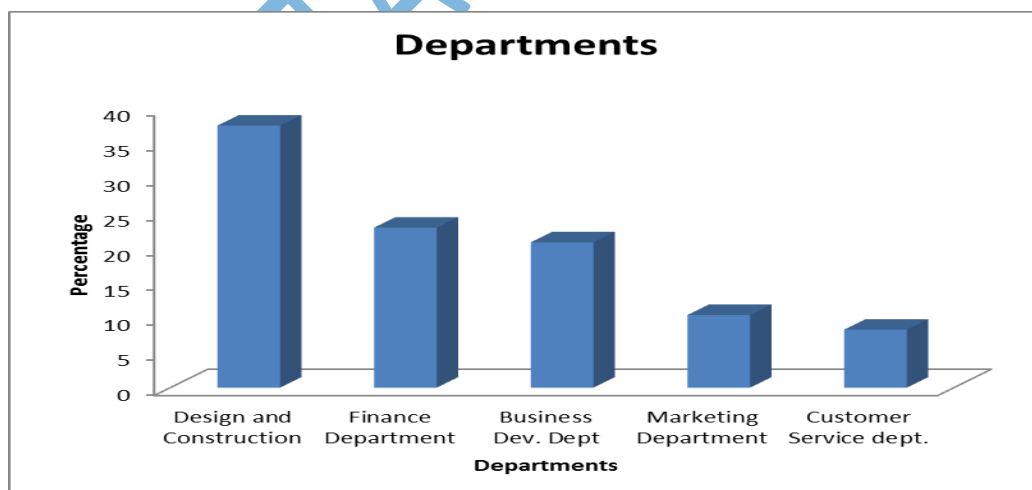
Education levels	Frequency	Percent
Certificate	1	2.1
Diploma	14	29.2
Undergraduate	23	47.9
Masters	10	20.8
Total	48	100.0

Findings indicate that the most 47.9% (23) had undergraduate degree, this was followed by 29.2% (14) who had a diploma, closely followed by 20.8% (10) who had a master's degree and finally 2.1% (1) had certificate qualifications. This informs us that respondents were well versed with the study concepts. Therefore, they had the ability and knowledge to respond to the questionnaire adequately; as to some extent, it proves literacy and comprehension.

#### Respondents Departments

The study sought to investigate the various department's respondents were stationed.

The findings are shown in Figure 4.2.

*Figure 4.2: Departments*

The majority 37.5% (18) worked in the design and construction department, then followed by 22.9% (11) who work in the finance department, then 20.8% (10) who

work in the business development department, closely followed by 10.4% (5) working in the marketing department and finally 8.3% (4) working in the customer service department. These departments were enough to address the research questions.

### Job Designation

The study sought to investigate the respondent's job designations at Kenya Power and the findings are summarised in Figure 4.3.

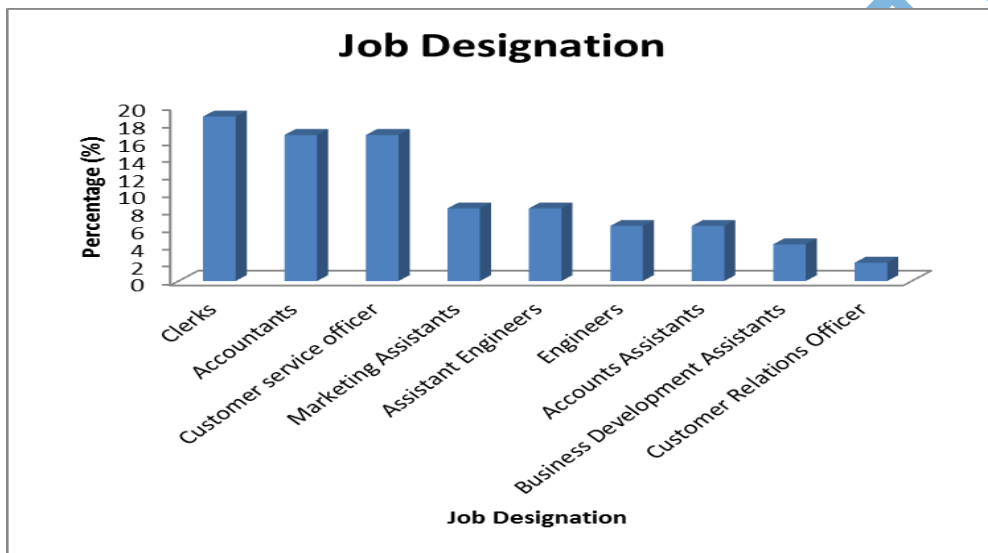


Figure 4.3: Job Designation

Findings indicate that out of the 48 respondents, this section was responded to by 42 respondents. The results indicate that 18.8% (9) of them were clerks, 16.7% (8) were accountants, 16.7% (8) were customer service officers, 8.3% (4) were marketing assistants, 8.3% (4) were assistant engineers, followed by engineers 6.3% (3), accounts assistant were also 6.3% (3). 4.2% (2) were business development assistants and finally 2.1% (1) were customer relations officers.

### Level of Management

The study sought to examine the level of management Kenya Power employees were attached to during the implementation of the slum electrification project. Findings are shown in Figure 4.4.

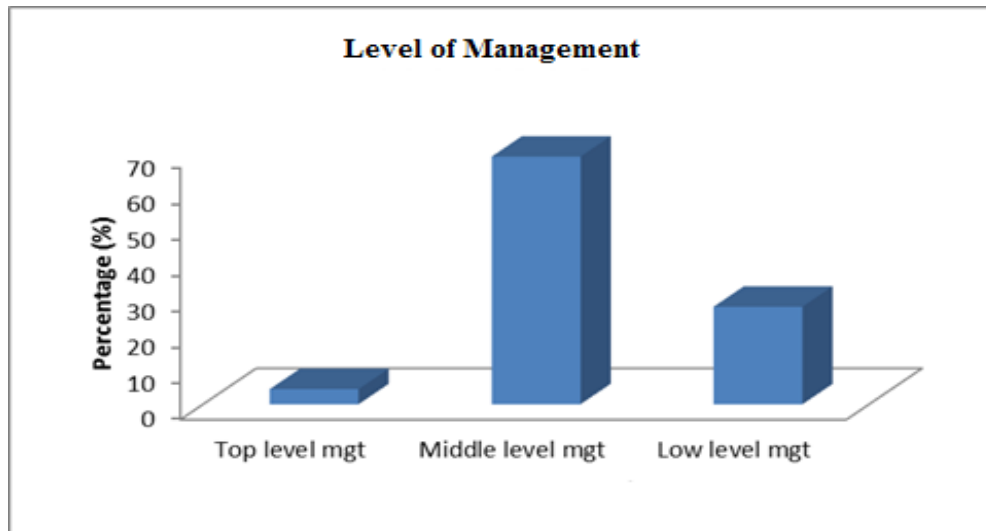


Figure 4.4: Level of Management

In many organizations, management is categorized into three levels namely: top level management, middle level management, and lower level management. Findings indicate that 68.8% (33) were middle level management and 27.1% (13) were lower level management and lastly 4.2% (2) were top level management. This is an indication that all levels of management were well represented.

### Project Role

The study sought to discover the respondent's roles during the life cycle of the project. The findings are as summarised in Table 4.2.



*Table 4.2: Project Role*

Project Role	Frequency	Percent
Product Education	1	2.1
Facilitating Applications	6	12.5
Implementation	9	18.8
Budgetary controls and Processing	5	10.4
Project and Funding Approval	4	8.3
Project Design	3	6.3
Records	2	4.2
Total	30	100.0

Findings show that only 30 responded to this question out of which 18.8% (9) were in implementation, 12.5% (6) were in applications facilitations, 10.4% (4) were in budgetary controls and processing, 8.3% (4) were in project funding and approvals, 6.3% (3) were in project design, 4.2% (2) were in records and finally 2.1% (1) was in product education. This represented various roles in projects at Kenya Power slum electrification project. It is an indication that various aspects related to this study were elaborately responded to give the diversity.

#### Duration of Employment at Kenya Power

The study sought to examine the number of years the respondents had worked at Kenya Power. The purpose was to establish how well versed the respondents had knowledge concerning the processes, procedures and operations at Kenya Power. The findings are as shown in Table 4.3.

*Table 4.3: Duration of Employment at Kenya Power*

Years Worked	Frequency	Percent
Less than a Year	3	6.3
1 – 3 Years	8	16.7
4 – 7 Years	9	18.8
8 – 11 Years	13	27.1
More than 11 Years	15	31.3
Total	48	100.0

Findings showed that 31.3% (15) had worked for over 11 years, 27.1% (13) had worked between 8 to 11 years and 18.8% (9) had worked between 4 to 7 years, 16.7% (8) had worked between 1 to 3 years and finally 6.3% (3) had worked less than a year. Cumulatively this showed enough experience among the respondents who were engaged in the Kenya Power slum electrification project.

#### Evaluating Organizational Resources in Slum Electrification Projects

The study sought to evaluate organizational resources in Kenya Power's slum electrification project as part of the research objectives. The study went on to analyse the specific organizational resources that applied to Kenya Power and the findings are as shown in Table 4.4.

*Table 4.4: Organizational Resources*

Organizational Resources	Frequency	Percent
Technological Resources, Human Resources, Physical Resources, Financial Resources	34	70.8
Financial Resources	2	4.2
Human Resources	1	2.1
Physical Resources	5	10.4
Human Resources and Financial Resources	2	4.2
Technological Resources, Human Resources, Financial Resources	4	8.3
Total	48	100.0

Findings indicated that 70.8% (34) agreed that technological, human, physical and financial resources were available at Kenya Power. About 10.4% (5) believed Kenya Power only had physical resources, 8.3% (4) were of the opinion that Kenya Power had technological, human and financial resources only. 4.2% (2) believed Kenya Power had human and financial resources only and lastly, 2.1% (1) were of the opinion that Kenya Power only had human resources. This confirms that physical

resources, technological resources, financial resources and human resources were all utilized during the implementation of the Kenya Power slum electrification project.

### Physical Resources

On a Likert scale, the study further sought to investigate responses regarding physical, human, financial and technological resources. On a scale of 5 to 1 where 5= Strongly Agree, 4= Agree, 3= Neutral, 2= Disagree, 1= Strongly Disagree.

*Table 4.5: Physical Resources*

Statements	5 %(F)	4 %(F)	3 %(F)	2 %(F)	1 %(F)	Total %(F)
Materials such as cables and energy meters procured are of high quality	29.2(14)	54.2(26)	12.5(6)	4.2(2)	0(0)	100(48)
It is more beneficial to hire physical resources such as equipment, machines and vehicles rather than purchase them for projects	14.6 (7)	14.6 (7)	14.6(7)	29.2(14)	27.1(13)	100(48)
Equipment such as machinery used in projects is enough to ensure the work is completed in a timely manner.	22.9(11)	33.3(16)	20.8(10)	18.8 (9)	4.2(2)	100(48)

Findings showed that 83.4% (40) agreed that materials such as cables and energy meters procured for the project were of high quality. This was an indication that cables and meters were part of the physical resources at Kenya Power and were of high quality. 29.2% (14) also agreed that it was more beneficial to hire physical resources such as equipment, machines and vehicles rather than purchase them for projects. This was an implication that hiring physical resources for projects was an option that some respondents were open to and should be considered by the

management at Kenya Power. This also implied that, this had been tried and tested, hence the response. 56.3% (27) disagreed that equipment such as machinery used in projects were enough to ensure work was completed in a timely manner. This was an indication that machinery was under-resourced in the project and could be a reason for delayed project completion.

This concurred with Balaji and Venugopal (2017) study which stated that hiring equipment in construction projects was more favourable. The study observed that equipment which was owned faced challenges such as; lack of maintenance and purchasing of low productivity equipment which would cause delays.

#### Human Resources

The study sought to find out whether the trainings and educational programs were enough to enhance the knowledge and skills of the project leader and team. The findings are as shown in Table 4.6.

*Table 4.6: Human Resources*

Statements	5 %(F)	4 %(F)	3 %(F)	2 %(F)	1 %(F)	Total %(F)
Trainings and educational programs are enough to improve the knowledge and skills of the project leader and the team.	27.1(13)	41.7(20)	6.3(3)	16.7(8)	8.3(4)	100(48)
Training programs are well planned, customized and designed to address the needs of the project.	12.5 (6)	33.3(16)	31.3(15)	14.6(7)	6.3(3)	100(48)
Duties are allocated in a timely manner to the project teams and all members are aware of their specific duties.	18.8 (9)	41.7(20)	22.9(11)	10.4(5)	6.3(3)	100(48)

Results indicated that 68.8% (33) agreed that trainings and educational programs were enough to enhance the knowledge and skills of the project leader and team. This was an indication that employee training for the project was provided which had proven effective. A moderately high number of respondents 45.8% (22) agreed that training programs were well planned, customized and designed to address the needs of the project.

This was an indication that there were mixed reactions among the respondents. That is, not all respondents were convinced that the training programs were designed to meet all the needs of the project. A majority of 60.5% (29) agreed that duties were allocated in a timely manner to the project team. In addition, the project personnel were aware of their specific duties. This was an indication that the project team was aware of their deliverables, tasks, and time of execution. Balaji and Venugopal (2017) discovered in their study concerning resource utilization in construction projects that about 70% of delays in project implementation was due to operators using equipment without enough training. In addition, about 20% of accidents were caused by ineffective handling of equipment.

#### Financial Resources

The study sought to investigate responses concerning financial resources utilized during implementation of the project. The findings are shown in Table 4.7.

*Table 4.7: Financial Resources*

Statements	5 %(F)	4 %(F)	3 %(F)	2 %(F)	1 %(F)	Total %(F)
Under-estimation of the cost of the project causes scheduling delays.	31.3(15)	37.5(18)	10.4(5)	12.5(6)	8.3 (4)	100(48)
It is more important to use cheaper materials and equipment rather than expensive ones that could increase the budget cost.	10.4 (5)	10.4 (5)	12.5(6)	37.5(18)	29.2(14)	100(48)
Periodic evaluations are conducted to ensure that the project remains within the budget.	16.7 (8)	37.5(18)	18.8(9)	22.9(11)	4.2(2)	100(48)

The results indicated that 68.8% (33) agreed that under-estimation of the cost of the project caused scheduling delays. This was an indication that cost implications had a direct effect on timely execution and completion of the project. About 66.7% (32) disagreed that it was more important to use cheaper materials and equipment rather than expensive ones that could increase the budget cost. This was an implication that a negative perception was formed by the respondents towards cheap materials and equipment for project execution. It also implied that Kenya Power prefers using good quality materials for their projects. About 54.2% (26) agreed that periodic evaluations were conducted to ensure the project remained within the budget. This implied that occasional assessments of project finances were conducted to ensure cost effectiveness. This concurred with Pande and Sabihuddin's (2015) study which proposed that proper tracking, proper monitoring and establishing proper control systems was required to monitor finances and accountability throughout a project's life cycle.

## Technological Resources

The study sought to find out if Enterprise Resource Planning (ERP) system ensured timely coordination between departments involved in the project. The findings are summarised in Table 4.8.

*Table 4.8: Technological Resources*

Statements	5 %(F)	4 %(F)	3 %(F)	2 %(F)	1 %(F)	Total %(F)
An Enterprise Resource Planning (ERP) system ensures timely coordination between departments involved in the project.	25.0(12)	43.8(21)	18.8(9)	6.3(3)	4.2(2)	100(48)
Using e-mailing and web-cameras ensures timely communication between remote firms participating in the projects.	27.1(13)	31.3(15)	18.8(9)	10.4(5)	10.4(5)	100(48)
Processing and analyzing project data can only be done in a timely manner by using technology.	31.3(15)	39.6(19)	10.4(5)	10.4(5)	6.3(3)	100(48)

Findings indicated that 68.8% (33) agreed that an Enterprise Resource Planning (ERP) system ensured timely coordination between departments involved in the project. This implies that an ERP system which integrates applications to manage processes and automate functions was embraced to a moderate extent. Dezdar and Ainin (2011) suggested that employee training was essential in the use of an ERP system to ensure sufficient understanding of the benefits of the system and its proper use.

A further 58.4% (28) agreed that using e-mailing and web-cameras ensured timely communication between remote firms participating in the project. This was an indication that to some extent, respondents embrace virtual teams through adopting e-

communication for the project to run as required. About 70.9% (34) agreed that processing and analysing project data could only be done in a timely manner by using technology. This was an indication that project practitioners appreciate the process of converting data into meaningful information used during the project cycle. This could be done by using systems such as relevant statistical software. From the foregoing it is evidently clear that Kenya Power adopts technological resources in project implementation.

### Project Performance

The study assessed project performance of the Kenya Power slum electrification project in four aspects namely: time, quality, cost and safety.

### Project Time

To determine timely execution of the project, the researcher sought to find responses from a series of statements. The findings are as indicated in Table 4.9.

*Table 4.9: Project Time*

Statements	5 %(F)	4 %(F)	3 %(F)	2 %(F)	1 %(F)	Total %(F)
There are systems put in place to monitor project duration.	56.3(27)	33.3(16)	8.3(4)	2.1(1)	0(0)	100(48)
Work is sequenced according to schedule.	52.1(25)	31.3(15)	8.3(4)	6.3(3)	2.1(1)	100(48)
Provision of time to rectify any material or equipment defects.	43.8(21)	39.6(19)	12.5(6)	2.1(1)	2.1(1)	100(48)
Resources are sufficiently procured and allocated in a timely manner.	43.8(21)	35.4(17)	20.8(10)	0(0)	0(0)	100(48)



Analysis indicated to a large extent of 89.6% (43) respondents agreed that, it was important that systems were put in place to monitor project duration. This was an implication that Kenya Power acknowledges timely completion of projects and appreciates scheduled monitoring for time aspects of the project. Theory of constraints (TOC) had been applied by project managers to address issues that caused delays in areas of quality, cost, time, planning and materials procurement (Steyn, 2002). TOC could be applied by focusing on system improvements and attention given to crucial tasks.

A majority of 83.4% (40) of the respondents found it important that work at Kenya Power is sequenced in line with the schedule. This was to mean that maximizing of efficiency and free flow of project deliverables is a priority at Kenya Power as is brought out through sequencing. A further 83.4% (40) believed it was important for provision of time to rectify any material or equipment defects. Evidence that Kenya Power acknowledges that down time due to machinery defects could cause project delay and in turn lose its effectiveness. A majority of 79.2% (38) believed it was important that resources should be sufficiently procured and allocated in a timely manner. This ensures the project runs as scheduled.

#### Project Quality

The study deemed it necessary to also incorporate project quality as one of the parameters to measure performance. The findings are indicated in Table 4.10.

*Table 4.10: Project Quality*

Statements	5 %(F)	4 %(F)	3 %(F)	2 %(F)	1 %(F)	Total %(F)
Ensuring specific standards and specifications for the project are met through provision of quality control systems.	43.8(21)	43.8(21)	12.5(6)	0(0)	0(0)	100(48)
Capability (technical skills, experience and qualification, etc.) of the project manager.	58.3(28)	33.3(16)	6.3(3)	6.3(3)	0(0)	100(48)
Adequate team capability (technical skills, experience and qualifications, etc.).	54.2(26)	33.3(16)	6.3(3)	6.3(3)	0(0)	100(48)
Quality assurance systems in processes such as in the procurement of materials and qualification of the project team.	41.7(20)	39.6(19)	12.5(6)	4.2(2)	2.1(1)	100(48)
Evaluation systems to measure team performance.	45.8(22)	33.3(16)	8.3(4)	6.3(3)	6.3(3)	100(48)

It was discovered that 87.6% (42) found it was important to ensure specific standards and specifications for the project were met through provision of quality control systems. This was an indication that Kenya Power projects uphold quality through minimizing defects or attaining zero errors. This concurred with Deming who stressed that, there should be a shift from detection to prevention, as inspection done at the end of a process was late and costly (Best & Neuhauser, 2005).

Results indicated that 91.6% (44) of the respondents agreed that capability of the project manager was important. This was an implication that technical skills, experience and qualification of the project manager were a necessary consideration at Kenya Power. Findings indicated that 87.5% (42) believed adequate team capability

was important. This was an indication that apart from leadership skills; collective team skills, competencies and experiences contributed to project performance at Kenya Power. About 81.3% (39) respondents were of the opinion that it was important that quality assurance systems are utilized in processes such as; in the procurement of materials and qualification of the project team. This was an indication that improvement of processes and efficiency should be at every stage from initiation to completion. Finally, 79.1% (38) were of the opinion that it was important for evaluation systems to measure team performance alongside other deliverables.

#### Project Cost

Project cost was another parameter used to measure performance in the study and the findings are as shown in Table 4.11.

*Table 4.11: Project Cost*

Statements	5 %(F)	4 %(F)	3 %(F)	2 %(F)	1 %(F)	Total %(F)
Maintenance of costs according to the budget.	52.1 (25)	37.5 (18)	6.3 (3)	4.2 (2)	0 (0)	100 (48)
Systems put in place to reduce wastage of resources and materials.	54.2 (26)	35.4 (17)	8.3 (4)	2.1 (1)	0 (0)	100 (48)
Costs allocated to rectify any defects.	35.4 (17)	39.6 (19)	10.4 (5)	6.3 (3)	8.3 (4)	100 (48)
Costs allocated for training the project team.	45.8 (22)	41.7 (20)	8.3 (4)	2.1 (1)	2.1 (1)	100 (48)

Results indicated that 89.6% (43) of the respondents were of the opinion that, it was vital to maintain costs based on the budget. Shinde and Mata (2016) suggest that, an analysis of project finances could be done by different traditional approaches such. These include; daily monitoring, weekly management reports, monthly schedules, key performance indicators, performance reviews and project audit reports. Similar responses of 89.6% (43) believed it was important that systems be put in place to

reduce wastage of resources and materials. This implies that optimization is considered in Kenya Power projects.

In accordance with the findings 75.0 (36) believed costs should be allocated to rectify any defects; an indication that budgetary processes should incorporate any foreseen and unforeseen risks. Findings show that 87.5% (42) of the respondents agreed that, it was important for costs to be allocated for training of the project team. This was an implication that competence enhancing, and career development is essential at Kenya Power.

### Project Safety

Safety was also considered in project performance parameters and the findings are as shown in Table 4.12.

*Table 4.12: Project Safety*

Statements	5 %(F)	4 %(F)	3 %(F)	2 %(F)	1 %(F)	Total %(F)
Training of workers on safety before commencing the project.	64.6(31)	29.2(14)	4.2(2)	2.1(1)	0 (0)	100(48)
Availability of medical personnel on site.	33.3(16)	41.7(20)	12.5(6)	4.2(2)	8.3(4)	100(48)
Routine machinery maintenance schedule.	43.8(17)	31.3(19)	16.7(5)	2.1(3)	6.3(4)	100(48)
Health and safety officials visiting sites for inspections.	47.9(23)	35.4 (17)	6.3(3)	10.4(5)	0(0)	100(48)

Findings indicated that majority of the respondents 93.8% (45) deemed it important to train workers on safety before commencing the project. This implies that Kenya Power is precautionary in their approach when it came to safeguarding personnel welfare. Saeed (2017) emphasized that protective clothing and protective breathing equipment need to be provided for workers on site where dust is present and,

protective insulation boots and special gloves for electricians. Furthermore, organizations should prepare employees before a project and provide them with relevant information to identify risks which could be averted.

About 75.0% (36) of the respondents deemed availability of medical personnel on site as very important. This implies that, respondents were aware of the risks related to the project and the importance of medical personnel on site. Results indicated that 75.1% (36) found it important to have scheduled routine machinery maintenance. This implies that machines which had minimal to zero defects were seen to be safer to be utilized during project implementation. Approximately 83.3% (40) deemed it important that health and safety officials visit the sites for inspections. This implies that a large number of respondents recognized the importance of ensuring personnel involved in implementing the project were working in a safe environment. The aforementioned, represent the importance accorded precautionary measures regarding to health and safety during the implementation of the slum electrification project.

#### Successful Slum Electrification Projects

The study generally sought to investigate the influence of organizational resources on the performance of slum electrification projects implemented by Kenya Power. The findings are as shown in Table 4.13.

*Table 4.13: Kenya Power Successful Slum Electrification Projects*

Kenya Power Successful Projects	Frequency	Percent
Yes	15	31.3
No	31	64.6
No Response	2	4.1
Total	48	100

Performance was measured in terms of time, budget, safety and quality requirements.

Findings indicate that 64.6% (31) responded that the projects have not been successful

by responding 'No'. 31.3% (15) indicated 'Yes' and 4.1% (2) did not respond. This outcome informs us that majority of Kenya Power employees involved in the slum electrification project did not find the performance satisfactory specified by the performance measures in this study.

When respondents were asked to provide an explanation to their responses, those who responded 'Yes' believed the project adopted sound monitoring and evaluation, proper program design and its impact was felt in the community. For the respondents who had indicated 'No', they sited that crime and corruption was a major reason the projects do not perform as expected. That is, based on cost, time, quality and safety specifications. This was followed by budget misappropriation, vandalism, poor planning, sub-standard processes, limited resources, and neglect from the beneficiaries among others.

#### Influence of Organizational Resources on Project Performance

The study further sought to establish the influence of organizational resources (physical resources, technological resources, financial resources and human resources) on projects performance (time, cost, quality, safety) of Kenya Power slum electrification projects.

#### Physical Resources and Project Performance

To establish a link, physical resources were tested against project performance and the findings are as shown in Table 4.14.

*Table 4.14: Physical Resources and Project Performance*

Statements	5 %(F)	4 %(F)	3 %(F)	2 %(F)	1 %(F)	Total %(F)
The quality of materials and equipment has a significant influence on project performance.	50.0(24)	37.5(18)	6.3(3)	4.2(2)	2.1(1)	100(48)
Timely flow of materials and equipment to the jobsite has a significant influence on project performance.	50.0(24)	39.6(19)	0(0)	8.3(4)	2.1(1)	100(48)
Having materials readily available upon request has a significant influence on project performance.	47.9(23)	39.6(19)	8.3(4)	2.1(1)	2.1(1)	100(48)
Insufficient equipment causes issues in scheduling and this has a significant influence on project performance.	54.2(26)	25.0(12)	10.4(5)	4.2(2)	6.3(3)	100(48)

As reported in the results, 87.5% (42) agreed that the quality of materials and equipment has a significant influence on project performance. This was an indication that distinctive characteristics of materials and equipment against set standards had an influence on project performance. A response of 89.6% (43) agreed that timely flow of equipment and materials to the worksite had a significant influence on project performance. Availability and timely flow of resources was an indication of efficiency in project deliverables. Kumar and Nayak (2018) found that procurement and storage of materials needs to be well planned to avoid negative impacts of excessive material inventory or shortage. Moreover, deficiencies in the flow of project material were often cited as a major cause of financial loss in the project. 87.5% (42) agreed that having materials readily available upon request has a significant influence on project performance. 79.2% (38) were in agreement that insufficient equipment caused issues in scheduling and this has a significant effect on project performance. It can thus be

implied that tangible resources in a project had a significant influence on project performance.

#### Financial Resources and Project Performance

To establish a link, financial resources were assessed against performance. This was aimed to derive implications for monetary resources and allied on project performance. The findings are as summarised in Table 4.15.

*Table 4.15: Financial Resources and Project Performance*

Statements	5 %(F)	4 %(F)	3 %(F)	2 %(F)	1 %(F)	Total %(F)
Projects which are completed within the estimated budget have a significant influence on project performance.	56.3(27)	33.3(16)	4.2(2)	4.2(2)	2.1(1)	100(48)
Availability of enough financial resources has a significant influence on project performance.	64.6(31)	22.9(11)	8.3(4)	2.1(1)	2.2(1)	100(48)
Proper budgeting of financial resources has a significant influence on project performance.	52.1(25)	31.3(15)	10.4(5)	4.2(2)	2.1(1)	100(48)
Quality control systems for the procurement of physical materials contained in the budget has a significant influence on project performance.	60.4(29)	18.8(9)	14.6(7)	4.2(2)	2.1(1)	100(48)

About 89.6% (43) of the respondents agreed that projects completed within the estimated budget had a significant influence on project performance. This underlines the importance of approximation of costs to fit the project items and processes. 87.5% (42) agreed that availability of enough financial resources had a significant influence on project performance. It qualifies the importance of funding for seamless operations in a project. Siborurema, Shukla, and Mbera( 2015) investigated the effect of funding



on the performance of projects in Rwanda. Findings from the study indicated that underestimation of costs was caused by poorly defined scope of work and scarcity of personnel qualified in procurement.

A response of 83.4% (40) showed agreement that proper budgeting of financial resources had a significant influence on project performance. This was an indication that the spending plan and allocation cannot be under-estimated in project implementation and was tied to project outcome. 79.2% (38) agreed that quality control systems for the procurement of physical materials contained in the budget had a significant influence on project performance. This was an indication that quality control is vital in the process of procurement and should be withheld to uphold certified standards.

#### Human Resources and Project Performance

To establish a link, human resources were assessed against performance. It was necessary to assess the workforce that make up personnel for the Kenya Power slum electrification project. The findings are as shown in Table 4.16.

*Table 4.16: Human Resources and Project Performance*

Statements	5 %(F)	4 %(F)	3 %(F)	2 %(F)	1 %(F)	Total %(F)
Having qualified project leaders has a significant influence on project performance.	62.5(30)	27.1(13)	6.3(3)	4.2(2)	0(0)	100(48)
A project team that has sufficient knowledge and skills has a significant influence on project performance.	58.3(28)	35.4(17)	4.2(2)	2.1(1)	0(0)	100(48)
Proper allocation of duties to the project team has a significant influence on project performance.	62.5(30)	29.2(14)	6.3(3)	0(0)	2.1(1)	100(48)
Lack of sufficient skills and training has a significant influence on project performance.	58.3(28)	29.2(14)	2.1(1)	8.3(4)	2.1(1)	100(48)

Findings indicated that 89.6% (43) agreed that having qualified project leaders had a significant influence on project performance. Project leaders selected out of merit ensure project performance. This could incorporate expertise and experience. 93.7% (45) agreed that a project team that has sufficient knowledge and skills had a significant influence on project performance. It points to team proficiency and competence. This concurred with Jolly et al. (2016) who stated that competency of the project team is a critical factor that has been frequently mentioned in research studies. Project personnel competency is an important factor influencing the success of a project as loopholes are reduced during implementation.

As mentioned in the findings, 91.7% (44) agreed that proper allocation of duties to the project team had a significant influence on project performance. From a human resource perspective this points to personnel alignment to their qualifications. 87.5% (42) agreed that lack of enough skills and training had a significant influence on project performance. Competency of the project team was a critical factor that had

been mentioned frequently in research studies as it was a factor influencing project performance (Belout & Gauvreau, 2004). Furthermore, a project team's proficiency and capabilities have been noted to be a significant success factor, as inadequate experience is among the major contributing factors of project delays (Sambasivan & Soon, 2007).

#### Technological Resources and Project Performance

To establish a link, technological resources were assessed against performance. The study sought to investigate the influence of intangible resources such as tools, software's and other technologies on the performance of the Kenya Power slum electrification project. And the findings are as shown in Table 4.17.

*Table 4.17: Technological Resources and Project Performance*

Statements	5 %(F)	4 %(F)	3 %(F)	2 %(F)	1 %(F)	Total %(F)
ERP systems improve scheduling of project tasks and this has a significant influence on project performance.	54.2(26)	27.1(13)	14.6(7)	2.1(1)	2.1(1)	100(48)
Computerized tools such as MS Project, Excel, PrimaVera etc. ensure timely allocation of resources and this has a significant influence on project performance.	47.9(23)	37.5(18)	12.5(6)	2.2(1)	0(0)	100(48)
IT software ensures proper resource utilization, and this has a significant influence on project performance.	45.8(22)	29.2(18)	14.7(4)	8.3(3)	2.1(1)	100(48)
Technological resources e.g. internet improves the interaction of project teams in a timely manner and this has a significant influence on project performance.	54.2(28)	27.1(14)	8.3(1)	6.3(4)	4.2(1)	100(48)

Findings indicated that 81.3% (39) agreed that ERP systems improve scheduling of project tasks and this had a significant influence on project performance. This could underline the importance of efficiency and reliability of systems that control project processes. 85.4% (41) agreed that computerized tools such as MS Project, Excel, Primavera etc. ensure timely allocation of resources and this had a significant influence on project performance. This touches on the many aspects integrated in a technological software that helps in multi-tasking in a project to allow timelines to be met. Organizations need to adopt innovative ICT-driven practices to improve the financial results of projects and effective use of new technology can provide important competitive advantages for these firms (Jolly et al., 2016).

About 75% (40) agreed that IT software ensured proper resource utilization, and this had a significant influence on project performance. It could imply an acknowledgement by the respondents to the transparency and accountability aspects of technology in projects. A further 81.3% (42) agreed that technological resources for example, internet improved the interaction of project teams in a timely manner and this had a significant influence on project performance. This was an indication that Kenya Power has adopted virtual teams which when coupled with technological infrastructure, improves communication which ensures efficiency in processes.

#### Government and Organizational Policies

There was need to assess the effect of government and organizational policies on the Kenya Power slum electrification project. The researcher sought to investigate whether changes in tax policy, regulatory structures, government licensing practices, and other forms of government interaction interfere with project performance of slum electrification projects. Table 4.18 summarizes the findings.

*Table 4.18: Project Interference from Government Policies*

Response	Frequency	Percent
Yes	33	68.8
No	14	29.2
No Response	1	2.0
Total	48	100

This question was answered by 47 respondents. A modest 68.8% (33) responded 'Yes', 29.2% (14) responded 'No' and 2.0% (1) did not respond. This was an indication that changes in government policies had an influence on the Kenya Power slum electrification project.

As explained by Betty, Ombui, and Kagiri (2015), the government occasionally alternates policies forcing organizations to adjust the way they operate. Thus, organizations are greatly affected by government policies. Firman et al. (2017) suggested that, in order to reduce financial and legal restraints, the government should utilize instruments of stabilization such as fiscal and monetary policies, and different depreciation schemes.

#### Project Influence from Weak Government Regulations

The study sought to investigate whether weak government regulations and instructions affect the performance of slum electrification projects. Table 4.20 summarises the findings.

*Table 4.19: Project Influence from Weak Government Regulations*

Response	Frequency	Percent
Yes	39	81.3
No	8	16.7
No Response	1	2.0
Total	48	100

This question was also answered by 47 respondents. Findings indicate that 81.3% (39) responded 'Yes', 16.7% (8) responded No and 2.0% (1) did not respond. This was an indication that weak government regulations and instructions affect project performance.

#### Project Influence by Financial Policies

The study sought to investigate whether financial policies affect the purchase of equipment and materials for slum electrification projects. The findings are summarised in Table 4.20.

*Table 4.20: Project Influence by Financial Policies*

Response	Frequency	Percent
Yes	34	70.8
No	13	27.1
No Response	1	2.1
Total	48	100

Findings indicate that 70.8% (34) responded 'Yes' 27.1% (13) responded 'No' and 2.1% (1) did not respond.

#### Policies to Reward Project Team

Finally, the study sought to investigate whether policies had been put in place for rewarding project teams who complete work according to time, budget, quality and safety for Kenya Power projects. The findings are summarised in Table 4.21.

*Table 4.21: Policies to Reward Project Team*

Response	Frequency	Percent
Yes	13	27.1
No	34	70.8
No Response	1	2.1
Total	48	100

Findings indicate that 70.8% (34) responded 'No', 25% (13) responded 'Yes' and 2.1% (1) did not respond. This was an indication that no rewards systems were put in place for the Kenya Power slum electrification project. Reward systems are a good practice for organizations as they are normally linked with team motivation. This is shown in Table 4.21.

#### Inferential Statistics

The main aim of this study was to determine the influence of organizational resources on project performance of Kenya Power slum electrification project in Nairobi, Kenya. The independent variable was organizational resources (physical resources, human resources, technological resources, financial resources) while the dependent variable was project performance (time, cost, quality, safety). The study used inferential statistics such as R-squared, P-value and Beta variable to show statistical relationships between these variables. Inferential statistics indicate statistical relationship by showing how dependent variable is influenced by independent variables (Kothari, 2007).

#### Correlation Analysis

Pearson correlation coefficient was used to test relationship between independent variables and dependent variable. Table 4.22 summarises the findings.

*Table 4.22: Correlation Results*

Variables	Project Performance	Physical Resources	Human Resources	Financial Resources	Technological Resources
Project Performance	1				
Physical Resources	.778	1			
Human Resources	.618	.640**	1		
Financial Resources	.542	.686	.695	1	
Technologica	.506	.413	.566	.680**	1

## 1 Resources

\*\*correlation is significant at 0.01 level

Correlation results show that physical resources have a strong positive relation with project performance ( $R = 0.778$ ). Human resources showed a strong positive relationship with project performance ( $R = 0.618$ ). Financial resources had a moderate positive relationship with project performance ( $R = 0.542$ ). Technological resources also displayed a moderate positive relationship with project performance ( $R = 0.506$ ). These results inform us that organizational resources had a significant effect on project performance. However, it was the researcher's discretion that the variables that exhibited moderate relationships could be explained by factors external to the model in question.

### ANOVA (Analysis of Variance)

Analysis of Variance (ANOVA) is utilized to establish the significance of the relationship between project performance and the independent variables. The findings are shown in Table 4.23.

*Table 4.23: Analysis of Variance (ANOVA)*

Model	Sum of Squares	Df	Mean square	F	Sig.
Regression	0.067	11	0.006	1.000	0.003 <sup>a</sup>
Residual	0.054	9	0.006		
Total	0.121				

Findings indicated that organizational resources (physical resources, human resources, technological resources and financial resources) significantly explained project performance of the Kenya Power slum electrification projects studied ( $p=0.003$ ). Hence, the model overall was a good fit. This is an indication that organizational resources significantly account for changes in project performance.



- a. Predictors: (constant), physical resources, human resources, technological resources and financial resources.
- b. Dependent Variable: Project performance.

#### Regression Coefficient

Regression coefficient is a statistical measure of the average functional relationship between two or more variables. It is the constant 'b' in the regression equation that tells about the change in the value of dependent variable corresponding to the unit change in the independent variable. The regression function is captured in Table 4.24.

*Table 4.24: Regression Coefficient*

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	0.049	0.045		1.071	0.097
Physical Resources	0.041	0.025	0.258	1.612	0.024
Human Resources	1.704	0.507	0.573	3.361	0.003
Financial Resources	0.016	0.004	1.052	4.522	0.000
Technological Resources	0.493	0.181	0.372	2.718	0.009

Dependent Variable: Project Performance

Source: Research Data (2019)

The above model showed that when all other variables have a value of zero then project performance is 0.049. A unit increase in physical resources translates to 0.041 increase in Project performance all else held constant. Also, a unit increase of human resources translates to 1.704 increase in project performance all else held constant. Financial resources unit increase translates to 0.016 increase in project performance all else held constant. Lastly a unit increase in technological resources translates to 0.493 increase in project performance all else held constant. This is an indication that physical resources, human resources, technological resources and financial resources affect Kenya Power Slum electrification project performance. Findings also show that the model is statistically significant at 5% level of significance.

A variable has a significant influence on the dependent variable when the p-value is less than 0.05. From the results presented in table 4.25, physical resources have a significant effect on project performance since p which is 0.041 is less than 0.05. Human resources do not have a significant effect on project performance since p (1.704) is greater than 0.05. Financial resources have a significant effect on project performance since p (0.016) is less than 0.05. Technological resources do not have a significant effect on project performance since p (0.493) is greater than 0.05.

### Summary of Key Findings

As reported in the findings, organizational resources are essential, but their relative impacts on organizational performance are significant at different levels. The findings provide useful information about how to strategically use and manage organizational resources to meet performance goals. The following below shows a summary of key findings of the study:

1. In relation to the findings, Kenya Power slum electrification project utilized physical resources, human resources, financial resources and technological resources. Physical resources came out as being the most utilized then followed by a combination of technological resources, human resources and financial resources. Utilization of human resources alone was least popular from the findings.
2. Findings on physical resources indicated that the project was under resourced and most of the machinery and equipment was hired. Further, it was revealed that materials such as cables and energy meters procured were of high quality. Good quality materials were seen to improve the projects performance. For instance, energy meters and cables were durable and therefore would last longer.

3. With regard to human resources, findings indicate that to a larger extent, trainings and educational programs were enough to improve the knowledge and skills of the project team. This could contribute to the employees' ability to solve problems which would enable better decision-making. Training and development at Kenya Power enabled the human resources to have current knowledge which influenced the projects performance. To some extent it was also revealed that training programs were well planned, customized and designed to address the needs of the project. It was also an indication that duties were allocated in a timely manner to the project team.
4. With respect to financial resources, findings indicate that budget under-estimation caused project delays. Hence the reason behind periodical evaluations specified by budgetary needs. It was also evident that low cost material served to cost the project more than high cost materials. Lack of proper budgets affected the acquisition of other organizational resources and therefore, affected the performance of the project's costs. Poor cost performance was categorized by a project not completed in line with the budget.
5. Technology was seen to strongly influence the performance of projects. ERP's were found to be a key requirement in linking different departments and facilitating better organizational processes. Findings indicate that data and information was processed and analyzed in a timely manner. This was due to the technology employed in the project and virtual systems which made it easy and efficient to communicate remotely, hence improving project efficiency.
6. Project performance was assessed through project cost, quality, time and safety. The study showed that there was scheduling of time for implementation, rectification and assessing of project, quality was assured through capability of

the project leader and team and quality assurance measured against international standards. Project costs were controlled through proper budgeting and employing cost-effective measures. Frequent site inspections scheduled routine machine maintenance and training on safety was present in Kenya Power safety aspect. Generally, Kenya Power projects perform well in terms of costs, quality, time and safety.

7. Regarding the influence of organizational resources on project performance, findings indicate that there was a positive correlation. In this case, a boost in either of the resources caused a boost in project performance. However, financial resources and technological resources had a moderate influence as shown by the inferential statistics.
8. Findings indicated that government and organizational policies strongly influenced the performance of the slum electrification project. These policies include; rules and regulations, tax policies, government licensing practices, and other forms of institutional interactions. Hence, government and organizational policies were seen to directly (rules and regulations) and indirectly (tax policies) affected the performance of the project.

#### Summary

This chapter has discussed research findings in detail, presented data, analyzed the data, and thereafter, gave an interpretation of the findings. Data was presented in form of charts and tables through descriptive statistics. In the analysis of data, SPSS version 21 was used. The analyzed data forms the basis on which chapter five will be presented. Chapter five will provide discussions, conclusions, recommendations and areas for future research.

## CHAPTER FIVE

### DISCUSSIONS, CONCLUSIONS, AND RECOMMENDATIONS

#### Introduction

This section provides discussions of key findings, conclusions and recommendations regarding the study on the influence of organizational resources on project performance of slum electrification projects undertaken by Kenya Power in Nairobi, Kenya. The methodology used to achieve the study objectives was descriptive. In addition, the research was directed towards the slum electrification project taking place in Nairobi, Kenya. The discussions and conclusions drawn in this chapter are based on the report presented in chapter four which are in accordance with the objectives of the study. Lastly, recommendations for further study are proposed at the end of the chapter.

#### Discussion of Key Findings

The following below is a summary of key findings of the study.

One of the objectives of the study was to evaluate the different forms of organizational resources in slum electrification projects undertaken by Kenya Power in Nairobi, Kenya. Physical resources, financial resources, human resources and technological resources were all present and necessary in the Kenya Power slum electrification project. Physical resources procured were seen to be of high quality; such as electricity cables and pre-payment meters. Respondents agreed that it was more beneficial to use good quality materials and equipment for the project. This implied that a negative perception existed among project personnel concerning using cheap materials which would be less costly. Adequate resource planning was seen to be necessary to facilitate efficient and effective flow of activities on site. This

concluded with Subramani and Prabhu (2018) who stated that material procurement in construction projects is vital as activities are usually done in stages and each stage depends on the completion of the previous activity. This implies that late completion in an activity could affect the start time of the following activity.

Human resources which consisted of the project manager and other project personnel were necessary for the implementation of the slum electrification project. Moreover, the knowledge, skills and capabilities of the project manager was considered in project. Technology was seen to be important when converting raw data into meaningful information in a timely manner. This informs us that systems are vital to manage project processes by converting data into meaningful information. Moreover, an ERP system was seen to enable better coordination between departments. This was especially important because the project personnel were divided into three regions and encompassed other departments working towards similar objectives. This was an indication that technological resources were required to ensure timely implementation of the project. This concurs with El-Mashaleh (2007) study which investigated the importance of ERP systems in the construction industry in Jordan. A project cannot be implemented without finances; as money facilitates the purchasing of materials and other services. Findings indicate that proper budgets need to be put in place to facilitate the implementation of the project.

The study sought to assess project performance of slum electrification projects undertaken by Kenya Power in Nairobi, Kenya. This was measured in relation to time, cost, quality and safety. Findings indicate that majority of the respondents believed the performance of projects had not been successful according to the budget, scheduled time and quality standards. The findings indicate that financial resources

influence the performance of projects. This was an indication that projects need to be completed consisted with the estimated budget. This also indicates the importance of funding in projects. In addition, proper budgets need to be put in place as this was tied to the project outcomes. This concurred with Sinesilassie, Tabish, and Jha (2017) who stated that cost overruns were seen to be prevalent in public funded projects. This was attributed to changes in the scope of work and lack of clear articulation during pre-project planning.

Findings indicate that the slum electrification project performed well when assessing the safety of the project team on site. This indicates the provision and correct use of protective clothing and equipment. The findings also indicate that, having safety representatives on site improves safety performance by identifying and providing corrective action. This concurred with Sawacha, Naoum, and Fong (1999) who stated that proper training of workers on site and relevant safety awareness leads to improved safety on site.

Findings indicated that timely flow of equipment and materials had a significant influence on project performance. This implied that having materials readily available upon request was an indication of efficiency of project deliverables. These findings concurred with Faridi and El-Sayegh's (2006) study in which they stated that lack of sufficient labour and materials as well as subcontractor delays affect the performance of construction projects. The quality of materials and equipment had a significant influence on project performance. This was an indication that distinctive characteristics of the equipment and materials against set standards had an influence on performance. Findings indicate that respondents agreed that the knowledge and skills of the project manager and team had an influence on the performance of

projects. This informs us the importance of the project personnel's competence and proficiency. Qualified project leaders and personnel could incorporate experience and expertise to ensure successful performance of the project. In addition, Tabassi et al. (2018) stated that team coordination and conflict management should not be ignored when managing project personnel. In addition, timely conflict resolution was seen to impact a projects performance.

Findings indicate that technology which consisted of computerized tools, IT software among others significantly influenced project performance. This was an indication that integrated systems are important to ensure timelines are met by allowing multi-tasking, communication with remote teams and ensuring that different departments involved in projects are linked. Interactions were done in a timely manner with the use of the internet which enabled the project to run as per the schedule. This indicates that Kenya Power values proper resources utilization and IT software and systems that ensure reliability and efficiency of processes. Findings indicate that changes in tax policy, government licensing practices, regulatory structures and other forms of government interaction interference have an influence on project performance. This was an indication that government regulations and instructions affect project performance.

The purpose of the study was to determine the influence of organizational resources on project performance of slum electrification projects undertaken by Kenya Power in Nairobi, Kenya. Findings indicate that organizational resources influenced project performance to a large extent. However, the results also revealed that other factors other than organizational resources played a part in the performance of projects. Respondents agreed that it was more beneficial to hire physical resources such as machines. However, they also agreed that as much as procuring for these resources



was more beneficial, delays were encountered during the delivery of equipment which was seen to cause delays.

Findings indicated that a large number of respondents were of the opinion that one of the reasons delays were experienced was because of under-estimation of the cost of the project. This was an indication that financial resources had a direct effect on timely completion of the project. Findings indicate that project data was analyzed in a timely manner by using technology. Respondents embraced electronic communication to an extent through web cams and emailing. This indicates the importance of virtual teams in ensuring timely communication among personnel located remotely. Barki and Pinsonneault (2005) asserted that the usage of information technology contributes to service quality improvement, cost reduction and revenue increases in projects. However, Nitithamyong and Skibniewski (2004) argued that processes should be considered along with other factors such as; knowledge management, people, legal issues among others for successful IT implementation.

Findings indicated that majority of the responses indicated that educational programs and training at Kenya Power were available and enough for the project manager and the team. This indicates that learning and development takes place at Kenya Power. This was an indication that to some extent, training programs were well planned and designed to fit the needs of the project personnel. A moderately high number of respondents agreed that once a project was initiated, duties were allocated in a timely manner. This informed the project team of their specific duties. González et al. (2014) stated that poor performance of projects was mainly attributed to several factors such as design changes, field interference, poor weather conditions, lack of supervision, lack of skilled labour among others.

Project managers must identify common causes that affect performance for any risks to be systematically reduced or eliminated. Galloway (2006) proposed that critical and non-critical activities need to be identified early as; delay in a noncritical activity does not affect the project's final completion date.

### Conclusion

The purpose of this study was to investigate the influence of organizational resources on project performance of Kenya Power slum electrification project in Nairobi, Kenya. As reported in the findings, it was transparent that resources are essential and vital in the performance of the slum electrification project. The contribution of physical, human, financial and technological resources was largely significant to the performance of the project. However, the results show that contributions of financial resources had a moderate effect on the effectiveness of the task. This was attributed to the fact that availability of funds does not by itself guarantee success in a project's performance but the proper use of finances. The study found that technological resources were significant in the performance of the slum electrification project. Kenya Power should therefore continue upgrading their technology and systems to cope with changes in client needs for better success.

Physical resources had a significant impact on the project's performance. In line with the findings, planned procurement practices such as timely ordering of materials and equipment exist within the organization. This was evident that procurement of required materials and equipment was done in accordance to the project plan and the project personnel were provided with quality materials in a timely manner. Human resources were found to be significant in influencing the performance of the project. Therefore, the project manager and senior personnel should seek avenues for

motivating the project team for better performance. Kenya Power should encourage more training and growth in the skills of employees to enhance knowledge and skills to sustain performance.

In accordance with the findings, majority of the respondents believed that organizational resources played a critical part in the performance of projects. However, respondents explained that various reasons contributed to poor performance of projects such as; corruption, vandalism of materials, poor planning, limited resources, neglect from beneficiaries and sub-standard processes. Scheduling issues were seen to have been experienced due to insufficient equipment and materials which affected the performance of the project. It was noted that materials and other physical resources need to be procured in a timely manner to ensure the project runs as seen in the schedule. Moreover, findings indicate that it was necessary for systems to be put in place to reduce and eliminate wastage of tangible and intangible resources.

Project finances and financial policies were seen to affect the performance of slum electrification projects in areas such as staff trainings, purchase of equipment and materials etc. This indicates that proper financial policies and budgets need to be put in place to ensure money is spent for the intended purpose. The project leader and the team's capabilities were seen to be important to facilitate successful project performance. A project manager and the team's collective skills, experiences and competencies were seen to contribute to the project's performance. This was an indication that key competencies are necessary for specific projects to ensure quality workmanship. Moreover, evaluation systems to measure team performance were seen to be necessary to ensure a project performs as expected. However, reward systems

were seen not to be put in place for project teams who completed their tasks consistent with the estimated time, budget, quality and safety. This implies that no rewards systems have been put in place to motivate the project team. Lastly, safety training should continue to be enforced before commencing the project as this safeguards the project personnel's welfare.

### Recommendations

Given the findings and conclusions, the researcher recommends the following measures to address the factors that contribute to the performance of projects in Nairobi, Kenya. Policy makers at Kenya Power should put processes in place to monitor and deliver data on the usage of organizational resources. This would provide a clear picture on the utilization of its resources throughout the project life cycle. Kenya Power should invest in technology that allows its stakeholders to access the information concerning the project. This could be through customized dashboards and graphs to make the data easily understandable.

Benchmarks should be established which are related to the performance of similar projects. This will be essential to monitor the trend in the performance of projects throughout the years. Based on Kenya Power's goals, key performance indicators (KPI's) should be tracked to monitor changes and provide timely course corrections. The management should consider giving incentives to promote performance among Kenya Power employees. It is evident from the study that personnel involved in projects had the required academic qualifications which were facilitated by trainings. Kenya Power should continue to invest in capacity building by equipping the project personnel with essential project management skills. This will ensure effective and efficient management of projects to improve performance.

The slum electrification project was a publicly funded project. Therefore, the financial plan should be in accordance with the Global Partnership on Output-Based Aid (GPOBA) and the World Bank's International Development Association (IDA) guidelines. This will aide in combating any misuse of financial resources. Project financial statements should be audited by an external auditor and information available to stakeholders. Detailed progress reports should be available to stakeholders in a timely manner and easily accessible and provided in the Kenya Power website. Success of the project accompanied with supporting documents can motivate donors to expand the energy project to other informal settlements in the country. Transparency and provision of detailed information will be beneficial to organizations in the energy sector by acting as a benchmark for their projects. This would create a more competitive market in electricity generation and restructuring power companies to operate in a system supported by good performance and good financial policies. Lastly, the procurement plan should be updated regularly or as required to reflect the actual implementation needs of the project.

#### Recommendations for Further Research

This study investigated the influence of organizational resources on project performance of Kenya Power slum electrification project in Nairobi, Kenya. Given the study focused primarily on slum electrification projects undertaken by Kenya Power, the results may not apply to all their projects. It is recommended that a study is done cutting across all Kenya Power projects that would allow for a broader generalization of findings. Moreover, given that the study focused on electrification projects, further research is recommended on projects related to road, construction and other development projects taking place in Nairobi, Kenya.

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## APPENDICES

## Appendix A: Questionnaire

Date: \_\_\_\_\_ Questionnaire #: \_\_\_\_\_

## Introduction

Dear Respondent,

Thank you for making a valuable contribution to your organization. My name is Michelle Nelima Songa (Admission No. 15-0821). I am a Masters in Business Administration (MBA) student majoring in Project Management at Daystar University. I am undertaking a research on the INFLUENCE OF ORGANIZATIONAL RESOURCES ON PROJECT PERFORMANCE OF SLUM ELECTRIFICATION PROJECTS UNDERTAKEN BY KENYA POWER IN NAIROBI, KENYA.

By virtue of being an employee in one of the relevant departments of the slum electrification projects, you form part of the respondents for this research. Please accept my invitation to participate in this research by sparing some time to fill the questionnaire. The questionnaire is being administered for research purposes and any information provided will be used purely for academic purposes and will be treated with confidentiality. Responses from completed questionnaires will be collated for analysis and stored in a locked filing cabinet at the researcher's home. Once the researcher has successfully completed the Masters course, the questionnaires will be destroyed. Attached to the questionnaire is a Letter of Introduction from the Dean, School of Business and Economics at Daystar University.

Thank you in advance for completing this questionnaire. You can request for a final version of this research work through my e-mail address: michellenelima@gmail.com

NOTE: Please read the questions and statements below and respond to them in the best way possible by ticking (√) the appropriate option or making brief explanations where appropriate.

SECTION A: GENERAL INFORMATION

INSTRUCTIONS: Please indicate by marking (√) for what applies to you.

Respondents Profile

1. What is your gender? (Tick one)

Male

Female

2. What is your highest level of education? (Tick one)

Certificate

Diploma

Undergraduate

Masters

Doctorate

Other (please specify):

---

3. Which department do you work at Kenya Power?

---

4. What is your designation at Kenya Power?

---

5. What is your position at Kenya Power? (Tick one)

Top level

Middle level

Lower level

Other (please specify):

---

6. What is your role in Projects undertaken by Kenya Power?

---

7. How many years have you worked for the company? (Tick one)

Less than a year

1 - 3 years

4 - 7 years

8 - 11 years

Over 11 years

SECTION B: ORGANIZATIONAL RESOURCES

8. Below are some organizational resources. Please tick (✓) those that apply to Kenya Power.

Technological resources  Human resources

Physical resources (e.g. materials, equipment)  Financial resources

Other (please specify):  
\_\_\_\_\_

**INSTRUCTIONS:** Listed here below are some statements regarding organizational resources (physical, technological, human and financial resources). Please tick (✓) the option that best describes the situation at Kenya Power.

No.	Physical Resources	1	2	3	4	5
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
9	Materials such as cables and energy meters procured are of high quality.					
10	It is more beneficial to hire physical resources such as equipment, machines and vehicles rather than purchase them for projects.					
11	Equipment such as machinery used in projects are sufficient enough to ensure the work is completed in a timely manner.					
No.	Human Resources	1	2	3	4	5
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
12	Trainings and educational programs are sufficient enough to improve the knowledge and skills of the project leader and the team.					
13	Training programs are well planned, customized and designed to address the needs of the project.					
14	Duties are allocated in a timely manner to the project teams and all members are aware of their specific duties.					
No.	Financial Resources	1	2	3	4	5

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
15	Under-estimation of the cost of the project causes scheduling delays.					
16	It is more important to use cheaper materials and equipment rather than expensive ones that could increase the budget cost.					
17	Periodic evaluations are conducted to ensure that the project remains within the budget.					
No.	Technological Resources	1	2	3	4	5
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
18	An Enterprise Resource Planning (ERP) system ensures timely coordination between departments involved in the project.					
19	Using e-mailing and web-cameras ensures timely communication between remote firms participating in the projects.					
20	Processing and analyzing project data can only be done in a timely manner by using technology.					

### SECTION C: PROJECT PERFORMANCE

**INSTRUCTIONS:** Listed below are some statements regarding performance measures of time, cost and quality. Please tick (√) the option that best describes the situation at Kenya Power.

	To what extent do you agree with the significance of time, cost and quality in the performance of projects	1	2	3	4	5
		Very Important	Important	Moderately Important	Of Little Importance	Not Important
No.	Project Time					
21	There are systems put in					

	place to monitor project duration.					
22	Work is sequenced according to schedule.					
23	Provision of time to rectify any material or equipment defects.					
24	Resources are sufficiently procured and allocated in a timely manner.					
No.	Project Quality					
25	Ensuring specific standards and specifications for the project are met through provision of quality control systems.					
26	Capability (technical skills, experience and qualification, etc.) of the project manager					
27	Adequate team capability (technical skills, experience and qualifications, etc.).					
28	Quality assurance systems in processes such as in the procurement of materials and qualification of the project					

	team.					
29	Evaluation systems to measure team performance.					
No.	Project Cost					
30	Maintenance of costs according to the budget.					
31	Systems put in place to reduce wastage of resources and materials.					
32	Costs allocated to rectify any defects.					
33	Costs allocated for training the project team.					
No.	Project Safety					
34	Training of workers on safety before commencing the project.					
35	Availability of medical personnel on site.					
36	Routine machinery maintenance schedule.					
37	Health and safety officials visiting sites for inspections.					

38. a) Generally, are Kenya Power slum electrification projects successful (considering time, budget, safety, and quality requirements)? (Tick one)

YES

NO

b. Please explain your answer above:

---



SECTION D: INFLUENCE OF ORGANIZATIONAL RESOURCES ON PROJECT PERFORMANCE

**INSTRUCTIONS:** The following statements seek to establish the influence of organizational resources (physical, technological, financial and human resources) on project performance of slum electrification projects undertaken by Kenya Power in Nairobi, Kenya. Please tick (✓) the option that best describes the situation at Kenya Power.

No.	Physical Resources Activities and Project Performance	1	2	3	4	5
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
39	The quality of materials and equipment has a significant influence on project performance.					
40	Timely flow of materials and equipment to the jobsite has a significant influence on project performance.					
41	Having materials readily available upon request has a significant influence on project performance.					
42	Insufficient equipment causes issues in scheduling and this has a significant influence on project performance.					
No.	Financial Resources Activities and Project Performance	1	2	3	4	5
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
43	Projects which are completed within the estimated budget have a significant influence on project performance.					

44	Availability of sufficient financial resources has a significant influence on project performance.					
45	Proper budgeting of financial resources has a significant influence on project performance.					
46	Quality control systems for the procurement of physical materials contained in the budget has a significant influence on project performance.					
No.	Human Resource Activities and Project Performance	1	2	3	4	5
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
47	Having qualified project leaders has a significant influence on project performance.					
48	A project team that has sufficient knowledge and skills has a significant influence on project performance.					
49	Proper allocation of duties to the project team has a significant influence on project performance.					
50	Lack of sufficient skills and training has a significant influence on project performance.					
No.	Technological Resources Activities and Project Performance	1	2	3	4	5
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
51	ERP systems improve scheduling of project tasks and this has a significant influence on project performance.					
52	Computerized tools such as MS Project, Excel, PrimaVera etc. ensure timely allocation of resources and this has a					

	significant influence on project performance.					
53	IT software ensures proper resource utilization and this has a significant influence on project performance.					
54	Technological resources e.g. internet improves the interaction of project teams in a timely manner and this has a significant influence on project performance.					

### SECTION E: GOVERNMENT AND ORGANIZATIONAL POLICIES

55. Do changes in tax policy, regulatory structures, government licensing practices, and other forms of government interaction interfere with project performance of slum electrification projects? (Tick one)

YES  NO

56. Do weak government regulations and instructions affect the performance of slum electrification projects? (Tick one)

YES  NO

57. Do financial policies affect the purchase of equipment and materials for slum electrification projects? (Tick one)


YES  NO

58. Are there policies put in place for rewarding project teams who complete project work according to the estimated time, budget or quality for Kenya Power projects? (Tick one)

YES  NO

The questionnaire is complete, thank you so much for your participation in this research.

## Appendix B: Ethical Clearance



**DAYSTAR UNIVERSITY**  
Excellence • Transformation • Empower Leadership

**Athi River Campus**  
P. O. Box 17 - 90145  
Daystar University, Kenya  
Tel: 045 6622400 (2) (2)  
Fax: 045 6622400  
E-mail: admissions@daystar.ac.ke

**Nairobi Campus**  
P. O. Box 42400 - 00100,  
Nairobi, Kenya  
Tel: 020 2723 002 (3) (4)  
Fax: 020 2728338  
E-mail: admissions@daystar.ac.ke

[www.daystar.ac.ke](http://www.daystar.ac.ke)

**REF: DU-ERB/03/10/ 2019 /000357**

Date: 03-10-2019

TO: Michelle Nelima Songa

Dear Michelle,

**RE: INFLUENCE OF ORGANIZATIONAL RESOURCES ON PROJECT PERFORMANCE OF KENYA POWER SLUM ELECTRIFICATION PROJECTS IN NAIROBI**


This is to inform you that Daystar University Ethics Review Board has reviewed and approved your above research proposal. Your application approval number is **DU-ERB-000357**. The approval period is **3<sup>rd</sup> October, 2019 – 2<sup>nd</sup> October, 2020**.

This approval is subject to compliance with the following requirements:

- i. Only approved documents including (informed consents, study instruments, MTA) will be used
- ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by Daystar University Ethics Review Board
- iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study *must* be reported to Daystar University Ethics Review Board within 72 hours of notification
- iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to Daystar University Ethics Review Board within 72 hours
- v. Clearance for export of biological specimens must be obtained from relevant institutions.
- vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
- vii. Submission of an executive summary report within 90 days upon completion of the study to Daystar University Ethics Review Board.


Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) <https://oris.nacosti.go.ke> and also obtain other clearances needed.

Yours sincerely,

  
**Purity Kiambi**  
Secretary, ERB


*"...until the day dawn and the daystar  
arise in your hearts"*

Appendix C: Research Permit


**REPUBLIC OF KENYA**  
 National Commission for Science, Technology and Innovation

**RefNo: 672595** **Date of Issue: 28/October/2019**


**RESEARCH LICENSE**




**This is to Certify that Ms. Michelle Song of Daystar University, has been licensed to conduct research in Nairobi on the topic: INFLUENCE OF ORGANIZATIONAL RESOURCES ON PROJECT PERFORMANCE OF KENYA POWER SLUM ELECTRIFICATION PROJECTS IN NAIROBI, KENYA for the period ending : 15/October/2020.**

**License No: NACOSTI/P/19/2294**

**672595**  
**Applicant Identification Number**

  
**Director General**  
**NATIONAL COMMISSION FOR**  
**SCIENCE, TECHNOLOGY &**  
**INNOVATION**

**Verification QR Code**  


**NOTE: This is a computer generated License. To verify the substantivity of this document, Scan the QR Code using QR scanner application.**

DAYSTAR

## Appendix D: Letter of Introduction to Conduct Research at Kenya Power



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Kilindini Mombasa  
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E-mail: mombasa@daystar.ac.ke

[www.daystar.ac.ke](http://www.daystar.ac.ke)

19<sup>th</sup> January 2019

**TO WHOM IT MAY CONCERN**

Head Office  
Kenya Power & Lighting Company  
**NAIROBI**

Dear Sir/Madam,

**RE: MICHELLE NELIMA SONGA – 15-0821**

This is to confirm that Michelle Nelima Songa an MBA student at Daystar University.

Michelle is currently conducting a research study for her MBA thesis entitled: ***“Influence of Organizational Resources on Project Performance of Kenya Power Slum Electrification Projects in Nairobi, Kenya”***.

We assure you that any information collected will be used strictly for academic purposes and will remain absolutely confidential.

Any assistance accorded to her will be highly appreciated.

Yours faithfully

  
Dr. Samuel Muriithi  
**HOD, COMMERCE**  
HEAD OF COMMERCE  
DEPARTMENT  
DAYSTAR UNIVERSITY  
P.O. Box 44400  
NAIROBI 00100  
KENYA.

*“...until the day dawn and the daystar  
arise in your hearts”  
2 Peter 1.19 KJV*



## Appendix E: Request Letter to Conduct Research at Kenya Power

12<sup>th</sup> March, 2019

Human Resource Manager  
Kenya Power  
Learning and Development Department  
P. O. Box 30099-00100 Stima Plaza  
Nairobi, Kenya.

Michelle Nelima Songa  
P.O. Box 25216-00603  
Nairobi, Kenya.

Dear Sir/Madam,

**RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH AT KENYA  
POWER**

My name is Michelle Songa and I work as an Administrative Assistant at the Registrar's Office at Marist International University College – A constituent college of The Catholic University of Eastern Africa. I would like to take this opportunity to request your permission to collect data at Kenya Power. I am currently at the research phase of my Masters in Business Administration (specialization in Project Management) at Daystar University, and the proposed topic of my study is: Influence of Organizational Resources on Project Performance of Kenya Power Slum Electrification Projects in Nairobi, Kenya. I will be required to approach employees at Kenya Power to take part in the study, and data will be collected through questionnaires for a period of three to four weeks. I will ensure that the study does not disrupt the working environment at Kenya Power in any way. Data collected will also remain confidential.


My research is being supervised by Dr. Job Omagwa and Mr. Joseph Munyao. Should you require any additional information, please do not hesitate to contact me. I can also meet you at a time that is most convenient for you.

Your permission to conduct this study will be greatly appreciated.

Yours Sincerely

Michelle Songa  
0719-616-595/ 0787-089-890  
michellenelima@gmail.com

## Appendix E: Letter of Acceptance to Conduct Research at Kenya Power



**Kenya Power**

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*The Kenya Power & Lighting Co. Ltd.*  
 Central Office – P.O. Box 30099 – 00100, Nairobi, Kenya.  
 Telephone – 254-02-3201000 – Telegrams 'ELECTRIC'  
 Fax No. 254-02-3514485  
 STIMA PLAZA, KOLOBOT ROAD

Our Ref: KPI/5BA/42D/AMT/mi 4<sup>th</sup> April 2019

Michelle Nelima Songa,  
 P. O. Box 25216-00603  
Nairobi, Kenya.

Dear Michelle,

**RE: DATA COLLECTION AUTHORISATION**

Reference is made to the subject matter mentioned above.

You have been allowed to collect data in the Company on *“The influence of organizational resources on project performance of slum electrification projects undertaken by Kenya Power in Nairobi, Kenya.”*


This authority notwithstanding, you must exercise confidentiality of company information. The Research Project should also not disrupt normal working hours and Company’s flow of work.

A soft copy of the final research project saved in a compact disc should be forwarded to the Manager, Learning & Development.

If in agreement with the above, please sign hereunder:

**Researcher**  
 Name: Michelle Nelima Songa Sign: [Signature]  
 Date: 08/04/2019 Academic Institution: DAYSTAR UNIVERSITY

Yours faithfully,  
 For: KENYA POWER & LIGHTING CO. LTD.



THE KENYA POWER & LIGHTING  
 COMPANY LIMITED  
 P. O. Box 30099 - 00100  
 NAIROBI

ANNE M. THAIRU (MRS.)  
 For: MANAGER, LEARNING & DEVELOPMENT



## Appendix G: Plagiarism Report

## Michelle Songa Thesis - 2nd Nov. 2020

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