MANAGERIAL PROCESSES AND PERFORMANCE OF RURAL ELECTRIFICATION PROJECTS IN KITUI COUNTY, KENYA.

KATHONGO STELLAH MUENI

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DECLARATION

This thesis is my original work and has not been presented for a degree in any University. No part of this thesis should be reproduced without authority of the author and/or Kenyatta University.

Signature..... Date…….

Kathongo Stellah Mueni
Department of Management Science
Kenyatta University

We confirm that the work in this thesis was carried out by the candidate under our supervision as the appointed University supervisors.

Signature…….....Date…….....……..

Dr. Mary Ragui
Department of Business Administration
School of Business
Kenyatta University

Signature…….....……Date…….....…….

Dr. Caleb Kirui
Department of Management Science
School of Business
Kenyatta University

DEDICATION

This thesis is dedicated to my husband Benjamin Kathonde, my children, David Musembi, Lucy Christine and Kerry Kyalo and my dear mum, Josephine Vivi, for their encouragement, prayers, love and support mentally, physically and financially during the period of study. The journey for the study could be difficult without their support and I thank them for standing with me.

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OPERATIONAL DEFINITION OF TERMS

Managerial Processes: Are composite variables that an organization can adopt to ensure projects completions are within given budget, time and satisfy customers. The variables used by the study are monitoring and evaluation, risk management, resource mobilization and stakeholder management.

Monitoring and Evaluation: It's a management process that involves collecting and analysing project information to track project progress and evaluate the final output through use of monitoring and evaluation skills, tools , policies and standards.

Project It is a dynamic, non-repetitive, one-off undertaking that is constrained by budget, time, resources, and performance specifications in order to fulfil the defined objectives and satisfy the clients' needs.

Project Effectiveness It's the project's ability to achieve set goals and objectives by producing quality services that satisfies customer's needs

Project Efficiency	It's a project performance indicator for accomplishing project activities within budget, time and scope**.**
Project Performance	Refers to accomplishment of project activities within given time, cost and scope which is operationalized in terms of project efficiency, effectiveness, and customer satisfaction.
Risk Management:	Refers to systematic process of Identifying and analysing risks that have effect on project and applying risk mitigation to control the adverse effects of them.
Regulatory Framework:	Are government policies and electricity regulations set to plan, control and regulate management of electricity projects to ensure achievement of projects goals and objectives.
Resource Mobilization:	It's a management process that involves identification and organization of resources to ensure adequate finance, availability of modern equipment and competent staff that enhances efficient and effective performance.

Stakeholder Management: It is a management process of forming and maintaining constructive relationship and balancing the stakeholder interests through stakeholder involvement, stakeholder identification and conflict management.

Organization Structure: It is management framework that organizations adopt to assist project management team to achieve performance through decision making, communication and setting of roles and functions of the organization.

ABBREVIATIONS AND ACRONYMS

ADB:	African Development Bank
CIDP:	County Integration Development Plan
ERC:	Energy Regulatory Commission
ESI:	Electricity Supply Industry
GOK:	Government of Kenya
GDP:	Gross Domestic Products
GWh:	Giga Watt Hour
IEA:	International Energy Agency
KP:	Kenya Power
KV:	Kilo Volts
LV:	Low Voltage
M & E:	Monitoring and Evaluation
MDGs:	Millennium Development Goals
MV:	Medium Voltage
MW:	Mega Watts
NACOSTI:	National Commission for Science, Technology and Innovation
PMI:	Project Management Institute
RBV:	Resource Based View Theory
RE:	Rural Electrification
REA	Rural Electrification Authority
REP:	Rural Electrification Program
ROK:	Republic of Kenya
SDGs:	Sustainable Development Goals
SPSS:	Statistical Package of Social Science
SSA:	Sub-Saharan Africa
UNDP:	United Nation Development Project

ABSTRACT

The government invests in rural electrification projects to boost the country's socioe-economic development and growth. However, despite the efforts put by the government, performance of the projects remains to be poor in terms of projects efficiency, effectiveness and satisfaction of the customer's needs. The study sought to establish the effect of managerial processes on performance of rural electrification project in Kitui County, Kenya. The specific objectives of the study were to determine the influence of monitoring and evaluation, risk management, stakeholder management and resource mobilization on the performance of rural electrification projects. In addition, the study sought to establish the moderating effect of regulatory framework and mediating effect of organization structure on relationship between managerial processes and performance of projects. The study was underpinned by resource based view theory and supported by stakeholder theory and management competency theory. The study was guided by positivism as a philosophical foundation. To achieve the study's objectives, descriptive and explanatory research design was used. The study target population was 125 rural electrification projects in Kitui County. The study targeted 75 respondents and census approach was used. Semi-structured questionnaires were used to collect quantitative and qualitative data. Quantitative data was analysed by the use of descriptive and inferential statistics while qualitative data by use of content analysis. The diagnostic tests undertaken by the study were multicollinearity, homoscedasticity, linearity and normality test. Multiple regression analysis established the effects of managerial processes on performance of RE projects. SPSS software was in analysis of quantitative data. The study findings showed that monitoring and evaluation, risk management, and resource mobilization had positive significant effect on the performance of projects while stakeholder management had insignificant effect on performance. Further, the study results indicated that regulatory framework and organization structure had moderating and partial mediating effects on the relationship between managerial processes and performance of the rural electrification projects. The study recommended that the government to get more organizations to help in implementing rural electrification projects, ensure compliance of polices and electricity regulation and finally ensure frequent review of policies to be in line with vision 2030. Further, the study recommended organization to get other independent bodies to conduct monitoring and evaluation of the projects.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Performance of electricity projects is critical in global economic development and growth as projects that perform satisfy the needs of the beneficiaries and achieves the set objectives and goals (Serrador & Turner, 2015). In rural areas, rural electrification projects play major roles in the economy in terms of poverty eradication, creation employment opportunities, development of areas and wealth creation (ROK, 2012).

In the world, business environment around where the electricity projects operate have changed so much and for organizations/firms/industries to survive, electricity has to be available and adequate. In addition, advancement of technology has great impact on organization/ firms' performance as it ensures the use of modern implementation tools, techniques and approaches that lead to successful management of organization. Further, Lee, Wang, Lim, and Peng (2009) noted that adoption of new technologies were critical for effective management of organization as it enhanced performance.

According to Gitenya and Ngugi (2012), infrastructure projects performance to be successful, planned activities had to be organised and put in action during project implementation stage. Klakegg (2009) added that projects that performed; linked to users' needs, solved conflicts, secured stakeholder commitment and had clear objectives of the projects. Further, World Bank (2014), Wanyoike (2012) indicated that performance of electricity projects involved achievement of a given duty or task, measuring the predetermined standards, and completeness of the project within cost

and speed. Following the Vision 2030 blueprint, successful electricity project performance enhanced production of quality services and products that promotes the growth and development of the country's economy.

Faridi & El-Sayegh (2010) and Maendo (2018) outlined that infrastructure project performance was affected by many factors which included; poor monitoring and evaluation, inadequate skills of team members, poor leadership, mismanagement of funds, breakdown of the operating machines Further, Kagoba (2016) study noted that most projects failed during implementation stage due to poor supervisory activities hindering successful performance. In addition, Nganga (2013) indicated that 50 percent of unsuccessful projects failed at initiation stage, 30 percent failed at planning stage and 20 percent failed at implementation stage which was due to inadequate management techniques and inadequate resources.

World Bank report (2016) noted that rural electrification projects in Kenya needed more attention as electricity was a major driver for promoting the growth of Gross Domestic Product (GDP) and it enhanced achievement of Sustainable Development Goals (SDGs). Further, Ndirangu (2013) outlined that performance of RE projects had to be successful to ensure electricity was available in all parts of the country in sufficient quality, quantity and in affordable prices for total promotion of Gross Domestic Product (GDP). Therefore, projects performance had been a critical concern by most scholars to ensure they were carried within given budget, time frame and scope to achieve the set objectives and also satisfy beneficiary's needs. However, there was less attention on rural electrification and previous studies ignored the area

of managerial processes on the performance of rural electrification projects in Kitui County.

1.1.1 Performance of Rural Electrification Projects

Electricity project that perform has to be accomplished within the set budget, time, and scope and of desired quality and Cheung (2010) outlined that projects performance was measured and evaluated by use of indicators like; time, cost, quality and satisfaction of customers. Farida and El-Sayegh (2010) outlined that project performance was affected by different factors which included; inadequate skilled power, mismanagement of funds, conflicts among stakeholders, incompetence of contractors, machine breakdown corruption and poor supervision of projects.

In Asia and Pacific, the electrification project review did by United Nations Development Program (UNDP, 2011) showed that organization that employed effective monitoring and evaluation, risk management and involved public in participation of electricity project led to successful projects performance which helped in accomplishment of the eight Millennium Development Goals (MDGs). In addition, proper planning, resource utilization and skilled personnel influenced the project's completion to be within time and budget. According to Stallard, Micali, DeSabastian, Salvaderi, Richwine, Glorian, and Heithoff (2001), availability of power supply was a critical indicator of performance of the power supply projects. In addition, the study noted that financial constraint, inadequate skills and poor monitoring and evaluation led to projects over run in terms of time and cost.

United States of America started rural electrification in the years of 1920s and by the year 1965 almost all parts of rural areas had reliable and adequate electricity due effective management of resources (Katie, 2010). In addition, due to proper planning, adequate stakeholder leaderships and adequate monitoring and evaluation, Asian countries and developed countries had adequate electricity in the rural areas. According to Alexandra (2010), the countries that had growing economies by 2009 had the highest rates of rural electrification, China was leading with ninety nine percent (99%), Brazil eighty eight percent (88%), South Africa fifty nine percent (59%) and India twenty one percent (21%) which was contributed by adequate resource management , risk management and proper planning of projects.

African Development Bank (ADB, 2014) outlined that African countries faced many power challenges that included inadequate funds, inadequate generation capacity, low quality, unrealizable services that were very costly and lastly system losses which limited electrification especially in the rural areas,. World Bank (2011) outlined that electricity supply projects in Sub Sahara Africa delayed in installation which led to less or no connection to electricity, giving a statistical data of forty six percent (46%) in urban area and six percent (6%) in rural areas despite government support to the sector.

According to Carter (2012), unsuccessful performance of electricity projects in Sub Saharan Africa was due to conflicts among the team members, poor workmanship and inadequate skills and knowledge by the contractors. The rural electrification rate for Sub Saharan Africa was as low as 18 percent compared to North Africa that had a

high rate of 99 percent (IEA, 2014). Africa Development Bank (ADB, 2014) outlined that 4 million (40 %) households were not connected to electricity supply despite government efforts to fund rural electrification projects.

Economic survey (2020) indicated that customer connection expanded under rural electrification programme by 5 percent from 1 332 209 in 2017/18 to 1 409 256 in 2018/19. The expansion was due to increase of total installed electricity capacity to 2818.9 MW in 2019 from 2711.7 Mw in the year 2018. In addition the report indicated that in 2019 domestic demand for electricity still increased by 1.7 percent from 8702.3 Gwh to 8854.0 Gwh (KNBS, 2019). Further, Kenya's electricity projects were faced by budget and time overruns that caused delay in electricity connection making the country to use other sources of energy. Kenya National Bureau of Statistics (KNBS, 2014) stated that the country used 68 percent of traditional biomass, 22 percent of fossil fuels, 9 percent of hydropower and the other sources 1 percent each.

County Integrated Development Plan report (CIDP) (2017) indicated that Kitui County had low population that was electrified, urban population gave 23.4 percent and rural population gave 1.1 percent compared to country's average rate of urban population which gave 50.4 percent and rural population gave 5.1 percent. According to Okoth (2016), the output of electricity projects in Kenya's rural areas was a barrier to timely completion time, accessibility, quality, and quantity.

Measuring project performance depends with the organization, as projects differ in terms of; value, size and complexity that make organizations use different indicators to measure performance. According to Muller and Judgev (2012), project success has to be interpreted into three objectives measures; projects completion within the planned time, cost and quality while Orero, (2015) and Saliku, (2015) added that performance of a project has to be measured by use of the following indicators; time, customer satisfaction, cost, quality business performance and safety. Moreover, Xiao and Proverbs, (2008) argued out that delivering project on accepted quality and on budget resulted to projects success. Stare (2011) noted that the following indicators measured project performance; time, cost, customer satisfaction, achievement of set goals and objectives and quality services or products. In addition, Richard (2009) argued out that achievement of goals and objectives measured performance of any organization projects while Anyango, (2016) argued out that successful project management was realised when projects were on budget, within the given time, achieved the set objectives and satisfied the customers.

Due to lack of common measures of project performance, researchers developed a framework that assessed project performance according to short and long -term objective (Shenhar, Dvir, Levi & Maltz, 2001). The developed framework showed that projects performance was measured by project efficiency, customer satisfaction organization success and increase of business profit. Chahayo, Bureti, Juma, Maende, Musiega and Aketch (2013) and Maina & Gakara (2014) argued out that performance had to be measured basing on financial indicators (price earning ration, return on

investment, return on equity, earning per share) and non-financial indicators (efficiency, effectiveness, customer satisfaction, objective achievement).

Mahdani, Mohamend, Ali and ismail (2012) recommended the use of non-financial indicators for non-profit making organizations and financial measures for profit making organizations. Lee and Nowell (2014) argued out that government funded projects remain to be non-profit making organization and non-financial indicators were the best to measure the projects performance. Therefore, this study adopted non-financial indicators (customer satisfaction, efficiency and effectiveness) to measure the performance of RE projects in Kitui County.

1.1.2 Managerial Processes

Worldwide, projects operate in a changing environment and adoption of effective managerial processes encourages respond to new changes of environment which enhances successful performance of projects. Effective managerial processes remain important activity to successful management of the projects as it encourages the use of modern implementation tools, techniques and approaches lead to successful project management. Effective managerial processes became important issues in the developing counties due to achievement of projects goals and objectives (Haron, Hassan, Alias & Tahirm, 2017). Onyango (2017) added that adoption of managerial processes made projects achieve the projects objectives and satisfy the beneficiary's needs. In addition, effective managerial processes helped in mobilization and management of the available resources effectively ensuring project completion within the given budget and time.

Arnaboldi, Azzone, and Savoldelli, (2014) outlined that Italian government implemented resource mobilization, risk management, proper planning and project evaluation in electricity projects which enhanced projects performance. In addition, over 41% of projects in United Kingdom that had successful projects used the following factors; monitoring and evaluation, clear vision and mission, executive management mobilization of resources. According to Sarfo (2007) and Golini, Matteso & Paolo (2014), managerial practices, processes or factors used by different organization varied because of the type of organization, the objective of the projects and because of different approaches, tools and techniques applied.

Skeggs (2011) outlined that factors or management processes that influenced project performance included; resource availability, resource mobilization, top management leadership, stakeholder participation, adoption of technology, management of project scope, solving conflicts, monitoring and evaluation of projects, managing projects risks, strategic planning, clear vision and missions among others. Most electricity projects implemented within the country were taking longer periods and also failed to meet the set objectives which made this study investigated the influence of managerial processes on performance of RE projects to fill the gap. Based on Relative Important Index (RII) for government-funded projects, Ugwa and Heupt (2010) outlined that the critical managerial processes that established projects performance included; M & E, risk management, stakeholder management and project resource mobilization which the current study adopted.

Project monitoring and evaluation involve continuous routine of collecting and analyzing information to track the projects progress (Harrison, 2008). According to Mambo and Chiragu (2013), evaluation assessed the ongoing and completed projects to check the project's design, projects management process and finally the projects results. Anyango (2016) added that monitoring and evaluation ensured early corrective measures in case of risks that enhanced effective and efficient performance. Early monitoring and evaluation gave control to the project resources and helped in utilization of the resources that enhanced completion to be within the scheduled budget and time.

According to Mugo and Oleche, (2015), M & E remained to be a management tool that enhanced early planning, effective decision making and economic policy management in project management. In addition, Kibet and Wanyoike (2015) argued out that M & E skills guided the management team to understand if the progress of the projects were within schedule, met the set objectives and deadline which helped in providing background for effective project performance.

Risk management has been a crucial approach in management of projects that included identifying, analysing and acting to the identified risk using principles and processes of risk management (Smith & Jagger, 2010). Identification of risks involved pointing out any cause of harm to the project and the project management team had to take early measure that included acceptance, mitigation or avoidance to prevent or reduce its effects to the projects. In addition, Mucheru (2014) outlined that risk management increased chances of projects performing successfully. Ewalina and

Mikaela (2011) noted that to maximise the efficiency of risk` management there was need of developing the process to ensure risk identification occurs at early stages leading to timely risk response. According to Well-Stan (2012), risks that affected electricity projects included physical risks, financial risk, security risks, technical risks and environmental risk and the management team needed skills and ability to identify and mitigate them effectively to enhance project performance.

According to Maina (2018), stakeholder management contributed a lot to projects success as the interests of all stakeholders need to be balanced. The study added that according to Kenya Constitution 2010, all citizens had rights to participate and investigate project activities that had impact to their lives. Involvement of stakeholders in projects implementation helped in decision making and monitoring the projects ensured achievement of the projects objectives and goals.

Prackel (2014) argued out that involvement of stakeholders in monitoring and evaluation helped in projects management as they had certain roles to play. Stakeholders of the rural electrification (RE) projects were; government, donors, employees, the community, contractors and customers. Leboo (2013) added that community involvement in project implementation was a key pillar to the projects performance as they solved land related issues. The study added that community grievances that affected the development of projects were solved by involvement of the community in management of projects.

Mobilization of resources has significant influence on performance as availability, adequacy of resources and effective management of resources reduce chances of time and budgets overruns (Maendo, 2018). According to Crivelli and Gupta (2013), identification and organization of technological, physical, human and financial resources contributed to effective management of projects. Inadequate financial resources were a major challenge in project management and managers were encouraged to ensure maximum utilization of project resources to enhance projects completion within budget (Gitenya & Ngugi, 2012; Maendo, Rosemary & Ngugi 2018). Elias and Kagwathi (2012) noted that project employees remained critical to project management and so personnel planning had to be adequate and in time to prevent projects overruns. Moreover, David (2015) outlined that technology resources was important in project management and use of modern technology influenced project performance in all sectors.

1.1.3 Regulatory Framework in Energy Sector

In Kenya, electricity remains to be a core component of Sustainable and Millennium Development goals. However, government and development donors invest a lot in energy sector to ensure sustainable, modern, reliable and modern energy for all by the year 2030. Despite government efforts, there was evidence of delay in project completion and budget overrun (Masila, 2016). According to sustainable Development Goals report (SDGs, 2017), the rate of the progress globally was not keeping pace with 2030 agenda ambitions and there was need for the countries to accelerate the actions to fill the gaps between the set goals and targets. In addition, the

report emphasised the need to strengthen policy ambitions to meet energy targets for 2030

Government policies and electricity regulations have been ultimate consequences that create balance between the projects operations and compliance with policies from regulatory bodies that formulate and implement (Njoki, 2013). Kenyan government established rural electrification programme under section 67 No, 12 of 2006 of Energy Act to facilitate electricity provision in rural areas for socio-economic transformations in a sustainable and equitable ways. In Kenya, some of electricity regulations that govern electricity management projects include; The Kenya power (Electricity Installation Work) rules (2006), the energy (Complaints and Disputes Resolution) regulation (2012), and the energy (Electricity Licensing) regulation (2013).

Kaiser and Ahlemann (2010) argued out that policies influenced management of projects which led achievement of social goals and development of the economy. In addition, the study indicated that ideal policies focused on successful projects management ensuring achievement of socio economic, institutional and regulatory goals. Njoki (2013) added that policies aid in management of projects by upholding integrity of the projects promoting performance of projects. Further, World Bank (2010) added that policy required transparency to enhance project implementation openness and clarification that influenced project performance.

1.1.4 Organization Structure

Organization or firm structure has been among the very crucial activities required in project management for enhancing accomplishment of projects goals and objectives. Moreover, it gave guidelines on how to allocate the duties, how to do supervisory activities, coordination of activities that lead to objectives achievement. For allocation of critical resources like financial, human, physical and technological, organization structure played important role in project management. According to Ramesh (2013), projects performance depended on the organization structure as it involved action oriented activities which included; decision making, coordination of activities, communication among members, sharing of duties, organising and controlling of organizations resources.

According to Ngetich (2018), appropriate organization structure facilitated proper coordination, effective communication and decision making of the organizational processes that led to achievement of the objectives. Mohammad (2012) argued out that effective organization structure ensured that information moved in all level in the organization. According to Montana & Chamov (2013), organization structure gave the guidelines of project management by outlining the following; decision making, effective communication and team members of the project.

1.1.5 Rural Electrification Projects in Kitui County

Rural electrification projects in Kitui County are managed by Kenya power (KP) and rural electrification authority (REA). Kenya Power has the following functions; owning and operating both the transmission and distribution networks, purchasing

bulk electricity, supplying power to the customers in the country. Rural Electrification Authority (REA) assists Kenya Power and was established under Section 66 of Energy Act of 2006 and mandated to extend electricity supply to all rural areas in the country. This study considered the two organizations as they were involved in installation of electricity projects in the rural parts of the county.

According to Kitui County integrated development plan 2013 -2017, the county has two substations and distribution network of 11 Kv and 33Kv that were used to supply power to rural areas. Most rural areas were far from national grid and the following challenges were experienced; high costs due to logistic costs, on-site storage challenges and high operation and maintenance costs that made the projects delay completion time and experienced cost overrun that affected the projects performance.

Area covered by Kitui County is 30496.5 KM ^{2} and its topography includes hilly rugged upland, and lowlands that lead to high cost through grid extension that has been a challenge as households are scattered. In addition, Kenya power offices were located in Kitui town and Mwingi town that made project management process in the rural areas face delays due to distances covered. Annual development plan of Kitui County government financial year 2017/2018 outlined that rural electrification implementation faced delays as it depended fully on capability of organizations staff to implement the projects within the given time.

According to World Bank (2017) and IEA (2017), successful performance of electricity projects correlated to higher education, better health services and poverty

reduction. In connection to this, CIDP (2018) outlined that rural areas of Kitui County were characterised by high poverty level, low education, poor health services, low living standards and low economic growth which was a clear evidence of unsuccessful performance of rural electrification projects in the area. Performance of RE projects was affected by vandalism and theft of electricity facilities in the area (KPLC and REA, 2017 & World Bank, 2017). In addition, illegal power connection and power theft was a challenge to performance of the RE projects which had affected negatively the rural areas, the organizations and the users in case of risks.

1.2 Statement of Problem

Performance of rural electrification projects in Kenya remains a challenge in terms of completion time and budget, achievement of objectives and satisfaction of customer's needs that has undermined rural economic growth preventing rural transformative progress in human development. In connection to this, government developed and funded rural electrification programme to address the poor performance of RE projects (REA, 2016 and IEA, 2014). Sub Saharan Africa has more than 1.6 billion people lacked access to electricity and those who had the access, the electricity projects took longer period to complete (IEA, 2017, Masila , 2016, Okoth ,2016, & WB, 2017).

Despite the measures taken by the government to address the performance of projects, Kenya Power report (2017), indicated that Last Mile Connectivity project faced delay as first phase connected 123,822 which was half way of the targeted 225,131 new customers, Second phase started on November 2017 and managed to connect 1728

new homes against 314 937 households and the last phase started on January 2018 and had connected 647 new households and the work was still going on. Economic Survey (2013) and World Bank (2018) outlined that energy sector faced delays due to power vandalism, inefficient projects management, delays for approval from county government and underperformance of the contractors. In Kitui County, despite partnership between county government, REA and Kenya power in management of rural electrification projects, CIDP report (2017) indicated electrification rate of the county where urban population gave a rate of 23.4 percent and rural area gave a rate of 1.1 percent.

Previous studies focused on performance of projects in other sectors and considered community involvement, group dynamics, team conflicts among other factors that affected performance (Dufe 2015, Odhiambo,2015, Ocharo and Kimutai 2018). Further, other studies focused on urban towns and therefore there was need to conduct the study in rural area. This study sought to determine the effect of managerial processes on performance of RE projects in Kitui County, Kenya. In addition, the study sought to establish the moderating effect of regulatory framework and a mediating effect of organization structure on relationship between managerial processes and performance of rural electrification projects. The study considered Kitui County because it was among the rural area in semi arid areas in Kenya and also due to its accessibility.

1.3 Objective of the Study

1.3.1 General Objectives

To investigate the effects of managerial processes on performance of rural electrification projects in Kitui County, Kenya.

1.3.2 Specific Objectives

i. To determine the effect of monitoring and evaluation on performance of rural electrification projects in Kitui County, Kenya

ii. To establish the effect of risk management on performance of rural electrification projects in Kitui County, Kenya.

iii. To establish effect of stakeholder management on the performance of the rural electrification projects in Kitui County, Kenya.

iv. To determine the effect of resource mobilization on the performance of rural electrification projects in Kitui County, Kenya

v. To establish the moderating effect of regulatory framework on the relationship between managerial processes and performance of rural electrification projects in Kitui County, Kenya.

vi. To determine the mediating effect of organization structure on the relationship between the managerial processes and performance of rural electrification projects in Kitui County, Kenya

1.4 Research Hypothesis

H_{01}: Monitoring and evaluation has no significant effect on the performance of rural electrification projects in Kitui County, Kenya.

H_{02}: Risk management has no significant effect on the performance of rural electrification projects in Kitui County, Kenya.

H_{03}: Stakeholder management has no significant effect on the performance of rural electrification projects in Kitui County, Kenya.

H_{04}: Resource mobilization has no significant effect on the performance rural electrification projects in Kitui County, Kenya.

H_{05}: Regulatory Framework has no moderating effect on the relationship between managerial processes and performance of rural electrification projects in Kitui County, Kenya.

H_{06}: Organization structure has no mediating effect on the relationship between managerial processes and performance of rural electrification projects in Kitui County, Kenya.

1.5 Significance of Study

The study findings concerning managerial processes and project performance would benefit stakeholders who formulate policies touching rural electrification projects that ensure available, adequate and reliable services to enhance regional development balance. More ever, the study would help the projects managers to understand how the managerial processes related with project performance and focus to the best factors/ processes to enhance project performance. In addition, the study would help projects managers to focus on the environmental factors affecting the projects and focus if the available organization structure enhances activity and resource supervision, communication and set roles and functions that ensure successful project performance. Also, the study finding would help the county government to understand

the challenges facing rural electrification projects in all parts of the country and get their solutions.

The research findings would give support to the existing body of knowledge of project management and helps future scholars in the future research connected to managerial processes and performance of electricity supply projects. In addition, the findings would help the future researchers to understand organization structure the mediating effect and regulatory framework the moderating effect on the relationship between managerial processes and project performance.

Kenya Vision 2030, SDGs and MDGs consider energy as a key pillar to socio-economic growth and development of a country. In connection to Vision 2030 and Development Goals, policy makers and other vision 2030 stakeholders would find the study findings as a source of information on the influence of managerial processes on performance of rural electrification projects and formulates the effective energy policies and regulations to enhance sustainable development in the country.

1.6 Scope of the study

The study sought to determine the effects of managerial processes on rural electrification projects performance in Kitui County, Kenya. The study focused Kitui County as it's a rural and semi arid area and also because the researcher could access the area. The study focused on 125 rural electrification projects and considered the following variables; independent variables (monitoring and evaluation, risk management, stakeholder management and resource mobilization), moderating

variable (regulatory framework), mediating variable (organization structure) and dependent variable (performance).

The study considered electricity projects implemented by Kenya Power and Rural Electrification Authority in Kitui County in partnership with Kitui County government. Most projects in a certain areas took several months hence the study took the choice of last two year period between 2017 and 2018 because this period had completed and ongoing projects which could give the study adequate findings. The study focused on different respondents who included; contractors, senior managers and field officers from KP, REA and county government. The study felt the organizations concerned with electricity distribution was adequate for the study.

1.7 Delimitations of the Study

The study faced challenges of getting the information, as accessing projects documents from the organizations was difficult. There was a challenge of getting the true information, as the informants feared to give the information that concern managerial processes. To mitigate the deliimitation, a researcher explained the purpose of the information and produced permit from Kenyatta University, energy sector and National Commission for Science, Technology and Innovation (NACOSTI) to ensure the respondents that the information was for academic purpose and assurance for confidentiality created.

Secondly, the study experienced delay in getting the information for the study used drop and pick method to distribute the questionnaires and to solve the delimitation the

researcher followed up the respondents through the projects managers to get the questionnaires back. The study also faced a challenge of use of self report data as that data could have triggered by respondents perception and to remedy the challenge the researcher explained the data was for academic purpose and permit was given to them. The study was limited to Kitui County rural electrification projects.

1.8 Organization of the Study

This thesis has five chapters. Chapter One, gives the introduction of the study that includes the background of the study that discuss the performance of projects. Moreover, the study discusses regulatory framework and organization structure. Further, the chapter also presents, the study statement of problem, general and specific objectives, research questions, significance of study, study delimitation, and the scope of the study. Chapter Two, gives the literature review of the study highlighting the theories that anchor the study. In addition, the chapter includes review of the empirical work of the managerial practices, summary of the literature review, research gap and lastly conceptual framework concludes the chapter.

Chapter three concerns research methodology which deals with the following; research philosophy, research design, target population, sample design , validity and reliability, data analysis and presentation, diagnostic tests empirical model, operationalization and measurement of the variables, and lastly the study presents ethical considerations. The fourth chapter discusses research findings and discussions of the outcome. The response rate and demographic characteristics of respondents is discussed which included age, education level, work experience and gender. Further,

the study discusses descriptive and inferential statistics on performance. The study presents results by use of tables and statistical parameter estimates. Chapter five discusses the study summary, limitations, conclusion and recommendations. In addition, the study discusses study's contribution to knowledge and suggestion for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section reviews theories and previous research discussions regarding managerial processes and projects performance. The study considered theoretical literature review related to the context of project performance and the contribution it had to the current study. Next sections considered empirical review that gave highlights of previous discussion conducted on managerial processes that the study discussed (M & E, risk management, stakeholder management and resource mobilization). In addition, literature of moderating and mediating variables where reviewed which included regulatory framework and organization structure. Lastly, the chapter gave the summary of literature review indicating the research gaps filled by the current study. Finally, the conceptual framework concluded the chapter.

2.2 Theoretical Literature Review

This section of the study discussed theories from past research and the support they gave to the study of managerial processes and performance of rural electrification projects. The theory underpinning the study was resource based view theory as it supported the objective of the study resource mobilization. The theory was relevant to the study as resources remain crucial to performance of projects. The other theories which supported resource based view theory were stakeholder theory and management competency theory.

2.2.1 Resource Based View (RBV) Theory

The theory has been in existence since 1950s as strategic management and researchers like Penrose (1959) Barney (1991) and Barney (1995) viewed the importance of resources to the performance of organization to developed Resource Based View theory that focused on resource control in management of organizations that attribute to performance. According to Barney (1991), to enhance competitive advantage resources of an organization should be valuable, rare and imperfectly imitable. In addition, Peteraf and Barney (2003) argued out that resources in an organization had different levels of efficiency which led to different outcomes.

Resource based view theory focuses on valuable resources and capability of the organisation that contributes to the performance of the organisation projects and development of competitive advantage. The theory emphasised that the managers had to combine the resources to attain the performance of the organisation and the resources were important determinants to better and quality performances. In addition, the theory added that for an organization to perform then valuable tangible and intangible resources had to play a big role (Mwalu & Mercer, 1983).

Ville & Wicken, (2012) and Barney (2001) argued out that the resources owned by the organisation had to determine the performance of the organization and the ones with more valuable resources provided better services. Barney (2007) established that the existence of major resources of any company led to superior performance of the company. Barney and Hesterly (2013) argued that resource-based view theory dealt with resources, competencies and capabilities that ensured performance. In addition,

literatures of strategic management reviewed that resource, competencies and capabilities enabled an organization to have successful performance giving better services or products (Anderson & Glen, 2011).

Availability and management of the resources has influence on project performance and this theory played a big role in evaluating the available economic, financial, human and technological resources and capability to manage them for performance of the rural electrification projects and that's why the study adopted the theory. Capability of the organization to use the available resources facilitated performance of the electricity projects. The stakeholders of the electrification projects had to ensure that the required resources were available in time to provide superior performance.

According to Mckelvie and Davidson (2009) resource based view theory had been among the most used theories due to its contribution in strategic management which emphasised that resources were sources of competitive advantages and high performance. In addition, the theory explored the importance of resource mobilization in management of organization where the managers had to use the available resources to maximise the projects performance and therefore, the theory was suitable to this study as it related to the objective of project performance and resource mobilization which ensured that project management had adequate resources to improve achievement of the set objectives , completion within the budget and satisfaction of the needs of the customers. The theory was pertinent to establish the effect of managerial processes on performance of rural electrification projects, as the resources need necessary utilization with minimum wastage. The theory tried to answer research

question on the effects of resource mobilization on performance of rural electrification projects in Kitui County.

The criticism of the theory was that it assumed that in the organization the individuals were inspired to use the available economic resources maximally (Barney, 2007). In addition, theory was criticised for its assumption that superiority of resources results to successful performance. Finally, the theory was criticised for not considering external environment that had effect to the performance of organizations.

2.2.2 Stakeholder Theory

The theory proposed by Milton Friedman who recognised the theory during the 1980s as very crucial element of Corporate Social Responsibility (CSR) which emphasises the responsibilities of the stakeholders in any organization to promote the goals achievements. According to Freeman (1984), stakeholder theory promoted effective and efficient ways of managing organization in complex environment promoting efficient performance. The theory recognised the stakeholder in any organization and gave guidelines on the strategies taken to enhance achievement of project's goals and objectives that considered the demands and the interests of the stakeholders. Friedman, wicks and Palmer (2004) argued that all stakeholders had vital decision to make towards implementation of the projects and in rural electrification projects management, stakeholders involved were the government, donors, managers, employees and the customers.

According to Lynda (2006), stakeholder theory was important for effective performance of projects and in connection to Lynda's idea, project managers had a duty to play in engaging the stakeholder in decision making process and also ensuring that team work and conflict solution to enhance performance of the projects. In addition, Lynda's study examined stakeholder theory and concluded that organization success need maximum support of the stakeholders. Kirsi (2010) outlined that stakeholder theory presented an ideal relationship between many groups that played a role to the success of any organisation where their support was considered and their interest balanced.

According to Boonstra, (2011), Stakeholder involvement in project management ensured transparency and accountability in resource management that reduced costs overruns. The theory contributes to stakeholder's involvement in decision making and planning during the management of the projects. In this study, stakeholder theory ensured that the manager had to maximise the functions of the other stakeholders.

The theory was relevant to the study as it related to the stakeholder management, risk management objectives of the study, as the objectives need decisions for the stakeholders to ensure the project's completion within time, budget and achievement of the projects objectives. The theory led to answering of the research question on how stakeholder management influenced rural electrification performance in Kitui County. The theory enhanced the understating of stakeholder relationship to successful project management.

Blattberg (2004) argued out that the theory assumed that all stakeholders' interests was balanced which brought criticisms of the theory. Blattbergs viewed that the theory was one sided and it never helped in conflict resolution regarding interest of stakeholders. According to Harison and Wicks (2013), there was a challenge for an organization to commit to serve the interests of all the stakeholders to ensure value of the organization. In addition, theory criticism was that its scope was narrow as it considered the activities in an organization/firm from perspective of shareholders only which never gave successful performance.

2.2.3 Project Management Competency Theory.

Mclelland and McBer (1980) developed the theory in the 1980's and defined competency as attributes attained by an individuals or organization to attain quality or superior performance. Project management competency was necessary skills, knowledge, and attitudes that had effect to the activity and was to be measured by comparing with the set standards (PMI, 2012). The theory's objective and goal was to explain the roles of competency in project management and its effects on projects performance. The project employee had to apply knowledge, skills and management techniques successfully to achieve the set goals of the projects (Gladder, 2010).

According to Garrish and Huemann (2014), project managers were needed to have ability to choose the project implementation tools, techniques and capabilities that facilitated the performance of the projects. The project manager's competency to apply the management techniques effectively optimised the performance of the projects. In management of projects, competency in using modern technology, tool

and capabilities was very critical to the success of the projects (Edum-Fotwe & McCaffer , 2011). Ryssel (2013) added that traditional management ways gave the projects many challenges as it includes; rigid projects structures, long term project planning and provision of non-quality services that affected projects performance. Soderland (2012) supported the study by emphasizing that the top management team had to have management competences that enabled them to implement the projects effectively and meet projects quality objectives.

According to Hilson & Murray, (2012), project implementers had to competent in their duties to enhance successful performance in projects. In addition, Ruth and David (2011) added that projects managers had to have personal characteristics for the job for them to perform. Maximum performance in an organization occurred if individual's competency correlated to the organizational structures, systems, environment and requirement of the responsibilities and roles (Boyatzis, 2008). Competency implied to what an individual would and was willing to do and for effective performance and both factors had to be considered.

Criticism of the theory indicated that competency alone would not be the only factor that determined the performance of complex projects and for them to perform there was need for technological factors, economical factors, physical factors and social factors that the theory ignored (Ryan, Emmerling & Spencer, 2009). Management Competency theory was important in the study of RE project management as it needed the essential knowledge and skills for effective management.

2.3 Empirical Review of Literature

The section discussed the research objectives literature on project performance, monitoring and evaluation, risk management, stakeholder management and resource mobilization and gave the highlights of research gaps. The review included information from research documents, journals articles, internet, university research repository websites and also publications concerning the area of study.

2.3.1 Project Performance

According to previous studies, many factors and management processes had effect on performance of projects in different sectors. Power supply remains crucial for country's development and growth and stakeholders in energy sector has to address the challenges and issues affecting performance of the project to ensure successful performance. According to Farida and El-Sayegh (2010), projects performance was affected by different factors which included; mismanagement of funds, poor M & E, poor leadership, breakdown of machines, inadequate skills among other factors.

Kebeya (2016) study investigated on project management effects on performance of prepaid electricity metering projects of Kenya Power. The study revealed that factors (project initiation, planning. M & E and stakeholder involvement) had influence on the electricity metering projects. Further, it showed that regularly performance reports were given during project implementation process and the strategies or measures employed by Kenya Power had influence on the performance. The performance indicators used were customer satisfaction, meter breakdown and customer complains. Njenga (2015) added that project management, time schedule. IT and

benching marking influenced project performance. The current study conceptualised RE projects performance by using effectiveness, efficiency, and customer satisfaction.

Karanja (2015) examined management principles effects on agribusiness projects performance and study revealed that stakeholder involvement, implementation strategies, M & E and organization framework influenced projects performance. Also the study revealed that the performance of the projects were below the expectation in terms of production output and financial returns. Data collection tools used included questionnaires, interviews and observation. The current study considered performance in view of non-financial indicators (effectiveness, efficiently and customer satisfaction). In addition, the current study used questionnaires only to collect data.

Babalola, Olowatuyi,Akinloye and Aiyewalenvi (2015) in their study on factors that influenced performance of CDF projects found significant influence between the factors and performance. The study considered the following factors; projects procedures, consultant factors, contractor's related factors and external factors. The study findings showed that contractor related factors considered effectively influenced project completion within time and budget. The study used within budget, time and quality to measure performance. Descriptive research design was adopted in the study. The current study used efficiency, effectiveness and customer satisfaction to measure R E performance.

Abdi (2014) study determined factors that had effects on performance of NGO projects in Kenya and noted that project performance kept changing due to projects

funding, organization culture, governance and community participation and the organization had to ensure that factors were considered to enhance superior performance. The study findings showed that the factors had positive influence on projects performance. In addition, the study revealed that inadequate funds affected the performance negatively. The study conceptualised project performance by use of delivery services, polices and humanitarian. The current study considered performance in terms of views of project managers of projects and customers who were the beneficiaries. The following indicators for performance were used; effectiveness, efficiently and customers satisfaction.

2.3.2 Monitoring and Evaluation and Project Performance

Monitoring and evaluation of projects is very crucial for performance of projects as supervision and control of resources enhances project performance. Phiri (2015) conducted a study that focused on investigation of M & E effects on project performance a case of AVU in Kenya. The study considered the following M & E planning, M & E skills and baselines survey and information systems. The study used mixed research design of ex-post facto and survey. The findings showed that M & E as a function of management had a positive significant influence on projects performance.

M & E planning and skills had the highest influence on the projects performance and the study concluded that monitoring and evaluation had direct positive influence to project performance. In addition, it concluded that for monitoring to influence performance first consideration was for planning and training. Moreover, the study

concluded that for projects to perform, organization had to implement M & E with full-developed structure. Phiris study assumed that monitoring and evaluation alone had effect on projects performance and to improve results viability of projects the performance the current study included resource mobilization and stakeholders. Leung (2014) supported the study by arguing that developed supervisory systems were critical to the success of the project

Yusuf, Muchelule; Otonde, Mbawi Geoffrey; Achayo, Muchelule Saada (2017) study established influence of M & E on performance of CDF projects in Kajiando Sub-County ,Kenya. To achieve the objectives, the study employed descriptive survey research design and sampled a sample size of 122 respondents who filled questionnaires. The study noted that M & E tools, training and time allocation had positive influence on CDF projects performance and the findings indicated that inappropriate M &E tools, lack of proper training had challenge in CDF projects performance. The study revealed that M & E gave feedback which led to timely response. The challenges of monitoring and evaluation affected the success of C D F projects. Monitoring and evaluation was very crucial for management of projects and for government projects should adopt it effectively. The current study still added M & E policies and standards

Njeru and Luketero (2018) study sought to establish M & E strategies influencing performance of medical camp in hospitals in Kenya. The study considered skills on M & E, stakeholder involvement, resource allocation and also adoption of M & E systems. To achieve the objectives the study targeted a population of 1225

respondents which were categorised in two groups of 1005 patients and 220 key stakeholders. Data was sampled to 167 respondents who filled the questionnaires. The study findings stated that M & E skills had great influence on projects performance. In addition, the study indicated that stakeholder involvement, resource allocation and adoption of M & E systems influenced projects performance. The study showed that stakeholder's involvement in monitoring and evaluation enhanced identification of scope and purposed monitoring capacity building in project. The study recommended that M & E training programmes be carried out frequently to enhance effectiveness.

Nalianya and Wanyonyi (2017) study investigated on monitoring and evaluation systems and performance of non- governmental based maternity health projects in Bungoma County. To achieve the objectives, the study employed descriptive survey and correlation designs. The study targeted a population of 101 projects and census was conducted. The study considered M & E plans, M & E policies and standards, human resource capacity and stakeholder involvement to determine its influence on performance. The study findings indicated that monitoring and evaluation systems had positive influence on performances. The study results showed that human resource capacity was a critical factor to maternity heath project performance. The study also revealed that monitoring and evaluation policies and standards enhanced successful projects delivery and a well designed M & E policies and standards gave the expected actions which enhanced achievement of project objectives.

Waithera and Wanyoike (2015) sought to investigate projects monitoring and evaluation influence on performance of youth funded agribusiness projects in Bahati

Sub County, Kenya. The study established the influence of staff training, stakeholder participation and political influence on performance of the projects and to achieve the objectives, the study carried descriptive survey design and conducted census of 50 projects which was the target population. The study findings indicated that staff training had a statistically significant influence on the performance of projects. The study still indicated that the projects leaders had to offer short M & E training courses to the members of the projects to enhance performance of projects. The study further showed that staff training enabled the project managers acquire the required skills for better decisions which led to successful agribusiness projects performance.

Mugo and OIeche (2015) study examined monitoring and evaluation of development projects and its influence on economic growth in Kenya. The study considered training, amount of money allocated and participation of stakeholders. The study also considered institutional guideline and political influence as mediating and moderating effects. The study findings showed that the independent variable considered had positive relationship with system implementation in development projects. The study also revealed that presence of institutional guidelines increased chances of implementing M & E. In addition, the study revealed that political influence relationship was statistically insignificant. Further, the study showed involvement of stakeholders in monitoring and evaluation activities enhanced better management of projects that led to successful projects that influenced economic growth.

The research gap was that the Mugo and OIeche's study used binary probit model. The current study used multiple regression models. The study used monitoring and

evaluation as an indicator of managerial process and also considered resource mobilization, risk management and moderating and mediation variable of regulatory framework and structure of organization.

Safari and Kisimbii, (2020) determined monitoring and evaluation influence county government funded project performance, Kwale county Kenya. To achieve the studies objectives, the sought answers on extend on M & E plans and training on performance of the projects. The study used mixed of ex post factor research design and survey. The study sampled 100 sample sizes from a target population of 113 respondents. The study findings indicated that monitoring and evaluation plans and training had influence on the performance of county government funded projects.

2.3.3 Risk Management and Project Performance

In connection to RE projects, measuring the concept of risk management was in three aspects that included; risk planning, risk identification and risk mitigation. Monitoring and evaluation helped in identifying the risks that had effect to the projects. Kirira, Owuor, Liku & Mavole (2019) study sought to investigate the risk management strategies on performance of road construction projects in Coast region, Kenya and considered risk identification, risk mitigation , implementer perception on risk management and risk control and monitoring. To achieve the objectives, the study used stratified random sampling and selected a sample size of 159 projects. The study findings indicated that risk management had positive influence of performance of projects. Further the findings showed that most construction projects failed to have effective risk planning.

Risk identification had a great positive effect on the performance of projects then risk mitigation followed. The study indicated that poor risks managements led to projects delays and cost overruns of KeNHA projects. In addition, the study showed that poor risk mitigation measures led to inadequate performance of projects. Leung (2010) supported the study by arguing that developed supervisory systems were important to project's success and monitoring and evaluation ensured that early corrective measures reduced the occurrence of risks.

Garish, Harsh and Nidhi (2014) conducted a study on risk management influence on performance of international Islamic Bank in Kenya. The study considered the following to determine its influence on performance of international Islamic bank; risk identification, risk monitoring, risk assessment and analysis and risk management practices. The study performance was measured in term as of financial and non financial indicators. To achieve the objectives, the study used descriptive design and a stratified sampling was used to select a sample size of 62. The study findings showed that risk management had positive influence on financial and non financial performance of international Islamic bank Projects. The study indicated that risk monitoring enhanced early detection of risks which led to quick response which influenced the performance of the banks. Limitation of the study was that some factors which were significant to performance were not considered.

Gitau (2015) sought to investigate on risk management effects on construction projects in Rwanda and pointed out that risk management was an important activity at

planning stage that had influence on the projects performance. The study considered the following; risk identification, Cost and schedule development, site selection and validation. The findings indicated that risk management had a positive effect on construction projects and concluded that cost and time schedule risks in construction projects were inevitable and the stakeholders had to ensure improvement in risk management techniques to minimise the negative effects to the projects. The study added that the risk management had no adequate measures and had minimal chances of managing the risks at the planning stage. The study recommended for structural risk management practice during planning stage and involvement of stakeholders. Oehmen, Olechowski, Kenley, and Ben-Daya (2014) supported by arguing that risk identification and risk monitoring and evaluation had influence on projects success.

The Gitau's study used random sampling to get the sample size. To collect data the study used structured interviews and surveys. To improve the study viability, the current study considered stakeholder management, risk management and resource mobilization.

Sibomana (2015) investigated risk management methods effects on project performance in Rwandan Construction Industry. The study sought to determine the effects of risk avoidance, risk transfers, risk retention and risk mitigation on the performance of construction industry. To achieve the objectives, the study used simple random sampling to collect data and selected a sample size of 169 from a targeted population of 291. The study used structured in-depth interviews, questionnaires and documentary review to collect data. The study findings showed

that risk management methods had a very strong effect on the performance in terms of quality, time and cost.

Ondara (2017) investigated the influence risk management strategies on performance of construction firms in Kenya. To achieve the study objectives to study determined the following risk management strategies: resource risk, personal risk and projects litigation risk. The study tested moderating effect of government policy and regulation on relationship between risk management strategies and performance of construction firms in Kenya. The study performance was tested by use of function of time, cost and quality variable. 2414 firms were the considered construction firms from the selected counties which were registered by republic of Kenya between 2011 and 2012.Simple random sampling was used to get a sample size of 97 respondents. Semi- structured questionnaires were used to collects data which was analysed by use of descriptive and inferential statistics. The study concluded that resource risk and personal risk has significant effect on the performance while litigation risk and insurance risk management strategies had negative effect to the performance. In addition, the study concluded that government policy and regulation had a moderating effect on the relationship between management strategies and performance of construction industries.

2.3.4. Stakeholder Management and Project Performance

Maina (2018) investigated on the stakeholder management and performance of open air market in Nyeri County, Kenya. The study considered stakeholder involvement, stakeholder communication, conflicts management and stakeholder need and

expectation. To achieve the study's objectives, cluster sampling was done and the findings indicated that stakeholder management had positive influence to open air projects in Nyeri County. For stakeholder involvement, the study recommended that it was very critical for the performance of the projects and the government should ensure that all aspects of stakeholder involvement should be covered in an adequate manner during feasibility study to enhance projects performance.

Bwisa and Muli (2016) study investigated on the role of stakeholder management on performance of CDF projects in Kenya. The study used cross sectional research design. In addition, stratified random sampling was used and a sample size of 450 projects was established. The study considered stakeholder mapping, stakeholder involvement and communication. The study finding showed that stakeholder management had a positive influence on the performance of CDF projects in Kenya. The study concluded that involvement of stakeholders from initiation stage to the last stage of project management enhanced project performances. The study concluded that government had to establish framework that ensured stakeholder management was done in all government funded projects.

Murwanashyaka and Jaya (2015) investigated on stakeholder management practices effects on performance of construction project in Kenya. To achieve the research objectives, the study used descriptive research design and targeted a population of 143 projects. The study adopted census and used questionnaires to collect primary data and collected secondary data from books, articles, magazines and appropriate website for the study. The study objectives considered contract management, communication

and conflict management. The findings indicated that stakeholder management had a positive effect on the performance of Kigali-Gatuna road rehabilitation projects. The study concluded that contract management, conflict management and communication management had a positive relationship with projects performance. For the contract management, the study concluded that involvement of competent team and expects to design contracts for the projects enhance effective contract administration and management.

A study by Ngetich and Gakuu (2019) investigated on stakeholder's management plan effects on projects performance in Nakuru County. The study considered stakeholder interests, involvement, analysis and mapping on project performance. The study used descriptive research design and stratified random sampling where sample of 322 respondents were selected. The study findings indicated that stakeholder management had a positive influence on the performance where stakeholder analysis and mapping had the highest correction to the projects performance. The study recommended that stakeholder analysis had to be held as critical factor by the project leaders. The study added that, to enhance projects performance then stakeholder's needs and expectations had to be considered during project management. Moreover, the study concluded that stakeholder involvement in activities and decision making enhanced performance.

Muindi and Kule (2017) investigated on team management practices effects on projects performance in Rwanda and pointed out that teamwork in any project management influenced projects performances. The study findings indicated that team

management had positive significant effects on projects performance. Stakeholder involvement has been crucial in project implementation as the stakeholders helps in making decisions for better implementation of the projects (Jamaal, 2018).

The research gap in Muindi and Kule's study was that it considered team management practices while the current study considered project management processes. In addition, the current study considered; project risk management, resource mobilization and project monitoring and evaluation. Moreover, the study considered regulatory framework and organization structure as moderating and mediating variable.

Githinji and Kitheka, (2020) investigated on stakeholder involvement influence on performance of projects, a case study of Kenya ferry services. Descriptive research design was used. A sample size of 70 respondents was selected from target population of 231 stakeholders of Kenya ferry service. Questionnaires were used to collect data which was analysed use of linear regression. The study findings indicated that involvement of stakeholders, organization respect had positive influence on projects performance the study recommended stakeholder enhancement in project identification

2.3.5 Resource Mobilization and Project Performance

Musyoka (2014) study investigated on resource mobilization strategies influence on community based organization performance in Tseikuru in Kitui County. The study adopted the following objectives; identification of resources, effective communication and contribution of communities. To achieve the objectives the study targeted three

divisions from the sub-county which gave 186 respondents, Data was collected through interview schedules and questionnaires. Data reliability was tested by use of split half techniques. The study findings indicated that resource mobilization had a significant influence on the performance of the organization. The study identified sources of resources were grants, fund raising, government funding and sponsors.

Musundi (2015) investigated the influence of resource mobilization strategies on performance youth projects in Turbo sub county, Kenya. The study objective was to establish the influence of: resource strategic planning, resource networking, donor outreach and fund raising mechanism on the performance of total war against youth projects .To achieve the objective, the study used descriptive design and simple random sampling and a sample size of 114 respondents were selected. The study findings indicated that resource mobilization had positive influence on performance of projects. Resource networking had the greatest influence on performance followed by fund raising mechanism.

Beverly, Strapola, Hazel, Fredrick and Odhiambo (2012) study investigated on factors that influenced mobilization of Kenyan resources for healthy and development. The factors considered inaccessibility of resources, presence of management structure and governance in community based organizations. The study used descriptive research design, and also qualitative and quantitative methodologies were used. 14 community based organization were selected by use of stratified sampling technique. The study findings indicated that governance, management structures and resource accessibility influenced the community based organization to organize mobilization of internal

resources effectively. Study conclusion stated that inaccessibility of resources had the highest positive influence on resource mobilization in community based organization. In addition management structure presence and governance influenced the ability to mobilize resources.

Maendo, Rosemary and Ngugi (2018) study investigated on resource mobilization effects on road infrastructure projects performance in Kenya and revealed that project resource mobilization had positive significant influence on the projects the study. The study considered effects of managerial skills, and technology and modern equipment on performance of infrastructure projects. Census of 41 projects was done and collected data by use of questionnaires. The study revealed that the considered variables played a key role in determining the performance of road projects. The study's conclusion indicated that the resource mobilization played a key factor in influencing performance of road projects.

2.3.6 Regulatory Framework and Project Performance

Ndumia (2015) conducted a study on regulatory framework influence on performance of building construction projects in Nairobi County, Kenya. The study considered regulatory practices form different bodies to test its influence on construction projects. To achieve the objective, the study used simple random sampling to select 183 respondents. In addition, the study used descriptive survey research design. The study findings showed that regulatory framework had a positive significant influence on performance of building construction projects. The study also found that regulations compliance enhanced project completion to be within time and budget.

Pedo, Kabare and Makori (2018) conducted a study on regulatory framework effects on the performance of public private partnership road projects in Kenya. The study considered relationships between regulations framework and performance and also the moderating effect of relationship between regulatory framework and performance of the projects. The study used both exploratory and descriptive research design. Census was conducted on the target population of 107 projects. The study used semi-structured questionnaires to collect data. The study findings indicated that regulatory frame work had positive influence on the performance of PPP road projects. Also the finding showed that government policy had a moderating effect on the performance of PPP road projects.

Gichamba and Kithinji (2019) investigated on environmental regulation influence of construction projects performance in Nairobi County, Kenya. The study considered water regulations, waste management regulations, in addition, the study considered physical regulation and environmental resources as a moderating effect. The study used correlation research design and targeted a population of 824. Stratified sampling was used to select a sample of 269 and the study collected both primary and secondary data. The study findings indicated that water and waste management regulations had a positive influence while physical planning regulation had insignificant influence on the performance of projects. The study revealed that physical planning regulation made early plans which enhanced mobilization of all required resources for successful construction.

Mbithi, Muturi and Rambo (2017) investigated on moderating effect of macro environment on strategy and performance. Macro environment played a key role in performance of most firms. To achieve the objective, the study considered the following macro environment factors; political, technological, economic and socio-cultural. The study findings indicated that macro environment had positive relationship between strategies and performance of firms. The findings also showed that for firms to perform there was need to scan macro environment and align them with firm's strategies. Further, findings indicated that policies governing the firms had to be followed.

A study by Kungu (2017) focused on establishing the moderating effect of the operating environment on the relationship between quality management practices and performance of the firms in Kenya. The study considered; standards and regulations of the industry and the findings showed that the standards and regulations had no moderating effect on the relationship. Odeyinka and Yusuf (2018) contradicted the study by arguing that government policies and regulation had a moderating effect on the relationship between determinants effect and performance. The study that the study considered standards and regulation and the current study considered regulations and government policies as indicators of regulatory framework.

A study by Muchangi (2016) investigated on government policy effects as a moderating effect on the relationship between mobile technology services and performance of Sacco in Kenya. The study findings showed that government policy had positive moderating effect on the relationship between mobile technology

services and performance of Sacco. Gakenia (2015) study contradicted the study by arguing that environmental factors (government policy) had no moderating effect on the relationship between the independent variable (organizational resources) and independent variable (performance). The research gap in Muchangi's study was that the study considered government policy as a moderating factor of the study and the current study considered the regulations and government policies as indicators of the regulatory framework.

2.3.7 Organization Structure and Project Performance.

Wachira (2015) examined the influence of organization structure on implementation of biometric projects; the study findings showed that the study had positive significant effect on implementation of the projects. The study outlined that organization structure established the following; the operation model which the organization used, responsibilities for different functions and dictated the chain of command to be followed in the organization. In addition, the study considered leadership styles effects on the projects implementation. The study noted that for successful implementation of projects, the project leaders needed technical knowledge and leadership skills. The study used decision-making and leadership as indicators of organization structure. The current study used decision making, communication and set roles and functions as indicators of organization structure.

Akira and Fridah (2017) investigated on factors affecting project performance of Kenya Port Authority. The study established that organization structure a mediating variable had a positive mediating effect on the relationship between the factors and

performance. The study noted out that organization structures provided framework for initiation and execution of projects duties. The study added that the structures reduced uncertainty and confusion that occurred during project management. The study used descriptive research design and also questionnaires with structured and semi structured questions to collect data. The current study used both descriptive and explanatory research design and used communication, decision making and set roles and functions as indicators of organization structure.

Ochieng (2016) investigated on influence of structure of organization on performance of projects in Kenya. The study operationalized organizational structures as leadership, size of the organization, departmentalization and decision-making influence on projects performance. The study findings showed that structure of organization had a positive significant influence on performance of projects. The study outlined that leadership influenced success of the projects as projects ideas were from leaders with consultation of the other staffs. In addition, the study outlined that formation of departments' increased division of labour that made projects activities done within the expected time. The current study operationalized structure of organization as decision making, communication and set functions and roles.

2.4 Summary of the Literature Reviewed and Research Gap

Reviewed literature showed that although research on projects performances exists, there was little study on managerial processes on performance of RE projects in Kitui County. Table 2.1 shows summaries of reviewed literature and research gap.

Table 2.1 Summary of Literature Reviewed and Research Gap

Author/ year	Focus of study	Key findings	Knowledge gap	Focus of current study
Beverly, Strapola, Hazel, Fredrick & Odhiambo (2012)	Factors influencing mobilization of Kenyan Resources for healthy development	Resource access and presence of management structure influenced development	There are other factors not considered but can influence development	Current study added risk management, and stakeholder management
Musyoka (2014)	Resource mobilization strategies and performance of community based organization in Tseikuru Sub-County, Kitui County	Resource identification, effective communication and contribution of community influenced on performance	Adequate skills and funds availability were ignored in the study and have influence on the performance	focused on risk management , stakeholder management and regulatory framework and organizational structure as moderating and mediating variables
Gitau (2015)	Risk management effects on construction projects in Rwanda	Risk management influenced performance of projects. Cost/ time schedule need improvement	Risk management alone cannot influence performance	The study included project M & E, stakeholder management and resource mobilization
Murwaroshya & Jaya (2015)	Stakeholders management and performance of CDF projects in Kenya	Stakeholder mapping, involvement and communication and conflict solving influenced performance of projects.	Study ignored contract management and identification of stakeholders which can influence performance	Focused on risk management, M & E, resource mobilization and regulatory framework and organization structure.
Mugo and Oleche (2015)	Monitoring and evaluation of development projects and economic growth Kenya.	Indicators of M & E had positive influence on economic growth	Monitoring and evaluation influence.	The study included; risk management, resource mobilization, stakeholder management. The study still included moderating and mediating factors which had influence

Author/ year	Focus of study	Key findings	Knowledge gap	Focus of current study
Musundi (2015)	Resource Mobilization Strategies and performance of total war against Aids youth in Turbo Sub-county, Kenya	Resource strategic planning , resource networking and donor outreach had influence on performance	Adequate skills and funds availability were ignored in the study and have influence on the performance	Risk management, stakeholder management and monitoring and e evaluated was included in the study
Ndumia (2015)	Influence of regulatory framework on performance of building construction projects in Nairobi County, Kenya.	Regulatory practices had a positive influence to performance	Government policy and other factors were ignored as regulatory framework	The study focused regulatory framework as a moderator in relationship between managerial processes and performance
Phiri (2015)	M & E effects on projects performance; A case of AVU in Kenya	M & E planning and skill had influence on the performance	M & E tools and polices and standards were not included in the study	Included risk management, resource mobilization and stakeholder management to determine projects performance
Sibomana (2015)	Effects of risk management on performance of Rwandan Construction	Risk avoidance, transfer, retention and mitigation had a positive influence on performance	Risk management alone cannot influence performance	The study included project M & E, stakeholder management and resource mobilization
Wachira (2015)	Influence of organizational structure on implementation of biometric projects.	Responsibilities, functions of the team members had influence on the implementation of projects,	Communication and decision making was not considered	Considered organizational structure as a mediator in relationship between performance
Bwisa & Muli (2016)	Stakeholder management and performance of CDF projects in Kenya	Stakeholder mapping, involvement and communication has influence on performance	Ignored stakeholder identification and contract management	Focused on risk management, resource mobilization and project M & E. Still the study added moderating and mediating factors

Author/ year	Focus of study	Key findings	Knowledge gap	Focus of current study
Ochieng (2016)	Influence of structure of organization on performance of projects in Kenya	Leadership, size of organization and decision-making had influence on performance	Other factors like functions of the team was not considered	Communication, set functions and duties was considered as indicator of organization structure.
Nalianya &Wanyonyi (2017)	M & E systems and performance of nongovernmental based maternity healthy projects in Bungoma county	Capacity resource, stakeholder involvement and M & E plans and policies influenced performance	Decision making, communication and set duties and functions were not considered	Risk management, resource mobilization and stakeholder was considered in current
Yusuf et al (2017)	Influence of M & E on performance of CDF projects in Kajiando County, Kenya	In appropriate M & E tools and lack of proper training had a negative impact to performance.	Focused only M & E tools and skills	Focused on risk management and resource mobilization
Maendo, Rosemary and Ngugi (2018)	Resources Mobilization effects on road infrastructure projects in Kenya	Resource mobilization influenced performance	Resources mobilization alone cannot influence performance of projects	Study included project M & E, risk management and stakeholders management
Maina (2018)	Stakeholders management and performance of open air market in Nyeri County. Kenya.	Stakeholder involvement, communication, conflict management had positive influence on the performance	Stakeholder management alone cannot influence performance	Risk management, resource mobilization and M & E were included in the study.
Njeru & Luketero (2018)	Influence of M & E strategies on performance of medical camp in in hospitals in Kenya.	M & E skills, stakeholder involvement and resource allocation had influence on performance	M &E tools were not considered	Added risk management to improve the results viability .The study included moderating and mediating factor to establish the relationship between managerial processes and performance.

Author/ year	Focus of study	Key findings	Knowledge gap	Focus of current study
Gichamba & Kithinji (2019)	Environmental regulation and construction projects performance in Nairobi county, Kenya,.	Water , waste regulation and physical regulation had positive impact to the performance	Government policies were not considered in the study	The study used regulatory framework as a mediator
Kerira, Owuor, Liku & Mavole (2019)	Risk management strategies and performance of road construction projects in coastal region, Kenya	Risk identification, mitigation and implementer perception had influence on performance	The study never considered risk planning	Focused on resource mobilization, stakeholder management
Ngetich & Gakuu (2019)	Effects of stakeholder management on performance of projects in Nakuru County	Stakeholder involvement, interests and analysis influenced on performance	Ignored stakeholder identification and conflict management	Study added project M & E, risk management and stakeholders management

Source: Author,(2019)

2.5 Conceptual Framework

Figure 2.1 shows the relationship between the research variables. The effect of managerial processes on the performance of the projects was determined in the study. The conceptual framework presented independent variables managerial processes (monitoring and evaluation, project risk management, stakeholder management and resource mobilization). The indicators of performance were; efficiency, effectiveness, and customer satisfaction. More ever, the study tested the moderating effect and mediating effects of regulatory framework and organization structure on the relationship between managerial processes and rural electrification projects performance.

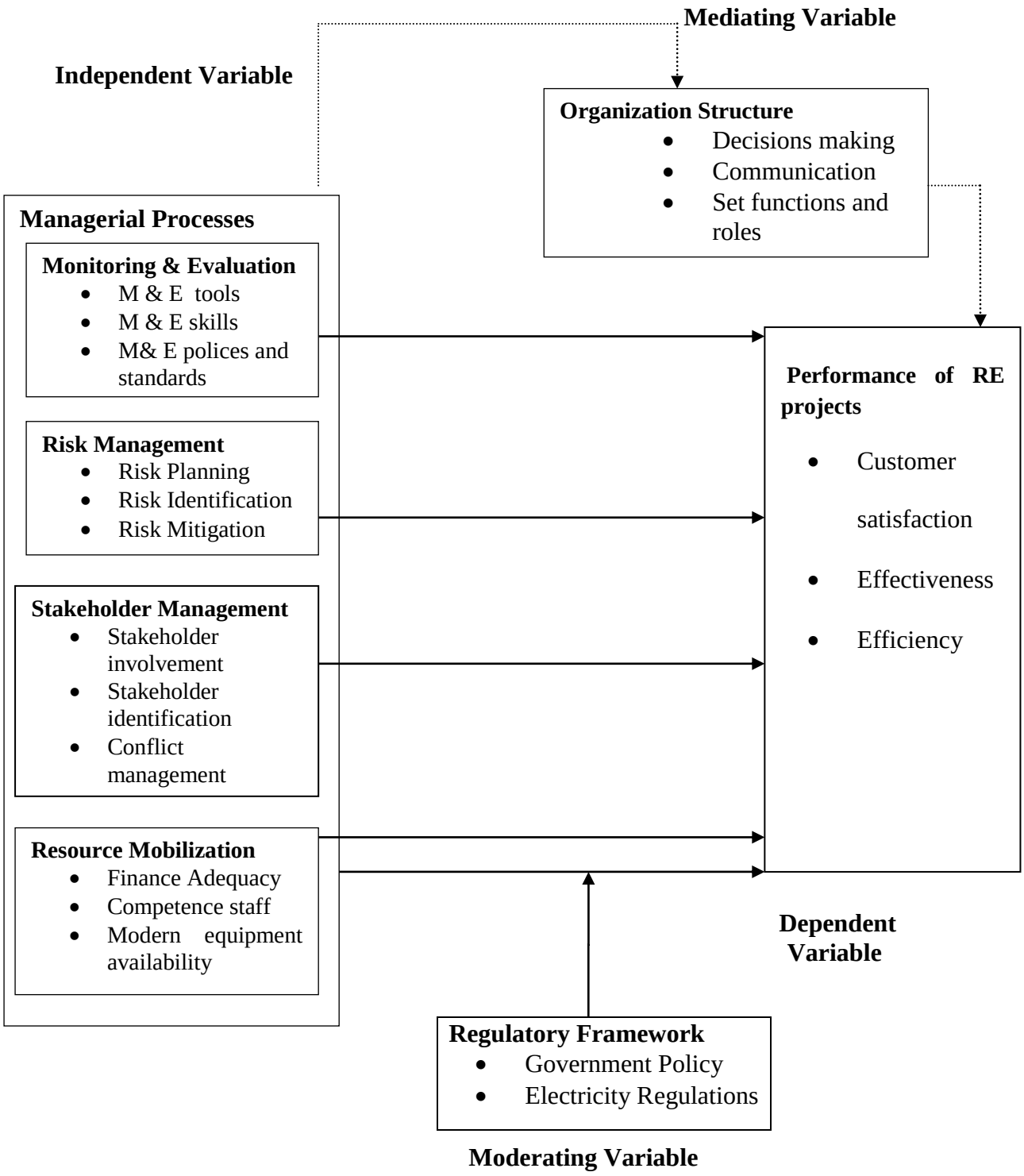


Figure 2.1: Conceptual Framework

Source: Author, (2019)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter entailed the research methodology that enabled the study to achieve its objectives by giving the methods and procedure to undertake the research. It dealt with the following areas: research philosophy, research design, target population, sample design, data collection instrument, validity and reliability of instrument, data collection procedure, data analysis and presentation, empirical model and ethical consideration.

3.2 Research Philosophy

Research philosophy is a belief about the way gathering, analysing and using the data about a phenomenon and it's important for development of background, knowledge and nature of research (Saunders, Lewis & Thornhill, 2009 and Olive & Abel 2014). According to Coopers and Schindler (2008), the main research philosophy were positivism and interpretivism which were viewed in two perspectives namely; quantitative and qualitative approaches. Positivism philosophy assumed that the understanding of the environment and events of the study were objective, external and independent from the one doing the research while for social constructivism the understanding had been socially constructed and subjected to the view of the person doing the research.

Thorpe and Jackson (2008) argued that the positivism focused on facts which were measured on variables which used quantitative methods survey and still used

statistical analysis` of the data. According to Creswell (2009), positivism philosophy explained relationships, identified causes that influenced outcomes and provided basis for predicting and generalizing. This study's event of interest was objective, external and independent to the study's researcher. Therefore, this study adopted positivism research philosophy as it was an objectively- based method which was used to test hypothesis from the existing theories and was commonly used in natural science (Saunders, Lewis & Thornhill 2013). In addition, the study used logical and rational approaches to test set hypothesis to accept or reject them after collecting quantitative data that was to be analysed statistically.

3.3 Research Design

Mugenda and Mugenda (2008) and Saunders *et al* (2009) indicated that no single research design existed in isolation and combination of different designs increased validity. Sekaran and Bougie (2009) added that use of more than one design enhanced the validity and reliability of the research findings. This study adopted both descriptive and explanatory research design, as it collected quantitative and qualitative data. Explanatory research design explained reasons for existing phenomenon by establishing the causal relationship between the variables in the research and explain the hypothetical relationship (Saunders et al, 2009). The suitable design for studies with constructed hypothesis that explain the interaction between the variables has been explanatory design (Mugenda & Mugenda, 2009).

Descriptive design used quantitative approach in the process of collecting, analysing and reporting of data. In addition, the design captured the characteristics of variables

and tested the study's hypothesis (Coopers & Schindler, 2008). Moreover, descriptive design involved production of holistic and contextual data that was rich in details to test the set hypothesis (Eriksson & Kovalainen, 2008).Both designs were suitable to generate accurate information concerning the study. In addition, both designs drew valid conclusion and explanations from the study's findings and that's why the study adopted the two designs (Neuman, 2006).

3.4 Empirical Model

To analyse quantitative data, several models would be used which includes logit, probit, discriminant analysis and regression (Field,2009).When the dependent variable is continuous, then regression would be the best and when the dependent variable is dichotomous or binary in nature then probit, discriminant analysis and logit would be used.

This study used multiple regression models to establish the relationship between managerial processes and rural electrification projects performance. According to Muthen (2007), regression model was effective when the dependent variable was continuous and that's why this study adopted the model. According to Gujarati and Sangeetha (2007), multiple regressions allowed control of many factors affecting dependent variable and can accommodate explanatory variables. Systematically, regression equations were used to analyse the moderating and mediating variables to find the effect on the relationship in the independent and dependent variables. P represented RE projects performance (dependent variable) and managerial processes (MP) independent variables, monitoring and evaluation, risk management,

stakeholder management and resource mobilization are represented by X_1, X_2, X_3 and X_4.

$P=ß_0 + ß_1X_1 + ß_2 X_2 + ß_3X_3 + ß_4X_4 + \varepsilon$ …..(3.1)

Where

$ß_0$= Constant

P = Dependent variables (performance)

X_1: Monitoring and Evaluation

X_2: Project Risk Management

X_3: Stakeholder Management

X_4: Resource Mobilization

ε. = Error term

In addition, the study used multiple regression models to determine the line of best fit. The above multiple regression models presented the linear equation between managerial processes (independent variable) and performance (dependent variable). The regression coefficients of the independent variables ($ß_1$-$ß_4$) and ε measured effects of X_1, X_2 X_3 and X_4 on P. The study used significance of $ß_{'s}$ to test hypothesis specified in the study (Field, 2013). The value was significant if P-value was less than 0.05.

The study derived composite index (MP) by adopting weighted geometric mean formula as recommended by Alan and Emma, (2015). The following was the formula

$$\left(\prod_{i=1}^{n} X_i^{w_i}\right)^{1/\sum_{i=1}^{n} w_i} \quad \textbf{……..…..3.2}$$

Where

Π= Uppercase of greek word pi which showed the product was being calculated

X_i=single element in the sample or population

W_i= weight of element X_i

$\sum_{i=1}^{n} w_i$ = the sum of the weights W_1, W_2…..…….W_n

$P= \beta_0 + \beta_5 MP + \alpha$……3.3

Where P= performance

MP = composite index for monitoring and evaluation, risk management, stakeholder management and resource mobilization.

β_0 = constant

β_5 = Beta coefficient

3.4.1 Testing for Moderation Effect

The study tested the moderating influence of regulatory framework on the relationship between managerial processes and performance of rural electrification projects or established if the regulatory framework was an explanatory variable. The cause effect relationship between the independent variable and dependent variable was termed as moderation by Whisman and McClelland (2005). The study followed the steps below: The first step used model (3.1) that acted as the base model to determine the relationship between independent variables (managerial processes) and dependent variable (performance). The second regression model 3.4 included the moderating variable (regulatory framework).

$P=ß_0 + ß_5MP + ß_6RF + e$.....3.4

Where

P= Performance

MP= Managerial processes

R F= Regulatory framework

e=Error

The last model 3.5 was for testing moderating influence determined the direction and effect of the regulatory framework on the independent variable (managerial processes) and its influence on the dependent variable (performance).

$P= ß_0 + ß_5MP + ß_6RF + ß_7 MP*RF + e$..... 3.5

Where

P=performance

MP= Managerial Processes

RF= Regulatory Framework

M P*RE= Managerial Processes * Regulatory Framework

Table 3.1 show decision-making criteria on moderation

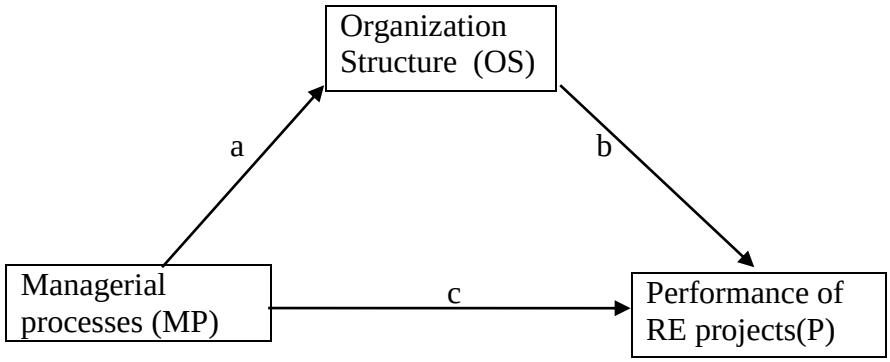
Table 3.1 Moderation Decision- making criteria

Model 3.4	**Model 3.5**	**Conclusion**
If $ß_6$ was not significant ($p>0.05$)	No effect	No moderation effect
If $ß_6$ was significant ($p < 0.05$)	$ß_7$ was not significant ($p> 0.05$)	The moderating variable was just explanatory variable
If $ß_6$ was significant ($p<0.05$)	$ß_7$ was significant ($p<0.05$)	moderating variable had a moderating effect

Source: (Whisman and McClelland, 2005)

3.4.2 Testing for Mediation Effects

The following steps were used to test whether organization structure mediated managerial processes and performance in accordance to Baron and Kenny (1986) recommendations.



Step 1

First step included a regression equation of managerial processes predicting the performance of rural electrification projects. The equation tested if managerial processes (MP) predicted the performance of rural electrification projects (P) through path c

$$P=ß_0 + ß_8 MP + e \quad \text{.....3.6}$$

In this regression equation, if $ß_8$ was significant then managerial processes significantly influenced the performance.

Step 2

In step 2, the regression equation of managerial processes (MP) predicted organization structure (OS) through path a

$$OS=ß_0 + ß_8 MP + e \quad \text{.....3.7}$$

If $ß_8$ was significant, then it meant that managerial processes significantly influenced organization structure.

Step 3

The regression equation analysed whether organization structure (OS) predicted performance (P) through path b

$P=ß_0 + ß_9$ OS+ *e* 3.8

If $ß_8$ in step 1, 2 and $ß_9$ in 3 were significant then step 4 was undertaken. If it was not significant then it was clear that there was no mediation.

Step 4

This step included multiple regressions with managerial processes (MP) and organization structure (OS) predicted the performance of rural electrification projects (P).

$P= \beta 0 + \beta_8 MP + \beta_9 OS + e$ 3.9

If organization structure remained significant after controlling managerial processes then the findings showed no mediation. If managerial processes (MP) were no longer significant when organization structure (OS) was controlled, then the findings showed complete mediation. If managerial processes and organization structure (OS) predicted performance of rural electrification projects (P) then the findings showed partial mediation. Table 3.2 shows mediation decision criteria

Table 3.2 Mediation Decision Criteria

	Out comes	Conclusion
1	If β_8 was significant in model 3.6	Complete Mediation
	If β_8 was significant in model 3.7	
	If β_8 was significant in model 3.7	
	If β_8 was not significant and β 9 was significant in model 3.9	
2	If β_8 was significant in model 3.6	Partial Mediation
	If β_8 was significant in model 3.7	
	If β_8 in model 3.7 was significant If β_8 and β 9 was significant in model 3.9	
3	If β_8 was not significant in model 3.6	NO Mediation
	If β_8 was not significant in model 3.7	
	If β_8 in model 3.8 was not significant β_8 and β_9 was not significant in model 3.9	

Source: Baron and Kenny (1986)

3.5 Target Population

The study target population had 125 projects implemented by Kenya Power and REA in Kitui County incorporation of county government. According to Lewis and Thornhill (2007), detailed information would be collected from sizable population. Table 3.3 showed the target population of the study.

Table 3.3 Target Population

Organization	**No. Of projects**	**Management level strata**	**Respondents**
Kenya Power	54	Senior officers	15
		Field officers	7
		Contractors	13
REA	71	Senior officer	5
		Field officers	3
		Contractors	11
County Government (ministry of Energy)		Senior offices	12
		Field officers	7
		Contractors (engineers)	2
TOTALS	**125**		**75**

Source: KP/REA, Kitui County, (2018)

3.6 Sampling Design and Procedure

A census of the 125 rural electrification projects was undertaken for the period of two years 2017 and 2018. Abbot and McKinney (2013) showed out that census approach increased the study's accuracy of the findings and yield reliable study result. According to Saunders, Lewis and Thornhill (2007), census was suitable for few data that was possible to be included in the study and so this study used census technique as the data was not large. The unit of analysis was the 125 RE projects and unit of observation was the senior managers, field officers and contractors that formed a total population size of 75 respondents.

3.7 Data Collection Instrument

This study used self-administered semi structured questionnaires (Appendix III) that contained open-ended, closed questions and likert scale questions (measures perceptions, attitudes, values and behaviour of respondents). Questionnaires collected information depending on the respondent's knowledge, understanding and observation of the given variables. In addition, the questionnaires collected data that gave measurement for and against the group (Orodho, 2009). According to Saunders, Lewis and Thornhill (2009) and Kothari (2006), collecting data using questionnaires was economical from a sizeable group. The questionnaires had seven sections where the first section covered demographic characteristics of the respondents and the next six sections covered the six variables of the study.

3.7.1 Pilot Study

The study conducted a pilot study to determine procedures, parameters and materials required in the entire study. In addition, the pilot study helped to establish the weaknesses in the design of the instrument and provided the data for selection of probability sample (Bordens & Abbott, 2011). According to Robinson (2010), pilot study helped the research in finding out if the instrument had limitations and other weaknesses before the study implementation. Creswell (2011) argued that pilot test constituted of 10% of the target population and 8 respondents was considered. This study conducted pilot study in Machakoes County as the study planned to do census of all rural electrification projects in Kitui County. The purpose of the pilot study was used to determine content and face validity of the instrument.

3.7.2 Validity of the Instrument

Validity gives the degree to which different measures produce the same results that had intended to make the measure to be valid. Validity gives the meaningfulness of inferences based on research results and measures accuracy. According to Mugenda & Mugenda (2003), validity was the accuracy of meaningfulness of data based on results. The study did confirmation that the questions conformed to the objectives of the study to ensure content validity. For face validity, the researcher evaluated the questions in the instrument to find the extent to which the instrument was valid. In addition, the research depended on the previous studies and experts (supervisors) to evaluate the validity of the questionnaires. To achieve construct validity, the research ensured the relationship between the operationalized variable were in accordance to theoretical construct as it is in literature review.

3.7.3 Reliability of the Instrument

Reliability tests consistency of the measurements gives the degrees to which the measure of the items within a scale remains consistent (Field, 2013). The study used Cronbach alpha to estimate the internal consistency reliability of the data and to check how the items in the questionnaire were related. Jackson (2009) argued that alpha greater than 0.7 gave indication of strong internal consistency of the instrument and this study considered value greater than 0.7 to indicate reliability of the instrument.

Table 3.4 shows results of reliability test

Table 3.4 Results of Reliability Test

Variable	**Cronbach's Alpha**	**No. of Items**	**Comments**
Performance	0.792	15	Reliable
Monitoring and evaluation	0.896	12	Reliable
Risk Management	0.895	11	Reliable
Stakeholder Management	0.886	14	Reliable
Resource Mobilization	0.898	15	Reliable
Regulatory Framework	0.873	9	Reliable
Organization Structure	0.842	9	Reliable
Overall Reliability Coefficient	0.857	**85**	**Reliable**

Source: Pilot Study Data (2020)

The Cronbach's Alpha for variables was above 0.7 which indicated that the requirement for internal reliability was satisfied and the study used the questionnaire to collect the final data.

3. 8 Data Collection Procedure

The study sought permit from the right authorities {Kenyatta University and National Commission for Science and Technology (NACOSTI)} to ensure that there was ethical data collection. In addition, the research acquired permission from the

organizations to allow data collection from their employees. The study used drop-pick method to reduce non -coverage error and gave the respondents humble time to fill the questionnaires. Picking of completed questionnaires was later on a specified day and to ensure total return of the filled questionnaires a follow up was done through the organization offices.

3.9 Operationalization and Measurement of Variables

The independent variables in the model were; monitoring and evaluation, risk management, stakeholder management, resource mobilization and the dependent variable was rural electrification projects performance. The study had moderating variable (regulatory framework) and mediating variable (organization structure).

Table 3.5 Operationalization and Measurement of Variables

Category	Variable	Operationalization	Measurement	Measurement Level
Dependent variable	Performance	Customer satisfaction Efficiency Effectiveness	Measured the extent to which adherence to budgeted cost time and achievement of objectives affect performance of RE projects in scale of 1-5	interval
Independent Variable	Monitoring and Evaluation	M &E tools M & E skills M & E policies and standards	Extend to which M &E tools, M & E skills, M & E policies and standards affected performance in scale 1-5	Interval
	Risk Management	Risk planning Risk identification Risk mitigation	Extend to which risk planning, risk identification and risk mitigation affect performance of RE projects in scale 1-5	Interval
	Stakeholder management	Stakeholder involvement Stakeholder identification Conflict management	Extend to which stakeholder involvement, stakeholder identification and Conflict management measure performance of RE projects in scale 1-5	Interval
	Resource Mobilization	Financial adequacy Modern equipment availability Competent Team	Extend to which Financial adequacy modern equipment, availability, competent team measure performance of RE projects in scale 1-5	Interval
Regulatory framework	Moderating effect	Government policies Electricity Regulations	Extend to which Government policies electricity regulations measure performance of RE projects in scale 1-5	Interval
Organization Structure	Mediating influence	Decision making Setting of rules and regulations Communication	Extend to which decision making ,setting of rules and regulations communication measure performance of RE projects in scale of 1-5	Interval

Source: Researcher, (2020)

3.10 Data Analysis and Presentation

Making deductions in data analysis was to check completeness to ensure consistency then data interpretation and analysis followed. This study collected both quantitative and qualitative data and employed descriptive and inferential statistics for analysis of the quantitative data. According to Mugenda and Mugenda (2008), descriptive statistics guide in evaluation of attitudes and value judgement of respondents. To assess characteristics of descriptive statistics the study used means, percentages, frequencies and standard deviation and presented it by use of tables. Diagnostic tests were conducted before inferential analysis. The study applied inferential statistics to determine the nature and magnitude between independent and dependent variables and to test the hypothesized relationships at 95 % confidence level.

The study used Pearson's product moment correlation to determine the direction (positive/ negative) nature and strength of the relationship between variables. Adjusted coefficient of determination (R^2) was used to determine the extent to which changes in performance (dependent variable) was attributed to the managerial processes (independent variable). The study did computation of Analysis of Variance (ANOVA) test to determine if the model was fit or suitable for the study. F-ratio generated from ANOVA table gave p value that was less or greater than 0.05, p value less than 0.05 indicated that the model was statistically significant at 95% confidence level. Content analysis was used to analyse qualitative data from the open questions where common themes was used to draw inferences based on the themes created.

The study computed composite index for managerial processes (MP) using the weighted geometric mean formula as adopted by Alas & Emma (2015). Composite index was derived as given below

$$\left(\prod_{i=1}^{n} X_i^{w_i}\right)^{1/\sum_{i=1}^{n} w_i} \quad \text{……..3.2}$$

Where

Π= Uppercase of greek word pi which showed the product was being calculated

X_i=single element in the sample or population

W_i= weight of element X_i

$\sum_{i=1}^{n} w_i$ = the sum of the weights $W_1, W_2 \ldots\ldots\ldots\ldots W_n$

This study grouped qualitative data from open-ended questions in common themes to draw inference and to analyse the data, content analysis was used. According to Cooper and Schindler (2008), content analysis helped in capturing what questionnaire could not capture. More ever, the study used narrative form to present qualitative data.

3.11 Diagnostic Tests

Studies assumption's for the collected data for analysis was that the data was drawn from a normal distribution population and so before the regression analysis the diagnostic tests had to be conducted to check for any statistical problems that prevented compliance to linear regression model. According to Gujarati and Sangeetha (2007), to avoid biasness, inefficiency and inconsistency in parameter values, the study conducted diagnostic test. The study conducted the following diagnostic tests: multicollinearity, linearity, homogeneity and normality.

3.11.1 Multicollinearity

Multicollinearity, a phenomenon where there was relationship between the predicted variables was highly correlated that could give redundant information about responses. Presence of multicollinearity inflates the variables of the estimates of parameter that led to statistical insignificance of the individual parameters making the model to be insignificant (Field, 2009). As suggested by Makau, Wawire and Ofafa (2013), this study used variable inflation factors and tolerance to test multicollinearity. Tolerance value less than 0.1 values represented high values of VIF > 10 that indicated multicollinearity problem (Hair, Tatham & Black 2010).

3.11.2 Linearity test

This research used Pearson product -moment correlation to measure the strength and direction of linear relationship between variables (Dancey & Reidy 2004). Pearson product-moment correlation ranges between -1 and +1 and greater the value the greater the relationship. With inverse relationship one variable increases causing the other to decrease and this was given by negative coefficient. Positive coefficient gave direct relationship where increase of one variable caused the other to increase (Field, 2009). $P<0.05$ showed significant linear relationship between variables and decision of rejecting the null hypothesis was made. While $p >0.05$ indicated that the null hypothesis was not rejected as linear relationship was not significant.

3.11.3 Normality Test

According to Hair, Celsi, Ortinau and Bush (2013), extend to which a sample data corresponded to normal distribution with a mean of zero and constant variance was

termed as normality. For application of parametric data analysis technique, normality of the data was very important. This study used Shapiro-Wilk test because the sample data was greater than 50 and less than 2000.In addition, Skewness or kurtosis of Shapiro –Wilk test made it have ability to detect any departure from normality. Shapiro-Wilk determined whether the data had normal distribution and the significance of the study was a=5%. P value equal or greater than 0.05 showed that the data was normal which indicated that the data was distributed normally (Dancey & Reidy 2004, Razali & Wah, 2011).

3.11.4 Homoscedasticity Test

A test of homoscedasticity was necessary in any research as it assumed that all the observation had constant disturbance and equal variance. Any violation to this led to a problem of heteroscedasticity that made the estimates to be inefficient. This study used Levenes test that uses F test to test for the violation of homogeneity. P value < 0.5 of F –test indicated violation of the homogeneity which would have led to use of non-parametric (Gujarati & Sangeetha, 2007).

3.12 Ethical Consideration

The researcher sought permission from National Commission for Science, Technology and Innovation (NACOSTI) and from Kenyatta University to ensure them that the information was for academic purpose and assurance for confidentiality created, and the research had to treat the information with a lot of confidentiality. The language used in the questionnaire was not offensive and lastly, the study reference used APA style and the above made the research to follow ethical standard.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

The chapter gives the research results, results interpretations and study discussion followed. The chapter covers respondents' information on gender, level of education and years of experience. This chapter explains descriptive statistics on rural electrification performance and also gives the response rate. In accordance to literature review of the study, inferential statistics have been discussed and presented.

4.2 Response Rate

A total of 75 questionnaires were distributed to the respondents where 70 were filled correctly and returned which gave a response rate of 93.3 percent. According to Bayman and Bell (2007), for academic studies a respond rate of 50 percent was good and 70 percent was very good and for this study, the response rate was considered to be very good. To conduct data analysis and draw valid conclusions and recommendations, the response was considered to be sufficient (Bayman and Bell (2007). The results showed that 75 questionnaires were distributed and fully filled and returned questionnaires were 70 giving 93.5 percent and unsuccessful response rate gave 6.7 percent. A response rate of 93.3 was adequate to attain detailed information and obtain the study's objectives (Lewis & Thornhill, 2007).

4.3 Demographic Characteristics

4.3.1 Distribution of Respondents by Gender

The study gave 31.4 percent of the respondents were female and 68.6 percent were male. The males were more than women as some duties which involved field work were more strenuous. The Table 4.1 presents the respondents distribution by gender.

Table 4.1 Gender Distribution by Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Male	48	68.6	68.6	68.6
Female	22	31.4	31.4	100.0
Total	70	100.0	100.0	

Source: Survey Data, (2020)

4.3.2 Level of Education

The study found out that the respondents who worked in rural electrification organization had relevant level of education. Level of education was important for establishing the productivity of the team mates. In addition, the factor was important as it showed the ability of the respondents to ensure projects were of high quality. The respondents still were skilled and they were in position to give correct data which could help in getting the study's findings. Table 4.2 shows the distribution of the level of education for the respondents.

Table 4.2 Distribution of Workers Level of Education

Level of Education	Frequency	Percent	Valid Percent	Cumulative Percent
Secondary	5	7.1	7.1	7.1
Certificate	22	31.4	31.4	38.6
Diploma	14	20.0	20.0	58.6
Degree	20	28.6	28.6	87.1
Masters& above	9	12.9	12.9	100.0
Total	**70**	**100.0**	**100.0**	

Source: Survey Data, (2020)

The Table 4.2 indicates that 12.9 percent had the highest level of education, 28.6 percent had degrees, 20 percent had certificate course and only 7.1 percent had basic education. This indicated that the respondents were well informed about the performance of rural electrification projects and also had ability of ensuring quality work. In addition, the respondents had the required knowledge and they were in position to give correct information concerning performance of rural electrification projects to assists in getting the correct data enhancing correct study findings.

4.3.3 Respondents Working Experience

The study sought to find the working experience of the respondents who worked in rural electrification projects as experience remains to be crucial in determination of performance of projects. Table 4.3 presents respondents working experience

Table 4.3 Officers Working Experience

Officers working experience	Frequency	Percentage
5 and below years	20	28.6
6-9 years	36	51.4
Over 10 years	14	20
Total	**70**	**100**

Source: Survey, (2020)

From table 4.3, shows working experience of respondents where 20 percent had over ten years and they were the senior officers in the organization, 51.4 percent had between six and nine years and finally 28.6 had below five years. In conclusion, six years and above working experience gave 71.4 percent which implied that respondents had the required experience on rural electrification projects performance. The respondents working experience in rural electrification projects were crucial in explanation of the respondent's competency.

4.4 Descriptive Results

This study's section gives descriptive statistics presentation for responses of the seven parts of the structured questionnaires. The presentation included mean and standard deviation which showed the closeness and variation of the responses from the respondents.

4.4.1 Performance of Rural Electrification Projects

The questionnaire was designed to measure performance of rural electrification projects in Kitui County and effects of projects managerial processes and a scale of 1 to 5 was used. The performance had fifteen Likert items which was used to compute average means and standard deviation. Performance was determined using indicators of effectiveness, efficiency and customer satisfaction. Descriptive statistics for performance was presented in the table 4.4.

Table 4.4 Descriptive statistics on Performance

	N	Minimum	Maximum	Mean	Std. Deviation
Effectiveness					
All households around 600m from transformers were connected to power supply	70	2	5	3.46	.736
By 2020, all customer were connected to power supply	70	2	5	3.29	.684
Kitui received enough transformers	70	2	4	3.19	.786
All public facilities were connected to power supply	70	2	4	2.96	.494
There were minimal delays in acquisition of leave ways	70	2	4	2.83	.722
Aggregate scores for Effectiveness	**70**	**2.40**	**3.80**	**3.1429**	**.34581**
Effective resource utilization was encouraged	70	2	5	3.80	.604
Projects goals were achieved within the set time	70	2	4	2.77	.618
Equipment/materials were provided in required time	70	2	4	2.69	.578
Projects were completed within the given time	70	2	4	2.41	.577
Projects were completed within the given budget	70	1	4	2.91	.654
Aggregate Scores for Efficiency	**70**	**2.00**	**3.60**	**2.9171**	**.31113**
During connection procedure customers were given technical advices	70	2	4	3.24	.751
Connection of power supply was within reasonable time	70	2	5	3.44	.810
Power post were placed in secure places	70	2	5	3.39	.873
Power materials used were of high quality to protect customers from risks	70	2	5	3.99	.752
Connection charges were affordable to customers in rural areas	70	2	5	3.20	.672
Scores for customer Satisfaction	**70**	**2.60**	**4.00**	**3.4514**	**.29818**
Aggregate Scores	**70**	**2.73**	**3.67**	**3.1705**	**.20638**

Source; Survey Data, (2020)

From the table 4.3, results show that performance had an aggregate mean of 3.1705 and a low standard deviation of .20638 which showed a narrow variability. This revealed that the organizations had installed the required managerial processes in a moderate way to support performance. Performance was measured in three ways effectiveness, efficiency and customer satisfaction. Customer satisfaction had the highest mean of 3.4514 (moderate extend) and the lowest standard deviation of 0.29818. The results indicated that the customers were moderately satisfied by the performance of the projects and respondent's views had narrow variability. Effectiveness was the second highest with a mean of 3.1429 which implied that the respondents agreed in moderate extend that projects achieved the set goals and objectives and standard deviation indicated low variability within the response. The last was efficiency indicator which had a mean of 2.9171 and a standard deviation of 0.31113. The score was rounded off to 3 as per the adopted likert scale which implied that respondents agreed in a moderate extend that the projects were completed within budget, time and scope.

For effectiveness, the highest mean was 3.46 (moderate extend) with a standard deviation of 0.736, the respondents showed that they accepted to a moderate extend that all households which were 600 meters from transformers had connected to power supply. The respondents agreed at moderate extend that Kitui received enough transformers and by 2020 all customers in the county were connected to power supply with means of 3.19 and 3.46 with standard deviation of 0.786 and 0.684 respectively which implied the transformers received in Kitui County were enough to enhance performance. Kebeya (2016) noted that enough resources enhanced performance of

prepaid metering projects in Kenya. For minimal delays in acquisition of leave ways and all public facilities were connected to power supply had the lowest means of 2.83 and 2.96 with standard deviation of 0.722 and 0.494. The respondents showed in a moderate extend that there was minimal delays in acquisition of way leave which influenced performance.

For efficiency as an indicator for performance, the respondents gave an average mean of 2.9171 and a standard deviation of 0.31113. The value was rounded off to 3 according to likert scale adopted by the study. This showed that the respondents agreed to a moderate extend that the projects achieved the set goals and objectives. The respondents agreed in great extend (after a round off score to 4) that the organization had resource utilization (M=3.809 SD = 0.604). The response showed that the organization resources were used in the right way in a manner that enhanced project performance. The respondents agreed to a moderate extend(after round off to 3 according to adopted likert scale) on projects goals are achieved within given time, projects are completed within given budget and project materials and equipment were provided within given time with the means and standard deviations of 2.69, 2.91, 2.77 and 0.578, 0.654 and 0.618 respectively. The results indicated that in a moderate extend projects goals were achieved within the given budget and also materials were provided in time which influenced the projects performance. In addition, project completion within given time had the lowest mean of 2.41 and standard deviation of 0.577. The respondents agreed to little extend that projects were completed within given time which implied it had effect to the performance of the projects.

The findings on performance were in agreement with Farida and El-Sayegh,(2010) who asserted that project performance were affected by different factors which included inadequate and mismanagement of funds, poor leadership, breakdown of machines.

4.4.2 Monitoring and Evaluation of Rural Electrification Projects

Monitoring and evaluation was grouped into three groups and all had twelve likert items. The Table 4.5 shows the mean and standard deviation of the items

Table 4.5 Response on Monitoring and evaluation

	N	Minimum	Maximum	Mean	Std. Deviation
Enough M & E resources were provided in time	70	2	5	2.99	.789
Available M & E tools were adequate for efficient performance	70	2	4	3.27	.779
Organization had organized M & E systems	70	2	4	2.80	.628
Enough time was allocated for M & E activities	70	2	4	3.09	.812
Aggregate scores for M & E tools	**70**	**2.25**	**3.75**	**3.0357**	**.40666**
Employees were trained on M& E processes	70	2	4	2.76	.770
Employees had required M & E skills	70	2	5	3.30	.823
Organization planned for M & E in advance	70	2	4	2.90	.801
Employees attended M & E seminars frequently	70	2	4	2.57	.627
Aggregate Scores for M& E Skills	**70**	**2.00**	**3.75**	**2.8821**	**.37764**
Stakeholders understood the polices and standards of M &E clearly	70	2	4	2.97	.636
The set M & E policies and standards influenced performances of RE projects	70	2	5	3.00	.816
M & E policies and standards were reviewed frequently	70	2	4	2.80	.754
M & E exercise was allocated enough funds	70	2	5	2.99	.843
Scores for policies and standards	**70**	**2.00**	**3.75**	**2.9393**	**.42014**
Aggregate Scores	**70**	**2.42**	**3.42**	**2.9524**	**.25951**

Source: Survey Data, (2020)

From the Table 4.5, results presented an aggregate mean of 2.9524 (moderate extend) and a standard deviation of 0.25951.The value was rounded off to 3 as per the adopted likert scale which indicated that respondents agreed to a moderate extend that monitoring and evaluation influenced projects performance of RE projects. The standard deviation was low indicating the respondents had almost similar views on M & E. Monitoring and evaluation had three indicators which were discussed as follows.

Monitoring and evaluation tools had the highest mean of 3.0357 and a standard deviation of 0.4066. This means that the respondents indicated that they agreed to a moderate extend that M & E tools used as a factor of M & E influenced the performance. After rounding off the means, the score of 3 was attained for the following which indicated that respondents agreed in a moderate extend that organization had organized M & E systems, enough M & E resources were provided in time, the available tools were adequate and lastly enough time was allocate for M & E activities with means of 2.80, 2.99, 3.27 3.09 and standard deviation of 0.628, 0.789, 0,779, 0.812 respectively which implied in a moderate extend they influenced projects performance. Yusuf, Muchelule; Otonde, Mbawi Geoffrey; Achayo, Muchelule Saada (2017) noted that inappropriate M &E tools, lack of proper training had challenge in CDF projects performance.

Monitoring and evaluation skills had an overall mean of 2.8821 and a standard deviation of 0.37764. The value was rounded off to 3 as per the adopted likert scale. The results showed that respondents agreed in moderate extend that M & E skills was adequate to ensure projects of rural electrification achieved the set objectives and

were completed within the given time and budget. Njeru and Luketero (2018) indicated that M & E skills influences perfoance of projects Employee training on M & E processes gave a mean of 2.76 (Moderate extend) after round off to a score of 3 on likert scale adopted by the study and standard deviation of 0.770. The results indicated that employees agreed in a moderate extend that employees trained on the M & E processes which influenced performance of projects.

Results indicated that respondents agreed in moderate extend that employees had the required skills on M & E with a mean of 3.30 and a standard deviation of 0.823 which implied that the respondents agreed in a moderate extend that employee had some skills for monitoring and evaluating projects which influenced projects performance. Concerning organization plans for M & E in advance gave a mean of 2.99 (moderate extend) after round off score of 3 and a standard deviation of 0.801. From the results, the respondents showed that in a moderate extend the organizations had major plans for M & E in advance and the views of the responses had low variability. Employees attending upgrading seminars for M & E had the lowest mean of 2.57 (moderate extend) after a round off score 3 on likert scale adopted by the study and a standard deviation of 0.627 which implied that the employees agreed in a moderate extend that employees attended upgrading seminars which had impact to the performance of the projects.

For Monitoring and evaluation policies and standards had a mean of 2.9393 and low standard deviation of 0.42014. The value was rounded off to score 3 which implied that the respondents agreed in a moderate extend that M & E policies and standard

influence performance. The results indicated that respondents agreed in a moderate extend for the following: stakeholders understood the set M & E policies and standards clearly, set policies and standards influenced projects performance, M & E policies and standards were revised frequently and M & E exercise had enough allocation of funds with means of 2.97, 3.00, 2.80 and 2.99 and standard deviation of 0.636, 0.816, 0.754 and 0.843 respectively. Standard deviation was above 0.5 which indicated a bit high variability among the views of the respondents. Nalianya and Wanyonyi (2017) stated that well designed M & E policies and standards gave the expected actions which enhanced achievement of project objectives.

The results findings were in agreement with Phiri (2015) assertion that projects management needed skilled personnel to enhance continuous coordination and supervision to ensure projects activities are in order to enhance project performance. In addition, the findings agreed to Njeru and Luketero (2018) findings that M & E skills influences projects performance. Further, the study findings were in agreement with Yusuf *et al (*2017) argument that presence of M & E tools increased chances of better performance of projects.

4.4.3 Risk Management for Rural Electrification Projects

The respondents rated the level of agreement with information concerning risk management on likert scale. Risk management had been grouped into three groups risk planning, risk identification and lastly risk mitigation. It had eleven items for the respondents to rate. The Table 4.6 presents the results for risk management

Table 4.6 Response on Risk Management

ITEMS	N	Minimum	Maximum	Mean	Std. Deviation
Organizations planned for risk management in advance	70	2	4	3.09	.408
Organization had documented risk management policies	70	2	4	3.11	.578
Stakeholders were involved in risk planning	70	2	4	3.04	.464
Aggregate Scores for risk planning	**70**	**2.00**	**4.00**	**3.0810**	**.35638**
Stakeholders were involved in risk identification	70	2	5	3.17	.589
Risks identified were reported immediately	70	2	4	3.19	.427
Stakeholders had skills to identify risks in projects	70	2	4	3.19	.490
Identified risks were documented for future reference	70	2	4	3.19	.572
Aggregate scores for risk identification	**70**	**2.25**	**4.00**	**3.1821**	**.36841**
There were clear policies for risk mitigation	70	2	4	3.14	.519
Organization had documented risk mitigation approaches	70	2	4	3.20	.554
Quick response was taken to identified risks	70	2	4	3.19	.519
Risk mitigation influenced project performance	70	2	4	3.06	.376
Aggregate scores for risk mitigation	**70**	**2.75**	**4.00**	**3.1464**	**.26748**
Average aggregate score for Risk Management	**70**	**2.36**	**3.91**	**3.1416**	**.24257**

Source: Survey Data, (2020)

From the Table 4.6, risk management had an aggregate mean of 3.1416 (moderate extend) after a round off score 3 on likert scale adopted by the study and standard deviation of 0.24257. The respondents showed that risk management influenced

performance of RE projects in a moderate extend. Standard deviation was low which showed that the respondents had similar views concerning risk management. Risk management had three indicators risk planning, risk identification and risk mitigation.

Risk planning had a mean of 3.0810 and standard deviation of 0.35638 which indicated that the respondents agreed to a moderate extend that risk planning influenced projects performance. In addition, the respondents agreed in a moderate extend of the following; organization planned in advance for risk management (mean of 3.09 standard deviation of 0.408), risk management policies documentation were available (mean of 3.11 standard deviation of 0.578) and stakeholders were involved in risk planning (mean of 3.04 standard deviation of 0.464) which implied that early planning of risk planning ,documentation of risk management policies and involvement of stakeholders in risk planning influenced performance in moderate way. The views of respondents on risk planning were almost similar and it gave low standard deviations. Gitau (2015) indicated out that risk management was very crucial at planning stage as it influenced projects performance.

Risk identification had aggregate mean of 3.1821 and standard deviation of 0.36841 which indicated that the respondents agreed in a moderate extend that risk identification influenced projects performance. In addition, the results indicated that respondents agreed to a moderate extend in the following; stakeholders were involved in risk identification with mean of 3.17 and standard deviation of 0.589, Risk identified were reported immediately with a mean of 3.19 and standard deviation of 0.427, stakeholders had adequate skills to identify risks which had mean of 3.19 and

standard deviation of 0.490 and lastly identified risks were documented for future reference had mean of 3.19 and standard deviation of 0.572. The results indicated that the factors contributed in a moderate extend for risk identification to influence projects performance. The results were in line with Olechowski, Kenley, and Ben-Daya (2014) findings which indicated that risk identification influence performance of projects.

Risk Mitigation was a crucial factor which influenced projects performance in previous studies. Risk mitigation had a mean of 3.1464 and standard deviation of 0.26748 which implied that risk mitigation influenced project performance in a moderate extend. In addition, the respondents agreed in moderate extend for the following; The organization had clear policies for risk mitigation (mean 3.14 standard deviation 0.519), organizations had documented risk mitigation approaches (mean of 3.20 standard deviation 0.554),organizations took quick response to the identified risks (mean of 3.19 standard deviation 0.519) and risk mitigation influenced projects performance (mean 3.06 and standard deviation 0.376) which implied that the respondents agreed in a moderate extend that factors contributed in a moderate extend to risk mitigation to influence performance of rural electrification projects.

The risk management findings were in agreement with argument of. Kirira, Owuor, Liku & Mavole (2019) that pointed out that risk identification and mitigation had a positive impact to projects performance. The study added that risk identification had the highest effect on project performance and added that poor risk management had led to cost overruns of the projects which affected the performance. The study

concurred with Sibomana (2015) study which showed that risk mitigation methods influenced projects performance in terms of quality, cost and time.

4.4.4 Stakeholder Management for Rural Electrification Projects

Stakeholder management had 14 items the respondents had to give response rate. Stakeholder management was important in influencing project performance according to previous studies. The Table 4.7 presented the response.

Table 4.7 Response of Stakeholder Management

	N	Minimum	Maximum	Mean	
Stakeholder Involvement					
Organization identified qualified contractors	70	2	4	3.29	.568
Duties were shared among the stakeholders	70	2	4	3.33	.531
Team members knew their seniors where to report	70	2	4	3.13	.721
Stakeholders identification was done at early stage	70	2	4	3.00	.482
Aggregate scores for stakeholder involvement	**70**	**2.25**	**4.00**	**3.1821**	**.36841**
Stakeholder were involved in project management at the early stage	70	2	4	3.06	.562
Preparation of strategic plan involved almost all stakeholders	70	1	4	2.89	.713
Stakeholders implemented what was in strategic plan	70	2	4	3.19	.597
Stakeholders planned for all activities in project cycle	70	2	4	3.09	.408
Team-workers were briefed on technological changes to be adopted	70	2	4	3.31	.692
Aggregate scores for stakeholder identification	**70**	**2.60**	**3.60**	**3.1057**	**.27813**
Organization had policies on conflicts management	70	2	4	3.06	.720
Stakeholders were involved in setting code of conduct	70	2	4	3.09	.717
Conflict management had enhanced team work	70	2	4	2.97	.481
Project team members were trained on conflict management	70	2	5	3.10	.593
Reduces disagreement among the team workers had enhanced performance	70	2	4	3.26	.674
Aggregate Scores for Conflict Management	**70**	**2.40**	**3.80**	**3.0943**	**.31709**
Aggregate scores	70	2.50	3.36	2.8898	.17567

Source: Survey Data (2020)

From the Table 4.7, stakeholder management had aggregate mean of 2.8878 and standard deviation of 0.17567. The average score round off to a score of 3 on the adopted likert scale. The respondents gave a response between little extend and moderate extend to stakeholder management. The standard deviation was very low which showed that the views of respondents were almost the same views concerning stakeholder management. Stakeholder management was measured by three indicators; stakeholder involvement which had a mean of 3.1821 and standard deviation of 0.36841, stakeholder identification with mean of 3.1057 and standard deviation of 0.2813 and lastly conflict management which had a mean of 3.0943 and standard deviation of 0.31709. The results showed that stakeholder involvement had the highest mean followed by stakeholder identification then lastly conflict management. The respondents agreed at a moderate extend for all indicators of stakeholder management influenced performance.

For stakeholder involvement, all response showed moderate extend that there was duty sharing among the shareholders had the highest mean of 3.33 and standard deviation of 0.531, identification of qualified contractors been the second with a mean of 3.29 and standard deviation of 0.568, third was members knew the seniors where they had to report had a mean of 3.13 and standard deviation of 0.482. The results showed that the respondents had the same views on the stakeholder involvement due to low standard deviation and agreed in a moderate extend that stakeholder involvement had influence on performance of rural electrification projects.

For stakeholder identification, project team workers been involved in briefs of technological changes to be adopted had the highest mean of 3.31 (moderate extend) and standard deviation of 0.692 which implied that updates and adoption of technological changes had influence on performance. Second was stakeholder implementation of what was in strategic plan which had a mean of 3.19 and standard deviation of 0.597. Third, was stakeholder's involvement in planning for all activities in project cycle with a mean of 3.09 and standard deviation of 0.408, Stakeholder involvement at early stage was next with a mean of 3.06 and standard deviation of 0.562 and lastly preparation of strategic plan involved all the stakeholders had the lowest mean of 2.89 with a highest standard deviation of 0.713. The results showed that the respondents agreed in a moderate extend that stakeholder identification factors influenced performance of the projects.

Conflict management was very crucial in project management and the respondents agreed in a moderate extend with mean of 3.0943 and standard deviation of 0.31709. Team working made project performance to be effective and efficient had the highest mean of 3.26 (moderate extend) and a standard deviation of 0.674 which implied that the respondent agreed in a moderate extend that team work influenced successful performance. In addition, the respondents agreed in a moderate extend that: project team members were trained in team development, stakeholders were involved in team development and lastly team development was encouraged with means of 3.10, 3.09 and 3.06 and standard deviations of 0.593, 0.717 and 0.720 respectively. Encouraging stakeholder's involvement in conflict management had the highest standard deviation which showed higher variability. The results showed that conflict management

enhanced team work had the lowest mean of 2.97 (moderate extend) after a round off score of 3 on likert scale adopted by the study and standard deviation of 0.481. In conclusion, the respondents agreed to moderate extend that in management of the project conflict management enhanced teamwork and the respondents showed similar views due to low standard deviation.

The findings of stakeholder management were in agreement with the argument of Maina (2018) that stakeholders contributed a lot in project performance. In addition, the study findings concurred with Bwisa and Muli (2016) study which concluded that involvement of stakeholders in projects management influenced projects performance. The study still agreed with study of Muindi and Kule (2017) that stakeholder involvement helps in making crucial decision for project management. More ever, the study findings agreed with assertion of Murwanashyaka and Jaya (2015) that conflict management in any projects influences performance and involvement of stakeholders in management of conflicts and communication of policies influences performance of projects.

4.4.5 Response on Resource Mobilization.

Resource mobilization was very crucial to project performance as per previous studies. The study considered three indicators of resource mobilization which included; finance adequacy, modern equipments and staff competency. The respondent had 14 items to give the response rate according to the study likert scale. Table 4.8 shows results of response rate of resource mobilization.

Table 4.8 Response Rate for Resource Mobilization

	N	Minimum	Maximum	Mean	Std. Deviation
Finance Adequacy					
Organization got enough funding for projects	70	2	4	3.13	.779
Finance accountability was encouraged	70	2	4	3.36	.682
Projects got timely funding	70	2	4	2.83	.680
Project budget was planned in advance	70	2	5	3.74	.863
Finances were handled by skilled employees	70	2	5	3.81	.708
Aggregate Scores for Finance adequacy	**70**	**2.60**	**4.20**	**3.3743**	**.39989**
Always modern equipments was available	70	2	4	3.23	.569
Equipments were handled by skilled personnel	70	2	4	2.23	.543
Resources were safeguarded to reduce wastages	70	2	4	3.21	.535
Use of modern equipment enhanced project effectiveness	70	2	4	2.26	.530
Equipment was always used in the right way	70	3	5	3.86	.519
Aggregate Scores for Modern Equipment	**70**	**2.00**	**4.00**	**3.1829**	**.42082**
Employees had required skills	70	2	4	3.23	.745
Organizations had enough personnel for project management	70	2	4	3.14	.767
Employees attended upgrading seminars frequently	70	1	4	2.94	.883
Employees met frequently foe reviews and updates	70	2	5	3.46	.674
Effective resource mobilization influenced projects performance	70	2	5	3.14	.666
Aggregate scores for Staff Competency	**70**	**2.40**	**3.60**	**2.9571**	**.24529**
Avarage Aggregate Scores	**70**			**2.9219**	**.23726**

Source: Survey Data (2020)

Resource mobilization was an important factor in project management. Resource mobilization had an aggregate mean of 2.9219 (moderate extend) after a round off score of 3 on likert scale adopted by the study and standard deviation of 0.23736. The results showed that the respondents agreed to a moderate extend that resource mobilization influenced performance. The standard deviation was very low that showed close views of the respondents. Resource mobilization was measured by use

of the three indicators; Finance adequacy had the highest mean of 3.3743 and standard deviation of 0.39989. followed by modern equipment availability which had the second highest mean of 3.1829 and standard deviation of 0.42082 and lastly was staff competency which had the lowest mean of 2.9219 and lowest standard deviation of 0.23726. The respondents agreed in a moderate extent that finance adequacy, modern equipments and staff competency influenced the performance of the projects. .

About finance adequacy, the respondents affirmed to a great extent that finance budget were prepared in advance which had mean of 3.74 and standard deviation of 0.863 and also for finances been handled by skilled employees had high mean of 3.81 (great extend) after round of to 4 according to adopted likert scale and standards deviation of 0.708. The results indicated that for great extent, finances budgeting in advance and handling of finances by skilled employees influenced performance in a great extent. The respondents agreed in a moderate extend for the following; Organization got enough funding for projects (mean of 3.13 and standard deviation of 0.779), finance accountability was encouraged (mean of 3.36 standard deviation of 0.680) and projects got timely findings (mean of 2.83 standard deviation of 0.708). The results show that timely funding had the lowest mean which may have affected the performance of the projects. Musundi (2015) indicated that effective resource strategic planning ensured the projects were within the budget and time.

For modern equipment availability, the respondents affirmed in great extent that equipment were used for in the right way which had a mean of 3.86 after a round off score of 4 on likert scale adopted by the study and standard deviation of 0.519. The

results indicated that respondents agreed in great extend that employees used the equipment in the right way which influenced performance in a great extent. The respondents agreed in moderate extend that always modern equipment was available (means of 3.23 standard deviation of 0.569) and resources were safeguarded to reduce wastage (mean of 3.21 standard deviation of 0.543). This showed that modern equipment was available and safeguarded in a moderate extend which influenced projects performance. The respondents agreed in little extend that modern equipment was handled by skilled personnel with a mean of 2.23 standard deviation of 0.543 and used of modern equipment enhanced project effectiveness with a mean of 2.26 standard deviation of 0.530 which implied that in a little extend the modern equipment was used by skilled personnel which could have a negative influence to the performance.

For staff competency, respondents agreed in moderate extend for the following; employees had required skills with mean of 3.23 standard deviation of 0.745, organizations had enough staff for project management with mean of 3.14 standard deviation of 0.767, employee attended upgrading seminars with a mean of 2.96 standard deviation of 0.883, employees had frequents meetings for reviews and updates with a mean of 3.46 standard deviation of 0.674 and lastly staff competency influenced projects performance with mean of 3.14 and standard deviation of 0.666. The results implied that enough staff and attending of upgrading seminars influence the performance of the projects.

The findings were in agreement with argument of Musundi (2015) that stated that resource networking and donor outreach and funding had positive influence on performance of projects. In addition, the study agreed with argument of Maendo, Rosemary and Ngugi (2018) which revealed out that modern equipment, skilled personnel had positive influence on projects performance. Finally the study agreed with argument of Beverly, Strapola, Hazel, Fredrick and Odhiambo (2012) that resource accessibility influences projects performance.

4.4.6 Response rate of Regulatory Framework

The respondents had to rate by giving the level of agreement or disagreement on regulatory framework with statements on likert scale of 5 to 1. It had grouped into government policy and electricity regulation. In addition, it had 9 items for the respondents to give level of agreement or disagreement. Table 4.9 presents the results of regulatory framework.

Table 4.9 Responses on Regulatory Framework

	N	Minimum	Maximum	Mean	Std. Deviation
Government Policy					
Connection guidelines/polices were available	70	2	4	3.29	.515
Projects management were in line with government policies	70	2	5	3.46	.557
Available government policies influenced performance	70	2	4	3.23	.618
Institutional policies complied to government policies	70	2	4	3.13	.448
Availability of enabling policies influenced performance	70	2	5	3.49	.654
Regulatory bodies monitored compliance of policies during project management	70	2	5	3.16	.500
Aggregates scores for policy	**70**	**2.50**	**4.00**	**3.290**	**.30782**
Available electricity regulations were known by employees	70	2	4	3.26	.630
Electricity regulations had enhanced connectivity expansion	70	2	5	3.66	.700
Compliance to appropriate policies and regulations enhanced project performance	70	2	5	3.76	.711
Aggregate scores for Regulation	**70**	**2.00**	**4.33**	**3.557**	**.43857**
AGGREGATE SCORES		**2.33**	**3.56**	**2.992**	**.25332**

Source: Survey Data (2020)

Regulatory framework involved government policies and electricity regulations which were set to enhance electricity supply. It had a mean of 2.992 and standard deviation of 0.2533. Mean was rounded off to score 3 likert scale adopted by the study. The results showed that the respondents agreed in moderate extend that regulatory framework had influence to project performance and standard deviation was low indicating close views of respondents. The indicators of regulatory framework were two; government policies and electricity regulations which had mean of 3.290 (moderate extend) and 3.56 (great extend) and standard deviation of 3.290 and 2.992 respectively. Which implied that responded affirmed in a moderate and great extend that government policies and electricity regulations influenced performance.

For policies, the respondents agreed in moderate extend for the following; connection guidelines/policies were available (mean 3.29 standard deviation 0.515), projects management were in line with government policies(mean of 3.46 and standard deviation of 0.557), available government policies influenced projects performance (mean of 3.26 standard deviation of 0.618), institutional policies complied to government policies (mean of 3.13 standard deviation of 0.448), availability of enabling policies influenced performance (mean of 3.49 standard deviation of 0.654) and lastly regulatory bodies monitored compliance to policies during project management (mean of 3.16 standard deviation of 0.500). The results showed that enabling government policies enhanced project performance.

Electricity regulation had a mean of 3.557 and standard deviation of 0.4385. The mean value was rounded of to 4 as per likert scale adopted by the study. The respondents agreed in a great extent that electricity regulation influenced performance of RE projects. Compliance to appropriate regulation enhanced project performance had the highest mean of 3.76 (great extend) after round of to 4 and standard deviation of 0.711. The results showed that respondents agreed to a great extend that there was compliance to given electricity regulation which influenced performance. Electricity regulation enhanced connectivity expansion gave a mean of 3.66 (great extend) standard deviation of 0.711 which implied that electricity regulation given had influenced projects performances in a great extent. For availability of electricity regulation been known by the employee gave a mean of 3.26 (moderate extend)

standard deviation of 0.630 implying that regulations were known by the employees in a moderate extend and they were applied which influenced projects performance.

The findings were in agreement with assertion by Ndumia (2015) regulations compliance influence projects completion within time and budget. In addition the findings agreed with assertion by Gichamba and Kithinji (2019), that regulations influences performance of projects. In addition, the study early plan for regulations influenced project performance. The study agreed with argument of Pedo, Kabere and Makori (2018) study that regulatory framework had a positive influence on project performance.

4.4.7 Response of Organization Structure

The study considered three indicators for organization structure which included: Decision making, communication and set roles and function**.** The organization helped in identification of levels of management and roles given for all categories. Table 4.10 shows results presentation for structure of organization.

Table 4.10 Response for Organization Structure

	N	Minimum	Maximum	Mean	Std. Deviation
Decision Making					
Decision making involved all the stakeholders	70	3	5	3.51	.558
Effective decision making influenced performance	70	2	4	3.37	.516
Decision making was done at early stages of projects	70	2	5	3.43	.650
Average Scores for Decision Making	**70**	**2.67**	**4.33**	**3.4381**	**.36135**
Effective communication among team members influenced performance	70	2	4	3.44	.651
There was timely communication in all level of management	70	2	5	3.83	.481
Employees followed the right channels of communication	70	2	5	3.31	.578
Average Scores for Communication	**70**	**2.67**	**4.33**	**3.5286**	**.33810**
Organizations had set roles and functions of all stakeholders	70	2	5	3.30	.667
All the employees performed the duties effectively	70	2	5	3.39	.597
Effective performance of roles and functions influenced performance of projects	70	2	4	3.31	.498
Average Scores for Set roles and Functions	**70**	**2.44**	**3.56**	**3.0555**	**.21713**
Average Aggregate Scores	**70**			**3.5072**	**.30553**

Source: Survey Data (2020)

According to previous studies, organization structure played a crucial role to performance and supervision of duties in any organization. The aggregate scores for organization structure in this study had a mean of 3.5072 and standard deviation of 0.30553. The score was rounded off to 4 as per the adopted likert scale and results indicated that the respondents agreed in a great extend that organization structure had influence on performance of project. Standard deviation was low which indicated low variability among the respondents. Organization structure was measured by use of the following indicators; decision making which had mean of 3.4381(moderate extend) standard deviation of 0.36135, communication which had a mean of 3.5286 (great

extend) after round off and standard deviation of 0.33810 and lastly set roles and functions had mean of 3.0555 (moderate extend) and standard deviation of 0.21713. The results for indicators showed that communication had the highest mean (great extend) which indicated that it influenced project performance in great extent. Standard deviations for the three indicators were low which indicated that the respondents had similar views.

For decision making, the respondents agreed to great extent that decision making involved all the stakeholders with a mean of 3.51 after round off to 4 and standard deviation of 0.558 implying that stakeholder's involvements contributed to the performance of the projects in a great extent and the low standard deviation showed same views of respondents concerning decision making. The respondents agreed in a moderate extend that decision making influenced performance with a mean of 3.37 standard deviation of 0.650 and also agreed in moderate extend that decision making was done at early stages of projects with mean of 3.43 standard deviation of 0.650.

Communication in any organization was very important factor in influencing performance as per previous studies. The respondents agreed in great extent that there was timely communication in low levels of management which had a mean of 3.83 after a round off to score of 4 and standard deviation of 0.481. In addition, the respondents agreed in moderate extend that effective communication among team members influenced performance and also employees followed correct channels of communication which had means of 3.44, 3.31 and standard deviation of 0.651 and

0.578 respectively which implied that communication influenced projects performances in a moderate extend.

In organization, set roles and functions play crucial impacts to the performance. The respondents agreed in a moderate extend that; organization had set roles and functions of all stakeholders (mean of 3.30 standard deviation of 0.667), employees performed their duties effectively (mean of 3.39 standard deviation of 0.597) and effective performance of roles and functions influenced performance of the projects (means of 3.31 and standard deviation of 0.498). The results indicated that respondents agreed in a moderate extend that the set roles and functions contributed to the projects performance. The standard deviations were low which indicated low variability.

The findings were in agreement with assertion by Akira (2017) that organization structure provided framework for initiation and execution of duties following the chain of command in the organization. Further, formation of department and decision making influenced performance of the projects. In addition, the study was in agreement with Wachira (2015) that responsibilities for different functions dictated the chain of command to be followed in the organization which affected performance positively.

4.5 Diagnostic Tests

To ensure basic assumption of multiple regression model the study conducted diagnostic tests. According to suggestion of Gujarati (2007), diagnostic test was conducted to avoid biasness, inefficiency and inconsistency in parameters values. The

study conducted the following tests multicollinearity test, linearity test, homogeneity test and normality test.

4.5.1 Multicollinearity Test

The study conducted the multicollinearity test to determine if the variables were correlated. The study used Tolerance and Variance inflation to test for multicollinearity. Table 4.11 shows multicollinearity results.

Table 4.11 Multicollinearity Test Results

Model	Multicollinearity Statistics		
	Tolerance	VIF	Comments
Performance(dependent variable)			
Monitoring and Evaluation	.862	1.160	No Multicollinearity
Risk Management	.955	1.047	No Multicollinearity
Stakeholder Management	.919	1.089	No Multicollinearity
Resource Mobilization	.485	2.063	No Multicollinearity
Regulatory Framework	.501	1.997	No Multicollinearity
Organization Structure	.586	1.705	No Multicollinearity

Source: Survey Data (2020)

Table 4.11 indicates that tolerance values were as follows; monitoring and evaluation (0.862), risk management (0.955), stakeholder management (0.919), resource mobilization (0.485) regulatory framework (0.501) and organization structure (0.585). All values were higher than 0.1 showing no multicollinearity problems (Hair et al, 2010). The VIF values for monitoring and evaluation, risk management, stakeholder management, resource mobilization, regulatory framework and structure of organization was 1.160, 1.047, 1.089, 2.063, 1.997, and 1.705 respectively. The

values were less than 10 which showed no multicollinearity problems (Field, 2009). The results indicated that there was no correlation among the study variables.

4.5.2 Linearity Test

The study used Pearson product –moment correlation to test the linear relationship between the variables as recommended by Dancey (2004). Table 4.12 shows linearity test results. The hull hypothesis of the test was that the data had no linear relationship.

Table 4.12 Results of Linearity Test

Variable		Performance	Comments
Monitoring & evaluation	Pearson Correlation	.352	Linear
	Sig (2 tailed)	0.003	
	N	70	
Risk management	Pearson Correlation	0.350	Linear
	Sig (2 tailed)	0.002	
	N	70	
Stakeholder management	Pearson Correlation	-.080	Non Linear
	Sig (2 tailed)	.510	
	N	70	
Resource Mobilization	Pearson correlation	.643	Linear
	Sig (2 tailed)	.000	
	N	70	
Regulatory framework	Pearson Correlation	.341	Linear
	Sig (2 tailed)	.004	
	N	70	
Organization Structure	Pearson Correlation	.310	Linear
	Sig (2 tailed)	.009	
	N	70	

Source: Survey Data (2020)

Table 4.12 gave results for correlation coefficients for monitoring and evaluation, risk management, stakeholder management, regulatory framework and organization structure which were 0.352, 0.350, - 0.080, 0.643, 0.341, and 0.310 and P-values were 0.03, 0.002, 0.510, 0.000, 0.004, and 0.009 respectively. Pearson product-moment

correlation ranges between -1 and +1 and the greater the value the greater the relationship. P–values for all variables at 2 tailed were below 0.05 indicating linear relationship except for stakeholder management and the hull hypothesis was rejected.

4.5.3 Normality Test

Normality test was conducted as recommended by Razali and Wah (2011). The study used Shapiro-Wilk to test for the variables normality and for the data to be normal the P-value should be greater than 0.05 (P>0.05). Shapiro-Wilk test determines if the data remains normally distributed against the hull hypothesis which indicated that data was not normally distributed. Table 4.13 presents results for the normality test.

Table 4.13 Results for Normality Test

Variables	Shapiro-Wilk			
	Statistic	Df	Sig.	Comments
Performances	.972	70	.116	Normal
Monitoring & Evaluation	.973	70	.136	Normal
Risk Management	.899	70	.060	Normal
Stakeholder Management	.969	70	.079	Normal
Resource Mobilization	.974	70	.155	Normal
Regulatory Framework	.970	70	.096	Normal
Structure of Organization	.964	70	.059	Normal

Source; Survey Data (2020)

Table 4.13 shows that all variables were normally distributed. The variables had the following P-values; Performance (0.116> 0.05), monitoring and evaluation (0.136>0.05), risk management (0.060> 0.05), stakeholder management (0.079>0.05), Resource mobilization (0.155>0.05), regulatory framework (0.096>0.05) and structure of organization (0.059>0.05). The results indicated show that the variables in the study were normally distributed and so the hull hypothesis of the test was rejected.

4.5.4 Hetescendasticity Test

The study used Levenes test that uses F test for violation of heteroscedacity. P-value < 0.05 indicates violation of homogeneity. Heteroscedasticity test has a null hypothesis of constant variance in the error term. Table 4.14 presents heteroscedasticity results.

Table 4.14 Results for Heteroscedasticity

Test of Homogeneity of variance					Conclusion
	Levene Statistic	df1	df2	Sig.	
Monitoring & evaluation	.937	10	56	.507	P> 0.05, It shows equal variance
Risk management	2.022	10	56	.059	P>0.05, It shows equal variance
Stakeholder management	.763	10	56	.663	P> 0.05, It shows equal variance
Resource Mobilization	1.463	10	56	.178	P> 0.05, It shows equal variance
Regulatory Framework	1.004	10	56	.451	P> 0.05, It shows equal variance
Structure of Organization	1.636	10	56	.164	P> 0.05, It shows equal variance

Source: Survey Data (2020)

Table 4.14 shows statistics for levene test and P- values for performance of rural electrification projects based on the following indicators; Monitoring and evaluation (0.937, p=0.507), risk management (2.022, P= 0.059), stakeholder management (0.763, p=0.663), resource mobilization (1.463, P =0.178), regulatory framework (1.004, P=0.451) and structure of organization (1.636, P=0.164).As recommended by Gujarati(2007), all P-values were greater than 0.05(P>0.05) which indicated that the variance of the independent variables were constant hence fulfillment of assumption of homogeneity. The hull hypothesis of the test was rejected at 5 percent level of significance.

4.6 Testing of Hypothesis

The study used multiple regressions to test hypothesis of independent variables namely; M & E, risk management, stakeholder management and resource mobilization on dependent variable performance of rural electrification projects. Field data was used to test for the hypothesis. The study used results at a 95% level of significance to interpret data, adjusted R^2 and Beta values were used. Multiple regressions were suitable for the study as it involved several independent variables as recommended by Muthen (2007).

The study sought to test hypothesis for six variables where the first four sought to determine the direct effect on the performance of rural electrification projects. The other two sought to determine the moderating and mediating effects of regulatory framework and organization structure on the relationship between managerial processes and performance of rural electrification projects. The study conducted Anova test by calculating F statistics and P-values to determine the model significance as recommended by Gratine (2007). Criteria for comparing P values was used with significance value of 0.05 where value less than 0.05 indicated that the study was significant. Table 4.15 show results effects for monitoring and evaluation, risk management, stakeholder management and resource mobilization on performance of rural electrification projects.

Table 4.15 Results of effects of managerial processes on performance

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.724[a]	.524	.495	.26067

a. Predictors: (Constant), Risk management, Stakeholder management M & E, Resource Mobilization,
b. Dependent Variable: performance

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.868	4	1.217	17.911	.000[b]
	Residual	4.417	65	.068		
	Total	9.285	69			

a. Dependent Variable: performance
b. Predictors: (Constant), Risk management, Stakeholder management M & E, Resource Mobilization,

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig
		B	Std error	Beta		
	(Constant)	1.290	.449		2.874	.005
	M &E	.131	.041	.279	3.177	.002
	RIM	.179	.089	.175	2.006	.049
	SM	-.163	.101	-.140	-1.613	.112
	REM	.420	.058	.633	7.176	.000

a. Dependent Variable: p

Source: Survey Data, (2020)

Table 4.15 shows adjusted R squared was 0.495 which indicated that the independent variables (monitoring and evaluation, risk management and resource mobilization) combined gave 49.5 percent variation in rural electrification performance. In addition, the table 4.16 showed that the F (4, 65) statistics was 17.911 with p-value 0.000 which is less than 0.05($P<0.05$). The results indicated that the model was significant which the study could use it for statistical analysis.

Summarization of the results was done in model equation shown below

$P=1.290 + 0.131X_1 + 0.179\ X_2 - 0.163X_3 + 0.420X_4 + \varepsilon$ …

Where

$ß_0$= Constant

P = Dependent variables (performance)

X_1, X_2, X_3, X_4= Monitoring and Evaluation, Project Risk Management Stakeholder management and Resource Mobilization

ε. = Error term

4.6.1 Effects of Monitoring and Evaluation on Performance of Rural Electrification Projects.

The independent variable sought to establish the effects of M & E on performance of RE projects in Kitui County. The formulated hull hypothesis (H_0) assumed that monitoring and evaluation had no significant effects on performance of rural electrification in Kitui County. The study hypothesis was

H_{01}: Monitoring and evaluation has no significant effects on the performance of rural electrification projects in Kitui County, Kenya.

Table 4.15 shows that Beta coefficient for monitoring and evaluation was 0.131 and with P-value of 0.02. The results indicated that if the other factors were held constant, a unit change in monitoring and evaluation leads to 0.131 units change on rural electrification projects performance. The results P-value less than 0.05 ($P < 0.05$) indicated that hull hypothesis (H_o) was rejected implying that monitoring and evaluation had statistical significance influence on performance of rural electrification projects in Kitui County. The coefficient for monitoring and evaluation was positive

so it had positive influence on performance of rural electrification projects in Kitui County.

The study's findings was in agreement with Phiri (2016) study findings that indicated M & E had positive significant relationship with performance of projects in Kenya. In addition the study findings concurred to Yusuf, Muchelule; Otonde, Mbawi Geoffrey; Achayo, Muchelule Saada (2017) study on influence of monitoring and evaluation on CDF projects performance .The study findings concurs with Njeru and Luketero (2018) study findings that pointed out monitoring and evaluation skills had great influence on projects performance. More ever, the study concurred with Waithera and Wanyoike (2015) findings that monitoring and evaluation had positive influence on performance of projects.

4.6.2 Effects of Risk Management on Performance of Rural Electrification Projects

The second study's objective was to determine the effects of risk management on performance of rural electrification projects in Kitui County. The study formulated null hypothesis (H_O) which was derived as:

H_{02}: Risk management has no significant effects on the performance of rural electrification projects in Kitui County, Kenya

The table 4.15 above showed value of the coefficient for risk management was 0.179 and P-value of 0.049 which indicated that a unit change in score of risk management resulted to 0.179 unit change in score of performance of rural electrification projects.

The P-value results was less than 0.05 ($P<0.05$) which showed that the hull hypothesis (H_o) was to be rejected which implied that risk management had positive statistical significant effect on the performance of the projects.

The study findings concurred with Kirira, Owuor, Liku & Mavole (2019) study findings that risk management had positive influence on projects performance. The study revealed risk identification, risk mitigation influenced projects performance. The study findings concurred with Garish, Harsh and Nidhi (2014) study on risk management influence on international Islamic bank performance. In addition, the study concurred with Gitau (2015) study on investigation of risk management on performance of construction projects in Rwanda. The study revealed out that risk management had positive significant effect to performance of the construction projects.

4.6.3 Effects of Stakeholders Management on Performance of R E Projects

The study's third objective sought to establish the effects of stakeholder's management on performance of rural electrification projects in Kitui County. The study formulated the hull hypothesis (Ho) which had an assumption of stakeholders management had no significant effect to performance of rural electrification projects in Kitui County, Kenya. The study hypothesis was

H_{03}: Stakeholder management has no significant effects on the performance of rural electrification projects in Kitui County, Kenya

The study's findings were shown in Table 4.15 which indicated that the Beta coefficients of stakeholders management was -0.163 and a P-value of 0.112 (P>0.05). The results indicated that for unit increase of stakeholder management resulted to decreased by 0.163 of performance of rural electrification projects. The result indicates increase in stakeholder management which involved; stakeholder involvement, stakeholder identification and conflict management lead to decrease in performance of rural electrification projects. Then at P<0.05 level of significant, the study's hull hypothesis was accepted implying that stakeholder management had no significant effect to performance of rural electrification projects in Kitui County, Kenya. The study accepted the null hypothesis.

The study contradicted the study by Maina (2018) on investigation of stakeholder management influence on performance of open air markets in Nyeri County. The study revealed that stakeholder management had positive influence on performance of markets. The study still revealed that stakeholder involvement was critical for performance. In addition, the study contradicted the study by Bwisa and Muli (2016) on investigation of stakeholder management on performance of CDF projects in Kenya. The study pointed out that involvement of stakeholders from initial stage to last stage had influence on performance of projects. The study still pointed out that government and managers had to have framework that encouraged stakeholder management to be done in all government funded projects..

Finally, the study contradicted Murwanashyaka and Jaya (2015) study on stakeholder management practices effects on performance of construction projects in Kenya. The study revealed that conflict management, contract management and communication influenced performance. Further, the study never concurred to Muindi and Kule (2017) that investigated on team management practices effects on performance of projects in Rwanda and showed that stakeholder involvement was very critical to project performance.

4.6.4 Effects of Resource Mobilization on RE Projects Performance

The study's fourth objective sought to determine the effects of resource mobilization on the performance of rural electrification projects in Kitui County, Kenya. The study formulated the hull hypothesis (Ho) which had an assumption of resource mobilization had no significant effect to performance of rural electrification projects in Kitui County, Kenya. The results were shown on Table 4.15. The study hypothesis was

H_{04}: Resource mobilization has no significant effects on the performance rural electrification projects in Kitui County, Kenya.

The hypothesis results indicated a beta coefficient of resource mobilization of 0.420 and P-value of 0.000 ($P<0.05$). The results showed that unit change in score of resource mobilization led to 0.420 unit change in score of performance of rural electrification projects at $P<0.000$ level of significance, the study's null hypothesis was rejected implying that resource mobilization was statistically significant to performance of rural electrification projects.

The study findings concurred with the study of Musyoka (2014) which investigated on resource mobilization strategies on performance of organization in Kitui County. The findings indicated that resource mobilization was statistically significant to performance. The study also concurred with Musundi (2015) resource networking had great influence on the performance of projects. In addition, the study concurred with study for Maendo, Rosemary and Ngugi (2018) which investigated on resource mobilization effects on road infrastructure projects in Kenya and revealed that project resource mobilization had significant influence on the projects and the study added that human, technical and financial resources were very critical to the projects performance.

4.6.5 Managerial Processes, Regulatory Framework and Performance

The fifth objective of the study sought to establish the moderating effect of regulatory framework on relationship between managerial processes and performance of the rural electrification projects in Kitui County. The hull hypothesis (Ho) formulated had assumption of regulatory framework had no moderating effect on performance rural electrification projects in Kitui County. To test the hypothesis, stepwise multiple regressions were used. Step one, the study analyzed the moderating effect of regulatory framework on the relationship between managerial processes and performance of RE projects and the model was as follows

$$P=ß_0 + ß_5MP + ß_6RF + e \quad \text{.....3.4}$$

The study hypothesis was

H_{05}: Regulatory Framework has no moderating effect on the relationship between managerial processes and performance of rural electrification projects in Kitui County, Kenya.

This model gave the following results in Table 4.16

Table 4.16 Effects of Managerial Processes and Regulatory Framework for model 3.4

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.466[a]	.218	.194	.18527

a. Predictors: (Constant), REF, MP

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.639	2	.320	9.312	.000[b]
	Residual	2.300	67	.034		
	Total	2.939	69			

a. Dependent Variable: p
b. Predictors: (Constant), REF, MP

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.831	.624		7.741	.000
	Managerial Processes	-.216	.221	-.112	-.978	.332
	Regulatory Framework	-.340	.093	-.418	-3.654	.001

a. Dependent Variable: p

Source: Survey Data (2020)

The results indicated that Anova result as F (2, 67) and statistics was 9.312 with P-value of 0.000 which was less than 0.05. The result indicated that the model was statistically significant and could be used for further analysis. Managerial processes

had coefficient of -0.216 with P-value of 0.332 which was greater than 0.05 indicating the value was not statistically significant. Regulatory framework had coefficient of -0.340 and P-value of 0.001 (P<0.05) which indicated that regulatory framework was statically significant. The equation for model 3.4 was

P=4.831 - 0.216MP - 0.340 RF + e.....3.4

Next model was to determine the direction and effect regulatory framework on the independent variable (managerial processes) and its influence on dependant variable (performance). In model 3.5 the product of managerial processes and regulatory framework was used to estimate moderating effect as it was specified in chapter three. According to recommendation by Whisman and McClelland (2005), the following equation was used

$P= ß_0 + ß_5 MP + ß_6 RF + ß_7 MP*RF + e$.....3.5

Analysis was done and interpretation of the results done. The study's findings with regulatory framework as the variable was shown in the table 4.17

Table 4.17 Effects of Managerial Processes and Regulatory Framework on Performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.506[a]	.256	.222	.22435

a. Predictors: (Constant), Managerial processes and moderator (Regulatory framework)
Dependent Variable; Performance of Rural Electrification projects

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.142	3	.381	7.560	.000[b]
	Residual	3.322	66	.050		
	Total	4.463	69			

a. Dependent Variable: performance
b. Predictors: (Constant), MP*REF, Regulatory Framework, Managerial Performance
Interaction Variable; Managerial processes and Regulatory Framework

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.539	.560		6.314	.000
	Managerial Processes	-.276	.191	-.201	-1.445	.153
	Regulatory Framework	.074	.051	.180	1.458	.150
	Interactive variable	.096	.030	.425	3.167	.002

a. Dependent Variable: performance

Source: survey Data (2020)

Table 4.17 shows adjusted R square of 0.222 which implied that 22.2 percent variation in performance of rural electrification projects (dependent variable) was explained by managerial processes and regulatory framework(predictor variable). From the table, Anova results indicated F (3, 66) statistic been 7.560 and P-value 0.000(P<0.05).the results indicated that the model was statistically significant. The results showed coefficients of managerial processes was -0.276 and P-value of 0.153(P>0.05), coefficient of regulatory Framework was 0.074 and P-value of 0.150(P>0.05) and lastly coefficient of interaction variable was 0.096 and P-value of

0.002 (P<0.05). The P- value for interaction variable was less than 0.05 indicating statistical significant. The equation of the model was

$P= 3.539 -0.276MP + 0.76RF +0.96 MP*RF+ \varepsilon$

Since $ß_6$ in model 3.4 and $ß_7$ in model 3.5 are significant (P < 0.05), therefore regulatory framework had a moderating effect on relationship between managerial processes and performance of rural electrification projects in Kitui County. The study rejected the null hypothesis (H_O) that implied that regulatory framework had moderating effect on the relationship between managerial processes and performance of rural electrification projects in Kitui County, Kenya.

Table 4.18 Decision Criteria for Moderation

Model 3.4	**Model 3.5**	**Conclusion**
$ß_6$ =-0.340, P=0,001		No moderation effect
$ß_6$==-0.340, P=0,001	($ß_7$=0.096 if P>0.005 then	The moderating variable is just explanatory variable
$ß_6$==-0.340, P=0,001	$ß_7$=0.096 P=0.002	moderating variable has a moderating effect

Source: Survey Data (2020)

Table 4.18 reveals that the interaction of managerial processes and regulatory framework in model 3.5 had coefficient of 0.096 and p-value of 0.002 which implied that significant influence. The results reveal that regulatory framework had moderating effect on the relationship between managerial processes and performance of rural electrification projects in Kitui County and therefore the study rejected the hull hypothesis.

The findings concurred with the findings of Pedo, Kabere and Makori (2018) who investigated moderating effect of government policy on relationship between regulatory framework and public partnership road projects. The study findings showed that government policy had a significant moderating effect on the relationship. The study results contradicted a study by Kungu (2017) that established the moderating effect of operating environment on relationship between quality management practices and performance of firms. The study revealed that operating environment had no significant moderating effect on management practices and performance of the firm. The study revealed that standards and regulations had no effect on the relationships.

4.6.6 Managerial Processes, Organization Structure and Performance

The study used the following steps according to Baron and Kenny (1986) recommendation. Step one included regression of managerial processes to predict performance of rural electrification and used the following equation.

$P=ß_0 + ß_8MP+ e$ .....model 3.6

In this equation $ß_8$ had a coefficient of 0.530 with P-value of 0.000 which was less than 0.05 indicating that managerial processes significantly influenced the performance. Step two, tested whether managerial processes was significant and it used the following equation

$OS=ß_0 + ß_8 MP+ e$.....Model 3.7

The results indicated that **$ß_8$** had a coefficient of O.840 with P-value of 0.000 which was less than 0.005 indicating that managerial processes influenced organization structure.

Step three tested whether organization structure influenced performance and it used the following equation

$P=ß_0 + ß_9$ OS+ *e.* .....Model 3.8

The results indicated that $ß_9$ in model 3.8 had a coefficient of 0.426 with a P-value of 0.000 which was less than 0.05 indicating that organization structure predicted performance. Step four included multiple regression with managerial processes (MP) and organization structure (OS) predicting the performance of rural electrification projects (P).

$P= \beta 0 + \beta_8 MP + \beta_9 OS + e.$ .....Model 3.9

The study hypothesis was

H_{06}: Organizations structure has no mediating effect on the relationship between managerial processes and performance of rural electrification projects in Kitui County, Kenya.

Table 4.19 shows results for step four

Table 4.19 Effects of Managerial processes, Organization structure on Performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.692[a]	.479	.463	.26880

a. Predictors: (Constant), Organization Structure, Managerial Processes

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4.444	2	2.222	30.751	.000[b]
	Residual	4.841	67	.072		
	Total	9.285	69			

a. Dependent Variable: performance
b. Predictors: (Constant), Organization Structure, Managerial Processes

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.004	.303		3.310	.002
	Managerial Processes	.289	.100	.331	2.889	.005
	Organization Structure	.287	.076	.432	3.775	.000

a. Dependent Variable: Performance

Source: Survey Data (2020)

From Table 4.19, Managerial processes had coefficient of 0.289 and P-value of 0.005 (P<0.005) which indicated significant effect and organization structure had coefficient of 0.287 and P- value of 0.000 which was less than 0.05 (P<0.005). The results indicated that organization structure had a mediating effect on performance. Since β_8 and β_9 were significant determinants of performance in model 3.9 then the mediating effect was partial. The study rejected the hull hypothesis concluding organizations structure had partial mediating effect on the relationship between managerial processes and performance of rural electrification projects in Kitui County, Kenya

Table 4.20 Summary of Mediation Effects Results

Steps	R^2	Adjusted R^2	$ß_8$	$ß_9$	Sig	Implication
Step 1 MP predicts P	0.368	0.358	0.530	-	0.000	Significant
Step 2 MP predicts OS	0.407	0.398	0.840	-	0.000	Significant
Step 3 SO predicts P	0.414	0.405	0.426	-	0.000	Significant
Step 4 MP and OS predicts performance	0.479 -	0.463 -	0.289	- 0.287	0.005 0.000	Significant Significant

Source: Survey Data (2020)

The study concurred with the study by Akira and Fridah (2017) which investigated on factors affecting projects performance of Kenya port Authority which established that organization structure had a positive mediating effect on relationship between factors and performance. In addition, the study established that organized structures provide framework for initiation, execution of duties and also reduce uncertainty and confusion that occurs during project management**.** The study findings agreed with Wachira (2015) study which investigated effects of structure of organization on projects implementation and resulted to positive significant results. In conclusion Table 4.21 gave the summary of results for the hypothesis

Table 4.21 Hypothesis Results Summary

Hypothesis	Findings	Decision	Conclusion
H_{01}:Monitoring and evaluation has no significant effects on the performance of rural electrification projects in Kitui County, Kenya	ß = 0.131 P=0.002< 0.005	Reject Ho	M & E had a positive statistical significant effect on rural electrification projects performance
H_{02}:Risk management has no significant effects on the performance of rural electrification projects in Kitui County, Kenya.	ß =0.179 P=0.049< 0.005	Reject Ho	Risk management had a positive statistical significant effect on rural electrification projects performance
H_{03}: Stakeholder management has no significant effects on the performance of rural electrification projects in Kitui County, Kenya.	ß =0.163 P=0.112> 0.005	Accept Ho	Stakeholder management had NO positive statistical significant effect on rural electrification projects performance
H_{04}: Resource mobilization has no significant effects on the performance rural electrification projects in Kitui County, Kenya.	ß =0.420 P=0.000< 0.005	Reject Ho	Resource Mobilization had a positive statistical significant effect on rural electrification projects performance
H_{05}:Regulatory Framework has no moderating effect on the relationship between managerial processes and performance of rural electrification projects in Kitui County, Kenya	ß =0.096 P=0.002< 0.005	Reject Ho	Regulatory framework has a moderating effect on relationship between managerial processes and performance of rural electrification projects
H_{06}:Organization Structure has no mediating effect on the relationship between managerial processes and performance of rural electrification projects in Kitui County, Kenya	ß =0.287 P=0.000 P<0.005	Reject Ho	Organization structure had a partial mediating effect on relationship between managerial processes and performance of rural electrification projects

Source: Survey Data (2020)

4.7 Qualitative Data Analysis

Content analysis was used to analyze qualitative analysis which had open ended questions in the all variables; dependent (performance), independent variables (M & E, risk management , stakeholder management and resource mobilization) moderating variables (regulatory framework) and mediating Variable (organization structure).

Table 4.22 Qualitative Data Analysis

Factor	Description
Views on other factors that affected performance of RE projects	Around 80% of respondents stated leadership, motivation in terms of incentives, upgrading seminars.
How monitoring and evaluation influenced performance	Most respondents stated that the organization had to get independent bodies to carry monitoring and evaluation activities to enhance project performance.
Views on how risk management influenced performance of RE projects	Respondents suggested control of high voltage and use of high quality materials
Views if all stakeholders were involved in management of projects	Almost 80% indicated that not all stakeholders were involved
Views on how resource mobilization influenced performance	Viewed that new improved materials/equipment had enhanced performance, enough funds quickens completion time
Views on whether regulatory framework influenced performance	Viewed that government policies had extended connectivity to rural areas
Views on whether organization structure promoted performance of projects	Allocation of duties, supervision and leadership had enhanced performance.

Source: Survey Data (2020)

Table 4.22 shows that most respondents were on the views that leadership on project management was another crucial factor to be considered as it could enhance adequate measures to risk management, stakeholder's involvement in management of projects and also ensure timely provision of resources, motivation and availability of upgrading seminars which had effect to performance of projects. In addition, the respondents viewed that the employee were committed to monitor and inspect the progress of the projects which enhanced performance. The respondents also viewed that all stakeholders were not involved in most decision making. The respondents still felt that improved equipments and materials enhanced performance of the projects. The study findings support the assertion by Adan (2012) that stakeholders has a role

in planning, identification and implementation role and they should be involved in management of projects.

The study findings indicated that government policies had influenced extension of connectivity to most household in the rural areas. In addition, the respondents had viewed that allocation of duties, supervision of project activities and effective leadership had influenced projects performance. The study findings support the assertion by Leung (2014) that developed supervisory systems were important to project's success and monitoring and evaluation ensured early corrective measures that reduced the occurrence of risks.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

The chapter discusses the study summary, limitations faced, conclusions and contributions the study has towards knowledge, policy recommendation and areas for further research.

5.2 Summary

The study sought to establish the influence of managerial processes on performance of rural electrification projects in Kitui County, Kenya. The study's objective were to establish the influence of monitoring and evaluation, establish the influence of risk management, determine the effect of stakeholder management and establish the effect of resource mobilization on the performance of rural electrification projects. In addition, the study established the moderating effect of regulatory framework and mediating effect of organization structure on relationship between managerial processes and performance of rural electrification projects in Kenya.

The study used descriptive and explanatory research designs. The study collected data by use of questionnaires and analysed the collected data by use of descriptive and inferential statistics. Multiple regressions were used to determine the effects of the study variables on performance rural electrification projects. In addition, the study determined the moderating and mediating effects on regulatory framework and organization structure on relationship between managerial processes and performance of rural electrification projects. Open –ended, closed and likert questionnaires were

used to collect data which was analysed by use of descriptive and inferential statistics. The study used multiple regressions to establish the influence of independent variables on performance of RE projects. The study findings indicated that most of the respondents had six and above working experience. In addition, the study findings indicated that most of the respondents had certificate education and above which implied that the respondents had skills to manage the projects enhancing projects performance.

The study had six objectives and the first objective was determining whether monitoring and evaluation had effects on performance of rural electrification projects in Kitui County, Kenya. The formulated hull hypothesis was rejected which implied that monitoring and evaluation had significant effects on the performance of rural electrification projects in Kitui County, Kenya. The study findings indicated adequate monitoring and evaluation tools, skills, policies and standard had significant influence on performance.

The second objective sought to establish the effect of risk management on performance of rural electrification projects in Kitui County, Kenya. The null hypothesis was rejected which implied that risk management had a significant influence on performance of rural electrification projects in Kitui County, Kenya. The findings showed that risk planning; risk identification and risk mitigation was done which enhanced project performance.

The study's third objective sought to establish effect of stakeholder management on the performance of the rural electrification projects in Kitui County, Kenya. The null hypothesis was accepted implying stakeholder management had no significant effect on the performance of rural electrification projects in Kitui County, Kenya. The study's findings indicated that stakeholder management has no effect on the performance of projects. The study indicated that stakeholder's identification, stakeholder involvement and team development had no effect to rural electrification projects.

The fourth objective sought to determine the effect of resource mobilization on the performance of rural electrification projects in Kitui County, Kenya. The study rejected the null hypothesis implying resource mobilization had significant effects on the performance of rural electrification projects in Kitui County, Kenya. The findings indicated that resource mobilization had positive effect to performance of RE projects. Finance adequacy, modern equipment and competency staff enhanced the projects performance.

The fifth objectives sought to establish the moderating effect of regulation framework on the relationship between managerial processes and performance of rural electrification projects in Kitui County, Kenya. The study rejected the null hypothesis implying that regulatory framework had a moderating effect on relationship between managerial processes and performance of RE projects in Kitui County, Kenya.

The sixth objective sought to determine the mediating effect of organization structure on the relationship between the managerial processes and performance of rural electrification projects in Kitui County, Kenya. The study rejected the null hypothesis implying organization structure had a partial mediating effect on the relationship between managerial processes and performance of rural electrification projects in Kitui County, Kenya. The study established that structure of organization had a partial mediating variable in relationship between managerial processes and performance of rural electrification projects.

5.3 Conclusion

Socio-economic growth and development of a country depends mostly on performance of electricity projects that enhances development of the other sectors in the country. Performance of electricity projects is very critical to the development of the country. The study considered the performance of projects in terms of effectiveness, efficiency and customer satisfaction. Achievement of the rural electrification projects objectives and completion of projects within given time and budget is crucial towards realization of Vision 2030.

The study concluded that managerial processes which included; monitoring and evaluation, risk management and resource mobilization had positive effect on performance of RE projects in Kitui County which the findings indicated that increase in each led to increase of the performance. Monitoring tools, skills and standards had positive influence on RE projects performance. To aid adequate monitoring and

evaluation of the projects the government and the organization had to play crucial role of financing the activities.

The study also concludes that risk management had positive influence on RE projects in Kitui County. Risk planning, identification and mitigation influence the performance of the RE projects. Further risk planning was very crucial to the performance of projects as early action of identified risks was taken. Stakeholder management had a negative effect on the performance indicating that it had a negative effect on performance of RE projects.

The study also concludes that resource mobilization influenced performance. Finance adequate, competent staff and modern equipment influence the RE performance positively. Further, the study sought to establish the moderating effect of regulatory framework and mediating effect of organization structure on relationship between managerial processes and RE performance in Kitui County, Kenya. Based on this, the study concluded that regulatory framework and organization structure had a moderating effect and partial mediating effect on the relationship between managerial processes and performance of rural electrification projects.

5.4 Contribution of the Study to Knowledge

The study investigated the effects of managerial processes and performance of rural electrification projects in Kitui County, Kenya. Despite previous studies which determined project performance as critical factor in project management, it was noted that those previous studies where concerned with others sectors not energy sector. In

addition, those studies had certain limitation which this study considered like conceptualization of study variables, methodology used and also models.

The previous studies conducted revealed that projects performance was affected by many factors and the study contributed to the empirical literature by giving that monitoring and evaluation, resource mobilization and risk management had a positive influence on performance of rural electrification projects. In addition, the study adds to the empirical literature that regulatory framework and organization structure had a moderating and a partial mediating effect on the relationship between managerial processes and performance of the projects. This integrated model had a critical impact to managers and researchers in projects management sectors and institutions. In addition, the factors utilized in the study which included, M & E, risk management and resource mobilization enhanced conceptualization of managerial processes framework.

The study contributed to the theoretical literature by testing out the formulated hypothesis. The study supported the theories used which included the stakeholder theory, resource based view theory and project management competency theory. The study added to the body of knowledge, the testing of the multiple regressions and its application in performance of rural electrification projects. Finally, the study gave insights on effects of managerial processes on performance of rural electrification projects in Kitui County, Kenya.

5.5 Recommendations

The results indicated that the projects experienced untimely funding of projects and inadequate funding. The government has to consider having planning for adequate and timely funding to help projects completion in time. The study showed that financial adequacy and availability of modern equipment influences achievement of projects objectives and projects completion to be within given time and budget.

The study findings indicated that monitoring and evaluation had positive effect on performance of RE projects. The county government and organization undertaking the project management should develop policies and regulation for monitoring and evaluating the projects progress which would enhance regular monitoring and evaluation. Frequent monitoring enhances updates for progression process.

Risk management had positive significant effect on performance of rural electrification projects. The team members and managers of organizations should have the ability to plan for risks, identify the projects risks, and have developed risk mitigation approaches which could ensure that risks are controlled or reduced to minimal levels enhancing projects performance. In addition, the stakeholders should be involved in planning and identification of risks at early stage so that early measures can be taken.

Resource mobilization had positive significant effect on performance of rural electrification projects. Finance adequacy, modern equipment and competent staff were very crucial to the performance of projects. The government should ensure that

the finances set for the projects should be adequate to enhance projects completion within the budget. In addition, the organization should ensure that it has the modern equipment at the same time it has competent staff to carry on the projects activities.

Regulatory framework had a moderating effect on the relationship between managerial processes and performance of rural electrification projects in Kitui County. Therefore the study recommends compliance to government policies and electricity regulations. In addition, the study recommends the government to enforce compliance to regulations. Further, the government stakeholders should review the policies frequently to ensure projects performance which will lead to achievement of Kenya Vision 2030. More ever, the electricity organization and the county government should involve all stakeholders in management of rural electrification projects to enhance timely completion of projects. Finally, the study recommends that the organizations managers to enforce policy compliance at all levels.

Organization Structure had a mediating effect on the relationship between managerial processes and performance of rural electrification projects in Kitui County. The study recommends the organization should organise its structure such that effective decision making and communication is enhanced. In addition, the organization should ensure the set roles and functions are known to their stakeholders.

5.6 Limitation of the Study

The study experienced limited access of the organizations documents as the managers prevented the researcher from getting the details concerning cost and time overruns

needed for the study. The researcher produced permission document given by university graduate school and NACOSTI to give them evidence that the information was need for academic research. In addition, the researcher engaged with the managers of the organization to assure them that the information obtained would be treated with a lot of confidentiality. Further, the study experienced challenge of attaining current documents as the managers had not kept up to date documents on actual and budgeted expenditure and the researcher engaged the managers and financial officers to obtain approximations.

5.7 Suggestions for Further Research

Apart from rural electrification projects, there are other electricity projects in Kenya. Further, research can be done to those projects to establish the general performance of electricity projects in the country. This can highlight on measures that can be put in place by government and organizations managers for effective and efficient performance of electricity projects in Kenya. Further, research can be carried out on stakeholder management on electricity projects in Kenya to establish its influence on electricity performance. Lastly, further research can be done on other sectors to establish the performance of projects in Kitui County to enhance the development of the county.

REFERENCES

Abdi,D.(2014).An Investigation of factors Influencing Performance of non-Governmental Projects in Kenya. A case of Garisa County, Kenya. Unpublished Masters Theses University of Nairobi.

Adan,F.(2012). Influence of stakeholders role on performance of CDF projects. A case of Isiolo North constituency, Kenya. Unpublished Masters Theses, University of Nairobi.

Adhiambo, A. (2015). Factors Influencing Implementation of Rural Electrification Programme in Kilifi County. Unpublished Masters Theses, Nairobi University

African Development Fund, (2010). Power Transmission System Improvement Project. Project Appraisal Report

African Development Bank (ADB), (2014). Last Mile Connectivity Project – Environmental and Social Management Framework Summary, ADB

Ahmed,F.,Asim,W.,Saad,A,.Mohsin,J., Syed, T.and Safia, S.(2014).Effects of Management practices on Project Performances .*Indian Journal of Science and technology Vol 9(21).ISSN (online) 0974-5645*

Aketch,N. and Omwono,G.(2015).Stakeholder involvement in change management at Kenya power and lighting company limited. *International journal of small business and enterprenuership research VOL.4 NO.1 PP1-20*.

Akira, J. and Fridah, S.(2017). Factors affecting projects performance of Kenya port Authority. *International journal of managing studies and research (IJMSR) Vol.5 ISSN 2349-03330.*

Alan, B. & Emma, B. (2015). *Business Research Methods*. New York: OxfordUniversity Press

Alexandra, N. (2010). Comparative Study on Rural Electrification Policies in Emerging Economies, Key to Successful Policies. *International Energy Agency*

Amin, M. (2005). Social science research; Conception, methodology and analysis. Kampala: *Makerere University Printery.*

Anderson, A. & Glen, K. (2011). Improving Kenya‟s Infrastructure for future generations. *Economical Journal 62, 461-78.*

Anunda, (2016). Factors influencing the performance of project implemented by NGOs in health sectors. Unpublished Masters Theses, Nairobi Univesity.

Anyango, O. (2016). Factors determining projects implementation on health projects on Gedo Region, Somali. Unpublished Master's Thesis. University of Nairobi.

Arnaboldi, M., Azzonne, G., & Savoldelli, A.(2014). Managing a public sector project ;A case of Italian Treasury Ministry. *International journal of project Management,22(3),213-223.*.

Babalola I., Oluwatuyi O., Akinloye L.l, and Aiyewalehinmi E.(2015) Factors Influencing Performance of Construction Projects in Akurw, Nigeria. *International journal of Civil Engineering Construction and Estate Management*.

Barasa,M. (2015). Influence of monitoring and evaluation tools on project completion in kenya: a case of constituency development fund projects in kakamega county, Kenya. Unpublished masters theses, Univesity of Nairobi

Barney, J. B. (1991). Firm Resources and Sustained Competitive Advantage. Journal of Management, Vol. 17, No. 1, Pp. 99-120.

Barney, J.B. (1995). Looking Inside for Competitive Advantage. *Academy for Management executive 9(4), 49-56*

Barney, J. (2001). Firm Resources and Sustained Competitive Advantage. *Journal of Management, Vol .17 , pp 99-120.*

Barney, J. B. (2007). 'Is the resource-based 'view' a useful perspective for strategic management research? Yes', *Academy of Management Review, Vol 26, pp 102- 105*

Barney, J. B., & Hesterly, W.S. (2013). Strategic management and competitive advantage concept. *Upper saddle River, N.J: Pearson Prentice Hall*.

Baron, R. M. & Kenny, D. A. (1986). The Moderator- Mediator variable distinction in social psychological research. Conceptual, Strategic and Statistical consideration. *Journal of Personality and Social Psychology, Vol.51, No.3, pp. 1173-1182*.

Beverly, M. O., Strapola, J. M., Hazel, M.M., Fredick , O. A & Odhiambo, O. (2012). Factors Influencing Mobilization of Kenyan Resources for Health and

Development. *International Journal Soc, Sci & Ed, Vo;l3 issue 1 ISSN 2223-4934.*

Blattberg, C. (2004). "Welfare: Towards the Patriotic Corporation". From Pluralist to Patriotic Politics: Putting Practice First. *New York: Oxford University Press.*

Boonstra, A. (2011). How do top managers support strategic information system projects and why do they sometimes withhold this support? *International Journal Project Management, 31(4), 498-512*

Bordens, K.S., & Abbott, B.B. (2011). Research design methods: A process approach (7thed.).

Boyatzis, R.E. (2008). Competencies in the 21st Century. *Journal of Management development*, 27 (1), 5-12.

Bwisa.H. &Muli.S. (2016) . Role of Stakeholder Management on the Performance of Projects Funded by Constituency Development Fund in Kenya. *International Journal of Economics, Commerce and Management.United Kingdom,voliv,Issue12.*

Carter, M. (2012). Factors Leading Towards Realization of Quality Infrastructure in Sub-saharan Africa.*Review of Economics and Statistics*, vol. 49, 2012, pp 92-107.

Chahayo, S. A., Bureti, P., Juma, Maende, c., Musiega, D. & Aketch, R. A. (2013). Analysis of Financial Mismatch in Cooperative Societies :A case of Kakamega County, *Kenya. International Journal of Management Science and Technology,1(5),1-29*

Creswell, J.W. (2009). Research Design: Qualitative, Quantitative, and Mixed Methods Customer perceptions and expectations, New York: *The Free Press.*

Creswell, J. W. (2011). Educational research: Planning, conducting, and evaluating Quantitative and qualitative approaches to research. *New Jersey: Merrill/Pearson Education.*

Creswell, J.W. (2013). Research design: Qualitative, quantitative, and mixed methods approach. Second edition. Thousand Oaks, SAGE Publications, Inc.

Crivelli,H.& Gupta, C. (2013). Public-Private Initiatives in Resource Mobilization. *Unpublished Doctor of commerce thesis*, Pretoria University of Pretoria.

Cooper, D. D. & Schindler, P.S. (2008). Business research methods 5th edition Boston Mcgraw-Hill

Cronbach,L.J.(1951). Coefficient alpha and the internal structure of tests.Psychometrika.16, pp297-334

Dancey, C. & Reidy, J. (2004). Statistics without maths for Psychology. Pearson Education Limited.

David, J. (2015). Secrets Behind Successful Management of Infrastructure projects in Columbia. *European Journal of Business Management*vol. 1, issue 11, 2014

Dufe, E.M. (2015). Factors influencing accessibility of rural electrification in Kenya A case of Naivasha Constituency. Unpublished Masters Theses, University of Nairobi.

Dvir, D., Sadeh, A. & Malach-Pines, A. (2006). "Project and Project Managers: The Relationship between ProjectManager's Personality, Project Types and Project Success," *Journal of Project Management, vol. 37, pp. 36-48.*

Edum-Fotwe, F.T &McCaffer, R. (2011). Developing Project Management Competency Profiles. Perspective from the construction industry..*International Journal of Project Management, 111-124*

Elias, K. & Kagwathi, G.(2012). *Sustainable Methods of Addressing Challenges Facing Infrastructural projects in Kenya*: A Supply Chain Management Approach

Energy Regulatory Commission ,(2011). Updated Least Cost Power Development Plan, Study Period 2011 -2031(Nairobi: Energy Regulatory Commission

Energy Regulatory Commission, (2014). 10 Year Power Sector Expansion Plan, 2014–2024(Nairobi: Energy Regulatory Commission)

Eriksson & Kovalainen, (2008). Quantative Methods in business Research, 1 st ed. Sage Publications Ltd., London.

Ewalina, G. and Mikaela, R. (2011). Risk management practices in a construction projects; Acase study. Unpublished Masters theses, Chalmers University of Technology.

Faridi &El-Sayegh, S. M. (2010). Risk Assessment and Allocation in the UAE Construction Industry‖, *International Journal of Project Management, vol. 26, no. 4, pp. 431–438.*

Field, A. P. (2009). .Discovering statistics using SPSS, 2nd edition. London: Sage

Field, A. (2013). Discovering Statistics Using IBM SPSS Statistics (4th Revised edition).Sage Publications Ltd.

Fredman, B., & Neuman, K.(2014). (n.d.). *System Theory*. Sage Publications: http://www.sagepub.com/upmdata/32947_Chapter1.pdf

Freeman, R. A. (1984). Strategic management: A stakeholder approach. Pitman, Boston.

Freeman, R. E., Wicks, A. C., & Palmar, B. (2004). Stakeholder Thoery and "The Corporate Objective Revisited". Organizational Science, 15(3), 364-369.

Gakenia ,J (2015). Organizational resources and performance of mobile phone companies in Kenya, Unpublished Doctorate Theses, Kenyatta University

Garish,K.N., Harsh,P.. and Nidhi,C. (2014) Influence of Risk Management on Performance: An Empirical Study of International Islamic Bank.*InternationalJournal of Economic and Fiancial Issues. Vol.4 O.3 ISSN: 2146-4131*

Garrish, R. & Heumann, K (2014). Specific Competencies in the Project Oriented Society, Project management Days: Projects and Competencies Vienna, 18-24.

Gichamba, S. & Kithiji, c. (2019). Influence of Enviromenetal regulations in the performance of Constructionm projects oin Nairobi County, Kenya. *International Academic Journal on Informational Sciences and Project Management, 3(4). 184-209.*

Gitau, L. (2015). Effects of Risk Management of Project Planning phase on Performance of Construction Projects in Rwanda, Unpublished Masters Theses ,Jomo Kenyatta University.

Gitenya, J,&Ngugi, E. (2012). Assessments of the Determinants of Implementation of Infrastructure Projects. Journal of International Development, Volume 23, Issue 2, March 2011, PP 165–180.

Githinji, C. N., Ogolla, P., & Kitheka, S. (2020). Influence of stakeholder's involvement on project performance. A case study of Kenya Ferry Services. *The Strategic Journal of Business & Change Management*, 7(3), 738 – 756.

Gladder, A.(2010). Learning and Competence Development-The study of Competency Development in Large Swedish Organizations, UMEA School of Business Economics.

Golini, R. Matteso, K. & Paolo, L. (2014). Adoption of project management Practices; Impact of International Development Projects of Non-Governmental organization. *International journal of Project Management*

GoK, (Government of Kenya), (2012). Economic survey, (2012).Government of Kenya, Nairobi.3, 2015, pp. 145-151. *www.theijbm.com*.

Government of Kenya, (2013). Kenya Vision 2030. Available online: Http://www.theredddesk.org/sites/defau It/files/vision_ 2030 _ brochure ~uly _2007.pdf, Last accessed: 5th April 2014

Gujarati, D. & Sangeetha, N. (2007). Basics Econometrics. Fourth Edition, Tata McGraw-Hill, New Delhi.

Gupta, A. (2018). Quality management practices of ISO versus non-ISO firms: a case of Indian industry. *Industry Management and Data System, Vol. 100 No. 9, pp.451-5.*

Hair, J.F., Celsi, M.W., Ortinau, D.J., Bush, R.P., (2013). Essentials of marketing research. 3rd Edition. McGraw-Hill Irwin. USA

Hair, J.F., Tatham, R.T., & Black, W.C. (2010). Multivariate Data Analysis, fifth ed.Prentice-Hall, UK.

Harrison, F.L. (2008). Advanced Project Management. A structured approach. Gower Publishing Ltd.

Harrison, J. S., & Wicks, A. C. (2013). Stakeholder Theory, Value and Firm Performance. *Business Ethics Quarterly, 23*(1), 97-124.

Haron,N., Hassan, S., Alias, A., Tahir, M. Harun, A. (2017). International Conference on Architecture and Civil Engineering (ICACE,2017)

Harold Kerzner, (2013). Project Management: A Systems Approach to Planning, Scheduling, and Controlling (8th Ed. ed.). Wiley. ISBN 0-471-22577-0

Hauptfleisch, A.C. (2012). An Accelerated Integrated SmallConstruction Contractor Development model: A holistic approach for developing countries. Paper presented at the1st ICEC & IPMA Global Congress on Project Management.

Hilson, D. & Murray, W. (2012). Scaling the peaks of Project Management Competency; PMI Europe. The Project Management Festival, 19-20.

ldoro. G. (2012). Journal of engeineering. design and technologv. Vol. 1O. Issue J'.

International Energy Agency,(2010). Electricity Access in 2009-- Regional Aggregates Retrieved from IEA:*http://www.iea.org/weo/electricity.asp Accessed 14 July 2013).*

IEA (International Energy Agency), (2010a). Energy Poverty: How to Make Modern Energy Access Universal: Special Early Excerpt of the World Energy Outlook 2010. Paris

IEA(InternationalEnergyAgency),(2012).WorldEnergyoutlook.(http://www.worldenergy-outlook.org/publications/weo-2013 International Energy Agency

IEA, (2013). Rural Electrification with PV Hybrid Systems, International Energy Agency Photovoltaic Power Systems Programme - Club of African National Agencies and Structures In Charge Of Rural Electrification (CLUB-ER). PVPS Task 9, Subtask 4, Report IEA-PVPS T9-13:2013 CLUB-ER, Thematic Paper

IEA, (2014). Africa Energy Outlook: A Focus on Energy Prospects in Sub-Saharan Africa. Organisation for Economic Co-operation and Development,

IEA/ OECD, (2015). International Energy Agency. 9 rue de la Fédération 75739 Paris Cedex 15, France..

International Energy Agency and World Bank, (2017).“Sustainable Energy for All 2017-Progress toward Sustainable Energy.” World Bank, Washington DC.

IEA, (2017). Energy Access Outlook 2017. World Energy Outlook Special Report. *www.iea.org/publications/freepublications/publication/WEO2017SpecialReport_EnergyAccessOutlook. pdf*.

Jackson, S.L. (2009). Statistics plain and simple. Wadsworth, Cengage learning. USA. Paris

Jamaal, N. (2018). Effects of participatory monitoring and evaluation on project performance at Kenya Marine and Fisheries Research Institute, Mombasa, Kenya. *International Academic Journal of Information Sciences and Project Management, 3(1), 1-15*

Jonathan, M. (2012). Leadership Behaviors and Their Impact on Organizational Performance in Governmental Entities .*International Journal of Sustainable Development, 3(8), 19-24.*

Kagoba,M.(2016).Extrinsic factors and investment projects failure in Rwanda. *European journal of business and social sciences VOL.5 NO.07*

Kaiser, M. G., &Ahlemann, F. (2010). Measuring Project Management Information Systems Success: Towards a Conceptual Model and Survey Instrument.Retrieved15/07/15 from *http://aisel.aisnet.org/ecis2010/20/*

Karanja,J. (2015) Impact of project management principles to performance of agribusiness projects, Unpublished masters theses, Nairobi Unoiversity

Katie, A. (2010). *Rural Electrification in Oregon 1930-1955.* (Thesis). Department of History Linfield College.

Kebeya, S.(2015). Project management and performance of prepaid electricity metering projects of Kenya power. The case of Nairobi city County and its environs. Unpublished Masters Theses, University of Nairobi

Kenya National Bureau of Statistics, (2010). Kenya Population and Housing Census, Nairobi: Kenya National Bureau of Statistics

Kenya National Energy Policy, (2012). Available at www.energy.go.ke accessed 31.11.2013

Kenya National Bureaus of Statistics, (2014). Economic Survey (2013). Nairobi. Government Printers it

Kenya National Bureau of Statistics. (2015). *"Economic Survey."* Kenya National Bureau of Statistics,Nairobi

KNBS [Kenya National Bureau of Statistics], Republic of Kenya. (2017). "Economic Survey2017".*Internet.AccessedApril21st2017at:http://www.knbs.or.ke*/index.php?option=com_phocadownload&view=category&id=107&Itemid=1181

Kibet,N. And Wanyoike, D. (2015). Influence of effective monitoring anad evaluation process on sustainable community water projects in Baringo County, Kenya. *International journal of research in management and social science,ISSN:2411-6629,VOL.1,NO.1 MAY 2015*.

KIPPRA (Kenya Institute for Public Policy Research and Analysis), (2013). Kenya Economic Report 2013, KIPPRA Research and Analysis, Nairobi: KIPPRA

Kirira,D.K, Owuor,B.,Liku,C.N.and Mavole,J.N.(2019).RiskManagement Strategies Influence on Road Construction Projects Performance: Implementers Insights of Kenya National Highway Authority (KENHA0 .Coast Region Kenya.*International Academic Journal of Information Sciences and Projects Management,3(4) 655-671.*

Kirsi, A. (2010). Stakeholder Management in International Projects. Aolto University, doctoral dissertation series 2010/13.

Kitui County Integrated Development Plan (2013- 2017). Planning for sustainable Socio-Economic Growth and Development.

KPLC, (2012). *Annual report and financial statements* , KPLC: Nairobi

KPLCa [Kenya Power and Lighting Company], (2016). "Electrification Project". AccessedonApril15,2017at:http://www.kplc.co.ke/content/item/1119/electrification-project-

KPLC [Kenya Power and Lighting Company] , (2016). "Last Mile Connectivity ProgramQ&A".AccesseonApril15,2017athttp://www.kplc.co.ke/content/item/1694/last-mile-connectivity-program

KPLC [Kenya Power and Lighting Company], (2017). Last Mile Connectivity. Available online: http://www.kplc.co.ke/content/item/1120/last-mile-connectivity (accessed on 13 January 2019).

Klakegg, O.J. (2009). 'Pursuing Relevance and Sustainability'. *International journal of managing project in business Vol.2.*

Kombo, D. K. & Tromp, D. L. A. (2006). Proposal and Thesis Writing – A Production: Nairobi: Paulines Publications Africa

Kothari, C. R, (2004). Research methodology Methods and Techniques New Age International (P) Limited, Publishers New Delhi

Kothari, C. R. (2006). Research Methodology. Methods & techniques. New age International (P) ltd, India.

Kothari,C. R. (2010). *Research Methodology,* Methods and Techniques, New Dewhi New Age International

Kungu, W (2017). Quality management strategies and performance of oil marketing companies in Kenya, Unpublished Doctorate Theses Kenyatta University

Leboo, M.S (2013). Influence of participatory management practices on the implementation of lasdap in local authorities in Kenya. A case study of county of Kilifi

Lee, C. & Nowell, B. (2014). A Framework for Assessing the Performance of Nonprofit Organizations. *American Journal of Evaluation. 36 (3), 299-319. SAGE Publications*

Lee, K., E., Brewer, C. ,Christiano, F. ,Meyo, E. .Miguel, M., Podolsky, J., Rosa & Wolfram, C. (2016). "Electrification for "Under Grid" households in Rural Kenya" Development Engineering 1: 26-35.

Lee, O.K., Wang, M., Lim, K.H. and Peng, Z. (2009). Knowledge management systems diffusion in chinese enterprises: A multistage approach using the technology-organization-environment framework, "*Journal of Global Information Management", Vol. 17, No. 1, pp 70-84.*

Leung, M. (2010). Risk and Construction Stakeholder Management, In: Chinyio, E. A. O., P. ed/eds.Chichester: Backwell Publishing Ltd.asc

Leung Xha, (2014). Effects of Failure to Supervise Project Activities, *International Journal of Project Management, vol. 12, pp. 94-106.*

Lynda, B. (2006). Project Relationships and the Stakeholder Circle, Proceeding of PMI research conference Centre Mont-Royal, Montreal Canada 16th-19th July 2006.

Mackinnon, D, Amanda J. and Matthew, S. (2007). Mediation Analysis, Annual Review of psychology 2007 58:1, 593-614.

MacKinnon, D., Fairchild, A.J., & Fritz, M.S. (2007). Mediation analysis, Annual Review of Psychology,58(1), 593–514 Merlo,

Madni, M.(2014). Systems and Systems Integration; Key consideration and Challenges development, university of Twente, enschede, the Netherlands.

Maendo, D. (2018). Management Practices and Performance of road infrastructure projects done by local firms in the Lake Basin Region, Kenya. Unpublished Doctorate Theses, Kenyatta University

Maendo, O., Rosemary, J. and Ngugi, L. (2018). Effects of Projects Resource Mobilization On Performance of Road Infrastructure Projects constructed

by Local Firms in Kenya, *International Journal of Economics, Business and Management Research*.

Maina S. (2018) Stakeholder management and project performance of Open Air Projects in Nyeri County, Kenya. Un published Masters Thesis of Kenyatta University.

Mahdani, I., Mohamed, S., Ali K. & Ismael, A. (2012). The Relationship between Strategy Implementation and Performance of Manufacturing Firms in Indonesia, The Role of Formality Structure as a Moderator. World Applied Sciences Journal 20(7), 201

Maina, W.(2010). Facing Organization Challenges in the Performance of Infrastructure Projects. ICTD Working Paper 15, Brighton.

Maina, 1. M. & Gekara, M. G. (2014). Effects of mobile money transfer services on small and medium enterprises financial performance: a case of Nairobi County in Kenya. *International Scientific Research Journal in Business and Management, 2(2), 15-27*.

Mahuanyu,J. (2016). Factors Influencing Project Implementation In department of public health in Kiambu County Unpublished Masters Theses.

Makau, S. M., Wawire, N. W., & Ofafa, G. A. (2013). An empirical study on the relationship between organizational factors and adoption of ICT among health related SMEs in Nairobi, Kenya. *International Journal of Arts and Commerce, 2(3), 1-16.*

Mambo, S. & Charagu, K. (2013). Collapse of Road Construction Structures. IEK presentation, 2009

Masila, M. (2016). Factors affecting the implementation of electricity expansion of projects in Kenya, *Strategic Journal of Business &Change Management*

Mbithi, B., Muturi,W., & Rambo, C. (2017). Macro environmrnt moderating Effect on Startegy and Performance.*Haya: Saudi Journal of Life Sciences ISSN 24415-6221.*

McKelvie, A. & Davidsson, P. (2009). From resource base to dynamic capabilities: an investigation of new firms. *British Journal of Management 20*(S1), S63-S80.

Mclelland, S. & McBer, N.(1980). Project Management Competency Theory. 4th Edition, Sage Publications, Inc. Thousand Oacks, CA.

Meredith, J. R. & S. J. Mantel, (2010). Project Management, A Managerial Approach (7th Ed). John Wiley and Sons, Inc., Hoboken, N. J.

Mohammed, E. (2012). Role of Project Managers in Resource and Work Allocation in Project Management, *European Management Journal, Vol. 21 (3), 369-395.*

Montana, P. and Chamov, R.(2013). Importance of Organization Structure, 3rd Edition, Blackwell Publishers.

Mottiar, S. and George, S. (2012). Electrification of the rural low: Lessons from South Africa, CPS Researchers, Centre for Policy studies, Johannesburg.

Muchangi, M. (2016). Mobile technology services and performance of deposit taking SACCOs in Kenya unpublished Doctorate theses, Kenyatta University.

Muchelule, W.(2017). Influence of monitoring Practices on project performance in Kenya.: State corporation

Mucheru, S.(2014). Influence of Project Management Practices on Implementation of HIV and AIDS projects: A case of Civil Society Organization in Imenti North Sub County, Meru County Kenya, Unpublished Masters Theses, University of Nairobi.

Mugenda, M., O. & Mugenda, G., A (2003). Research Methods: Quantitative and Qualitative Approaches". Laba graphics service

Mugenda, A. (2008). Social Science Research, Theory and Principles. Applied Research

Mugo, M. & Oleche, D. (2015). Monitoring and evaluation of development projects and economic growth. *International journal of novel research in humanity and social science vol.2 issue6,pp 952-63)*

Muindi.,M.and Kule (2017). Effects of project team management practices on the performance of development projects in Rwanda. *European journal of business and social sciences, vol.6 No.01 April 2017*.

Mukunga ,F. (2012).Influence of Community Participation on Performance of Kiserian Dam water Project, Kajiado County, Kenya. Masters Theses, University of Nairobi.

Muller, R. and Jugdev, K. (2012). Critical success factors in projects, *International Journal of Managing Projects in Business, (2012), 757- 775*.

Muriithi, M. (2014). Determinants of timely completion of projects in Kenya: Acase of Kenya power and lighting company, *Thika. ABC journal of Advanced research ,Vol.3 No.2 (2014)*

Muriungi, T. M. (2015). The role of participatory monitoring and evaluation programs among v m p : A E N ' N D v pm Authority. *International Academic Journal of Social Sciences and Education,1(4), 53-76.*

Musembi, A. K. K., Guyo, W., Kyalo, D. N. & Mbuthia, A. (2018). Effect of employees' leadership skills on project performance in the energy sector in Kenya, *International Academic Journal of Information Sciences and Project Management, 3(2), 1-11*

Musundi ,R.T (2015). Influence of Resource Mobilization Strategies on Performanve of Total War Against Aids Youth Project in Turbo Sub County , Kenya. Upblished Theses University of Nairobi.

Musyoka, L.K.(2014). Influence of Resource Mobilization Strategies on Community Based Organization in Tseikuru Sub County Kitui County. UnpublishedTheses University Of Nairobi.

Murwanashyaka .T.& Jaya.S. (2015). Effects of stakeholder Maanagement Practices on Performance of Construction Projects in Kenya. *International Journal of Science and Research (IJSR)ISSN (online) 2319-7064.*

Muthen , L.K. & Muthen, B.O. (1998-2007). Mplus user's Guide. Fifth edition. Los Angeles, CA: Muthen & muthen.

Mwakajo, I. S. & Kidombo, H. J. (2017). Factors influencing project performance: A case of county road infrastructural projects in Manyatta Constituency, Embu County, Kenya, *International Academic Journal of Information Sciences and Project Management, 2(2), 111-123*

Mwalu, N. & Mercer, R. (1983). Understanding Resource Based View Theory. 3rd Edition, Blackwell Publishers

Mwangi, C.I. & Ngugi, K. (2014). Determinant of Regulations on Growth of Electricity Projects In Kenya: A Case Study of Rural Electrification Authority. *European Journal of Business Management, 1 (11), 336-352*

Nalianya, J. & Wanyonyi, S.(2017). Monitoring and Evaluation Systems and Performance of Non –Governmental Based Maternal Health Projects in Bungoma South Sub County, Kenya. *European Scientific Journal,Vol 13,No.23 ISSN 1857-7431.*

Ndirangu, S.(2013). Determinants of power projects performance in kenya power and lighting company. Unpubilished Master Theses ,Kenyatta university.

Ndumia,S.N,(2015). Influence of Regulatory Framework on Performance of Bui;ding Construction Projects in Nakuru County, Kenya. Unpublished Masters Thesis of Nairobi University.

Neuman, L. W. (2006). Social Research Methods Qualitative Approach 6th Ed. London: Pearson International Edition.

Nganga, S.(2013). Management in Implementation of Government sponsored projects in Kenya. Asurvey of Fish ponds projects in Gatundu South Districts, Kenya. International *Journal of Academinc Research in Business and Social Science,Vol,3 No.11 ISSN:2222-6990*

Ngechu ,M.(2004). Understanding the research process and methods, An introduction to research methods Acts pree, Nairobi.

Ngetich,C.W.(2018)Effects of Project Organizational Structures on an Organization's Performance: Acase of Nyankoba Tea,Nyamira County, Un published Master's Thesis University of Nairobi.

Ngetich,G.& Gakuu,C. (2019). Influence of Stakeholder Management Plan on Project Performance:A Case of Olkaria Geothermal Power Project Nakuru County.*International Academic Journal of Information Sciences and Project Management.3(5) 218-237.*

Ngubane, L.(2017). Investigating factors affecting rural electrification project management within a South African munipality, *International journal of Research in Management and Business Studies (IJRM 2017).*

Njenga, B.H.(2015) Factors influencing effective and efficient delivery of Road construction projects in Kenya. Unpublished Masters Theses, Nairobi University.

Njeru, I. M. & Luketero, S. W. (2018). Influence of monitoring and evaluation strategies on performance of medical camp projects in hospitals in Kenya: A

case of Embu North Sub County. *International Academic Journal of Information Sciences and Project Management, 3*(1), 61-73.

Njoki, M. N. (2013). The role of Project Management Information Systems towards the success of a Project: The case of Construction Projects in Nairobi Kenya. *International Journal of Academic Research in Business and Social Sciences.HR MARS, Vol.3, No.9, ISSN: 2222 – 6990*

Nyangilo, A. O. (2012). An assessment of the organization structure and leadership effects on construction projects' performance in Kenya: a case study of public building projects within Nairobi region, Thesis of University of Nairobi.

Obura, F.K., Theuri, M., Gatheca, M., Sang, K., Sanda, R, & Kamau, K. (2012). Kenya Power. *Internal Journal, July-September 2012, Stima News*

Ocharo, R. & Kimutai, G. (2018). Project management practices and implementation of power projects in Kenya, *International Academic Journal of Information Sciences and Project Management, 3(1), 28-46*

Ochieng, V. (2016). Influence of organizational structures on project performance: A case of Taylor Nelson Sofres Nairobi, Kenya, Unpublished Masters theses, University of Nairobi

Odeyinka, H. and Yusuf, A. (2014).The causes and effects of delays on infrastructure projects.*Journal of financial management*, 3, 35-43.

Odhiambo, A. (2015). Factors influencing the implementation of rural electrification programmes in rural areas; A case of Kilifi County.

Oehmen, J., Olechowski, A., Kenley, C. R., & Ben-Daya, M. (2014). Analysis of the effect of risk management practices on the performance of new product development programs.Technovation,34(8),441-453 DOI:10.1016/j. technovation.2013.12.005

Ofari, D. (2013). Project Management Practices and critical success factor:; A developing Country Perspective. *International journal of Business and Management Vol.8 No. 21 2013*

Ogujor, E. & Otosowie, P. (2010). Impact of Prepaid Meters on Revenue Generation in Nigeria, *The Pacific Journal of Science and Technology*

Ogutu, B.(2017). Factors influencing successful completion of road construction projects in Kenya: The case of Kisumu County, International *journal of Economics, commerce and management united kingdom. Vol. V, issue 6,june 2017*

Okoth, E. (2016). Experts Poke Holes on Plan to take power to every home, Daily Nation.Retrievedfromhttp://www.nation.co.ke/lifestyle/smartcompany/1226-3483888-miyytdz/

Olive, and Abel (2014). *Research methods: Qualitative and quantitative approaches*,Africancenter for technology (ACT) press

Ondara ,A.E (2017) Risk Management Startegies and Performance of Construction Firms in Selected Counties in Kenya. Un published Doctorate Theses ,Kenyatta University.

Ondari, P.O. & Gekara, J.M. (2013). Factors influencing successful completion of roads projects in Kenya, *International Journal of social science and enterprenuership,1 (6). 26-48.*

Onyango, B. (2017). Critical Factors Influencing Implementation of Public Infrastructure projects in Kenya .A case in Thika Subcounty in Kiambu County. *Interrnational journal of Scientific and Research Publication,Vol.7issue 5,May 2017.*

Onzia, J. (2015). Factors influencing effective implementation of rural electrification program in Uganda; A case of west Nile Region. Unpublished Masters Theses, University of Nairobi

Orero, P. (2015). Factors Affecting Performance of projects, A Survey of Construction Projects in Coastal Region in Kenya, *International Journal of Scientific & Research Publication,Vol.5 Issue 10,2015.*

Orodho, A. J. (2005). Techniques of writing research proposals and reports in Educational and Social Sciences, (2nd Ed) Nairobi: Kaneja H.P Enterprises, 2011

Orodho, A. J. (2009). Essentials of Educational and Social Science Research Methods .Nairobi: Mazola Publishers

Otieno, O. (2013). Challenges affecting implementation of corporate strategies in electricity sector in Kenya (A case of Kenya electricity generating company limited) Unpublished Masters Theses , Kenyatta University..

Pedo, M, O, Kabare,K. & Makori,.(2018). Effects of Regulatory Framework on Performance of Public Private Partnership Road Projects in Kenya. *The Strategic Journal of Business and Change Mnagement Vol/5,Iss.2.*

Penrose, E. T. (1959). The Theory of the Growth of the Firm ; Basil Blackwell, Oxford.

Peteraf, M. A. & Barney, J. B. (2003).Unraveling the Resource-Based Tangle. *Managerial and Decision economics*, *24*(4), 309-323.

Phiri,B. (2015). Influence of monitoring and evaluation on project performance: A case of African Virtual university , Kenya. Unpublished Masters theses, Nairobi University.

Prackael,(2014). Study on Exploring Negative Group Dynamics, Prentice Hall Publishers.

Project Management Institute (PMI), (2012). A guide to the project management body of knowledge (PMBOK® Guide) (5th Ed.). Newtown Square, PA, USA: Project Management Institute (PMI).

Pueyo, A., Gonzalez, F., Dent, C. and De Martino, S. (2013). The Evidence of Benefits for Poor People of Increased Renewable Electricity Capacity: Literature Review, IDS Evidence Report 31, Brighton: IDS

Ramesh, (2013). Principles of Management, McGraw Hill Education (India) Private Ltd.

Razali, N. M & Wah, Y. B. (2011).Power comparison of Shapiro-Wilk, Kolmogorov-Smirnoff, Lilliefors and Anderson-Darling Tests, *Journal of statistical modelinand analyticas, Vol. 2, No. 1, pp .21-33.*

Republic Of Kenya, (2012). Economic Survey Nairobi Kenya: Government Printers

Republic of Kenya. (2014). Kenya National Bureau of Statistic – An Economic Survey.

Richard, O. (2009). Racial diversity, business strategy, and firm performance: A resource-based view*; Academy of Management Journal, 43, 164-177.*

Robinson, S. (2010). Research methodology, Washington D.C., National Academies Press. McGraw-Hill

Rural Electrification Authority,(REA) (2013).Retrieved on 22 February 2013 from http://www.rea.com/.Rural electrification strategy and plan (2013-2022) . Retrieved from http://www.rea.og/

REA, (2016). REA News, Rural Energy Authority (REA) Kenya, January, Nairobi.

Ruth and David, (2011). Five Elements of Competency Framework, *Paper prepared for the annual meetings of the Inter- American Development Bank, Santiago Chile.*

Ryssel , (2013). Traditional Management of Infrastructure Projects, Charies E. Mervil Publishing Company.

Ryan, G., Emmerling, R. J. & Spencer, L. M. (2009). Distinguishing high-performing European executives: The role of emotional, social and cognitive competencies, *Journal of Management Development*, 28 (9), 859-875

Safari, N., & Kisimbii, D. J. (2020). Influence of Monitoring and Evaluation on the Performance of County Government Funded Projects; A Case of Kwale County. *Journal of Entrepreneurship & Project Management*, *4*(1), 42-58. Retrieved from https://stratfordjournals.org/journals/index.php/journal-of-entrepreneurship-proj/article/view/412

Saliku, A. (2015). Project management and performance of prepaid electricity metering projects of Kenya power, Unpublished Masters Theses, University of Nairobi

Sarfo, M. (2007). The effects of projects management practices on the building project performance: The case of three organizations.

Saunders, M., Lewis, P. & Thornhill, A. (2007). Research methods for business students (4th ed.) Madrid: Pearson Education Schiffman, L. G. and Kanuk, L. L., (2000), Consumer behaviour, Seventh Edition, Prentice Hall, US.

Saunders, M., Lewis P., and Thornhill, A. (2009) Research methods for business studies Fifth Ed Pearson educational centre Edinburgh Gate, Harlow, Essex CM 202 J. England

Saunders, M., Lewis, P. & Thornhill, A. (2013). Research methods for business students Edinburgh Prentice Hall.

Sekaran,U.& Bougie, R.(2009). Research Methods for Business: A Skill Building Approach, 5thedition, John Wiley & Sons Ltd., United Kingdom

Sekaran, U. & Bougie, R. (2011). Research Methods for Business: A Skill Building Approach (4thed). New York: John-Wiley.

Serrador, P., Turner, J.R., (2015). The relationship between project success and project efficiency, Proj. Manag. J. 46 (1)

Shaari,M.S., Hussain,N.E & Ismail, M.S.(2013). Relationship between energy consumption and economic growth; Empirical evidence for Malaysia.Bus.syst.Rev.2 2280-3866

Sheeham, H. & Toss, P, (2007). The RBV in a learning organization. *Journal of Management 27 (6). 610-641*

Shenhar, A, Dvir, D., Levi, O. and Maltz, A. (2001), Project success: a multidimensional strategic concept, Long-Range Planning, Vol. 34, (699-725

Sibomana,A.(2015). Effects of Risk Management Methods on Projects Performance in Rwandan Construction Industry. Acase Study of Multi-Storey Buildings construction Project of RSSB. Unpublished Mastes Thesis of Jomo Kenyatta University of Agriculture and Technology (Kigali Campus).

Skeggs, B (2011). Imagining personhood differently: Person value and autonomist working-class value practices. *The Sociological Review* 59(3): 496–513.

Smith, J. &Jagger, D. (2010).“*Technology and Engineering Cost*”, Planning for Design Team.

Stallard, G.S.; Micali, V., deSabastian, A.L., Salvaderi, L., Richwine, R.R., Glorian, D., & Heithoff, J.(2001). .*International Availability Data Exchange for Thermal Generating Plant; published at the 18th WEC Congress, 2001*.

Stare, (2011). The Impact of the Organizational Structure and project Organizational culture on project, 16 (2), (1-22)

Stephen, M.K. (2014). Determinants of Timely Completion of Projects in Kenya: Case of Kenya Power and Lightning Company, Thika, *ABC Journal Advanced Research, vol3 No,2*

Soderland, J. (2012). Developing project competence: Empirical Regularities in Competitive Project Operations *International journal of innovation Management* 9(4), 451-480

Thorpe, S.& Jackson, D. (2008). Qualitative methods in Business Researc: Sage publication ltd, London

Ugwa, K. &Hupt, D. (2010).Appraising Performance of Project Managers.Journal of Project Managemen,vol. 4, pp. 243-251

UNDP (2011). Towards an 'Energy plus' Approach for the Poor: A Review of Good Practices and Lessons Learned from Asia and the Pacific, Bangkok: UNDP-APRC

United Nations, (2015). Sustainable Development Goals. Available online: http://www.un.org/sustainabledevelopment/sustainable-development-goals (accessed on 13 January 2019).

United Nations Development Programme. (2017). *Sustainable Development Goal 7*. Retrieved from Sustainable Development Goals: http://www.undp.org/content/undp/en/home/sustainable-development-goals/goal-6-clean-water-and-sanitation.html

Ville, S. & Wicken, O. (2012). The dynamics of resource- based economic nomic development evidence from Australia and Norway. WEHC XVII stellanboch (2012) south Africa, 16(1), 1-55.

Wachira,W.(2015). Factors influencimg successful implementation of biometric projects: A case of Kenya medical research institute. *Research journali's journal of public policy vol.2 No.2*

Waiganjo, E. Odhiambo, R. & Gitau, K. J. (2017). "Influence of Organizational Structure On Strategy Implementation by County Governments in Kenya". *International Journal of Current Business & Strategic Management, 1 (1), 1-30*

Waithera,S & Wanyoike,D. (2015). Influence of Project Monitoring and Evaluation on Performance of Youth Funded Agribusiness Projects in Bahati Sub County, Kenya. *International Journal of Economics, Commerce and Management ,.United Kingdom vol iii, issue11 ISSN 23480386*

Wambugu, D. M.(2013). Determinant of successful completion of rural Electrification projects in Kenya: A case study of Rural Electrification Authority, *International Journal of Social Sciences and Entrepreneurship. Vol.1, Issue 2, 2013, 1 (2), 549-560*

Wanjiku M. M. (2012). Factors influencing performance of contractors of government funded building projects in Kirinyaga County, Kenya. Unpublished

Wanyoike, M. (2012). Factors influencing electricity connectivity in rural Kenya: A case of Mt. Kenya South Sub-Region of the Kenya Power. Un published Doctoral Dissertation, Nairobi, University of Nairobi.

Wanyoike, W. (2016). Quality management practices and firm performance among manufacturing firm in Kenya Unpublished Doctorate Theses ,Kenyatta University

Well-Stam, Y. (2012).Effects of Project Risks in the Implementation of Power Projects in Central Europe. *Unpublished MBA Thesis, University of Kingstone*, UK, 2012.

Whisman, M. A., & McClelland, G. H. (2005). Designing, testing, and interpreting intertactions and moderator effects in family research. *Journal of FamilyPsychology, 19*(1), 111-120

White, D. and Fortune, J. (2002). "Current practices in project management – An empirical study." *International Journal of Project Management, 20(1),* 1-11.

World Bank , (2010). Addressing electricity access gap.

World Bank. (2011). Projects and operations. Retrieved July 9, 2011, from World Bank: http://web.worldbank.org

WorldBank(2014). *Kenya Overview*, www.worldbank.org/en/country/kenya/overview (accessed 10 February 2015)

World Bank, (2016). "Access to Electricity (% of Population)": The World Bank Group.AccessedNovember2nd,2016athttp://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?end=2012&locations=KE&start=2012&view=map

World Bank, (2017). "Energy Imports, Net % Of Energy Use": The World Bank Group.Acessed.April12th,2017at:http://data.worldbank.org/indicator/EG.IMP.CONS.ZS?contextual=default&locations=KE

World Bank,(2018). *Kenya - Electrification Expansion Project (English)*, Washington,D.C:WorldBankGroup.http://documents.worldbank.org/curated/en/328821531497639930/Kenya-Electrification-Expansion-Project

Xiao, H. & Proverbs, D. (2008). Construction project and time performance, an evaluation of contractors from Japan, the UK and the US, *Engineering Construction and Architectural Management, 9(2), 81–89.*

Yusuf, Muchelule; Otonde, Mbawi Geoffrey; Achayo, Muchelule Saada(2017) : Influence of monitoring and evaluation on performance of constituency development fund projects In Kajiado East Sub-County, Kenya, The International Journal of Management Science and Information Technology (IJMSIT), ISSN 1923-0273, NAISIT Publishers, Toronto,Iss. 23, pp. 12-26

APPENDICES

APPENDIX I: COVER LETTER

Stellah Mueni Kathongo
Kenyatta University
P.O Box 43844-00100
Nairobi.
0741 404 456
stellahmueni77@yahoo.com

Dear Respondent,

RE: RESEARCH SURVEY ON MANAGERIAL PROCESSES AND PERFORMANCE OF RURAL ELECTRIFICATION PROJECTS IN KITUI COUNTY, KENYA.

I am a student of Kenyatta University taking Doctorate of Philosophy in Business (Project Management) in school of Business. My study research is to investigate the effects of managerial processes on performance of rural electrification in Kitui County, Kenya. Am requesting you to co-operate and give truthful information to all the following questions in the questionnaire. The study results will help in formulating policies for managerial processes of rural electrification projects to enhance performance to achieve vision 2030.

Your cooperation in this research is highly appreciated. Any query in this research conduct 0741-404-456 or Chairperson Department of Management Science, School of Business Kenyatta University, and P.O Box 43844, Nairobi.

Thanks in advance.

Yours sincerely

Stellah Mueni Kathongo

(D86/CTY/32081/2015)

APPENDIX II: QUESTIONNAIRE ONE

(To be filled by senior managers and field officers)

The questions in this questionnaire are set to achieve the study's objective. The questions relate to relationship between managerial processes and performance of rural electrification projects in Kitui County, Kenya. All the responses you give will be treated with a lot of confidentiality.

Tick the answers

PART 1: GENERAL INFORMATION

1. Your gender Male [ ] Female [ ]

2. Level of education completed (tick where appropriate)

Primary	[ ]
Secondary	[ ]
Certificate	[ ]
Diploma	[ ]
Degree	[ ]
Masters	[ ]
Doctorate	[ ]

3. Working Experience as an officer in rural electrification

5 and below years	[ ]
6-9 years	[ ]
10-15 years	[ ]
16 – 19 years	[ ]
Over 20 years	[ ]

SECTION B: Performance of Rural Electrification Projects in Kitui County

B) Does the rural electrification perform satisfactorily according to the organization expectations?

YES ☐ NO ☐

Put a tick to indicate the level of your agreement with the statement given below

5= Very large extent 4= Large extent 3 = Moderate extend 2 = little extent 1 = Very Little extent

Statements	5	4	3	2	1
Effectiveness					
1. Are the customers 600m from transformers connected to power supply					
2. By 2030, all customers will be connected to modern, reliable and sustainable power supply					
3. Kitui received enough transformers to serve all customers in the county					
4. All the public facilities in rural area are connected to power supply					
5. There are minimal delays in acquisition of way leaves					
Efficiency					
6. Effective resource utilization is encouraged					
7. Projects goals and objectives are achieve within the set time frame					
8. Equipment and materials are provided in the required time					
9. Projects are completed within the given time					
10. Projects are completed within the given budget					
Customer satisfaction					
11. During connection procedure customers are given technical advices					
12. Connection of power supply is within reasonable time					
13. Fixation of power post are placed in secure places					
14. Power materials used are of high quality to protect customers from risks					
15. Connection charges are affordable to customers in rural areas					

16.In your opinion which factors affect the performance of rural electrification in the Kitui County .....

SECTION C: Project Monitoring and Evaluation

C)i Does the organization carry monitoring and evaluation of RE projects

YES ☐ NO ☐

C) ii If the answer you have given above is yes, state how frequently it is done.....

.....

Put a tick to indicate the level of your agreement with the statement given below. 5= Very large extent 4= Large extent 3 = Moderate extend 2 = Little extent 1 = Ver Little extent

Statement	5	4	3	2	1
M & E tools					
1. Enough M & E resources are provided in time					
2. Available M & E tools are adequate for efficient performance					
3. Organization has organized M & E systems					
4. Enough time is allocated for M & E activities					
M & E Skills					
5. Employees are trained on M& E processes					
6. Employees have required M & E skills					
7. Organization plans for M & E in advance					
8. Employees attend M & E seminars frequently					
M & E Policies and standards					
9. Stakeholders understands the polices and standards of M &E clearly					
10. The set M & E policies and standards influences performances of RE projects					
11. M & E policies and standards are reviewed frequently					
12. M & E exercise is allocated enough funds					

13. In your opinion, explain how project monitoring and evaluation can influence performance of the rural electrification projects in Kitui County.....

SECTION D: Project Risk Management

Put a tick to indicate the level of your agreement with the statement given below**.** 5 =Very large extent 4= Large extent 3 = Moderate extend 2= Little extent 1 Very

STATEMENTS	5	4	3	2	1
Risk planning					
1. Organizations plan for risk management in advance					
2. Organization has documented risk management policies					
3. Stakeholders are involved in risk planning					
Risk Identification					
4. Stakeholders are involved in risk identification					
5. Risks identified are reported immediately					
6. Stakeholders have skills to identify risks in projects					
7. Identified risks are documented for future reference					
Risk Mitigation					
8. There are clear policies for risk mitigation					
9. Organization has documented risk mitigation approaches					
10. Quick response is taken to identified risks					
11. Risk mitigation influences project performance					

12. To what extent to risk management is undertaken in your organization

a) Not at all b) Little extent c) Moderate extend d) Large extend e) Very large extent

13. To what extent are managers involved in management of the projects risks

a) Not at all b) Little extent c) Moderate extend d) Large extend e) Very large extent

14. In your opinion, state how risk management influence performance for rural electrification projects……..**....**

.....

SECTION E: Stakeholder Management

E) i To what extend are stakeholders are involved in management of RE projects

a) Not at all b) Little extent c) Moderate extend d) Large extend e) Very large extent

ii)To what extend are conflicts among team members are managed

a) Not at all b) Little extent c) Moderate extend d) Large extend e) Very large extent

Put a tick to indicate the level of your agreement with the statement given below**.** 5= Very large extent 4= Large extent 3 = Moderate extend 2 = Little extent 1 = Very Little extent

STATEMENTS	5	4	3	2	1
Stakeholder identification					
1. Organization identifies qualified contractors					
2. Duties are shared among the stakeholders					
3. Team members know their seniors where to report					
4. Stakeholders identification is done at early stage					
Stakeholder involvement					
5. Stakeholder are involved in project management at the early stage					
6. Preparation of strategic plan involves almost all stakeholders					
7. Stakeholders implements what is in strategic plan					
8. Stakeholders plan for all activities in project cycle					
9. Team-workers are brief on technological changes to be adopted					
Conflict management					
10. Organization has set policies on conflict management					
11. Stakeholders are involved in conflict management					
12. Conflict management enhances team work					
13. Project team members are trained on conflict management					
14. Reduced disagreement has made projects performance to be efficient					

15. In your opinion, explain if the organization involves all the relevant stakeholders in managing rural electrification projects in Kitui County

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SECTION F: Resource Mobilization

Put a tick to indicate the level of your agreement with the statement given below**.** 5= Very large extent 4= Large extent 3 = Moderate extend 2 = Little extent 1 = Very Little extent

STATEMENTS	5	4	3	2	1
Finance Adequacy					
1. Adequate funding is available					
2. Finance accountability is encouraged					
3. The projects gets timely funding					
4. Finance allocation is planned in advance to ensure adequacy					
5. Employees handing project finances have adequate skills					
Modern Equipment Availability					
6. Modern equipment is provided in time					
7. Enough modern equipment/ materials are available					
8. Employees have required skills to handle modern equipment					
9. The resources/equipment is safeguarded to reduce loss or wastage					
10. Use of modern equipment enhances project effectiveness					
Competency Staff					
11. Contractors and other employees have the required skills					
12. Organization has enough personnel					
13. There is existence of clear performance contract targets					
14. Employees attend upgrading seminars and workshops frequently					
15. Technical duties has experienced and trained staff					

16. F) i. Does resource mobilization has influence on performance of RE projects

YES ☐ NO ☐

. ii) To what extend do resource mobilization influence RE projects performance?

a) Not at all b) Little extent c) Moderate extend d) Large extend e) Very large extent

17. In your opinion, how does resource mobilization influence performance of rural electrification projects in Kitui County

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SECTION G: Regulatory Framework

Put a tick to indicate the level of your agreement with the statement given below**.** 5= Very large extent 4= Large extent 3 = Moderate extend 2 = Little extent 1 = Very Little extent

STATEMENTS	5	4	3	2	1
Government policies					
1. There are electricity connection policies guidelines					
2. Project management is in line with the government policies					
3. Policies given are adequate to enhance project performance					
4. Institutional polices influences performance					
5. Presence of enabling policies enhances project performance					
6. Regulatory bodies monitor and evaluate compliance of the polices during RE project management					
Electricity Regulations					
7. Stakeholders are aware of available electricity regulations					
8. Electricity regulations enhances connectivity increases					
9. Compliance of appropriate regulations enhances project performance					

10. To what extend do government policies influence RE projecs performance

a)Not at all b) Little extent c) Moderate extend d) Large extend e) Very large extent

11. To what extend do government policies influence RE projecs performance

a)Not at all b) Little extent c) Moderate extend d) Large extend e) Very large extent

12. In your opinion, explain whether regulatory framework influences performance of rural electrification projects.....

SECTION H: Organization Structure

Put a tick to indicate the level of your agreement with the statement given below**.** 5= Very large extent 4= Large extent 3 = Moderate extend 2 = Little extent 1 = Very Little extent

	1. **Statement**	**5**	**4**	**3**	**2**	**1**
	Decision making					
	1. Decision making involves all the stakeholders					
	2. Decision from all levels of management are considered during strategic plan development					
	3. Decision making are done at early stage					
	Communication					
	4. There is effective communication in management of projects at all level					
	5. There is timely communication to all the levels					
	6. Correct channels of communication are followed					
	Set functions and roles					
	7. Roles and functions are set at early stage and communicated					
	8. All the team members knows their responsibilities and duties					
	9. Stakeholders roles are in strategic plan of the organization					

10. To what extend do decision making influence RE projects performance

a) Not at all b) Little extent c) Moderate extend d) Large extend e) Very large extent

11. To what extend do set functions and roles influence performance of RE projects

a)Not at all b) Little extent c) Moderate extend d) Large extend e) Very large extent

11. In your opinion explain if the organization structure can promote the performance of the rural electrification projects .....…….....

APPENDIX III: RESEARCH APPROVAL

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 810901 Ext. 57530

Internal Memo

FROM: Dean, Graduate School

DATE: 25th November, 2019

TO: Kathogo S. Mweni
C/o Management Science Dept.
Kenyatta University

REF: D86/CTY/32081/15

SUBJECT: APPROVAL OF RESEARCH PROPOSAL

This is to inform you that Graduate School Board at its meeting of 6th November, 2019 approved your Research Proposal for the Ph.D. Degree, entitled "Managerial Processes and Performance of Rural Electrification Projects in Kitui County, Kenya".

You may now proceed with your Data collection, subject to clearance with the Director General, National Commission for Science, Technology & Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed supervision Tracking Forms per semester. The form has been developed to replace the progress Report Forms. The Supervision Tracking Forms are available at the University's Website under Graduate School webpage downloads.

By copy of this letter, the Registrar (Academic) is hereby requested to grant you substantive registration for your Ph.D. studies.

Thank you.

REUBEN MURIUKI
FOR: DEAN, GRADUATE SCHOOL

c.c. Registrar (Academic) Att. Mrs. Lucy Njenga
Chairman, Department of Management Science

Supervisors:

1. Dr. Mary Ragui
   C/o Dept. of Business Administration
   KENYATTA UNIVERSITY
2. Dr. Caleb Kirui
   C/o Dept. of Management Science
   KENYATTA UNIVERSITY

RM/cao

APPENDIX IV: RESEARCH AUTHORIZATION

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 8710901 Ext. 57530

OUR REF: D86/CTY/32081/15

Date: 25th November, 2019

The Director General,
National Commission for Science, Technology & Innovation,
P.O. Box 30623,
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR KATHOGO S. MWENI REG. NO. D86/CTY/32081/15

I write to introduce **Mweni** who is a Postgraduate Student of this University. The student is registered for Ph.D. Degree programme in the **Department of Management Science in the School of Business.**

Mweni intends to conduct research for a Ph.D. thesis entitled, **"Managerial Processes and Performance of Rural Electrification Projects in Kitui County, Kenya".**

Any assistance given will be highly appreciated.

Yours faithfully,

PROF. ELISHIBA KIMANI
DEAN, GRADUATE SCHOOL

RM/cao

APPENDIX V: RESEARCH PERMIT

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: 630624

Date of Issue: 27/November/2019

RESEARCH LICENSE

This is to Certify that Miss.. STELLAH KATHONGO of Kenyatta University, has been licensed to conduct research in Kitui on the topic: Managerial processes and performance of Rural Electrification projects in Kitui County, Kenya. for the period ending : 27/November/2020.

License No: NACOSTI/P/19/3050

630624

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

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