



MODERATING ROLE OF STAKEHOLDERS ATTRIBUTES ON IMPLEMENTATION OF RURAL ELECTRIFICATION PROJECTS IN KENYA

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Abstract

Stakeholders strongly influence the outcome of projects especially in complex projects with heterogeneous stakeholders, thus understanding their influence is essential to ensure project success and attainment of objectives. This study sought to examine the moderating role of stakeholders attributes on the implementation of rural electrification projects in Kenya. The study focused on project risk management and planning with a moderating role of stakeholders' attributes in the implementation of rural electrification projects in Kenya. The research targeted rural electrification projects implemented by the Kenya government in public primary schools. The key respondents of the study were project managers of all the implemented projects. A descriptive research design was adopted as well as a simple random sampling method was applied to select a representative sample of the study. Quantitative data collection methods and analysis was used. Primary data was collected through questionnaires and secondary data was collected through Kenya power archives. SPSS version 24.0 for windows was used to facilitate the data analysis. The study used Pearson's correlation analysis which was conducted at a 95%

confidence interval and 5% confidence level 2-tailed. The study found that Stakeholder attributes have a significant moderating role of stakeholders' management on the implementation of rural electrification projects in Kenya. The study found that project risk management has a significant role in the implementation of rural electrification projects in Kenya; project planning has a significant role in the implementation of rural electrification projects in Kenya. The researcher recommends the selection of the right people in the planning process to help ensure that the planning process is carried out and is implemented completely.

Keywords: Risk management, planning, stakeholder attributes, electrification projects, project management, correlation, megawatts (MW)

INTRODUCTION

Stakeholders can be divided into primary and secondary, which are further subdivided into social and non-social stakeholders. The shareholders and investors (owners), employees and managers, customers, local communities, suppliers, and other business partners are primary social stakeholders (Carroll & Buchholtzlist, 2015). Their interests are an issue that can be monetary, professional, personal, or cultural, or can arise from a host of other motivations. They play a key role in project and programme activities and serve as key links with the general beneficiary population and also with donors and project facilitators. Project or programme stakeholders are those who have an interest in or are affected by a project or programme decisions (Donaldson & Preston, 2009). Stakeholder involvement in the understanding of the behavior of the stakeholders during the life cycle of the project to perform actions that meet their expectations (Beringer, 2013). The identification of stakeholders is critical and when the level of their power and influence are mapped, their impact on the project can be better understood. Stakeholders' engagement is measured by four indicators which include Level of engagement, Stakeholders' consultation, stakeholders' support, and stakeholder feedback. There are two types of stakeholders: Primary stakeholders and secondary stakeholders. Primary stakeholders have a vested interest in how the organization performs and the actions it engages in conduct business. On the other hand, secondary stakeholders can influence both positively and negatively, the actions of the organization. They indirectly affect the organization by taking actions to make it difficult for the organization to succeed or by supporting the organization's efforts (Herevi, Coffey & Trigunarsyah, 2015).

Giving attention to project stakeholders is important to ensure the satisfaction of those involved or affected, which requires that procedural justice, legitimacy, and rationality have been met (Alexander, 2000). This does not mean that all possible stakeholders must be involved, but

the key stakeholders must be engaged. The choice of the key stakeholders in a project is inherently political, involves judgment, and usually has ethical consequences. In their study, Charles, Antoine, and Haarman (2006) argue that stakeholder participation enhances an organization's competitive advantage. Stakeholder participation improves ownership and support that can lead to high up-take of project services, increased sustainability of benefits, and greater satisfaction. In such projects, the project manager needs to ensure the flow of information from the different organizations involved in the project (Pinton & Ndovic-Budic, 2007). Stakeholders' management is paramount in the success of projects and organizations (Evan, William & Edward, 2013). Even though minor decisions and emergencies are generally not appropriate for stakeholder participation, a complex situation with far-reaching impacts warrant stakeholder involvement and when done proactively, rather than in response to a problem, helps to avoid problems in the future (Maina, 2013). The focus of stakeholder participation is usually to share information with and gather input from, members of the public who may have an interest in a project. The Constitution of Kenya (Republic of Kenya 2010) gives the citizen the right to take part in activities that have a direct bearing on their lives (Mbaabu, 2012). Eight components are the building blocks of stakeholders' engagement which include: stakeholder identification and analysis; information disclosure; stakeholder consultation; negotiation and partnerships; grievance management; stakeholder involvement in project monitoring; reporting to stakeholders; and management functions (PMI, 2014).

One of the indicators of project success is the completion of projects (Evan& Edward, 2013). Completion of projects within the schedule is a major contribution towards the competitive edge in organizations. This is based on the realization that the achievement of the targeted objectives is determined by the ability to deliver the targeted output within the stipulated time (Westland, 2006). Development partners such as the World Bank and African Development Bank (ADB) have engaged financial resources intending to foster the growth of the industrial sector in the country (Mansuri & Rao, 2011). Project success has been measured in a variety of ways. While the measurement of project success has focused on tangibles, current thinking is that ultimately, project success is best judged by the stakeholders, especially the primary sponsor, (Turner & Zolin, 2012). Shenhar and Dvir(2007) suggested a model of success based on five dimensions, judged over different timescales. Turner and Zolin (2012) further suggested that at the end of the project you judge implementation by whether the scope is completed within the constraints of time and cost, and the project's output is delivered to specification, in the months following the project implementation is judged by whether the output performs as required and gives the desired benefit; and in the years following the project,

implementation is judged by whether the organization achieves higher-order strategic objectives that improve organizational performance.

Statement of the Problem

Implementation of rural electricity programmes has been a challenge to the government with only 36% of the rural population having access to electricity (the Republic of Kenya, 2013). Electrification in Kenya is below the SSA average with 15.8% overall access and only 3.8% access in rural areas. This is despite the establishment of the REA and the significant financing it receives, and other initiatives such as the Umeme Pamoja, a programme launched in 2006/07 to get groups of rural households collectively connected to the grid. This low coverage is also in contrast with Vision 2030 where the government recognizes that the vision can only be achieved if citizens have access to electricity, including the rural areas. However, high connection costs and low incomes among rural households are some of the challenges facing rural electrification (KPC, 2006). All electricity consumers pay a 5% levy that goes towards the Rural Electrification Programme (REP). However, despite this substantial source of income, the REP has not been able to increase the total electricity coverage proportionately with a total population of over 41million in Kenya, has a significantly low level of electricity supply, standing at 1500 Megawatt hour (MWh) compared to Finland with a population of around 5.5M but with energy supply of 400,000 MW (Abdulla and Markandya, 2007). Another comparison can be made with California which has a population of 38 million that is comparable to that of Kenya. But the comparison ends there because California has 41MW installed for every 1MW of Kenya's electricity power. Dufe (2015) focused on accessibility to rural electrification in Naivasha, whereas Mwititi (2014) focused on the influence of rural electrification on poverty eradication.

According to REA (2014), despite access to electricity in Kieni standing at 46.7% the connectivity level was less than 20%. According to KPC in 2017, there was a challenge with customers' inability to load tokens in their meters where over 940,668 customers were affected. To add to that, the project has also been marred by procurement challenges that have affected the implementation a good example is the tender awarded to Bajaj Electricals and Wayne Homes that for the building and installation of electricity to seven counties that were contested. Njogu (2016) conducted a study on the influence of stakeholders' involvement on project implementation in NEMA automobile Emission control projects in Nairobi County. The study looked at project planning, project implementation, and how they influenced the performance of projects. O'Halloran (2014) carried out a study on the influence of the awareness of stakeholder management on the performance of construction projects in the construction industry in Ireland.

Lekunze (2001) studied the influence of stakeholders' involvement in integrated water resource management in community water management projects in Cameroon. Menoka (2014) studied stakeholders' involvement and sustainability-related project implementation in construction. Muli, Bwisa, and Kihoro (2016) studied the role of stakeholder management on the performance of projects funded by the constituency development fund in Kenya. None of the previous studies has looked at the role of stakeholders in the implementation of rural electrification projects in Kenya. This study, therefore, sought to fill the gap recommended by other past scholars.

Objectives of the Study

General Objective

The purpose of this study was to establish the moderating role of stakeholders' attributes on the implementation of rural electrification projects in Kenya.

Specific Objectives

- i. To assess the role of project risk management on the implementation of rural electrification projects in Kenya.
- ii. To determine the role of project planning on the implementation of rural electrification projects in Kenya.

Research Hypotheses

Ho₁: Project risk management has no significant role in the implementation of rural electrification projects in Kenya.

Ho₂: Project planning has no significant role in the implementation of rural electrification projects in Kenya.

LITERATURE REVIEW

Theoretical Review

Complexity and Chaos Theories

Complexity theory was originally an invention of Los Alamos nuclear laboratory, in Santa Fe Institute in Mexico in the USA starting in the early 1980s, where the scientists claimed that through the study of theory one can see both laws of chaos and that of order, through which an explanation for how any collection of components will organize itself can be generated. This theory stipulates that systems are best regarded as wholes and studied as such thus rejecting the traditional emphasis on simplification and reduction as inadequate techniques. The complexity theory was founded on an attempt to rationalize the behavior of large and complex

systems, believing they cannot be explained by the usual rules of nature (Sherman & Ralph, 1998).

Complexity theory states that critically interacting components self-organize to form potentially evolving structures exhibiting a hierarchy of emergent system properties (Lucas, 2009). Complexity theory is concerned with the study of how order, structure, pattern, and novelty arise from extremely complicated, apparently chaotic systems and conversely, how complex behavior and structure emerge from simple underlying rules. Complexity theory describes states varying from comparative order to complete disorder, or chaos, or where the system defies prediction or control. It is the recognition that projects or processes do not behave predictably, even when under the guidance of experienced teams or groups, whereas some parts will be very stable and behave predictable manner that has sustained continuous interest in complexity theory (Remington & Zolin, 2011).

There is a general tendency for all organisms both human and social such as teams to evolve complex responses to challenges that they encounter in their environment. This is a compelling argument for why there is a need to understand the causes of complexity and solution to prevent it resulting in problems, waste, social and economic failure. There is no master controller of any system; rather coherent system behavior is generated by the competition and cooperation between actors that are present. The components of a system have different levels of the organization are made up of division, which contains different departments which in turn comprise of different workers. Most importantly organization is the complex adaptive systems are constantly revising and rearranging their building blocks as they gain experience (Caldart & Joan, 2004).

Chaos theory is a field of study in mathematics, with applications in several disciplines including management. It studies the behavior of dynamical systems that are highly sensitive to initial conditions. Lorenz (1963) argues that chaos arises when the present determines the future, but the approximate present doesn't approximately determine the future. There is a close link between complexity theory and chaos theory however complexity theorists maintain that chaos by itself does not account for the coherence of self-organizing complex systems. In complexity, the edge of chaos is the constantly shifting battle zone between stagnation and anarchy i.e. order and disorder. Studies of the evolution of living dynamical systems suggest that these systems manage to demonstrate elements of both chaotic and orderly behavior. Kauffman (1993) used the analogy of different states of water to illustrate chaotic and orderly behavior where ice represents the completely orderly states, steam is the chaotic state, and liquid which is the intermediate offers the best opportunities for the development of complex activities like stakeholders management.

The theory was useful in explaining the nature of the interaction between the various stakeholders in projects to ensure the success of projects. The theory was linked to risk management, and planning with a focus on the success of projects.

Principal-Agent Theory

The Principal-Agent theory was propounded by Stephen Ross (1972) where he tried to explain how best to organize the relationship of the owner of resources in a project (Principal) and the person appointed or contracted to work on behalf of the principal (Agent). The success of any given project is heavily dependent on the relationship and understanding of the major stakeholders or the major parties in a contract. The theory has three assumptions; the agent is always self-interested, risk-averse, and possesses knowledge that most of the time isn't available to the Principal. For the project to be successful, the assumption is that the stakeholders cooperate and exchange vital information to ensure the project goals are achieved. Thus communication is key to any success of the project else it becomes a major risk (Ceric, 2003).

According to Turner and Müller (2004), the project owner and the contractor or project manager form the key relationship of principal and agent. Since there is the delegation of tasks from the project owner who is the principal to the project manager or contractor who is the agent to undertake the tasks on behalf of the owner then the Principal-Agent relationship is created. According to Schieg (2008), the agent mostly tries to maximize his/her benefit even if it means having higher damage to the client. The principal-agent theory explains this problem by characterizing three issues in the relationship which are: adverse selection, hold up, and moral hazard.

Schieg (2008) explains that projects are characterized by information asymmetry where one party is better informed than the other. In a project, key parties work together and are expected to share key information related to the main project's targets of time, cost, and quality. However, each party has self-interest and hoods important information. The information asymmetries are of three types: hidden information, hidden intention, and hidden characteristics which generate risks namely: moral hazard, hold up, and adverse selection. According to Jäger (2008) based on the principal-agent theory, the relationship between the project manager and the project owner is systemized according to related asymmetric information and the corresponding type of risk. Hidden characteristics are associated with adverse selection; hidden intentions are associated with hold-up; and hidden information associated with moral hazard.

Hidden characteristics cause the adverse selection problem before signing of the contract between the parties since at this stage it means the project owner lacks all the

information about the project manager and similarly the PM doesn't have all the information about the owner of the project. Adverse selection occurs at the early stages of the project. Hidden information caused moral hazard risk which normally occurs after the contract has been signed this is a result of the uncertainty that information will be shared appropriately as each party has its self-interest involved. Hidden intentions cause hold-up risks. For example, the project owner invests in the project hoping that there is trust in the project manager and he will cooperate but instead he becomes an opportunist. Thus hidden intentions and the hold-up risk are related to trust (Awour, 2015).

To minimize the risks arising from adverse selection, moral hazard, and hold up problems; screening is done to gather important information about the agent while monitoring is done to ascertain agents abide by contract (Jäger;2008; Schieg, 2008). The Principal-Agent can be used to explain the pattern of behavior between various stakeholders and their risks and the main cause of the crisis with stakeholders. The theory was useful in explaining the influence of project risk management concerning stakeholders' management on the performance of the project.

Conceptual Framework

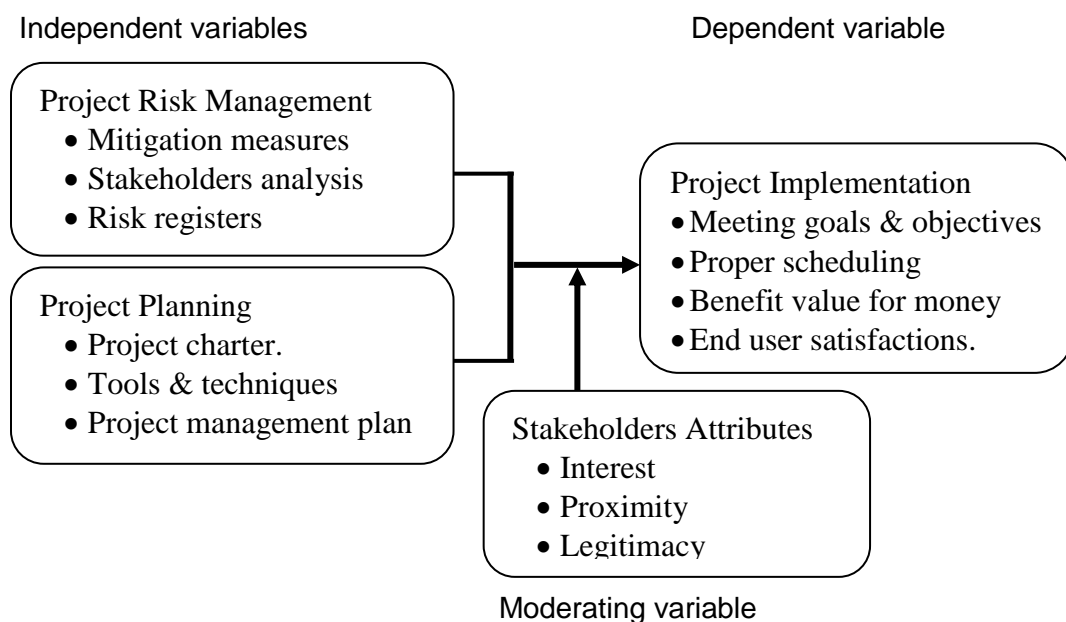


Figure 1: Conceptual framework

Project Risk Management

COSO (2004) viewed risk management as the process that attempts to manage the uncertainty that influences the achievement of objectives, creating value to the organization, intending to

reach desired objectives. A risk is a possibility that an event will occur and adversely affect the achievement of the desired objectives of an organization. Risk management aims at identifying risks and taking appropriate action in the reduction of the impending effects on an organization. A risk matrix is a tool used to visualize various types of risks which render probability and consequences in form of a graph categorizing them in the ranges of high and low. After risk assessment, an appropriate response must be implemented such as avoidance, acceptance, reduction, and sharing. An organization can choose an appropriate response or a combination to counter a specific risk with a consideration of risk tolerance and the effects of the available responses on a broader level and also consider the opportunities arising from the risk and a cost-benefit analysis.

According to Zhai, Xin, and Cheng, (2009) it is evident that the management of projects is very challenging arising from the unusual risks and issues that traditional project methods cannot process (Miller & Hobbs, 2005). The complexity and uncertainty relate to the defining characteristics of projects, long duration, huge investment, and the very many uncontrollable factors that emerge (Chang, 2013). There are several issues on which risks can categorize they include: sponsorship; market trends; social acceptability; regulatory; technological trends; political stability or influence; financial stability; government relations; host community relations; and the effect of multi-location execution of projects (Florice & Miller, 2001). External risks have a high frequency of occurrence unexpectedly and high impact in contrast to internal risks in projects that have a multi-facet of social involvement, thus more uncertain factors may affect the projects, even a small mistake can be the determinant of the project's failure or success.

Project Planning

Project planning is part of project management, which relates to the use of schedules such as Gantt charts to plan and subsequently report progress within the project environment. Initially, the project scope is defined and the appropriate methods for completing the project are determined (Naoum et al. 2004). Project planning activities include the identification of the project's objective; the specification of required project resources and their allocation; and the determination of the methods to be used to deliver the project end product, respond to critical events and evaluate activities and outcomes. The roles of stakeholders change throughout a project life cycle. However, the willingness of stakeholders to perform the activities assigned to them during the project planning process greatly contributes to the success or failure of the project. The benefits of stakeholder involvement in the planning process include a reduction in distrust of the project process or outcome, an increase in commitment to the project objectives and processes, and heightened credibility of the project's outcome.

The stakeholder's project team role, the project planning activities in which he participates, and his level of involvement in or responsibility for a particular activity, depends on the project's mission and his reporting relationship to the project management office, or PMO, which, in particular, leads to his classification as an internal or external stakeholder. According to Maylor (2010), stakeholders can be categorized as internal (project team) or external (outside the project team). Project planning activities in which external stakeholders participate are frequently identical to those of internal stakeholders. However, the roles of external stakeholders are limited to that of consultants rather than team members directly accountable for individual project planning activities (Kezner, 2009).

The objectives of engaging stakeholders in planning include analyzing, anticipating, scheduling, coordinating, controlling, and Information management, which influences the success of the project. According to Kilpimaa (2009), one critical factor in determining the extent of stakeholder involvement in project success is the presence of enabling resources and structures to support the change management process. If the stakeholders are availed with resources and structures to guide the project success process, they can undertake critical roles and responsibilities necessary for the change management process and this ensures the change management process is more successful. Cecilie (2008) explains that for there to be a successful stakeholder involvement in the project success to a high extent, five factors need to be in place which includes: stakeholders' early awareness of norms; awareness of diversity within and between different organizational units; manager availability; early role clarification; and constructive conflict.

Stakeholder Influential Attributes

According to Chen (2019), the main objective of any project is to meet or exceed the expectations of its stakeholders. Stakeholders of any project are individuals or groups who either care about or have a vested interest in your project. They are individuals who are actively involved in the project (Landau, 2017). According to Winch (2010), stakeholders are defined as actors who think they will incur some benefits from the project. According to Li et al. (2012), stakeholders are those who can influence the outcome of the project to affect the living environments and who receive associated project benefits.

According to Rajablu (2015), there are two types of stakeholder influential attributes. The positive type consisting of proximity, interest, network, and legitimacy, and the negative type consisting of urgency, and power. In this study, the researcher will be looking into the mediating role between stakeholder influential attributes of proximity, interest, and legitimacy to project management practices and project implementation. Although there have been quite several

studies on stakeholder influence, many of them have been dealing with classifying and prioritizing project stakeholders (Aragonés-Beltrán et al., 2017, Rajablu et al., 2014).

Stakeholder influential attributes, management, engagement, and their perceived value are identified as very important for project success. The perception by the public on project success is complex and idiosyncratic resulting in simple analysis or generalization being problematic (Scott, 2010). The attributes of project stakeholders are influential in how they relate, make claims, and also impose their will on the projects. These are proximity, interest, network and legitimacy, urgency, and power (Neville et el., 2011). Legitimacy is the perceived validity of the stakeholders’ claim. In this case, there is some risk bared by the stakeholder for him/her to be legit. Proximity is the level of association of the stakeholders with the project. In this case, the stakeholders are involved directly. The interest level is the importance or priority the stakeholder attaches to the project outcome (Rajablu, Marthandan, and Yusoff, 2014).

Rajablu (2015), suggested a framework that classifies stakeholders as shown in figure 2.2 below in terms of positive or negative effect and in terms of whether their level of influence is low or high on the project success. Depending on the classification, the model further recommends a relevant managerial strategy to be employed.

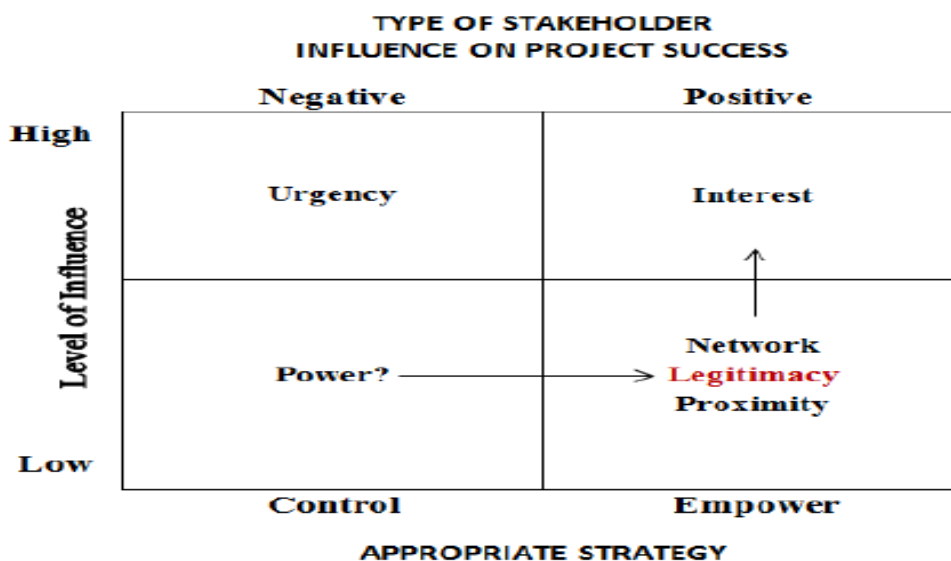


Figure 2: Typology of stakeholder influential attributes
(Source: Asian Social Science Vol. 11, No. 3; 2015)

From the above typology stakeholders will be classified into four regions:

Type 1: Positive attributes in terms of interest which will highly lead to the project’s success. These types of stakeholders must be empowered to ensure project success.

Type 2: Positive attributes in terms of network, legitimacy, and proximity who will have low to moderate contribution to the project's success. These types of stakeholders must be empowered to ensure project success.

Type 3: Negative weight of urgency. These types of stakeholders will highly disturb the project's success and must be controlled.

Type 4: Negative weight of power. These types of stakeholders will affect project success and it is recommended that they will be controlled.

From the above-discussed stakeholder, influential attributes "interest" indicates the highest positive influence. Legitimacy and proximity have been classified as positive with low to moderate influence in comparison to the interest (Rajablu, Marthandan, and Yusoff, 2015).

Project Implementation

According to Kelbessa (2016), various stakeholders evaluate project implementation differently based on their expectations concerning the actual quality, cost, and time. Project implementation can be measured in terms of the qualitative value the project has to the implementing organization or quantitative in terms of the earned value systems for utility and large government projects. According to Cheung et al. (2004), there are a lot of performance indicators that can be used to measure and evaluate the performance of projects which could be related to indicators such as time, cost, quality, client satisfaction, client changes, business performance, health, and safety. The three most predominant performance evaluation indicators include cost, quality, and time.

However, Pheng and Chuan (2006) argue that an interesting way of evaluating the performance of a project is looking at the people involved with the projects or related to the ownership of the project (macro viewpoint) and those group of people such as developers and contractors who view performance in micro viewpoint. According to IBBS and Kwak (2000), Project implementation is measured by the criteria of budget (cost), time, and the deliverables. It also checks on the quality of the whole project concerning the impact it has, the value to the various beneficiaries, how effectively it is implemented, as well as efficiency and sustainability.

According to Flanagan and Norman (2003), project implementation is important as it helps ensure that a given project is implemented within its desired budget, schedule, the accepted quality standards, functionality, as well as the fitness of purpose. Project implementation ensures that enterprises maximize profitability, minimize the consequences of risky and uncertain events in terms of achieving the project's objectives, and seizes the chances of the risky events arising (Kululanga & Kuotcha, 2010).

Empirical Review

Project Risk Management and Project implementation

According to Nocco and Stulz (2006), Risk management involves the identification, measurement, monitoring, and controlling of risk to ensure that the individual responsible for the risk clearly understands it and the organization's exposure is within the limits established by management; the appropriate risk-taking decisions are in line with business strategy and objectives set by management; the expected payoffs compensate for the risk taken are clear; the risk-taking decision is explicit and clear; sufficient capital as a buffer is available to take a risk. The goal of risk management is to optimize risk-reward trade-off. Financial institutions should have in place a risk management framework that encompasses the scope of risks to be managed, the processes/systems and procedures to manage risk, the roles and responsibilities of individuals involved in risk management. The framework should be comprehensive enough to capture all risks a bank is exposed to and have the flexibility to accommodate any change in business activities (Nocco & Stulz, 2006).

The Institute of Risk Management (IRM, 2002) views Risk management as central to any organization's strategic management. It is that process that addresses the risks related to the activities of the organization to achieve sustainable benefit within each activity. It increases the probability of success and reduction of the chances of failure and uncertainty of achieving organization overall objectives of the organization. Vaněk et al, (2013) explained that risk assessment is an important part of the assessment of an investment project as underestimating the risks leads to an erroneous decision with negative consequences on the economy of the project. However, they argued that due to the level of investment and time factor related to company conditions, risk gains its importance and most of the time managers of companies approach risk assessment based on suspicion rather than the use of required methods.

Further, Vaněk et al (2013) concluded that there are four basic phases to the risk assessment process: assets identification; threats identification and their relationships; determination of significance; and risk determination based on nature or purpose. The result from the process is a recommended decision with the consideration of accurate risk assessment. Organizations are focusing on increasing their employees' awareness of risk management and making better risk-based decisions. This is implemented through education and training at the appropriate levels in the organization. Risk management practices must be tailored to meet an organizations' maturity, culture, and risk profile. Risk management ought to be integrated into an organization's business decision processes as well as is an integral part of how an organization operates instead of being assumed for compliance reasons. The more risk identification and management are integrated as the party of daily processes and procedures,

the better chances the organization has of improving the risk culture since risk management will then be considered as part of corporate processes in of an additional activity (KPMG, 2010).

Project Planning and Project implementation

According to Harold (2003) and Rosario (2000), stakeholder involvement in planning entails the involvement of stakeholders on how to plan, development of scope, team selection planning, and identification of deliverables, developing the work breakdown structure (WBS) resource requirement estimates, cost estimation, schedule development, risk planning, budgeting and approval of project commencement. According to the PMBOK and as supported by Dvir, Razand Shenhar (2003), Planning is a central element to modern project management. Planning reduces uncertainty and increases the likelihood of a project's success. However the according to PMBOK planning doesn't guarantee project success, though lack of it will increase the likelihood of a project to fail (PMI, 2000).

Dvir, Raz, and Shenhar (2003) in their study of the relationship between project planning and project success revealed that project success was insensitive to the implementation level of management processes. Project success is correlated to project planning specifically requirements definition planning and technical specifications development. They believe that through planning does not guarantee the success of the project, a minimum level of planning is necessary with an emphasis on the planning tools and procedures. The project manager has the responsibility of the formal planning while requirements development and specifications are dependent on the overall cooperation with the end-user of the project. Since projects are unique, the precise initial stage of planning where all the activities needed to be carried out for the completion of projects, their cost is duration is difficult or even sometimes impossible to be known. To aggravate the issue is where activities are dependent on other activities for the outcome. It with such reason that some authors believe that planning isn't crucial and helpful for the overall project success (Dvir, Raz, & Shenhar, 2003).

Stakeholders attribute and project implementation

Stakeholder buy-in is very essential as it guarantees the successful implementation of projects. Any project that is implemented without the blessing of the key stakeholders like the sponsors is a waste of time and money. It is therefore essential that stakeholders are identified before the start of any project to allow for buy-in into project activities and its intended objectives (Duncan, 2018). Well-aligned stakeholders will support the project activities, provide support and resources during challenging times. During the implementation of any project, many stakeholders are involved. Along the process aiming at completing the project, stakeholders can

be partners, resources, or roadblocks but potentially they are all the three rolled into one. Stakeholder buy-in, the cooperation or positive participation of a stakeholder, is the preferred condition for any successful project (May 2016).

Alexander, (2018) noted that since there are quite a variety of stakeholders who are involved in projects buy-in becomes a difficult task to quantify.

Projects may seem to be advancing well, but without full buy-in from key stakeholders, it might suddenly take a sharp turn for the worst, risking the final deliverables and customer satisfaction. The stakeholder buy-in can be increased by identifying what motivates stakeholders, focusing on telling the truth, even when it isn't what stakeholders want to hear, making sure stakeholders understand their contribution to a project, reaffirming goals and communicating progress throughout execution, remaining consistent, and providing positive feedback after the project ends (Alexander, 2018).

RESEARCH METHODOLOGY

This study used a descriptive research design that deals with what, where, and how of a phenomenon, which was guided by hypothesis and focused on the frequency with which something occurs and the relationship between the variables (Bernard, 2012). The positivism research philosophy was used for this study since the choice depends on the research hypothesis to be tested.

The target population for this study comprised of 20,299 REA projects implemented in Kenya public primary schools. The sample size was determined by the adoption of Yamane sample size determination (Yamane, 1967). Using the formula, the sample size for this study was 392 projects. The study used a simple random sampling method to select a representative sample for the study so that each unit of the population has an equal probability of inclusion in the sample (Bryman & Bell, 2011). This study used questionnaires, to collect data. The questionnaire had both open and closed-ended questions which were self-administered; dropped and picked from the sampled respondents.

Descriptive statistical techniques which are frequency distributions, means, and standard deviations were used to analyze the data to be collected. Inferential statistical analysis was undertaken which included hypothesis testing. Multiple regression analyses were done to find out relationships between the independent variables and dependent variable, analysis of variance was also done to check for the overall role of stakeholders in the implementation of rural electrification projects in Kenya. The significance of the coefficients was determined by using standard Fisher's and t-tests. The findings were presented using tables and figures.

The relationship between the dependent variable and independent variables was done by the use of univariate and multiple regressions to establish a relationship. The study shall test the hypotheses using regression analysis. The decision rule was to reject the null hypothesis if the calculated p-value is less than 0.05. If the calculated p-value is greater than 0.05, the null hypothesis shall be affirmed.

RESEARCH RESULTS

The study selected a sample of 392 project managers representing an implemented school project but the researcher was able to receive back only 347 questionnaires. The returned questionnaires formed a response rate of 88.5%. According to Mugenda and Mugenda (2013), a response rate of 70% and above is excellent.

Descriptive Statistics

Project Risk Management

Table 1: Project Risk Management

	Mean	Std. Dev.
Project stakeholders are involved in the risk identification process	3.982	1.37
The risk registers are available and accessible to all stakeholders of the project.	3.948	1.263
Problem analysis is done to identify the role and contribution of various stakeholders towards the success of the project.	3.889	1.381
The stakeholders are involved in monitoring the project risks.	3.863	1.326
Stakeholder analysis is done to identify the extent of decision making.	3.777	1.275
Once risks are identified mitigation measures are documented.	3.738	1.32
Mitigation measures and strategies are communicated to the various stakeholders.	3.698	1.331
Aggregate Score	3.842	1.324

The mean values in Table 1 are above 3.5 an indication that the respondents agreed with the statements. Specifically, the findings show that the respondents agreed that project stakeholders are involved in the risk identification process (M=3.982, SD=1.370); the risk registers are available and accessible to all stakeholders of the project (M=3.948, SD=1.263); and that problem analysis is done to identify the role and contribution of various stakeholders towards the success of the project (M=3.889, SD=1.381). The study also established that the respondents agreed that the stakeholders are involved in monitoring the project risks (M=3.863, SD=1.326); that stakeholder analysis is done to identify the extent of decision making (M=3.777,

SD=1.275); once risks are identified mitigation measures are documented (M=3.738, SD=1.320); and that mitigation measures and strategies are communicated to the various stakeholders (M=3.698, SD=1.331).

The study findings agree with Nocco and Stulz (2006), that risk management involves the identification, measurement, monitoring, and controlling of risk to ensure that the individual responsible for the risk clearly understands it and the organization's exposure is within the limits established by management; the appropriate risk-taking decisions are in line with business strategy and objectives set by management; the expected payoffs compensate for the risk taken are clear; the risk-taking decision is explicit and clear; sufficient capital as a buffer is available to take a risk. The goal of risk management is to optimize risk-reward trade-off.

Project Planning

Table 2: Project Planning

	Mean	Std. Dev.
Planning of new projects is a collective responsibility that involves all the stakeholders of the project.	3.994	1.476
Planning tools like PERT, CPM, GANTT CHARTS, WBS are used.	3.961	1.476
The project charter is the overall project reference document used.	3.955	1.546
Estimating the resources for the project activities	3.915	1.343
The stakeholders participate in the development of the project management plan	3.856	1.525
Stakeholders are involved in the identification of the activities needed to complete deliverables.	3.836	1.22
Aggregate Score	3.920	1.431

From the findings in Table 2, the mean values are above 3.5 and the aggregate mean is 3.920 an indication that the respondents agreed with the statements about stakeholders' role in project planning on implementation of rural electrification projects in Kenya. The findings specifically showed that the respondent agreed that planning of new projects is a collective responsibility that involves all the stakeholders of the project (M=3.994, SD=1.476); planning tools like PERT, CPM, GANTT CHARTS, WBS are used (M=3.961, SD=1.476); and that the project charter is the overall project reference document used (M=3.955, SD=1.546). The study further showed that respondents agreed that they estimate the resources for the project activities (M=3.915, SD=1.343); the stakeholders participate in the development of the project management plan

($M=3.856$, $SD=1.525$); and that stakeholders are involved in the identification of the activities needed to complete deliverables ($M=3.836$, $SD=1.220$).

These study findings concur with Harold (2003) and Rosario (2000) that stakeholder involvement in planning entails the involvement of stakeholders on how to plan, development of scope, team selection planning, and identification of deliverables, developing the work breakdown structure (WBS) resource requirement estimates, cost estimation, schedule development, risk planning, budgeting and approval of project commencement. It also agrees with Dvir, Razand Shenhar (2003) that planning reduces uncertainty and increases the likelihood of a project's success. Project success is correlated to project planning specifically requirements definition planning and technical specifications development.

Stakeholder Attributes

Table 3: Stakeholder Attributes

	Mean	Std. Dev.
The interest of all key stakeholders has always been taken into consideration during the implementation of rural electrification projects in Kenya	3.961	1.149
The assessment of the proximity of all stakeholders is key to the implementation of rural electrification projects in Kenya	3.955	1.199
stakeholders legitimacy has been considered during the implementation of rural electrification projects in Kenya	3.836	1.234
Stakeholders participate in key decisions of the project	3.836	1.313
The main objective of any project is to meet or exceed the expectations of its stake-holders due to their influence.	3.803	1.248
Aggregate Score	3.878	1.229

The findings presented in Table 3 show that the aggregate mean score for the statements was 3.878, an indication that on average the respondents agreed with the statements on moderating role of stakeholders attributes on implementation of rural electrification projects in Kenya. The study also established that the interest of all key stakeholders has always been taken into consideration during the implementation of rural electrification projects in Kenya ($M=3.961$, $SD=1.149$); the assessment of the proximity of all stakeholders is key to the implementation of rural electrification projects in Kenya ($M=3.955$, $SD=1.199$); and that stakeholders legitimacy has been considered during the implementation of rural electrification projects in Kenya ($M=3.836$, $SD=1.234$). The study further found that the respondents agreed that stakeholders

participate in key decisions of the project ($M=3.836$, $SD=1.313$); and that the main objective of any project is to meet or exceed the expectations of its stake-holders due to their influence ($M=3.803$, $SD=1.248$).

These findings are in agreement with Duncan (2018) that stakeholders must be identified before the start of any project to allow for buy-in into project activities and its intended objectives. He added that well-aligned stakeholders will support the project activities, provide support and resources during challenging times. The finding also concurs with Alexander, (2018) that without full buy-in from key stakeholders, projects might suddenly take a sharp turn for the worst, risking the final deliverables and customer satisfaction.

Project Implementation

Table 4: Project Implementation

	Mean	Std. Dev.
The major stakeholders determine the standards of the project.	4.021	1.265
End-user satisfaction is the overall criteria for the success of a project.	3.988	1.182
The project records show that the project was according to budget.	3.902	1.235
The majority of the projects are completed on time and successfully	3.902	1.235
The project satisfies the End-user operational needs	3.896	1.21
Stakeholders believe that project resources were well utilized as scope, schedule	3.81	1.142
Concluded projects normally meet the required quality/standard	3.738	1.168
Aggregate Score	3.894	1.205

From the findings in Table 4, the aggregate mean score is 3.894. This is an indication that on average, the respondent agreed with the statements about the rate of project implementation. The study found that the respondents agreed that the major stakeholders determine the standards of the project ($M=4.021$, $SD=1.265$); end-user satisfaction is the overall criteria for the success of a project ($M=3.988$, $SD=1.182$); and that the project records show that the project was according to budget ($M=3.902$, $SD=1.235$). The findings further showed that the respondents agreed that the majority of the projects are completed on time and successfully ($M=3.902$, $SD=1.235$); the project satisfies the End-user operational needs ($M=3.896$, $SD=1.21$); that stakeholders believe that project resources were well utilized as scope, schedule ($M=3.81$, $SD=1.142$) and that concluded projects normally meet the required quality/standard ($M=3.738$, $SD=1.168$).

The findings agree with Flanagan and Norman (2003) that project implementation is important as it helps ensure that a given project is implemented within its desired budget, schedule, the accepted quality standards, functionality, as well as the fitness of purpose. It also concurs with Kululanga and Kuotcha (2010) that project implementation ensures that enterprises maximize profitability, minimize the consequences of risky and uncertain events in terms of achieving the project's objectives, and seizes the chances of the risky events from arising.

Correlation Analysis

Table 5: Correlation Analysis

		Project Implementation	Project Risk Management
Project Implementation	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	347	
Project Risk Management	Pearson Correlation	.793**	1
	Sig. (2-tailed)	.000	
	N	347	347
Project Planning	Pearson Correlation	.743**	.376**
	Sig. (2-tailed)	.000	.000
	N	347	347

The findings in Table 5 show that project risk management had a strong positive and significant relationship with project implementation ($r=0.793$, $p=0.000$). The p-value was less than significance level 0.05) an indication that the relationship was significant. The findings also show that project planning and project implementation has a strong positive relationship ($r=0.743$). The relationship was considered significant since the p-value (0.000) was less than the selected level of significance. These findings, therefore, suggest that the independent variables (project risk management and project planning) have a significant relationship with project implementation. To further understand the relationship between these variables, the study computed regression analysis.

Regression Analysis

The Role of Project Risk Management on the Implementation of Rural Electrification Project

The study computed univariate analysis to assess the role of project risk management on the implementation of rural electrification projects. The hypothesis tested was:

Ho₁: Project risk management has no significant role in the implementation of rural electrification projects in Kenya.

Table 6: Model Summary for Project Risk Management and Project Implementation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.793 ^a	.629	.601	.11517

a. Predictors: (Constant), Project Risk Management

Adjusted R² shows the variation in the dependent variable due to changes in the independent variable. Table 6 shows that the adjusted R squared was 0.601; this is an indication that at a 95% confidence interval, 60.1% variation in project implementation can be attributed to project risk management. The remaining 39.9% suggest that other factors can explain changes in project implementation that were not discussed in this model. R is the correlation coefficient which shows the relationship between the study variables. There was a strong positive relationship between project risk management and project implementation as shown by 0.793.

Table 7: Analysis of Variance for Project Risk Management and Project Implementation

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.79	1	1.79	13.769	.000 ^b
	Residual	344.87	345	0.13		
	Total	346.66	346			

a. Dependent Variable: Project Implementation

b. Predictors: (Constant), Project Risk Management

From the ANOVA table, the p-value obtained was 0.000 which is less than the selected significance level of 0.05 which suggests that the model was significant and therefore the data was the idea for concluding the population parameters. F-critical value (3.868), obtained from F-distribution tables, was less than the F-calculated value (13.769) i.e. $3.868 < 13.769$. Since

the F-calculated value was greater than the F-critical value, it suggests that project risk management significantly influences project implementation.

Table 8: Model Coefficients for Project Risk Management and Project Implementation

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.670	0.101		6.634	.000
¹ Project Risk Management	0.646	0.126	0.793	5.127	.000

The regression equation was:

$$Y = 0.670 + 0.646 X_1$$

The above regression equation shows that holding project risk management to a constant zero, project implementation will be at a constant value of 0.670 units. The influence of project risk management on project implementation was significant. This is because the p-value obtained (0.000) was less than the selected level of significance (0.05). Therefore, a unit increase in project risk management would lead to an increase in project implementation of rural electrification projects in Kenya by 0.646. Therefore we reject the null hypothesis that "Project risk management has no significant role in the implementation of rural electrification project in Kenya".

The Role of Project Planning On the Implementation of Rural Electrification Project

The study computed univariate analysis to determine the role of project planning on the implementation of rural electrification projects in Kenya. The hypothesis tested was:

Ho₂: Project planning has no significant role in the implementation of rural electrification projects in Kenya.

Table 9: Model Summary for Project Planning and Project Implementation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.743 ^a	.552	.527	.22923

a. Predictors: (Constant), Project Planning

From the model summary, the value of adjusted R² was found to be 0.527 which suggests that 52.7% variation in project implementation can be explained by changes in project planning. The

remaining 47.3% suggest that other factors can be attributed to changes in project implementation of the rural electrification project in Kenya. The findings further reveal that the variables in this model (project planning and project implementation) are strongly and positively related as indicated by the correlation coefficient (R) value of 0.727.

Table 10: Analysis of Variance for Project Planning and Project Implementation

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	2.251	1	2.251	4.247	.000 ^b
1 Residual	182.85	345	0.53		
Total	185.101	346			

a. Dependent Variable: Project Implementation

From the ANOVA table, the F-calculated value was 4.247 and was significant at a p-value of 0.000. The F-critical value obtained from the F-distribution tables was 3.868. The findings showed that the f critical value was less than the f calculated value ($3.868 < 4.247$). This, therefore, suggests that project planning influences project implementation of rural electrification projects in Kenya. Since the p-value (0.000) was less than the selected level of significance (0.05), it suggests that the model was significant and therefore the data was an idea for concluding the population parameters.

Table 11: Model Coefficients for Project Planning and Project Implementation

Model	Unstandardized Coefficients		Standardized	T	Sig.
	B	Std. Error	Coefficients Beta		
1 (Constant)	1.102	0.137		8.044	.000
Project Planning	0.602	0.055	0.743	10.945	.000

a. Dependent Variable: Project Implementation

The regression equation was:

$$Y = 1.102 + 0.602 X_2$$

The above regression equation revealed that holding project planning to a constant zero, project implementation will be at a constant value of 1.102 units. The influence of project panning on project implementation was significant as indicated by a p-value (0.00), less than the sleeted level of significance (0.05). Therefore, a unit increase in project planning would lead to an increase in project implementation of rural electrification projects in Kenya by 0.602 units.

Therefore we reject the null hypothesis that “Project planning has no significant role in the implementation of rural electrification project in Kenya”.

The Moderating Role of Stakeholder Attributes On the Implementation of Rural Electrification Project

A stepwise regression analysis was conducted to establish the moderating role of stakeholder attributes on the implementation of the rural electrification project in Kenya. The hypothesis tested was:

Ho₅: Stakeholder attributes do not have a significant moderating role in the implementation of rural electrification projects in Kenya.

Table 12: Model Summary for Stakeholder Attributes, Role of Stakeholders' Management and Project Implementation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.876 ^a	.767	.762	.08495
2	.884 ^b	.781	.780	.07073

The model summary for the moderated equation was used to show the amount of variation in the dependent variable that could be explained by the moderated variables. The findings show that after the introduction of stakeholders attributes as the moderating variable, the value of adjusted R square increased from 0.762 to 0.780 an indication that the moderated variable explains 78% variations in project implementation. The remaining 22% suggest that other factors can be used to explain variations in the performance of the affordable housing program in Kenya that were not included in the model.

Table 13: Moderated ANOVA for Stakeholder Attributes, Role of Stakeholders' Management and Project Implementation

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.436	4	0.109	15.585	.000 ^b
	Residual	2.394	342	0.007		
	Total	2.83	346			
2	Regression	0.704	8	0.088	17.579	.000 ^c
	Residual	1.69	338	0.005		
	Total	2.394	346			

This tested the significance of the moderated model. The significance was tested at 5% level of significance. The findings presented in Table 13 show that the models had a significance level of 0.000; both models the un-moderated and the moderated models. From the findings, the F-calculated for the first model was 15.585 and for the second model was 17.579. Since the F-calculated for the two models were more than the F-critical, 2.398 (first model) and 1.966 (second model), the two models were a good fit for the data and hence they could be used in predicting the moderating role of stakeholder attributes on the implementation of rural electrification project in Kenya.

Table 14: Moderated Coefficients for Stakeholder Attributes, Role of Stakeholders' Management and Project Implementation

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.534	.154		9.961	.000
1 Project Risk Management	.264	.050	.237	2.280	.019
Project Planning	.258	.041	.175	6.359	.000
(Constant)	1.348	0.212		6.358	.001
Project Risk Management	0.346	0.077	1.214	4.494	.040
Project Planning	0.309	0.045	0.074	6.867	.002
2 Project Risk Management*	0.259	0.028	0.639	9.250	.000
Stakeholders Attributes					
Project Planning* Stakeholders Attributes	0.414	0.067	0.008	6.179	.007

a. Dependent Variable: Project Implementation

From the findings presented in Table 14, after the introduction of the moderating variable, Stakeholders Attributes, the following moderated regression model was fitted;

$$Y=1.348+0.346X_1+0.309 X_2 + 0.259 X_1*M + 0.414 X_2*M$$

The findings showed that Project Risk Management* Stakeholders Attributes had a significant influence on the implementation of rural electrification projects in Kenya ($\beta=0.259$, $p=0.000$). Since the p-value was less than the selected level of significance (0.05), the study concluded that the influence was significant. The study, therefore, rejected the null hypothesis H_{051} *Stakeholder attributes do not have a significant moderating role of project risk management on the implementation of rural electrification projects in Kenya.*

Project Planning* Stakeholders Attributes were seen to have a positive influence on the implementation of the rural electrification project in Kenya ($\beta=0.414$, $p=0.007$). The influence was considered significant since the p-value obtained (0.007) was less than the selected level of significance (0.05). The study thus rejects the null hypothesis H_{052} *Stakeholder attributes do not have a significant moderating role of project planning on the implementation of rural electrification projects in Kenya.*

CONCLUSIONS

The first objective of the study was to assess the role of project risk management on the implementation of rural electrification projects. The study found that the influence of project risk management on project implementation was significant. Therefore, a unit increase in project risk management would lead to an increase in project implementation of rural electrification projects in Kenya. Based on the findings, the study concludes that project risk management has a significant role in the implementation of rural electrification projects in Kenya.

The second objective of the study was to determine the role of project planning on the implementation of the rural electrification project in Kenya. The study found that the influence of project planning on project implementation was significant. Therefore, a unit increase in project planning would lead to an increase in project implementation of the rural electrification project in Kenya. Based on the study findings, the study concludes that project planning has a significant role in the implementation of rural electrification projects in Kenya.

The final objective of the study was to establish the moderating role of stakeholder attributes on the implementation of the rural electrification project in Kenya. The study found that Project Risk Management* Stakeholders Attributes had a significant influence on the implementation of rural electrification projects in Kenya. Also, Project Planning* Stakeholders Attributes was seen to have a positive influence on the implementation of rural electrification projects in Kenya.

Based on these study findings, the study concludes that Stakeholder attributes have a significant moderating role of stakeholders' management on the implementation of the rural electrification project in Kenya.

RECOMMENDATIONS

Project managers should consider following the SMART rules for goal setting this helps to deal with the challenge of unclear goals. It is also important for projects to ensure communication is timely and transparent. It is also important to clarify issues by for example holding workshops,

interviewing stakeholders, and produce a comprehensive scope document and project brief, even if it takes much longer than you wanted to spend on this exercise.

Poor risk management is one of the most common project management challenges. There is therefore a dire need to adopt risk management strategies. By having effective risk management software in place, project management teams and managers can achieve significant control on the projects through timely risk identification and strategy alignment.

The involvement of the right people in the planning process can help ensure that the planning process is carried out and is implemented completely. Writing of planning information and communicating it widely can help in effective planning. This is important because as plans change, it's extremely difficult to remember who is supposed to be doing what and according to which version of the plan. It is also important to ensure that goals and objectives are SMARTER (Specific, Measurable, Acceptable, Realistic, Timeframe, Extending, and Rewarding).

Building accountability can also help in ensuring project plans are implemented. This is by regularly reviewing who is doing what and by when. During the planning process, regularly collect feedback from participants also, during regular reviews of implementation of the plan, assess if goals are being achieved or not.

The best way to manage the potential negative influence of stakeholders on a project is to identify all potential stakeholders, all potential problems associated with those stakeholder groups and take steps to settle the problems before planning the project. This involves assessing the relative strength of the influence of each stakeholder group and planning the project around the requirements of the stakeholder groups, attaining their buy-in and active support for the project before it is begun, or even announce.

SCOPE FOR FURTHER STUDIES

This study was able to explain 76.2% variation in project implementation; there is a need for a study to be conducted on other factors that influence project implementation such as resource availability. A study should be conducted using government policies as a moderating variable since these projects are implemented by the national and county governments. The focus of this study was rural electrification projects; the study thus recommends this study to be replicated in other projects such as road projects by KeNHA and KURRA.

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