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Influence of capacity building on financial performance of Kenya Power and Lighting Company, Kenya

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Abstract
This study aimed to investigate the influence of capacity building on the financial performance of Kenya Power and Lighting Company. The theory that anchored this study was the theory of performance. The target population for this study were employees of Kenya Power who were directly involved in the implementation of the last-mile projects. There are 242 employees directly involved in the last mile of the project implementation. Given that the target population is not too large, the study employed a census. Data were collected using structured questionnaires with closed-ended questions. Statistical Package for Social Sciences was used to analyse data. The data was examined using inferential and descriptive statistics. The study established that Kenya Power Limited Company's financial performance improved significantly as a result of capacity building. Further, regression analysis demonstrated that capacity building had a significant influence in determining KPLC's financial performance. It was concluded that capacity building has a significant influence on KPLC's financial performance. The study recommended that the company step up the various capacity-building aspects to enhance its financial performance.

Key words: Capacity building, electricity connectivity, financial performance, infrastructure, return on investment.

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INTRODUCTION

Despite the importance of electricity in social and economic development, access to sustainable electricity remains a big challenge across the world. According to United Nations Development Progam (2020), over 800 million people across the world lack access to electricity, including 50 per cent within sub-Saharan Africa. United Nations Development Progam (2020) further noted that another 2.8 billion people lack access to reliable and sustainable electricity to secure their livelihoods. According to the World Bank (2020c), access to electricity in sub-Saharan countries has continued to be a challenge as population growth has largely increased beyond the electricity connectivity rates. World Bank (2021a) further notes that in Sub-Saharan countries, over 910 million people have no access to clean cooking energy due to a lack of electricity or inadequate access to reliable and sustainable electricity. Sub-Saharan Africa also has a large number of countries in the energy deficient countries, including the Democratic Republic of the Congo, Mozambique, Ethiopia, Madagascar, Tanzania, Uganda, and Niger, had less or equal to 5% of their inhabitants have access to clean cooking (World Bank., 2021a).

Despite the enormous benefits of power connectivity to the citizens, the financial performance of the power utility firms involved in electricity access projects has increasingly become under sharp focus (Blimpo & Cosgrove-Davies, 2019; World Bank., 2019c). Augustine, Christopher, and Jacob (2018) view financial performance as an organisation's financial viability or the extent to which the organisation is able to meet its financial obligations. Uvaneswaran, Zemen, and Muhammed (2019) further viewed financial performance as the measurement of the organisational output in monetary terms or the organisational financial health aspects. The views by Uvaneswaran et al. (2019) with those of Baah and Jin (2019) in terms of the organisation's financial performance being in terms of the financial health of the organisation. Several scholars, including Sarker et al. (2020), Peters et al. (2019), Rout et al. (2021), and Rafique and Bahaidarah (2019) have raised the financial performance and viability of diverse power connectivity projects and programs.

It is important to notice that any incentive regulation mechanism that provides incentives only for cost reduction also potentially jeopardises the quality of supply (or, in a general view, the performance in providing the service) when the quality of supply and costs are not positively correlated with one another (Joskow, 2008). Indeed, Ann et al. (2010) showed by an econometrical analysis that electricity companies in the US seemed to jeopardise quality in the period of 1993 to 1999 when there was no regulation ensuring minimum quality standards. Thus, price caps are often only one component of a larger portfolio of regulatory tools that includes quality of supply standards and incentives to improve service performance.

According to a policy brief on achieving universal electricity access (2018), there is for the first time a positive trend in sub-Saharan Africa, where the number of people without access peaked in 2013, led by Cote d'Ivoire, Ethiopia, Ghana, Kenya, Sudan and Tanzania. Relative to 2000-2012, the pace of electrification has nearly tripled since 2012. Some 80 per cent of the 590 million people who remain without access live in rural areas, where the average electrification rate is less than 25 per cent. Despite positive developments, population growth and uneven progress mean that on the basis of current efforts, some 600 million will remain without access in 2030.

Due to the importance of power connectivity in Kenya's social and economic development, the Government of Kenya, through Kenya Power and together with development partners, has, over the years, undertaken diverse power connectivity projects. One of the major power connectivity undertaken in Kenya included the last mile connectivity project. According to Kenya Power (2017), the last mile project was financed by the Government of Kenya and the African Development Bank (AfDB) at the cost of KShs.13.5 Billion sought to extend power connectivity to 314,200 households, leading to access to electricity for about 1.5 million Kenyans in phase one. The last mile project was to be undertaken in three phases. In regards to phase one of the project, Kenya Power is expected to connect electricity to customers within the radius of 5,320 identified transformers across the country (Kenya Power., 2017). The second and third phases of the last mile projects included the installation of new transformers with an addition of 500,000 customers to the electricity grid, leading to electricity access for 2.5 million Kenyans (Kenya Power., 2017). According to the Office of the Auditor General (2021), the last mile

project utilised 11.7 billion shillings up to June 2020 and connected 87 per cent of the total number of customers targeted, which is 195,483 members.

Despite the high connectivity rates for the Kenya Power customers through the last mile projects, Kenya Power faces the financial performance challenges identified in other electricity supply firms across the globe. In this context, De Bercegol and Monstadt (2018) note the inability of some of the slum dwellers to make payments for electricity consumption, thus inhibiting the capacity of Kenya Power to recover its costs. De Bercegol and Monstadt (2018) further raised concerns about illegal power connectivity, especially in slum areas such as Kibera, which served to deny Kenya Power revenue for the low-voltage power connectivity lines. The low-voltage power connectivity lines undertaken during the last-mile projects thus provide an opportunity for illegal connection through a direct connection to the transformers (De Bercegol et al., 2018).

According to the Office of the Auditor General (2021), the last mile project utilised 11.7 billion shillings up to June 2020 and connected 87 per cent of the total number of customers targeted, which is 195,483 members. World Bank (2019b) noted that Kenya has substantively enhanced electricity access compared to other countries in sub-Saharan Africa, in which it had doubled the electricity connectivity in the 2013-2018 period to 6.7 million consumers as of June 2018. However, despite the enhanced electricity connectivity aspects in Kenya, Kenya Power faces diverse financial-related challenges. Kenya Power (2021), in commenting on its 2020 financial performance, noted that the company recorded a reduction in income growth by 3.5 per cent due to a reduction in electricity consumption. The company further made higher provisions for credit losses, leading to increases in the costs of transmission and distribution of Ksh 47,834 million shillings in the financial year ending 30th of June 2020, which was a 16.5 per cent increase from the previous financial year (Kenya Power, 2021). The company further declared a reduced operating income of 13.9 per cent in the financial year under examination from the previous financial year. The company recorded a loss before tax of Shs 7,042 million, a decline from the previous year's profit before tax of Shs 334 million (Kenya Power., 2021). With this foregoing, there is doubt in regard to the power projects the company has been undertaking in terms of their viability to the company. This study sought to examine the link between the last-mile connectivity project and the financial performance of Kenya Power. The study will be premised on the observations of Blimpo and Cosgrove-Davies (2019) World Bank (2019c), who noted that despite the enormous benefits of power connectivity to the citizens, the financial performance of the power utility firms involved in electricity access projects has increasingly become under sharp focus. This study will thus explore whether the last-mile electricity connections, Last Mile infrastructure maintenance cost, and capacity building have impacted the financial performance of Kenya Power and Lighting Company. The moderating effect of the Last Mile electricity economies of scale on the relationship between the Last Mile power connectivity project and the financial performance of Kenya Power and Lighting Company.

LITERATURE REVIEW

The theory of Performance (ToP), originally introduced by Elger in 2007, serves as a foundational framework that not only elucidates the concept of performance but also offers valuable insights into strategies for enhancing performance. This theory constructs a comprehensive model based on six fundamental components and supplements it with three guiding axioms, thereby providing a structured approach to comprehending the multifaceted nature of performance. These core elements are interwoven, creating a holistic framework for understanding and optimising performance. The Theory of Performance defines performance as the process of producing valued results, which can be attributed to either individuals or groups working collaboratively toward shared objectives. Performance is not a static achievement but rather an ongoing journey marked by varying levels of performance, which serve as indicators of one's position along this journey. To assess the current level of performance, one must consider the intricate interplay of six critical components: context, level of knowledge, levels of skills, level of identity, personal factors, and fixed factors. These components collectively form the foundation upon which performance rests.

Context represents the environment in which performance takes place, encompassing factors such as organisational culture, available resources, and external influences. It is a pivotal element, wielding a significant

influence on the effectiveness of performance (Anand et al., 2020). Knowledge is the bedrock of performance, encompassing an individual's or group's understanding of relevant information, theories, and concepts pertaining to a specific task or field. Skills are the practical manifestations of knowledge, representing the ability to execute tasks, make informed decisions, and solve problems effectively. Identity encapsulates an individual's or group's sense of self in relation to the performance. It comprises the alignment of personal values, beliefs, and identity with the performance task, contributing to motivation and a sense of purpose.

Personal Factors encompass individual traits, motivations, and attitudes that shape performance. These factors play an important role in determining how individuals approach and engage in tasks. Fixed Factors are external constraints or limitations that may impact performance but are beyond one's direct control. These factors, such as regulatory or structural influences, shape the context in which performance occurs.

In addition to these foundational components, the Theory of Performance introduces three guiding axioms for effective performance improvement:

Axiom of Alignment: This axiom posits that effective performance improvements require aligning all components of performance, including knowledge, skills, identity, personal factors, and context, with the desired outcomes. Alignment ensures that every facet of performance contributes harmoniously to achieving the intended results (Walker & Caprar, 2020).

Axiom of Integration: Integration is deemed crucial for performance enhancement, involving the harmonisation and synergy of various performance components. It ensures that these elements work in concert rather than in isolation, fostering a holistic approach to performance improvement.

Axiom of Adaptation: The third axiom highlights the importance of adaptability in achieving sustained performance improvement. The ability to adapt to evolving circumstances, challenges, and goals is essential for ensuring that performance remains effective and relevant.

Elger's Theory of Performance draws inspiration from the belief that humans are inherently capable of extraordinary accomplishments. This belief is grounded in the examples of historical figures such as Mahatma Gandhi, who led a nonviolent revolution liberating India from colonial rule, and John F. Kennedy, who challenged a nation to reach the moon, emphasising the value of tackling difficult endeavours to harness human potential. Remarkable accomplishments, as emphasised by this theory, are not confined to history books but unfold in everyday practices. In higher education, for instance, extraordinary achievements are evident in the inspiration advisors provide to students, the profound connections forged by teachers with their learners, the transformative questions posed by researchers, and the motivation instilled by deans to foster collaboration and attain remarkable outcomes.

One pertinent application of the Theory of Performance pertains to understanding the role of capacity building in enhancing the financial performance of organisations. Capacity building is defined as the process of changing individual behaviours to enhance their ability to achieve predetermined goals effectively and efficiently (Endarto et al., 2020). It encompasses the development and strengthening of skill sets, abilities, and processes that enable individuals to achieve desired goals (Abutu et al., 2020).

Scholars have recognised the significant impact of capacity building on financial performance. Capacity-building initiatives aim to develop and fortify the skills and capabilities of individuals and teams within an organisation. When these capacities align with organisational goals and are effectively deployed, they contribute significantly to financial performance (Ondieki et al., 2017; Nelima, 2019; Ingow & Oluoch, 2019).

Capacity-building efforts can encompass various forms, including training programs, skill development initiatives, and leadership development. When thoughtfully designed and strategically implemented, these initiatives lead to heightened knowledge, skills, and attitudes within the workforce. This alignment between employee development and organisational objectives not only enhances financial outcomes but also strengthens the organisation's overall performance.

In the specific context of Kenya Power, capacity-building initiatives hold the potential to play a pivotal role in driving financial performance. By investing in the development of employees' knowledge, skills, and abilities, Kenya Power can enhance the efficiency and effectiveness of its operations. This can lead to cost reductions, enhanced service delivery, and more revenue production. Furthermore, capacity building empowers employees to adapt to dynamic market conditions, regulatory changes, and technological advancements—an essential factor in the rapidly evolving energy sector where being ahead of the curve is crucial for financial sustainability.

In conclusion, the Theory of Performance, as articulated by Elger in 2007, offers a comprehensive and insightful framework for understanding and enhancing performance across diverse contexts. Its emphasis on the interplay of foundational components, combined with the guiding axioms, provides a structured approach to performance improvement. Moreover, the application of this theory to capacity building underscores the pivotal role of employee development in achieving financial success for organisations like Kenya Power. Recognising and harnessing the power of capacity building is important for navigating the ever-changing landscape of business, ensuring long-term sustainability, and fostering prosperity.

Last Mile Capacity Building and Financial Performance of Kenya Power and Lighting Company

Capacity building is an essential aspect that may make a company upscale its performance. According to Richter et al. (2018) and Dimitrova (2018), capacity building refers to the diverse activities that strengthen the capacity of people and organisations to achieve their objectives and goals in their day-to-day environment. The capacity building may relate to diverse aspects, including technical expertise, financial management, marketing, operations and infrastructure, amongst other aspects.

Yamoah and Maiyo (2013) studied and ascertained that employee performance improves significantly with capacity expansion. The study looked at the component of capacity building that deals with the growth of an individual or group of people. The researchers used questionnaires to collect and analyse data. The findings demonstrated that, when provided effectively, training had a considerable impact on employee performance. However, it also established that training does not always solve job performance issues. The results of Yamoah and Maiyo (2013) on the training's impact on employee performance with the results of Hassan et al. (2020), Afroz (2018) and Akter (2016), among others. Employee performance and productivity are critical to the financial performance of organisations through enhancing productivity in operational dynamics such as the running of the organisation. In the context of financial dynamics, employee performance is critical in ensuring that funds are used in a prudent and efficient manner in order to enhance financial performance. Within Kenya Power, several scholars have linked the issue of training to employee performance, including Too and Kwasira (2018) in Kenya Power's Central Rift region and Kirigia (2017) with respect to Kenya Power generally.

Wanyama and Mutsotso (2010) investigated the effect of capacity expansion and employee efficiency in commercial banks; they noted that this leads to a rise in performance, as empirical studies have shown. Kenya has faced banking challenges since its independence in 1964, culminating in substantial bank collapses (37 failed banks as of 1998). Some of these issues, such as inadequate supervision and the provision of employees with experience, requisite skills, and knowledge, can be addressed through increased employee productivity to improve bank performance. The role of supervision on employee performance that is indicated by this study was further found by (Okero et al., 2021; and Ngugi & BUla, 2019) in their respective studies. Supervision enhances employee performance by ensuring that the employees are able to do the right thing, hence impacting employee performance and, ultimately, the organisational performance aspects. The link between employee and organisational performance has been empirically demonstrated in Kenya Power (Irungu, 2017; Muganda, 2018) in their respective studies.

Dibie et al. (2015) examined how countries in Sub-Saharan Africa seek to enhance their human, institutional and infrastructure capacity in order to secure a stable and sustainable economy. They argued that technical capacity building will serve as a lever for economic growth and social development. Capacity building is a continual development process that can be completed by citizens' participation in their own growth.

The dynamics of development and participation at both grassroots and national levels must include exposing government change agents to participatory learning and action methods. Their findings exposed that there is a negative correlation between the nation's educational system and the kind of skills needed to achieve sustainable development. In addition, government policies have not been able to galvanise the private sector and NGOs effectively to create more technical skills and jobs for citizens.

Heloisa (2009) pointed out that there is now growing consensus among the development community that capacity building is the driving force behind human progress. In the face of the present economic, climatic, and food crises, improving state and social capacity to create and implement policies that minimise the effect of these crises will remain crucial for continuing progress toward reaching development goals, including the MDGs. Capacity development begins with the idea that people are most empowered to reach their full potential when the tools of development are sustainable, home-grown, long-term, and developed and managed jointly by those who stand to gain.

FHI360 (2017) illustrated that Capacity building has been the cornerstone of international development for decades. Though capacity building has included some support to institutions and organisations, the overwhelming focus has been on individual technical capacity and training with the assumption that training individuals would lead to strengthened institutions and "spontaneous" organisational capacity. Unsurprisingly, this approach has not consistently led to effective, sustainable change. There is a need for a better approach, which is the performance improvement approach.

Financial Performance of Electricity Supply Firms

Financial performance is the financial health of an organisation (Aryadi et al., 2020; Odindi et al., 2018; Tarigan et al., 2020). Keben (2018) and Hussein and Diiwaani (2019) examined financial performance as the achievement of an organisation's financial objectives or mandates. The power sector, which includes the electricity sector of the economy, has great importance in people's lives and takes a central role in the economic transformation process(Abbasi et al., 2021). The sector itself contributes between 1 per cent and 2 per cent of global GDP and is present in all countries without exception. Because it is very capital intensive, its share of investment is much higher (Rozas, 2010). The availability, quality and cost of electricity have a direct effect on the economy's systemic competitiveness (Das & McFarlane, 2019). Although the price of power primarily affects energy-intensive businesses, a steady and consistent supply of electricity is vital for practically all sectors, particularly for small businesses that are unable to invest in their own generating systems (Simionescu et al., 2019; Dey & Tareque, 2019).

The indicator of annual per capita consumption of electricity reflects the level and potential of the country's economic development. It is also indicative of the power sector's ability to benefit from the scale's economies in the sector. This indicator is an estimate of actual consumption per capita, which is difficult to measure directly in Sub-Saharan African countries. This estimate is calculated as the total production of power plants in the public system, net of normative transmission, distribution, and transformation losses, divided by the total population. The indicator, however, does not account for either technical losses above the norm or commercial losses. Both types of losses are considered to be high in the region, although it is difficult to estimate their values in most African countries. Therefore, the indicator provides an approximation of end-user consumption, with actual consumption being either equal or below the estimated level (Tallapragada VSN et al., 2009).

Jean-Pascal and Tricoire (2017) discussed that this decade has seen plenty of quick developments caused by digital innovation. Smartphones, consumer-driven social media, intelligent manufacturing, ubiquitous connection, and, soon enough, self-driving cars on a grand scale. This digital revolution has had an impact on all sectors. Today, the power grid is on a similar, life-changing, and fast-paced trajectory. As with many of these altered industries, customers are at the centre of a disruptive convergence of digital technology developments, on-demand consumer involvement, personalised consumption, and decentralised infrastructure. In the midst of this rapidly changing new energy environment, we must ensure that we put electricity's future on the proper track. If we don't, there will be catastrophic consequences.

According to the Tracking Strategic Development Goals (SDG) 7: The Energy Progress Report 2019, access to electricity is growing, but not fast enough: 150 million people gained access to electricity between 2016 and 2017; however, that still leaves 840 million people without access, down from just under a billion in the year 2016 and 1.2 billion in 2010. And 573 million of those people – 1 out of 2 – are in Sub-Saharan Africa. In recent years, many policymakers, industry executives, financiers and others in the international energy community have identified integrated approaches to energy policy planning as a means of leveraging all electrification solutions, be they via the centralised grid, mini-grid or off-grid solutions. Countries such as Ethiopia, India, Kenya, Myanmar, Nepal and Togo (among others) have been considering their electrification strategies with an eye to taking advantage of all available technologies and leveraging the private sector's expertise to meet SDG.

In most countries, electricity has been regarded as a public service since the middle of the 20th century. A majority of developing countries have now adopted universal access to electricity as a development objective. Adequate and reliable supplies of electricity have been a principal focus of national energy policies as a consequence of their role in enabling economic growth and improving people's standards of living. Even when private sector actors deliver electricity, the availability and reliability of the supply are regarded as the responsibility of the government (Scott & Seth, 2013).

Nevertheless, there are significant differences between and within countries in terms of levels of access to electricity. Worldwide, 1 billion people have only an intermittent supply, and another 1.3 billion do not have access to electricity (International Energy Agency, 2012). The great majority of those without access live in Sub-Saharan Africa and South Asia. In Europe and North America, electricity supplies reach almost everyone, but in Sub-Saharan Africa, only 30 per cent of the population has access. Barriers to increasing access to electricity have been broadly classified as financial and economic, capacity and technical, policy and institutional (Sovacool, 2012). The first of these include high costs of investment and operation (and the affordability of tariffs), access to investment finance and the effectiveness of cost recovery mechanisms. In the second category are technical and managerial capacities to design, install, and operate electricity systems, as well as the efficiency of the technologies deployed. The third category includes the adequacy of the policy framework and the effectiveness of institutions responsible for implementing policy.

However, according to the World Bank (2018a), a vicious cycle of poor financial performance has long captured many national electricity sectors and utilities. The cycle continues from structural financial weakness to underinvestment and poor maintenance practices to poor service quality to blackouts to weak payment discipline (nonpayment), theft, and insufficient government transfers to low net revenues and internal cash generation, financial losses, low self-financing levels, and growing indebtedness to structural financial weakness. This causes difficulties in creating universal access to electricity.

Within countries, differences in access to electricity are to be found between rural and urban areas. Across sub-Saharan Africa, for instance, 56 per cent of the population in urban areas do not have access to electricity, compared with 89 per cent of the rural population. Worldwide, the proportion of the population without access in rural areas is five times higher than that in urban areas (International Energy Agency, 2012). The main consumers of electricity are households and industry, although the share of each of these sectors in total electricity consumption varies between countries. In some countries, agriculture is also a significant consumer of electricity.

Moreover, the high cost of electricity supply in rural areas, along with households' restricted ability to pay for the service, make it hard to attract investment in rural electrification. To do so requires a system of tariffs and subsidies that ensures sustainable cost recovery while minimising price distortions. However, such a revenue-generation scheme is absent in many countries. All too often, tariff subsidies are designed to favour the large majority of consumers, including the well-off, while failing to provide utilities with incentives to invest in rural electrification. Such ill-designed tariff schemes are found particularly in Sub-Saharan Africa, where subsidies applied to residential consumers are highly regressive (van de Walle, 2005). This study will seek to examine how last-mile power connectivity in Kenya

influences the financial performance of Kenya's power and lighting companies.

METHODOLOGY

Research Design

This study used a predictive research design. According to Gathii et al. (2019), a predictive research design seeks to predict the dependent variable using the changes in the independent variable. The target population for the study included the employees of Kenya Power who are directly involved in the implementation of the last-mile projects. There are 242 employees directly involved in last-mile project implementation, ranging from company personnel such as county project managers, county last-mile project engineers, last-mile project supervisors, last-mile project clerks, accountants, and account assistants in every region. The study undertook a census where all the employees were taken as the study's respondents.

Data Collection Instruments

Primary data was used in the study. The primary data was obtained by using structured questionnaires consisting of close-ended questions. In this study, the questionnaires were constructed on a five-point Likert scale items (1-Strongly Disagree (SD) 2-Disagree (D) 3-Undecided (U) 4-Agree (A) 5-Strongly Agree (SA)). The responses in the questionnaires were based on the study indicators that assisted in acquiring an in-depth understanding of the influence of last-mile power connectivity project capacity building on the financial performance of Kenya Power Limited Company in Kenya. The questionnaires were pilot-tested to check for validity and reliability before the actual data collection.

Data Analysis Techniques and Presentation

This study undertook the quantitative data analysis for the collected data. The quantitative data was evaluated with IBM SPSS software. The data was first coded into SPSS software. The SPSS was used to run descriptive analyses to produce frequency distribution and chi-square test of agreement. Descriptive statistics were used in this study for the purpose of summarising the data that was collected. Tables were also used to summarise the data. The study further undertook a correlational analysis. The study employed the Pearson correlation coefficient to examine the link between variables due to the continuous nature of the summated variables from multi-item scale measurements of the variables. Regression analysis was also undertaken in the study. The regression analysis was used in this study to evaluate the predictive power of the independent variable (Last Mile electricity connections capacity building) against the dependent variable (financial performance).

Ethical Consideration

According to Bedi and Webb (2020) as well as Flynn et al. (2019), ethical consideration refers to the efforts undertaken by the researcher to ensure that the respondents don't get any harm in the process of participating in the research. The researcher sought permission from Kabarak University, the National Commission for Science, Technology and Innovation (NACOSTI), the Ministry of Interior, and the coordination of the national government. Respondents were encouraged to offer voluntary participation, and their consent was sought before issuing the research instrument. The Respondents were also made aware that the data they provided would be used only for academic purposes so that they may participate willingly without any fears.

RESULTS AND DISCUSSION

Distribution of Respondents by Gender

The study sought to examine the distribution of the respondents by gender. The findings on the gender of the respondents are presented in Table 1.

Table 1: Gender of the Respondents

Gender	Frequency	Valid Percent
Female	88	41.9
Total	210	100.0

The researcher observed that 58.1 per cent of the respondents were male, while 41.9% of them were female. There were thus more male respondents compared to the female respondents. The findings are consistent with those of (Wijayawardena et al., 2017 Kelliher et al., 2019; Mukarram et al., 2018), who note technologically inclined firms have more male members compared to their counterparts. This is due to the general

encouragement of the male members to pursue STEM (Science, Technology, Engineering and Mathematics) inclined courses relative to the female members (Baird, 2018; Marco-Bujosa et al., 2021; Sáinz et al., 2020). Kenya Power, being an electricity supply company, is heavily technologically based with a bias towards STEM-related courses that are male-dominated.

Last Mile Capacity Building

The last mile building capacity was examined using seven indicators measured using a five-point Likert scale. The seven indicators included regular site visits to monitor the project progress, provision of technical assistance, provision of platforms to train staff involved in the last mile, ensuring that the company has expertise in dealing with technical issues, increase in distribution capacity aspects, capacity generated through last mile being utilised, and an upsurge in revenue generated from extract connectivity capacity. The results are shown in Table 2 below.

Table 2: Descriptive Statistics on Last Mile Capacity Building

	SA (%)	A (%)	U (%)	D (%)	SD (%)	$\chi 2$	P-Value
There are regular site visits to monitor the progress of last-mile electricity connectivity	25.2	28.6	22.4	17.6	6.2	31.810	.000
The company provides technical assistance provided for during last-mile project implementation	17.1	39.0	14.8	12.9	16.2	48.714	.000
The company has provided platforms that train its staff involved in last-mile electricity connectivity	21.9	39.5	11.4	18.1	9.0	61.095	.000
The company has ensured that it has expertise who can deal with technical issues in connection with the last mile	23.8	44.3	13.3	11.4	7.1	93.190	.000
The company has seen a drastic rise in distribution capacity as a result of last-mile connectivity	32.9	44.3	10.0	7.6	5.2	128.762	.000
Much of the capacity generated through the last-mile connectivity project has been put to maximum utilisation	30.0	37.6	12.9	11.9	7.6	71.429	.000
The company has seen an upsurge in revenue generated as a result of extra connectivity capacity	11.9	15.7	9.0	26.2	37.1	56.286	.000
Valid N (listwise)	210						

A total of 53.8 per cent ($\chi 2$=31.810, P=0.000; < 0.05) of respondents agreed and strongly agreed that the company made regular visits to the sites for monitoring of the projects. The monitoring of project progress is associated with project performance aspects. The results of the study were consistent with those of Chege and Kinoti (2019) and Mubarok (2017), amongst others. The project monitoring of the progress of the connectivity project implementation examines the achievement of the project milestones and is able to detect challenges being experienced in the project implementation process. The project monitoring thus introduces accountability aspects in the meeting of the power connectivity project implementation objectives and serves to guide the decision-making process to address any arising challenges in the project implementation process. The respondents were asked whether technical assistance was provided during project implementation.

In this context, a cumulative percentage of 56.1 per cent strongly agreed and agreed ($\chi 2$=48.714, P=0.000; < 0.05) on the aspects. The results of this study on the need and provision of technical expertise on the electrification projects aspects were consistent with the findings in other countries such as South Africa (Ngubane & Nephawe, 2017; Meyer & Overen, 2021) and Cameroon (Njoh et al., 2019; Njoh et al., 2019). In this context, Ngubane and Nephawe (2017) and Meyer and Overen (2021) noted that the lack of sufficient technical expertise was one of the factors undermining

the performance of electrification projects, especially rural electrification projects.

The company was lauded for providing training platforms to its staff that were involved in the last mile connectivity project, with (61.4%; $\chi 2$=61.095, P=0.000; < 0.05) strongly agreeing and agreeing that this took place. The training components are critical in the project performance aspects of electrification projects. The training would enable the various employees to undertake diverse tasks in connectivity projects with the desired efficiency aspects. Kenya Power took the initiative to make sure experts were brought on board to ensure that technical issues in the connection were taken care of. The interviewed people who agreed and strongly agreed were (37.1%; $\chi 2$=93.190, P=0.000; < 0.05). Azimoh et al. (2017) indicate that power connectivity projects face diverse technical challenges that undermine their performance aspects. In this context, Azimoh et al. (2017) note that challenges in technical expertise to run and maintain systems often serve to undermine connectivity projects. The provision of technical expertise thus serves to address any technical challenges that arise in the project implementation process.

Due to the last-mile connectivity, the company claimed to have experienced an increase in its capacity to distribute energy to households. A high number of people agreed and strongly agreed, as seen in (77.2%; $\chi 2$=128.762, P=0.000; < 0.05). The last mile project was to improve the physical infrastructure of Kenya Power, leading to improved capacity to supply electricity. These physical infrastructures associated with power transmission include transmission lines and transformers. Maximum utilisation of the capacity generated from the last mile power project was able to be achieved agreed and strongly agreed by respondents as (67.6%; $\chi 2$=71.429, P=0.000; < 0.05). The last-mile projects are intended to maximise the transformer utilisation aspects. In regards to phase one of the project, Kenya Power is expected to connect electricity to customers within the radius of 5,320 identified transformers across the country (Kenya Power, 2017).

The study further found that only 27.6% ($\chi 2$=56.286, P=0.000; < 0.05) agreed and strongly agreed that the company saw an increase in revenue generated as a result of the expanded capacity to provide connectivity. The results of this study are similar to those of other studies that have also found financial challenges for electricity supply firms. Electricity firms face diverse revenue loss challenges. The revenue loss occurs through the inability or low capacity to pay for electricity consumption by consumers (Appiah-Kubi & Amoako, 2020; Rémi de Bercegol & Monstadt, 2018; Christley et al., 2021; Njihia, 2020) and revenue loss through electricity theft/illegal connections (Njihia, 2020; Ambole et al., 2020; Muhia, 2019). The cost escalations in the electricity provisions are due to the vandalism of the electricity connectivity infrastructure. Scholars noting the menace of the electricity connectivity challenge include De Bercegol and Monstadt (2018), Muhia (2019), County (2019), and Njihia (2020), amongst others.

Financial Performance

The financial performance aspects were examined using seven indicators. The study indicators included the increase in revenue, income, profitability, gross profit margins, revenue growth, return on investments, and experience of large losses.

Table 3: Descriptive Statistics on Financial Performance

	SA (%)	A (%)	U (%)	D (%)	SD (%)	χ2	P-Value
Kenya Power has increased revenue generation as a result of Kenya Power's last-mile connectivity projects	8.1	11.4	5.7	33.8	41.0	110.143	.000
The company has increased its income from last-mile projects	4.8	14.3	9.5	34.3	37.1	91.619	.000
Lately, due to last-mile connectivity, Kenya Power has been increasing its profits	5.7	7.6	7.6	35.7	43.3	136.714	.000
Kenya Power has been recording increased gross profit margins	7.6	11.4	6.7	34.3	40.0	105.905	.000

With the increased connectivity, the revenue generation in Kenya's power grows constantly	8.1	9.5	9.0	33.3	40.0	99.667	.000
The company has seen a positive return on investment from the last-mile connectivity project	22.4	21.4	14.8	20.0	21.4	3.905	.419
The company has experienced huge losses as a result of developed idle capacity from last-mile electricity connectivity	41.4	23.8	9.5	13.3	11.9	72.810	.000
Valid N (listwise)	210						

When asked whether Kenya Power had increased revenue generation as a result of the last mile connectivity, a huge percentage of respondents, 74.8 per cent, disagreed and strongly disagreed cumulatively, respectively ($\chi 2$=110.143, P=0.000; < 0.05). The challenges of the low revenue generation from the power connectivity can be attributed to electricity theft (Boamah et al., 2021; Otchere-Appiah et al., 2021), low demand due to difficulty in paying electricity bills (Hemapala et al., 2017; Irechukwu & Mushi, 2021; Nhalur et al., 2018b) and vandalism of the electricity infrastructure that undermined electricity supply hence revenue generation (Ikejemba & Schuur, 2018; Kareithi & Muhua, 2018; Limo & Mirwoba, 2018). The power connectivity, therefore, hardly yields sufficient revenue generation due to the many challenges associated with the target areas of the large-scale connectivity projects, that is, the rural and urban slum areas. The study further indicated that 71.4 per cent of the respondents disagreed and strongly disagreed ($\chi 2$=91.619, P=0.000; < 0.05) that Kenya Power had increased income from the last mile. This can be associated with revenue growth challenges, as enumerated earlier.

The respondents were further asked whether there was an increase in profit margin in recent months, of which a cumulative percentage of 79 per cent strongly disagreed and disagreed ($\chi 2$=136.714, P=0.000; < 0.05). This can be attributed to the challenges of revenue collection from the connected power connections. The recording of increased gross profit margin was reported to have been done by the company, with only 19.0 per cent agreeing and strongly agreeing cumulatively ($\chi 2$=105.905, P=0.000; < 0.05). With the increased connectivity, there continues to be a constant growth in revenue generation for the Kenya power company; statistics from the study show that only 17.6 per cent of the respondents strongly agreed and agreed ($\chi 2$=99.667, P=0.000; < 0.05). A positive return on investment has been seen; this is as a result of the last mile project by the Kenya power company (43.8%; $\chi 2$=3.905, P=0.000; < 0.05) agreed and strongly agreed.

On the downside, the Kenya power company experienced a huge loss due to the developed idle capacity from the last mile electricity connectivity. The results show that (65.2%; $\chi 2$=72.810, P=0.000; < 0.05) strongly agreed and agreed to this. This is consistent with Kenya Power's financial reports. Kenya Power (2021), in commenting on its 2020 financial performance, noted that the company recorded a reduction in income growth of 3.5 per cent due to a reduction in electricity consumption. The company further made higher provisions for credit losses, leading to increases in the costs of transmission and distribution of Ksh 47,834 million shillings in the financial year ending 30th of June 2020, which was a 16.5% increase from the previous financial year (Kenya Power, 2021). The company further declared a reduced operating income of 13.9 per cent in the financial year under examination from the previous financial year. The company recorded a loss before tax of Shs 7,042 million, a decline from the previous year's profit before tax of Shs 334 million (Kenya Power, 2021).

Last Mile Correlation Analysis

The correlational analysis is used to examine the association between variables of interest (Gathii *et al*., 2019). This study used correlational analysis to determine whether there is an association between last-mile capacity building and financial performance. The study transformed the responses on the study independent variables and financial performance into composite scores of their means. The composite mean scores for the independent variables were correlated with those of the dependent variable to establish the relationship between them. The findings from the correlation analysis are presented in Table 4.

Table 4: Correlation Matrix

		Financial performance
Capacity building	Pearson Correlation	.326**
	Sig. (2-tailed)	.000
	N	210

The study was interested in the association between the last mile capacity building and financial performance aspects. The relationship between last-mile capacity building and financial performance was established using the Pearson product-moment correlation coefficient. Table 4 indicated the presence of a weak positive and significant (r=.326, p=.000) relationship between last-mile capacity building and KPLC's financial performance. Hence, a change in last-mile capacity building has an impact on financial performance. This indicates that last-mile capacity building plays a key role in deciding the financial performance of Kenya Power Limited Company. The results of this study on the association between last-mile capacity building and financial performance were consistent with other studies such as (Ngara, 2018; Ronoh, 2019 Nafula, 2017), who have documented the influence of capacity building on diverse performance aspects. Ngara (2018) asserts that capacity building enables Kenya Power to leverage the existing opportunities in its environment, leading to improved performance aspects. Orre et al. (2020) found the need to enhance capacity-building aspects in the electrification project aspects. The capacity building enhances the operational aspects of the electrification, having a positive influence on the financial performance of the company.

Influence of Last Mile Capacity Building on Financial Performance

The hypothesis generated from the fourth objective hypothesised that last-mile capacity building has a significant influence on the financial performance of Kenya Power Company Limited. The analysis of variance resulted in the findings presented hereafter.

Table 5: Model Summary of Last Mile Capacity Building

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.326[a]	.106	.102	5.54085
a. Predictors: (Constant), Last Mile Capacity Building				

The model summary generated an adjusted R-squared Value of .102, indicating that last-mile capacity building could only explain 10.2 per cent of the total variation in the financial performance of Kenya Power Limited Company. This indicated that last-mile capacity building can account for up to 10.2 per cent of the total variation in financial performance. This demonstrated that last-mile capacity building has a significant contribution to the financial performance of Kenya Power Limited Company. The analysis of variance gave the results as shown in Table 6.

Table 6: ANOVA[a] of Last Mile Capacity Building

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	759.549	1	759.549	24.740	.000[b]
	Residual	6385.808	208	30.701		
	Total	7145.357	209			
a. Dependent Variable: Financial Performance						
b. Predictors: (Constant), Last Mile Capacity Building						

The analysis yielded an F-value of 24.740 with a p-value of .000, which was significant at p<.05 level of significance. Therefore, the study observed that last-mile capacity building was important in determining the financial performance of Kenya Power Limited Company. Capacity building is critical in enhancing the financial performance of electricity supply firms by negating the diverse sustainability challenges. Among the studies noting sustainability challenges in the electrification projects include (Rout *et al*., 2021), (Boliko & Ialnazov, 2019), as well as (Mukhtar *et al*., 2021), amongst other scholars. The sustainability challenges include financial challenges, operational challenges, supply challenges and procurement challenges, which can be mitigated through effective capacity building, leading to financial performance aspects within organisations.

CONCLUSION AND RECOMMENDATION

Conclusion: Findings showed that Kenya Power Company provides various platforms for its staff to be equipped with the right expertise in implementing the last-mile power connectivity project. Moreover, last-mile capacity building was shown to have a significant relationship link with the financial performance of Kenya Power Limited Company. Further, regression analysis demonstrated that capacity building significantly accounts for a substantial amount of variation in KPLC's financial performance. Therefore, the study concluded that last-mile capacity building has a significant influence on KPLC's financial performance. Capacity building has been found to have a statistically significant influence on Kenya Power's financial performance.

Recommendations: The study thus recommends that Kenya Power must step up the various capacity-building aspects within Kenya Power for enhanced financial performance aspects.

REFERENCES

Abbasi, K. R., Hussain, K., Abbas, J., Adedoyin, F. F., Shaikh, P. A., Yousaf, H., & Muhammad, F. (2021). Analysing the Role of Industrial Sector's Electricity Consumption, Prices, and GDP: A Modified Empirical Evidence from Pakistan. *Aims Energy*, *9*(1), 29–49.

Abutu, F., Shaluko, Y. D., Alhassan, M., Odey, S. A., & Badmus, K. O. (2020). Enhancing National Development In Nigeria Through Capacity Building of the Workforce. *Journal of Information, Education, Science and Technology (JIEST)*, *6*(2), 1–6.

Afroz, N. N. (2018). Effects of Training on Employee Performance : A Study on Banking Sector, Tangail Bangladesh = أداء الموظف فين : دراسة عن القطاع المصرفي، تانغيل بنغلاديش. *Global Journal of Economics and Business*, *4*(1), 111–124.

Akter, N. (2016). Employee Training and Employee Development Is the Predictors of Employee Performance ; A Study on Garments Manufacturing Sector In Bangladesh. *IOSR Journal of Business and Management (IOSR-JBM)*, *18*(11), 48–57.

Ambole, A., Njoroge, P., Anditi, C., & Outa, G. (2020). A Case for Providing Electricity Subsidies In Urban Informal Settlements. *Kenya Policy Briefs*, *1*(1), 21–22.

Anand, A., Sharma, R., & Kohli, R. (2020). The Effects of Operational and Financial Performance Failure on BI&A-enabled Search Behaviors: A Theory of Performance-driven Search. *Information Systems Research*, *31*(4), 1144–1163.

Ann, T., John, K., Ter-Martirosyan, A., Kwoka, J., Ann, T., John, K., Ter-Martirosyan, A., Kwoka, J., Ann, T., John, K., Ter-Martirosyan, A., & Kwoka, J. (2010). Incentive regulation, service quality, and standards in US electricity distribution. *Journal of Regulatory Economics*, *38*(3), 258–273.

Appiah-Kubi, J., & Amoako, E. O. (2020). The Role of Community Development in Slum Electrification Efforts in Ashaiman, Ghana. *Current Research Journal of Social Sciences and Humanities*, *3*(2), 203–215.

Aryadi, F., Ahadiat, A., & Ribhan, R. (2020). Financial Performance of Bandar Lampung City Government (Comparing the Accountability of two Mayor Periods: 2006 – 2010 vs 2011 – 2015). *International Journal of Financial, Accounting, and Management*, *2*(3), 213–225.

Augustine, I., Christopher, A., & Jacob, A. (2018). Benue State University, Makurdi. *Journal of Entrepreneurship Studies*, *1*(1), 352–370.

Azimoh, C. L., Klintenberg, P., Mbohwa, C., & Wallin, F. (2017). Replicability and Scalability of Mini-grid Solution to Rural Electrification Programs in Sub-Saharan Africa. *Renewable Energy*, *106*(0), 222–231.

Baah, C., & Jin, Z. (2019). Sustainable Supply Chain Management and Organisational Performance : The Intermediary Role of Competitive Advantage. *Journal of Management and Sustainability*, *9*(1), 119–131.

Baird, C. L. (2018). Male-Dominated Stem Disciplines: How Do We Make Them More Attractive to Women? *IEEE Instrumentation & Measurement Magazine*, *21*(3), 4–14.

Bedi, S., & Webb, J. (2020). *Visual research methods: An introduction for library and information studies*. Facet Publishing.

Blimpo, M., & Cosgrove-Davies, M. (2019). *Electricity Access in Sub-Saharan Africa: Uptake, Reliability, and Complementary Factors for Economic Impact*. World Bank Publications.

Boamah, F., Williams, D. A., & Afful, J. (2021). Justifiable Energy Injustices? Exploring Institutionalised Corruption and Electricity Sector "Problem-solving" in Ghana and Kenya. *Energy Research & Social Science*, *73*(1), 10–25.

Boliko, C. M., & Ialnazov, D. S. (2019). An Assessment of Rural Electrification Projects in Kenya Using a Sustainability Framework. *Energy Policy*, *133*(1), 1–9.

Chatterjee, S., & Simonoff, J. S. (2020). *Handbook of Regression Analysis With Applications in R* (2nd ed.). Wiley Blackwell.

Chege, N. C., & Kinoti, F. K. (2019). Risks on the Rural Electrification Project Implementation Performance in Mukurwe-ini Sub-County, Nyeri County, Kenya. *International Academic Journal of Information Sciences and Project Management*, *3*(5), 52–72.

Christley, E., Ljungberg, H., Ackom, E., & Nerini, F. F. (2021). Sustainable Energy for Slums? Using the Sustainable Development Goals to Guide Energy Access Efforts in a Kenyan Informal Settlement. *Energy Research & Social Science*, *79*(1), 1–9.

Das, A., & McFarlane, A. (2019). Non-linear Dynamics of Electric Power Losses, Electricity Consumption, and GDP in Jamaica. *Energy Economics*, *84*(1), 1–10.

De Bercegol, R., Monstadt, J., & Bercegol, R. de. (2018). *The Kenya Slum Electrification Program. Local Politics of Electricity Networks in Kibera*. *41*(2), 249–258.

Dey, S. R., & Tareque, M. (2019). Electricity Consumption and GDP Nexus in Bangladesh: A Time Series Investigation. *Journal of Asian Business and Economic Studies*, *27*(1), 35–48.

Dibie, R., Edoho, F. M., & Dibie, J. (2015). Analysis of Capacity Building and Economic Growth in Sub-Saharan Africa. *International Journal of Business and Social Science*, *6*(12), 1–25.

Dimitrova, R. (2018). *Capacity Building*. Sage Publications.

Endarto, S. A., Sudibyo, D. P., & Haryanti, R. H. (2020). Strategies and Challenges of Capacity Building in Partnership Tourism Development in Indonesia. *6th International Conference on Social and Political Sciences (ICOSAPS 2020)*, 295–302.

FHI360. (2017). *Capacity Building vs. Performance Improvement: The Difference and Why it Matters.*

Flynn, A., Kramer, S., & Laher, S. (2019). *Transforming Research Methods in the Social Sciences: Case studies from South Africa*. Wits University Press.

Gathii, K. J., Wamukuru, D. K., Karanja, D., Muriithi, W., & Maina, K. (2019). *Research methods, data analysis, and defences (Building competencies in education and social sciences research)*. Education and Social Sciences Research Association of Kenya (ESSRAK).

Hassan, M. S., Mizanuzzaman, M. M., & Islam, K. M. A. (2020). The Effects of Training on Employee Performance and Development: A Study of Fareast Islami Life Insurance Company Limited, Bangladesh. *International Journal of Business and Management Future*, *4*(2), 17–40.

Heloisa M., N. T. and N. G. (2009). United Nations Development Programme the Economic Crisis, Violent

Conflict, and Human Development. *International Journal of Peace and Development*, *15*(1), 29–43.
Hemapala, K., Dayarathne, M. S., & Swathika, O. V. G. (2017). Optimised Cost Enabled Rural Electrification System. *2017 Moratuwa Engineering Research Conference (MERCon)*, 351–356.
Hussein, A., & Diiwaani, A. (2019). *The Impact of Financial Planning and Financial Performance Case Study Commercial Banks Mogadishu Somalia*. *8*(1), 2018–2020.
Ikejemba, E. C. X., & Schuur, P. C. (2018). Analysing the Impact of Theft and Vandalism in Relation to the Sustainability of Renewable Energy Development Projects in Sub-Saharan Africa. *Sustainability*, *10*(3), 814–819.
Ingow, A. U., & Oluoch, D. R. O. (2019). Effect of Corporate Restructuring on Financial Performance of SACCOs in Kenya. *International Journal of Recent Research in Commerce Economics and Management (IJRRCEM)*, *6*(4), 199–204.
International Energy Agency. (2012). Climate Change and the 450 Scenario. The Door is Closing, but When Will we be "Locked-in"? *World Energy Outlook*, 1–666.
Irechukwu, M. E., & Mushi, A. T. (2021). Potential for Increased Rural Electrification Rate in Sub-Saharan Africa using SWER Power Distribution Networks. *Tanzania Journal of Engineering and Technology*, *39*(2), 1–5.
Irungu, A. M. (2017). *Effects Of Employee Promotion On Company Performance. (A Case Study Of Kenya Power Company, Thika Branch)*. [Unpublished Master of Business and Economics Thesis].Maasai Mara University.
Jean-Pascal, Tricoire, F. S. (2017). *The Future is Bright for The Electricity Sector. Here's Why*.
Joskow, P. L. (2008). *Incentive Regulation and Its Application to Electricity Networks*. Review of Network Economics, 9-26. https://doi.org/10.2202/1446-9022.1161
Kareithi, R., & Muhua, G. (2018). Factors Influencing Implementation of Rural Electrification Programme in Kenya : A Case of Kieni East Sub County, Nyeri County. *European Scientific Journal*, *14*(21), 236–247.
Keben, T. K. (2018). Effect Of Liquidity Risk Management On Financial Performance Of Deposit Taking Saccos In Uasin Gishu County, Kenya. *International Academic Journal of Economics and Finance*, *3*(2), 323–335.
Kelliher, F., O'Riordan, C., Flood, P. C., & Higgs, M. (2019). Leading Within a Male-Dominated Sector: The Female Outsider Leader Landscape. In *Outsider Leadership* (pp. 63–86). Springer.
Kenya Power. (2017). *Last Mile Connectivity*.
Kenya Power. (2021). *Kenya Power*.
Kirigia, Vi. G. (2017). *Effect of Training on Employee Performance in Kenya Power and Lighting Company.* [Unpublished Masters of Business Administration in Human Resource Management Thesis].Kenyatta University.
Limo, L. R., & Mirwoba, E. S. (2018). Effects on Rural Electrification Financing Way Leaves Acquisition and Vandalism Challenges on the Livelihood of Rural Households in Kenya: A Case of Nandi County Kenya. *Journal of Developing Country Studies*, *3*(1), 16–27.
Marco-Bujosa, L. M., Joy, L., & Sorrentino, R. (2021). Nevertheless, She Persisted: A Comparison of Male and Female Experiences in Community College STEM Programs. *Community College Journal of Research and Practice*, *45*(8), 541–559.
Meyer, E. L., & Overen, O. K. (2021). Towards a Sustainable Rural Electrification Scheme in South Africa: Analysis of the Status quo. *Energy Reports*, *7*(2), 4273–4287.
Mubarok, M. H. (2017). *Capacities and Accountabilities of Stakeholders in Indonesia's Rural Electrification Program*. [Unpublished Master of Science in Sustainable Energy Technology Thesis].Eindhoven University of Technology.
Muganda, N. S. (2018). *Factors Affecting Employee Performance in Goverment Parastatals in Kenya : A Case Study of the Kenya Power and Lighting Company Limited-Nakuru.* [Unpublished Bachelor of Management and Leadership Thesis]. Management University of Africa.

Muhia, P. M. (2019). *Socio-Economic Impact Of Electrification On Micro And Medium-Sized Enterprises In Kibera Slum, Nairobi*. [Unpublished Master of Arts in Economics Thesis].University of Nairobi.

Mukarram, S. S., Ajmal, T., & Saeed, A. (2018). Women Directors' Propensity Towards Risk in Technology Firms. *Corporate Governance: The International Journal of Business in Society*, *18*(2), 353–367.

Mukhtar, M., Obiora, S., Yimen, N., Quixin, Z., Bamisile, O., Jidele, P., & Irivboje, Y. I. (2021). Effect of Inadequate Electrification on Nigeria's Economic Development and Environmental Sustainability. *Sustainability*, *13*(4), 22–29.

Nafula, P. W. (2017). *Factors Influencing Capacity Building in Project Procurement Processes in Kenya: A Case of Geothermal Development Company.* [Unpublished Masters Degrees in Project Planning and Management Thesis].University of Nairobi.

Nelima, J. (2019). *The Effect of Budgeting on the Financial Performance of Firms.* [Unpublished Master of Business Administration Thesis].Makerere University.

Ngara, M. K. (2018). *Influence of Organizational Culture on Performance: Case of Kenya Power and Lighting Company Limited.* [Unpublished Master of Business Administration Thesis]. United States International University-Africa.

Ngubane, L. A., & Nephawe, K. A. (2017). Investigating Factors Affecting Rural Electrification Project Management within a South African Municipality. *International Journal of Research in Management & Business Studies (IJRMBS*, *4*(1), 35–40.

Ngugi, E. W., & BUla, H. (2019). Performance Management Practices And Employee Performance In Selected Public Schools In Kiambu County, Kenya. *International Academic Journal of Human Resource and Business Administration*, *3*(7), 533–551.

Nhalur, S., Josey, A., & Mandal, M. (2018b). Rural Electrification in India. *Economic & Political Weekly*, *53*(45), 31–38.

Njihia, J. K. (2020). *The Status and Challenges of Universal Electricity Connectivity in Urban Informal Settlements, a Case of Silanga in Kibera Informal Settlement, Nairobi-kenya.* [Unpublished Master of Arts in Planning Thesis].University of Nairobi.

Njoh, A. J., Etta, S., Essia, U., Ngyah-Etchutambe, I., Enomah, L. E. D., Tabrey, H. T., & Tarke, M. O. (2019). Implications of Institutional Frameworks for Renewable Energy Policy Administration: Case Study of the Esaghem, Cameroon Community PV Solar Electrification Project. *Energy Policy*, *128*(3), 17–24.

Njoh, A. J., Etta, S., Ngyah-Etchutambe, I. B., Enomah, L. E. D., Tabrey, H. T., & Essia, U. (2019). Opportunities and Challenges to Rural Renewable Energy Projects in Africa: Lessons from the Esaghem Village, Cameroon Solar Electrification Project. *Renewable Energy*, *131*(0), 1013–1021.

Odindi, J. B., Magutu, P. O., & Nyaoga, R. B. (2018). Best-Value Procurement Practices and Financial Performance of Kenyan Commercial State Corporations. *Noble International Journal of Economics and Financial Research*, *3*(10), 106–123.

Office of the Auditor General. (2021). *Last Mile Connectivity Project I - Kenya Power and Lighting Company*.

Okero, I. O., Omari, S. M., & Wanyama, K. W. (2021). Effect of Performance Management Systems on Employee Performance in State Corporations in Kenya: A Study of Kenya Meat Commission. *Reviewed Journal of Human Resource Management*, *2*(1), 1–15.

Ondieki, A. N., Okioga, C., Okwena, D. K., & Onsase, A. (2017). Assessment of the Effect of External Financing on Financial Performance of Savings and Credit Cooperatives in Kisii Central District, Kenya. *Scientific Conference Proceedings.*, 382–399.

Orre, F., Ramadhani, A. C., & Yusuf, M. (2020). Role of Stakeholders on Project Performance of Kenya Power and Lighting Company Last Mile Connectivity Project in Embu County in Kenya. *International Journal of Management and Commerce Innovations*, *7*(2), 1186–1195.

Otchere-Appiah, G., Takahashi, S., Yeboah, M. S., & Yoshida, Y. (2021). The Impact of Smart Prepaid Metering on Non-Technical Losses in Ghana. *Energies*, *14*(7), 18–52.

Peters, Jörg, Sievert, M., & Toman, M. A. (2019). Rural Electrification Through Mini-Grids: Challenges Ahead. *Energy Policy*, *132*(1), 27–31.

Rafique, M. M., & Bahaidarah, H. M. S. (2019). Thermo-economic and Environmental Feasibility of a Solar Power Plant as a Renewable and Green Source of Electrification. *International Journal of Green Energy*, *16*(15), 1577–1590.

Richter, A., Dörler, D., Hecker, S., Heigl, F., Pettibone, L., Serrano Sanz, F., Vohland, K., & Bonn, A. (2018). *Capacity building in citizen science*. JSTOR.

Ronoh, E. K. (2019). *The Role of Digitization in the Preservation of Corporate Archives at Kenya Power and Lighting Company*. [Unpublished Master of Information Science Thesis]. Kenya Methodist University.

Rout, A., Mainali, B., Singh, S., Solanki, C. S., & Bhati, G. S. (2021). Assessing the Financial Sustainability of Rural Grid Electrification Pathway: A Case Study of India. *Sustainable Production and Consumption*, *25*(0), 27–42.

Rozas, P. (2010). *Latin America: Problems and Challenges in Infrastructure Financing.*

Sáinz, M., Fabregues, S., Rodo-de-Zárate, M., Martínez-Cantos, J.-L., Arroyo, L., & Romano, M.-J. (2020). Gendered Motivations to Pursue Male-Dominated STEM Careers Among Spanish Young People: A Qualitative Study. *Journal of Career Development*, *47*(4), 408–423.

Sarker, S. A., Wang, S., Adnan, K. M., Anser, M. K., Ayoub, Z., Ho, T. H., Tama, R. A. Z., Trunina, A., & Hoque, M. M. (2020). Economic Viability and Socio-environmental Impacts of Solar Home Systems for Off-grid Rural Electrification in Bangladesh. *Energies*, *13*(3), 679–685.

Scott, A., & Seth, P. (2013). The Political Economy of Electricity Distribution in Developing Countries. In *Overseas Development Institute*. Politics and Governance.

Simionescu, M., Bilan, Y., Krajňáková, E., Streimikiene, D., & Gędek, S. (2019). Renewable Energy in the Electricity Sector and GDP Per Capita in the European Union. *Energies*, *12*(13), 20–25.

Sovacool, B. (2012). The Political Economy of Poverty Energy: A Review of Key Challenges. *Elsevier for Sustainable Development.*, *16*(3), 272–282.

Tallapragada VSN, P., Shkaratan, M., Izaguirre, A. K., Helleranta, J., Rahman, S., Bergman, S., Prasad, T., Shkaratan, M., Izaguirre, A. K., Helleranta, J., Rahman, S., & Bergman, S. (2009). *Monitoring performance of electric utilities: indicators and benchmarking in sub-Saharan Africa*.

Tarigan, J., Widjaja, D. C., Egaputri, H. L., & Dautrey, J.-M. (2020). A Study of Indonesia Original Brands Financial Performance. *Indonesian Journal of Business and Entrepreneurship (IJBE)*, *6*(1), 12–22.

Too, S. J., & Kwasira, J. (2018). The Influence of Training Strategy on Employee Performance at Kenya Power Central Rift Region. *International Academic Journal of Human Resource and Business Administration*, *3*(1), 325–332.

United Nations Development Progam. (2020). *Sustainable Energy for One Billion People by 2030 | United Nations Development Programme.*

Uvaneswaran, S. M., Zemen, T., & Muhammed, S. (2019). Efficacy of Social Accounting Practices on the Financial Performance: Evidence from Ethiopia. *Journal of Innovation in Business and Economics*, *3*(1), 11–22.

van de Walle, N. (2005). *Africa's Infrastructure : A Time for Transformation*. World Bank.

Walker, B. W., & Caprar, D. V. (2020). When Performance Gets Personal: Towards a Theory of Performance-based Identity. *Human Relations*, *73*(8), 1077–1105.

Wanyama, K. W., & Mutsotso, S. N. (2010). Relationship Between Capacity Building and Employee Productivity on Performance of Commercial Banks in Kenya. *African Journal of History and Culture*, *2*(5), 73–78.

Wijayawardena, K., Wijewardena, N., & Samaratunge, R. (2017). Compromising Gender Identities: Stay Strategies of Women in Gender-Atypical Information Technology Firms in Sri Lanka. *Information Technology & People*, *30*(2), 246–264.

World Bank. (2018a). *Electricity Supply Modernisation Project*.

World Bank. (2019b). *Combined Project Information Documents / Integrated Safeguards Datasheet (PID/ISDS)*.
World Bank. (2019c). *Electrification Efforts in Sub-Saharan Africa Must Address Root Causes of Low Access*.
World Bank. (2020c). *The World Bank ECOWAS Regional Electricity Access Project (Phase 2) (P170599)*.
World Bank. (2021a). *Report: Universal Access to Sustainable Energy Will Remain Elusive Without Addressing Inequalities.*
Yamoah, E. E., & Maiyo, P. (2013). Capacity Building and Employee Performance. *Canadian Social Science*, *9*(3), 42–45.