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Household Skill Utilization, Rural-Electrification and Growth of Small and Medium Enterprises (SMEs)

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Abstract:
According to the Government of Kenya (2004), the Micro and Small Enterprises (MSEs) sector generated over 90% (or roughly 500,000) of all new jobs created outside of agriculture in 2003, accounting for 30% of the country's GDP. The majority of Kenyans still live in rural areas, which also serve as the centre for micro and small businesses. In order to take advantage of this chance, Kenya has created a national policy through rural electrification programmes that aims to strengthen the capacities of micro and small businesses (Abdullah & Markandyab, 2012). The objective of this research study was to establish the effects of household skills utilization due to rural electrification on the growth of small and medium enterprises in the coastal region of Kenya. The study area was the coastal region. This study adopted an exploratory research design. The target population for this study was small and medium enterprises (SMEs) registered in Kenya. Multi-stage sampling, systematic and simple random sampling techniques were applied, and the 95.5% response rate was 95.5%. This study found that there was an extent of revenue level on growth of small and medium enterprises (SMEs) in the coastal region of Kenya. Further, the study found that there is a strong positive correlation coefficient of 90.4% (0.904), which is statistically significant ($p<0.05$), meaning that for every one unit of household skills utilization applied on SME's economic environment, there is a significant effect of household skills utilization due to electrification on the growth of small and medium enterprises in coastal region of Kenya. This also implies that household skills utilization is positively affecting the growth of small and medium enterprises in the coastal region of Kenya. The study recommends that SME stakeholders institute their economic operationalization more on household skill utilization since knowledge and skills acquired through electronic media are necessary for business record keeping.

Keywords: *Small and medium enterprises, growth, skill utilization, electrification*

1. Introduction

1.1. Background of the Study

Due to electrification, business owners' skills and knowledge are primarily acquired through interaction with electronic equipment. This can have an impact on the path to business success by helping to develop the enterprise owners' capacity to absorb information and develop their confidence, psychology, knowledge, and skills. People with education are imaginative, inventive, and constantly searching for something special to satisfy a need or need (Chowdhury et al., 2013). It is often acknowledged that managerial decisions that improve corporate development chances are positively influenced by the essential skills and information which may be obtained via the use of computers and machines. This suggests that more company owners and staff who use computers and the internet possess the necessary knowledge, enthusiasm, self-control, information, and confidence to achieve optimal growth rates in their enterprises. They are also more likely to recognize and take advantage of business opportunities to improve performance (Ucbasaran et al., 2008). As noted by Maheran and Khairu (2009), companies that consistently prioritize employee skills and knowledge over assets like machinery are undoubtedly the ones that succeed.

From a global perspective, the British academic Sir William Petty was the one who initially proposed economic growth. Between the 1650s and 1670s, he popularised the idea of Gross Domestic Product, or GDP (Anis, 2019). It was introduced when taxes for British citizens were high. Therefore, Petty underlined that total income and expenditure should be equal (The Economist, 2013). Charles Devenant began creating a GDP estimate in 1965 (Coyle et al., 2014). The US Congress adopted the final and current version of the GDP concept in 1934, recognizing GDP as the primary tool for assessing the health of any nation's economy and rate of growth. Small and medium enterprises (SME) and economic growth (EG) are vital elements contributing to the progress of any developing or developed nation, as SMEs contribute an average of 95% of the private enterprises and between 60%-70% of jobs in most OECD countries (OECD, 2018).

However, the relationship between SMEs' development and economic growth in developed countries such as the United Kingdom and developing countries such as Kenya is considered an under-researched topic. SMEs are vital in the 21st century in the development of most of the countries. They contribute to reducing unemployment, increasing exports and, most importantly, the creation of new innovative ideas (Ayandibu & Houghton, 2017). In the same context, economic growth is the main driver towards eliminating poverty in most countries, especially developing ones. Moreover, it is affected by the GDP rate, workforce and evolving of investments (OECD, 2017). The objective of this research study was to establish the effects of revenue level due to rural electrification on the growth of small and medium enterprises in the coastal region of Kenya. The study area was the Coast region.

According to the Global Entrepreneurship Index, the UK is considered the 4th in the SMEs (Global Entrepreneurship Index, 2019). SMEs contribute tremendously to decreasing unemployment alongside their massive contribution to the GDP and increasing individual wealth (Roper & Hart, 2018). According to IEA and WB (2017), more than 1 billion people globally live without electricity access, and more than 3 billion are reliant on biomass to meet their household cooking needs. The problem is heavily concentrated in rural areas, where only 73 percent of people globally have access to electricity, compared to 96 percent in urban areas (IEA & WB, 2017).

Africa, as a developing economy, has the potential to drive growth by employing various sources of funding, such as crowdfunding. They can employ crowdfunding to leapfrog the traditional capital market structures and financial regulatory regimes of the developed world (World Bank, 2017). In the case of Sub-Saharan Africa, the World Bank estimates the market potential of crowdfunding to reach 2.5 billion by 2025 (Adekoya, 2019). Similarly, a report published by order of the UK Department for International Development concluded that crowdfunding can positively support development programmes through a number of applications.

In 2014, electricity produced from Kenya's natural endowments accounted for 56 percent of its capacity, with a large share coming from geothermal origins (19.1%), which continued to grow in 2015 (26.6%). Notably, Kenya owns the largest single geothermal plant in the world in Olkaria IV (140 MW) which produces the cheapest electricity in the country (Millien, 2017).

Building new capacity and extending new transmission and distribution lines are considered Kenya's two main priorities. Consequently, two strategic projects: a quantified roadmap for building new capacity for which KPLC is responsible, and the Last Mile Connectivity project, which was launched by the REA in 2015 have been initiated (Millien, 2017).

1.2. Statement of the Problem

According to the Government of Kenya (2004), the Micro and Small Enterprises (MSEs) sector generated over 90% (or roughly 500,000) of all new jobs created outside of agriculture in 2003, accounting for 30% of the country's GDP. The majority of Kenyans still live in rural areas, which also serve as the centre for micro and small businesses. In order to take advantage of this chance, Kenya has created a national policy through rural electrification programmes that aims to strengthen the capacities of micro and small businesses (Abdullah & Markandyab, 2012). Khandker, Hussain, Rubaba, and Douglas (2012) state that the goal of electrification programmes is to enhance people's general well-being in addition to granting access to power.

According to Maleko (2019), the growth of rural SMEs is influenced by the increased availability and reliability of different electrification projects. These stimulate the establishment and expansion of SMEs. A study by Yasin and Ali (2023) investigated the effect of electricity supply on the performance of SMEs by making comparisons between SMEs connected to the national grid and those that were not connected to the national grid. Despite the impressive gains the government has made in providing electricity to populations living in the coastal region, the SMEs in the region have not yet achieved the desired level of growth, even in areas where the rural electrification program has been rolled out fully (Ouma, 2018). Access to electric lighting in rural areas can increase the quantity and quality of agricultural products, and the use of electricity-powered tools and equipment such as refrigerators and freezers can make it possible for small and medium enterprises to produce more goods and services (Kumar, Mohanty & Samanta, 2022).

1.3. Objective of the study

The objective of the study is to examine the effect of household skills utilization due to electrification on the growth of small and medium enterprises in the coastal region of Kenya.

2. Literature Review

The skills and knowledge of business proprietors mainly achieved through interaction with electronic equipment due to electrification can impact the path to business success; it aids the process of building the absorptive capacity of enterprise owners such as confidence, psychology, knowledge and skills. Educated people are creative and innovative, and they are always looking for something unique to fulfil a need or want (Chowdhury et al., 2013). It is widely recognized that necessary skills and knowledge (which may be achieved through the use of computers and machines) positively influence managerial decisions that enhance business development opportunities. This implies that additional business owners and employees using the internet and computers have the prerequisite skills, self-restraint, enthusiasm, information and confidence to attain optimum growth rates in their businesses and are more likely to perceive and seize business opportunities to enhance performance (Ucbasaran et al., 2008). As Maheran and Khairu (2009) observe, there is no doubt that successful businesses seem to be those that persistently put prominence on the skills and knowledge of employees instead of assets, such as machinery.

An SME is successful if it is growing. Growth has various connotations: It can be defined in terms of revenue generation, value addition, and expansion in terms of the volume of the business. It can also be measured in the form of qualitative features like market position, quality of product, and goodwill of the customers (Kruger, 2004). SME's business growth is a vital indicator of a flourishing enterprise. There are many factors, such as the characteristics of the entrepreneur and access to resources like finance, electricity, and manpower, that affect the growth of the enterprise and differentiate it from a non-growing enterprise (Morone & Testa, 2008). Household income is defined as the total gross income before taxes received within a 12-month period by all members of a household above a specified age. The Census Bureau notes this threshold as 15 and older. It includes (but is not limited to) wages, salaries, self-employment earnings, Social Security benefits, pensions, retirement income, investment income, welfare payments, and income from other sources. The definition of household income and its components varies depending on the context. The term may be defined in law or regulation or may be determined by researchers or authors as an amount that includes or excludes specific items of income.

The skills of business proprietors mainly achieved through interaction with electronic equipment due to electrification can impact the path to business success; it aids the process of building the absorptive capacity of enterprise owners such as confidence, psychology, knowledge and skills. Educated people are creative and innovative, and they are always looking for something unique to fulfil a need or want (Chowdhury *et al*., 2013). It is widely recognized that necessary skills and knowledge (which may be achieved through the use of computers and machines) positively influence managerial decisions that enhance business development opportunities. This implies that additional business owners and employees using the internet and computers have the prerequisite skills, self-restraint, enthusiasm, information and confidence to attain optimum growth rates in their businesses and are more likely to perceive and seize business opportunities to enhance performance (Ucbasaran *et al*., 2008).

According to Maheran and Khairu (2009), successful businesses seem to be those that persistently put prominence on the skills and knowledge of employees instead of assets, such as machinery. They further asserted that highly experienced and skilled individuals are required to expedite the delivery of high-value-added goods and services together with the competencies to build consumers' trust and confidence. Chang, Gong and Shum (2011) aver that both hiring and training multi-skilled core customer-contact employees have significant and positive effects on incremental and radical innovation among hotel and restaurant businesses. Rural electrification may herald the purchase of learning aids such as computers, television, and mobile phones, among others, that enhance people's skills and knowledge.

Mulugeta, Fisseha, and Mengesha (2016) analyzed the perception and competency among MSEs of the Dire Dawa Administration, Ethiopia, regarding business, technical, entrepreneurial, and interpersonal skills. Descriptive statistics was used to determine the perception and competency among MSEs of the Dire Dawa administration towards the skills required for success. T-test was also applied to measure whether there was a significant difference between the mean scores of the two samples. The finding of descriptive statistics indicates that among the different sets of skills, technical skills were perceived as more important for MSE's success, followed by interpersonal skills, entrepreneurial skills, and business skills. The finding of the t-test reveals that there was a significant skill difference between successful and unsuccessful enterprises.

Fatoki (2014) investigated the level of financial literacy of the owners of new microenterprises in South Africa. The study used financial planning, analysis and control, book-keeping, understanding of funding sources, business terminology, finance and information skills, use of technology and risk management to measure the financial literacy of entrepreneurs. The results suggested a low level of financial literacy by the owners of new microenterprises. Recommendations to improve financial literacy are suggested.

3. Research Design and Methodology

Since the events of interest are objective, external, and independent of the researcher, this study employed a positivist paradigm (Bryman et al., 2003). When working with observable social reality, positivist philosophy is adopted, according to Cohen and Crabtree (2006) and Saunders et al. (2019), and the research's final outcome can be generalized in the form of law. The explanatory design of this study used both descriptive and inferential statistics. This is in line with the findings of Saunders et al. (2019), who stated that the goal of explanatory research is to determine the cause-and-effect relationship between variables. For the target, 172,556 rural micro, small, and medium-sized businesses that were registered, operating, and in good standing in the counties of Taita-taveta, Kilifi, Kwale, Lamu, and Tana-river were the study's target population (SME Founders Association, 2023). This study adopted a multi-stage sampling technique. This study adopted a multi-stage sampling technique. Multi-stage sampling is the probability sampling technique wherein the sampling is carried out in several stages, reducing the sample size at each stage. This study adopted a multi-stage sampling technique. The survey was conducted using a structured questionnaire and structured record reviews of selected counties.

To operationalize these variables, proxy variables related to these indicators, several for each, were asked. These proxy variables were then subjected to Principal Component Analysis (PCA) to come up with one score that acted as the variable of interest. To determine the effect of independent variables on the dependent variable, multiple linear regression models were applied.

4. Results and Discussions

4.1. Descriptive Statistics

To examine the extent of the effect of skills utilization of the household due to electrification on the growth of small and medium enterprises in the coastal region of Kenya, respondents were requested to respond on five attributes of skills utilization of the small and medium enterprises in the coastal region of Kenya they represented. Descriptive data shown in table 1 presented the relevant results on a scale of 1–5 (where 5 = Strongly Agree and 1 = Strongly Disagree) and were ranked on a scale as follows: 1.0–1.7 (strongly disagree); 1.8–2.5 (disagree); 2.6–3.3 (neutral); 3.4–4.1 (agree); and 4.2–5.0 (strongly agree).

Statements	N	Mean	Std. Deviation
Knowledge and skills acquired through electronicmedia are necessary for business record-keeping	381	4.5171	.62226
The use of computers due to electrification enhancesthe effectiveness of employees.	381	4.2520	.61945
Electricity enables the startup of micro-processing firmsthat add value to agricultural products.	381	4.1050	.77765
Availability of electricity has resulted in improved quality of business products/services.	381	4.3832	.93760
Electrification enhances exposure to social media andhelps proprietors appreciate quality products and services.	381	4.2205	.67955
Overall average	381	4.2956	.72730

Table 1: Household Skills Utilization and the Growth of SMEs

From these study results, the majority of the respondents agreed that there was an extent of revenue level on growth of small and medium enterprises (SMEs) in the coastal region of Kenya. These results are supported by the sentiments of Maheran and Khairu (2009), who noted that successful businesses seem to be those that persistently put prominence on the skills and knowledge of employees instead of assets, such as machinery. They further asserted that highly experienced and skilled individuals are required to expedite the delivery of high-value-added goods and services together with the competencies to build consumers' trust and confidence.

After all, the aspect of "Knowledge and skills acquired through electronicmedia are necessary for business record keeping" scored the highest mean (M=4.5171, SD = 0.62226) among the other aspects of skill utilization, meaning that it is the most vital aspect in the growth of small and medium enterprises (SMEs) in the coastal region of Kenya. On average, the study revealed that there was a strong extent of revenue level (M=4.2956, SD=0.72730) on the growth of small and medium enterprises (SMEs) in the coastal region of Kenya.

4.2. Inferential Statistics

Following satisfactory normality checks for the variable distribution, correlation analysis was performed to examine the impact of household skill utilization on the expansion of small and medium-sized businesses in Kenya's coastal region. The results of the bivariate association between the growth of small and medium-sized businesses in Kenya's coastal region and the utilization of home skills are shown in table 2.

		SMEs' Growth	Skill Utilization
SMEs' growth	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	381	
Skill utilization	Pearson Correlation	.904**	1
	Sig. (2-tailed)	.000	
	N	381	381

Table 2: Pearson Correlation

4.2.1. Testing of the Null Hypothesis

To examine the effect of household skill utilization of the household due to electrification on the growth of small and medium enterprises in the coastal region of Kenya, a null and alternate hypothesis was tested.

The null hypothesis that there is no significant effect of household skill utilization of the household due to electrification on the growth of small and medium enterprises in the coastal region of Kenya was tested against the alternate.

The following was the null hypothesis used:

- H_{01} *There is no significant effect of household skill utilization of the household due to electrification on the growth of small and medium enterprises in the coastal region of Kenya*

The results in table 2 show a strong positive correlation coefficient of 0.904, which is statistically significant ($p<0.05$). This leads to rejecting the null hypothesis and accepting the alternate hypothesis that there is a significant effect of household skill utilization of the household due to electrification on the growth of small and medium enterprises in the coastal region of Kenya.

This means that household skill utilization is positively affecting the growth of small and medium enterprises in the coastal region of Kenya.

5. Conclusions and Recommendations

5.1. Conclusions

This study was guided by one objective, and after data analysis, it is concluded that household skill utilization of the household due to electrification affects the growth of small and medium enterprises in the coastal region of Kenya.

The results show a strong positive correlation coefficient of 0.904, which is statistically significant ($p<0.05$).

5.2. Recommendations

Based on the findings of this study, it is recommended that the board and management of small and medium enterprises emphasize household skill utilization more since knowledge and skills acquired through electronicmedia are necessary for business record keeping. This was demonstrated when the revenue level variable attribute scored the highest mean (M=4.5171, SD = 0.62226) among the other aspects of variables, meaning that it is the most vital aspect in the growth of small and medium enterprises (SMEs) in the coastal region, Kenya.

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