

# INFLUENCE OF ELECTRICITY GOVERNMENT POLICY ON SMALL BUSINESSES IN OBUNGA INFORMAL SETTLEMENTS, KISUMU COUNTY, KENYA

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**Abstract:** The study sort to establish the influence of electricity government policy on small businesses in Obunga Informal settlements in Kisumu Kenya. Diffusion Innovation Theory and Social Influence Theory were selected to anchor the study. This study employed the descriptive survey research design. The scope of this research is to use content analysis as a research tool for studying electrification, in order to support their efforts for a steady flow of investors. The sample size of the survey, n=376, which is stratified, gives a wide variety of answers, used for an expanded analysis. The findings offer implications for managers concerning investment priorities, product differentiation and marketing actions. The limited use of this approach in this kind of destinations makes this study a contribution to the research field. According to the Kenya Power, the company sought to benefit from the displacements of illegal electricity vendors in informal settlements, resulting to reduction of commercial losses partly attributed to illegal connections that perpetuate electrocutions and slum fires. The study sought views from the business owners and managers of Food vendors and hotels, retail shops & minimarkets, health providers and pharmacies, entertainment spots, fuel providers, cosmetics, beauty and boutique. The study used questionnaires that were researcher administrated, they comprised closed-end and open-end questions. The closed-end questions captured the demographic data whereas the open-end questions captured the respondent's opinions about advantages, disadvantages and suggestions for improvements. 376 questionnaires were administered in which as Mugenda and Mugenda (2003) recommends, 10% to get a random sample size of the users of slum electricity used in businesses was applied. The observation helped to obtain information from direct observation on the field with regards types of electricity use. Numerical data analysis was done using SPSS version 20. Descriptive statistics such as mean, mode and percentages were calculated. For inferences, correlation coefficient was calculated. Conventional content analysis was used to analyze narrative data. The study findings indicated that there was a weak positive correlation between stakeholders' use of electricity policies in place by government and implementation in the Obunga Slum area, of Kisumu County in Kenya.

**Keywords:** Diversity, Grid Power, Informal settlements, Small and Micro Enterprises.

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## 1. INTRODUCTION

The role that electricity plays in developing and developed countries around the world cannot be overstated. The growth and development of small and medium business enterprises are the dynamic force for sustained economic growth and job creation and vital contributor Gross Domestic Product (GDP). The Organization for Economic Cooperation and Development (OECD), states that businesses in the small and medium sector play a critical role in economic growth with

60% to 70% being employment creation. The contribution of small and medium enterprises in Africa is exhibited in informal settlements with an average of 50% attributed to employment creation. Berry, Poortinga, Segall and Pierre (2002) posit that about 52% of 57% of GDP is produced by MSMEs. This trend apparently is however reported as to have been hampered in environments that exhibit inadequate provision of electricity. For instance, SMEs contribute about 70% to GDP and provide upto 85% employment in the manufacturing sector (Steel and Webster, 1991, Aryeetees, 2001, Abor and Quartay, 2010). Access to electricity cannot be said to be universal notwithstanding its positive impacts. Lee *et al.* (2014) concludes that 600 million people live without electricity in Sub-Saharan Africa. Kenya's business climate has improved in recent years with regards to the pro-market policies initiated by the Kenyan government on small and micro enterprises. Urbanization has enhanced growth of informal settlements in Kenya. The main inhabitants being the labour force required in the manufacturing industries in the cities. These informal settlements are located in the periphery of the city centers e.g. Kibra slums in Nairobi and Obunga in Kisumu. Indeed it is against this backdrop that the World Bank under the Global Partnership Output Based Aid (GPOBA) entered into a partnership with Kenya Power; (Kenya's grid power supplier) to invest in 150,000 customers in the slum electrification project that was valued at Kshs. 1.2 billion in 2015, being a subsidy for eligible electricity connections in informal settlements (Kenya Power, 2015). In an effort to arbitrate efforts that aid in poverty alleviation and improve on the peoples standard of living, an efficient SME sector is critical to that goal. It is thus imperative to create a congenial environment for their operations and growth. From these assessments the core role the availability of power supply plays, and the contribution of SMEs to economic development, brings to light the need for a sound business atmosphere if an economy is to see development and to improve the lives of its people. Obunga exhibits several challenges among them supply of consistent grid power electricity. According to Kenya Power (2015), the company stood to benefit from the displacement of illegal electricity vendors in informal settlements, resulting to reduction of commercial losses partly attributed to illegal connections that perpetuate electrocutions and slum fires exhibited in these locales. Although Obunga slum is an informal settlement where the number of SMEs continue to grow, despite this, their operations have been engulfed by inadequate and unreliable power supply rendering most SMEs unproductive and inefficient. Access to a reliable electricity supply is considered to be very important to the operations of most small and medium size businesses. The national grid provider posits the slum electrification program witnessed a minimal charge of Kshs.1.16 per connection to be paid via prepaid meters that were to be purchased through purchased tokens (Kenya Power, 2015).

#### **Statement of the Problem:**

Kenya's national power national grid provider has since the year 2015 embarked on a slum electrification program that does not meet the expectations of the slum dwellers with regard of service to small and medium enterprises. Small micro enterprises are a characteristic found in informal settlements within the periphery of urban centers and they contribute to employment and income for the economy for urban dwellers akin to the rural urban migration. In order to survive in the city small businesses mushroom every other day and in Kenya the small businesses contribute 80% of all employment and 40% to the economic growth through GDP (KNBS, 2016), most with illegal and/or poor electrical grid power connectivity.

#### **Research Objectives:**

The main objective of the study was to examine the influence of electricity government policy on small businesses in Obunga informal settlements, Kisumu County, Kenya

#### **Specific Objectives:**

The following were the specific research objectives:

- i. To determine the factors that influence grid power connectivity among small businesses at Obunga informal settlement in Kisumu City.
- ii. To identify the sources of electrical power and its economic importance to small and micro-enterprises in Obunga informal settlement in Kisumu City.
- iii. To identify the use and advantages of electrical power and its economic importance to small and micro-enterprises in Obunga informal settlement in Kisumu City.

**Diffusion Innovation Theory:**

The diffusion innovation theory was popularized by Everett Rogers, a professor of Communication Studies in a book titled 'Diffusion of Innovations' (1962). Diffusion of innovations is a theory that attempts to find explanation into how, why and at what rate technology and new ideas spread. The theoretical foundation of diffusion theory has four elements of innovation, communication channels, time and social systems. There can also be an element of the gap between early adopters and the adopting majority (Moore, 2002).

Diffusion of Innovation Theory was adopted in this study to explain how, overtime, an idea or product – in this case electricity – gains momentum and diffuses through a specific population and social system. The study is based on small businesses in a slum dwelling or otherwise informal settlement. Innovations like new ideas and technologies often move to other places and people spreading over cultures. The process of innovation, as it passes through cultures, constitutes innovation diffusion.

Individuals and population groups view innovation differently and align innovation to certain characteristics. But a more guided guess is the provision of relative advantage especially for early adopters. Relative advantage can be viewed as the degree to which an innovation is perceived as better than the idea it supersedes (Rogers, 2003). Potential users consider innovations based on relative advantage and which are measured in economic returns (Greenhalgh, Macfarlane, Bate, & Kiriakidon, 2004). Social factors can also influence the perception of users in terms of how they perceive the relative advantage of an innovation. Such factors include user satisfaction and prestige. Rogers (2003), further, identifies compatibility, complexity, observability and triability as additional aspects that impact adoption of a technology or an innovation. Innovation is communicated via specified channels over a long time among members of a social system.

**Social Influence Theory:**

The social influence theory can provide evidence based intervention where similarity is viewed as the giving of complements and familiarity through repeated contact with a person (Byrne, 1971). The principles of Social Influence Theory (SIT) posit that individuals take decisions influenced by the behavior of people around them. In this case such influences are based on the relationships existing between individuals and or groups. An introduction of an idea is dependent on the understanding of a particular setting. Electricity supply in an informal settlement can serve more as a luxury and high lifestyle achievement. Majority of slum dwellers often cannot afford high costs of electricity. This situation is compounded by the limiting supply systems that offer the chance to access electricity.

Copying adoption behavior from similar business, residents etc. is plausible because social influence theory promises principles, models and processes that are not entirely foreign to most dwellers sharing similar social orientations. It is expected, therefore, that one behavior is easily adopted by the rest. Informal settlements enjoy relatively unofficial and familiar contacts between members who appear to adjust the behavior of each other in a manner as to copy each other.

**2. RESEARCH DESIGN AND METHODOLOGY**

This serves to describe the research design and methodology of this study, explains the sample selection and criteria, describes the procedure used in designing the instrument and collecting the data, and, finally, provides an explanation of the statistical procedures used to analyze the data. The purpose of this study was to investigate the influence of electricity government policy on small businesses in Obunga informal settlement in Kisumu City, Kenya

Businesses are dealing constantly with increased competition. Therefore, there is a growing need to identify their product's strengths and weaknesses and potential for differentiation. In order to reveal these elements to managers, through the eyes of the investors, a detailed content analysis of open-ended survey items will be presented. The scope of this research is to use content analysis as a research tool for studying electrification, in order to support their efforts for a steady flow of investors. The open-ended survey items offer the opportunity to the respondents to express, to analyze and expand their opinions and thoughts. The research is based on an existing situation analysis, using as a case Obunga slums and the opinions of its major income generating market, small and micro enterprises. The sample size of the survey, n=376, which is stratified, gives a wide variety of answers, used for an expanded analysis. The findings offer implications for managers concerning investment priorities, product differentiation and marketing actions. The limited use of this approach in this kind of destinations makes this study a contribution to the research field.

Rural and urban electrification represents one of the pillars for an economy to grow especially in developing countries. But the economic, political and social changes around us transform continuously the business environment and increases the competition. Therefore, today more than ever the opinions of the investors play a significant role in the development of economies around the globe. In the year 2015, the Kenya Power, which is the national grid power provider in Kenya, with the support of the World Bank, sought to invest in 150,000 customers in the slum electrification project that was valued at Kshs. 1.2 billion as a subsidy for eligible electricity connections in informal settlements. According to the Kenya Power, the company sought to benefit from the displacements of illegal electricity vendors in informal settlements, resulting to reduction of commercial losses partly attributed to illegal connections that perpetuate electrocutions and slum fires. This effort witnessed an introduction of promotional installation rates to would be customers at the minimal rate of Kshs.1.16 per connection via prepaid meters which were to be issued without conditionality's. Knowledge of investors' opinions and perceptions is extremely important in determining the success of marketing and development strategies. However, the knowledge of the consumers' judgment has a prerequisite, that of a deeper communication through which they will have the opportunity to express their views freely. In terms of research this can be achieved through the researcher administered semi-structures open-end and closed-ended questions that give "space" for a wide variety of answers.

Content analysis is used in the social sciences to analyze various forms of communications, mostly those that are based on textual data. Several economics and finance researchers employ open ended questions, promotional material, personal interviews etc. and use afterwards content analysis techniques to extract results from the rich textual data and content. Despite the opportunities content analysis can offer by revealing issues associated with the investors' perceptions, its use in entrepreneurial research has been limited. This research paper aims to enrich this research field. This research paper attempts to offer an effective approach of content analysis, using textual data, typical in business development studies. It also aims to prove that the proposed approach is connected to the theory and practices of content analysis techniques.

#### **Research Design:**

Weber (1990) described content analysis as "a research method that uses a set of procedures to make valid inferences from text." This method allows the systematic analysis of text in order to conceptualize and identify important features of a given concept (Billore et al, 2013). There are two methods for content analysis in social sciences: qualitative and quantitative. Content analysis as a method of gathering information requires correct codifying of qualitative and quantitative information into predefined categories in order to derive patterns in the analysis and reporting of information (Thia and Ross, 2011).

The methodology of extracting content categories from the text, counting their occurrences in the sampled text blocks, and analyzing associations between categories using the frequency matrix was developed by the mid-20th century, primarily by a group of Harvard researchers, (Roberts, 2000).

This study undertook a descriptive survey research methodology in which the research design, presents oriented methodology used to investigate population by selecting samples and analyzing them to discover occurrences (Oso & Onen, 2005). Survey refers to collection of data from a specific population, or a sample from that population; and typically using a questionnaire or an interview as the survey instrument (Robson, 1993). The questionnaire was researcher administrated. It comprised closed-end and open-end questions. The closed-end questions concerned the demographic data. The open-end questions asked for the respondent's opinions about advantages, disadvantages and suggestions for improvements. According to Mugenda and Mugenda (2003), reliability is a measure of the stability or consistency thus a questionnaire filled this need. A survey was, ideally, suited as being reliable because the researcher seeks to consider issues such as the economy of the design, rapid data collection and the ability to understand a population from a part of it. A key purpose of the design in this study was to provide valid numeric descriptions of some part of the population and to describe and explain events as they were. Validity simply means that a test or instrument is accurately measuring what it's supposed to. The validity of the research instruments were tested through different data sets in concurrent locations within Obunga informal settlements as in the data set findings, from the target population.

#### **Population:**

The population of small businesses in Kisumu and in Obunga range in 1000's. There is no official figure or database of the type and nature of these businesses. The population of the study, therefore, consisted of all open-door business, sheltered and unsheltered.

**Target Population:**

The study sought views from the business owners and managers of Food vendors and hotels, retail shops & minimarkets, health providers and pharmacies, entertainment spots, fuel providers, cosmetics, beauty and boutique.

**Accessible population:**

The accessible population consisted of those present at the open business premises as of the time of data collection.

**Sampling Size and Sampling Procedure:**

An ideal sample size based on (Krejcie & Morgan, 1970). The formula to be used is shown below

n: required sample size;

$$n = \frac{X^2 * N * P * (1-P)}{(ME^2 * (N-1)) + (X^2 * P * (1-P))}$$

X<sup>2</sup>: the table value of chi=quare for one degree of freedom at the desired confidence level

N: the population size

P: the population proportion (assumed to be 0.54 since this would provide the maximum sample size)

ME<sup>2</sup>: the degree of accuracy expressed as a proportion. (0.5) the desired margin of Error

Based on this formula the preferred sample size for the study based the sampling tables would be 376, given a confidence interval of 95% and margin error of 5.0%

This study used data collected from a simple random sample size of 376 respondents from seven categories of small business traders to improve on reliability and validity of data collection. The cross-sectional surveys provided proportionate and, therefore, meaningful, comparisons between sub-groups in the population (Mugenda and Mugenda, 2003).

The final sample size obtained was 376 SMEs. This sample size (n=376) gives a statistical error (e~ 5%).

Level of significance a=0.05

Level of confidence 95%

This sample size and statistical error could permit the generalization of the results.

**Document Analysis:**

Dalland (2000), states that document analysis applies historical, written sources as the basis for the research. The study employed triangulation from posters, policy documents found online and those displayed at the shops and mobile phone messages sent by the national power grid provider to customers' phones on product awareness and offers. Document analysis was conducted to analyze the current ways and level of customer involvement and in benefit they perceive to get in their businesses based on the slum electrification policy. Second, an open-ended questionnaire was used to assess the possible use and value of stated preferences that electricity brings to the residents doing business in Obunga Slums. The questionnaire was presented by the researcher to 376 respondents doing business in Obunga for the past three years.

Quantitatively the researcher analyzed the number of businesses that had posters of products using electricity which involved counting of a property or characteristic with the documents, such as number of prepaid meters adverts, or recommendations. Qualitatively the researcher analyzed the documents through interpretation the meaning of what was written as policy papers found online and via short messages on user phones and in the offices of Kenya Power.

**Validity and reliability:**

Cooper et al (2006), posits that a measure is reliable to the degree that it supplies consistent results and that reliability is concerned with estimates of the degree to which a measurement is free of random or unstable error. Usage of reliable

instruments exude confidence that transient and situational factors are not interfering. Reliable instruments in their robustness work incongruence at different times under different conditions. This distinction of time and condition is the basis for frequently used perspectives on reliability - stability, equivalence and internal consistency. This was done two months prior to the actual period of data collection. According to Bishop (2007) the researcher used similar procedures to those used during the actual data collection. This was necessary to ascertain the validity and reliability of data collections instruments. The number in the pre-test of the entire sample size piloting is essential in this study because it took into account the following factors; any deficiencies in the pre-testing such as imprecise directions, insufficient space to write the responses, clustered questions and wrong phrasing of questions was detected; vague questions were identified and appropriateness of the anticipated analytical technique ascertained, (Scott, 2006).

Most importantly, piloting enabled the researcher to determine the validity and reliability of the questionnaires or instruments used. The researcher, therefore, pre-tested about 10% of the entire sample size before the actual data collection process. Before the documentation attributes were addressed, an open question was used to assess what the respondents think is important for successful involvement in slum electrification with regard to existing policy. The instruments were pre-tested using a research assistant and a resourceful authority; finally, the research instruments were given to the supervisor to provide professional and intellectual judgments on their adequacy for the collection of relevant data before they were used in the actual data collection exercise.

#### **Ethical Issues:**

Consent from the respondents before undertaking to collect data from the field was required. A clear explanation of the objectives of research was given as the research was conducted.

A high level of confidentiality on the information provided by respondents through interview or questionnaires was mandatory. Authorization to access government working documents and policy papers was granted after authorization letter from the University was presented thus ensuing academic discipline was adhered to.

#### **Data Collection and data procedure:**

This investigation involved collection and analysis of quantitative and qualitative data in order to determine the current access and advantage statuses of using electricity among small business of Obunga. The questionnaire was self administrated. It comprised closed-end and open-end questions. The closed-end questions concerned the demographic data. The open-end questions asked for the respondents' opinions about advantages, disadvantages and suggestions for improvements. Questionnaires were less expensive and easier to administer to a large group; and, they allowed confidentiality to be assured (Mugenda and Mugenda, 2003).

### **3. DATA ANALYSIS METHODS**

This study was based on the analysis of open-end questions, content analysis was used to analyze qualitative data which were coded into themes. These types of questions had a target to provoke more detailed answers. In contrast to the closed-end questions they did not limit the respondent to a preselected range of short answers. Their objective was to collect a variety of detailed answers in order to achieve a comprehensive understanding of the subject under research, in this the influence of government policy on electrification in Obunga Slums. The purpose of these questions was to reveal the unexpected dimensions on the issue under research. Of course, occasionally there was the possibility of gathering commonplace and stereotypical answers. The issues under survey with the open-end questions concerned the respondents' opinions about advantages, disadvantages and improvements with regards to electrification in Obunga Slums. The nature of the open-end questions results to a multitude of distinctive answers. Therefore, the first step of the process is to clean up the data and check for consistency by classifying similar primary answers into broader categories in order to facilitate the convergence of the basic points of the answers. The second step was concerned the analysis of the new categories of electricity sources. Another characteristic of the open-end questions is that the number of the given answers exceeded the number of respondents. This was expected since every respondent could give more than one answer. Based on this the percentages of the answers were be calculated on two bases: i) on the basis of the number of the answers, ii) on the basis of the number of the respondents. Therefore, concerning (i) the percentage of a specific answer depends on the total number of the answers per respondent, while for (ii) it depends on the frequency of mentions from the respondents. The present analysis is based on the level of the broader categories which result from the contribution of the similar answers. Therefore, every resulting broader category is explored in two ways: i) based on their percentage among the total answers,

ii) based on the numbers of the respondents who mention this category. In this case the researcher was not interested in the number of the primary answers per respondent. One respondent who mentions more than one answer on the same category counts exactly like another respondent that mentions only one answer for this category. Finally the Data was coded and entered into an SPSS program processed and presented in tables. Quantitative data were analyzed using descriptive statistics and means and percentages calculated.

#### 4. DISCUSSIONS

The study investigated the influence of electricity government policy on small businesses in Obunga informal settlement in Kisumu City, Kenya. This was in light of the problem of small businesses haphazardly connecting to electricity supply systems even through illegal connections. In the mixed methodology study the quantitative data collected were analyzed using descriptive statistics and qualitative data through content analysis. This chapter presents the results of the analyses. There is an attempt to evaluate the government policy on electricity on small businesses in Obunga slums, as a driver to economic growth, based on its influence as perceived by the respondents by the end of each business day. This influence is expressed by the open-end questions answered before the respondents' close their business activity for the day. Additionally, their observations and suggestions concerning the improvement of the supply were asked. The sorting of the answers followed the same approach for the three research questions in order to build a common context of broader categories which helps immediate comparisons for the bundle advantages/disadvantages/improvements. This context consists of 15 broader categories which show different intensity for every question. Therefore, the category "prepaid" is mentioned much more as an advantage than a disadvantage, while the opposite happens for the "illegal connections". The category "illegal connections" was the one that was mentioned much more in the disadvantages and in the areas of improvement. Therefore, it was decided to be divided in subcategories. Finally the overwhelming majority of the respondents answered the questions for the advantages while this is not the case for the other two questions where the percentage of n/a (do not know) is quite high.

##### Presentation of the Findings:

##### Uses of electricity among micro-enterprises and small businesses:

The first objective of this study was to identify the uses and advantages of electricity among micro-enterprises and small businesses at Obunga informal settlement in Kisumu City. To achieve the objective respondents were asked to react to several statements by using prescribed keys. Data collected were analyzed under the question: What are the uses of electricity among micro-enterprises and small businesses at Obunga informal settlement in Kisumu City? The results are presented in the table below.

##### Uses of electricity among micro-enterprises and small businesses for making products and services:

Do you use electricity in your business for making your product or producing a service?	Yes	%	No	%	Total Frequency (f)	Total percentage (%)
Food vendors & hotels	12	3	31	8	43	11
Retail Shops & Mini-markets	67	18	78	21	145	39
Health providers & Pharmacies	55	15	8	2	63	17
Entertainment spots	74	20	0	0	74	20
Fuel providers	12	3	4	1	16	4
Cosmetics, Beauty and Boutiques	16	4	20	5	35	9
Others	0	0	0	0	0	0
<b>Total</b>	<b>Y=235</b>	<b>63%</b>	<b>N=141</b>	<b>38%</b>	<b>∑f=376</b>	<b>100%</b>

It was noted that 3% (12) of food vendors and hotels agreed that electricity in their businesses was used for making products or producing a service. However, 8% (31) of respondents said no to electricity in their businesses being used for making products or producing a service. On their part 67 (18%) retail shops and mini-markets said yes to using electricity in their businesses for making products or producing a service while 78 (21%) said no to using electricity in their businesses for making products or producing a service. 55 (15%) Health providers & Pharmacies said yes while 8 (2%) used electricity in their businesses for making products or producing a service respectively. An absolute majority of entertainment spots of 74 (20%) said yes to using electricity in their businesses for making products or producing a service. 12(3%) fuel providers used electricity in their businesses for making products or producing a service respectively

while 4 (1%) did not use electricity in their businesses for making products or producing a service. 16 representing 4% of Cosmetics, Beauty and Boutiques businesses used electricity in their businesses for making products or producing a service while 20 representing 5% did not use electricity in their businesses for making products or producing a service.

#### Uses of electricity among micro-enterprises and small businesses for improving products and services:

Do you use electricity in your business for improving products and services?	Yes		No		Total Frequency (f)	Total percentage (%)
	Yes	%	No	%		
Food vendors & hotels	24	6	20	5	43	11
Retail Shops & Mini-markets	24	6	121	32	145	38
Health providers & Pharmacies	43	11	20	5	63	16
Entertainment spots	67	18	8	2	74	20
Fuel providers	12	3	4	1	16	4
Cosmetics, Beauty and Boutiques	27	7	8	2	35	9
Others (specify)	0	0	0	0	0	0
<b>Total</b>	<b>Y=196</b>	<b>52%</b>	<b>N=180</b>	<b>48%</b>	<b>∑f=376</b>	<b>100%</b>

As found above, 24 (6%) food vendors and hotels use electricity in their businesses for improving products and services while 20 of them representing 5% of them do not. Similarly, 24 retail shops and mini-markets representing 6% use electricity in their businesses for improving products and services while 20 (5%) do not use electricity in their businesses for improving products and services. 43 (11%) health providers and pharmacies answered yes to use of electricity in their businesses for improving products and services as 20 (5%) answered no to using electricity in their businesses for improving products and services. At the entertainment spots 67 (18%) use electricity in their businesses for improving products and services as 8 (2%) do not. 12 (3%) fuel providers answered yes to using electricity in their businesses for improving products and services as 4 (1%) does not. 27 (7%) cosmetics, beauty and boutiques answered yes to using electricity in their businesses for improving products and services, 8(2%) cosmetics, beauty and boutiques do not, however, use electricity in their businesses for improving products and services.

#### Influence of electricity usage on product offers and customer service among micro-enterprises and small businesses:

The second objective of this study was to determine the influence of electricity usage on product offers and customer service among small businesses at Obunga informal settlement in Kisumu City. To achieve the objective respondents were asked to react to several statements by using prescribed keys. Data collected were analyzed under the question: What is the influence of electricity usage on product offers and customer service among small businesses at Obunga informal settlement in Kisumu City? The results are presented in the table 4.3 below.

#### Influence of electricity connection among micro-enterprises and small businesses in food and hotel business:

Do you regard the use of electricity in your business to be responsible for the statements below?	Yes		No		Total Frequency (f)	Total percentage (%)
	Yes	%	No	%		
Expansion in terms of branches	8	2	36	10	44	10
Expansion in terms of product or service range	39	10	12	3	51	13
Increased opening hours	82	22	0	0	82	22
Attracted new customers	102	27	8	2	110	29
Ensured more comfort for your customers	35	9	8	2	43	11
Disrupted more than expected	16	4	28	7	44	11

8 (2%) of micro-enterprises and small businesses in food and hotel business regard the use of electricity in their businesses to be responsible for branch expansions while 36 (10%) said no. 39 (10%) of the same businesses regard expansion in terms of product or service range to be because of the use of electricity while 12 (3%) do not. All businesses in food and hotel business, 82 (22%), said yes to electricity helping them increase opening hours, 102 (27%) of them admitting attracting new customers and 8 (2%) saying no to attracting new customers because of electricity. 35 (9%) of food and hotel businesses said yes to electricity ensuring more comfort for customers, 8 (2%), however, said no. Among 16 (4%) of food and hotel business electricity caused disruption more than expected while 28(7%) answered no to being disrupted by electricity.



**Influence of electricity connection among micro-enterprises and small businesses in retail shops & mini-markets:**

Do you regard the use of electricity in your business to be responsible for the statements below?	Yes	%	No	%	Total Frequency (f)	Total percentage (%)
Expanded business in terms of branches	12	3	3	1	15	4
Expanded business in terms of product or service range	63	17	12	3	75	20
Increased opening hours	65	17	34	9	99	26
Attracted new customers	67	18	15	4	82	22
Ensured more comfort for your customers	50	13	20	5	70	18
Disrupted more than expected	20	5	15	4	35	9

Among micro-enterprises and small businesses in retail shops and mini-markets 12 (3%) respondents said yes to electricity helping in expansion of business in terms of branches while 3 (1%) said no. Among the same businesses 63 (17%) answered yes to expanding business in terms of product or service range because of electricity while 12 (3%) said no. 65 (17%) businesses answered yes to increased opening hours because of electricity use as 34 (9%) said no. 67 (18%) answered yes to attracting new customers while 15 (4%) answered no to attracting new customers because of use of electricity. 50 (13%) businesses ensured more comfort for customers while 20 (5%) answered no to electricity use ensuring more comfort for customers. 20 respondents (5%) said yes to disruption more than expected while 15 (4%) answered no to electricity use disrupting their business.

**Influence of electricity connection among micro-enterprises and small businesses in Health provision & Pharmacies:**

Do you regard the use of electricity in your business to be responsible for the statements below?	Yes	%	No	%	Total Frequency (f)	Total percentage (%)
Expanded in terms of branches	0	0	64	17	64	17
Expanded in terms of product or service range	40	12	8	2	48	14
Increased opening hours	75	20	0	0	75	20
Attracted new customers	44	12	20	5	64	17
Ensured more comfort for your customers	40	11	24	6	64	17
Disrupted more than expected	21	6	40	11	61	17

0 (0%) businesses in health provision and Pharmacies said yes, while 64 (17%) said no to expanding in terms of branches, respectively, because of electricity use. 40 (12%) business said yes to expanding in terms of product or service range because of electricity use while 8 (2%) answered no. 75(20%) respondents said yes to increased opening hours, while 44(12%) respondents and 20 (5%) said yes and no, respectively, to electricity use helping them attract new customers. 40 (11%) respondents said yes to electricity use ensuring more comfort for their customers while 24 (6%) said no to this. 21 (6%) were disrupted more than expected while 40 (11%) said no to disruptions due to electricity use.

**Influence of electricity connection among micro-enterprises and small businesses in Entertainment spots:**

Do you regard the use of electricity in your business to be responsible for the statements below?	Yes	%	No	%	Total Frequency (f)	Total percentage (%)
Expanded in terms of branches	16	4	28	7	44	11
Expanded in terms of product or service range	68	18	8	2	76	20
Increased opening hours	72	19	4	1	76	20
Attracted new customers	60	16	8	1	68	17
Ensured more comfort for your customers	44	12	12	3	56	15
Disrupted more than expected	48	13	8	2	56	15

0 (0%) respondents from micro-enterprises and small businesses in entertainment spots and 28 (7%) answered yes and no, respectively, to using electricity in their business to expand in terms of branches. 68 (18%) said yes to expanding in terms of product or service range as 8 (2%) said no, while 72 (19%) said yes to increased opening hours because of electricity use and 4 (1%) said no. 60 (16%) entertainment spots said yes as 8 (2%) said no respectively to attracting new customers because of use of electricity. Among 44 (12%) entertainment spots electricity use ensured more comfort for customers while 12 (3%) said no to this. 48 entertainment spots representing 13% said yes to electricity use disrupting their businesses more than expected while 8 (2%) said no to electricity use disrupting the entertainment spots.

**Influence of electricity connection among micro-enterprises and small businesses in fuel provision:**

Do you regard the use of electricity in your business to be responsible for the statements below?	Yes	%	No	%	Total Frequency (f)	Total percentage (%)
Expanded in terms of branches	48	13	16	40	64	43
Expanded in terms of product or service range	20	5	0	0	20	5
Increased opening hours	80	21	0	0	80	21
Attracted new customers	148	39	0	0	148	39
Ensured more comfort for your customers	48	13	0	0	48	13
Disrupted more than expected	0	0	16	40	16	40

Among micro-enterprises and small businesses in fuel provision 48 (13%) respondents said yes, while an absolute majority of 16 (40%) said no, respectively, to electricity use helping in expansion of business in terms of branches. Among the same businesses 20 (5%) answered yes to expanding business in terms of product or service range because of electricity while 0 (0%) said no. 80(21%) witnessed increased operating hours while 148(38%) attracted new customers with both categories having nil observations to the contrary. While non witnessed business disruptions than there previously existed a significant 16(4%) indicated no disruptions.

**Influence of electricity connection among micro-enterprises and small businesses in Cosmetics, Beauty and Boutiques:**

Do you regard the use of electricity in your business to be responsible for the statements below?	Yes	%	No	%	Total Frequency (f)	Total percentage (%)
Expanded in terms of branches	60	16	36	10	96	26
Expanded in terms of product or service range	48	13	0	0	48	13
Increased opening hours	56	15	12	3	68	18
Attracted new customers	76	20	16	4	92	24
Ensured more comfort for your customers	24	6	12	3	36	9
Disrupted more than expected	28	7	8	2	36	9

60 (16%) micro-enterprises and small businesses in cosmetics, beauty and boutiques said yes to expansion in terms of branches following the use of electricity in their businesses. All 36 businesses representing 10% answered no to expanding in terms of branches because of use of electricity. 48 (13%) businesses, however non expanded in terms of product or service range. 56 (15%) cosmetic, beauty and boutique businesses increased opening hours as 12 (3%) answered no to increased opening hours because of use of electricity. 76 (20%) cosmetics, beauty and boutiques answered yes, while 16 (4%) said no to attracting new customers because of use of electricity. 24 (6%) and 12 (3%) cosmetics, beauty and boutiques answered yes and no, respectively, to electricity use ensuring more comfort for customers. 28 (7%) cosmetics, beauty and boutiques answered yes to the use of electricity having disrupted more than expected while 8 (2%) answered no to disruption more than expected because of electricity use.

**5. DISCUSSION OF THE FINDINGS**

The first objective of this study was to determine the factors that influence grid power connectivity among small businesses at Obunga informal settlement in Kisumu City. The study targeted 400 micro-enterprises and small businesses with 400 questionnaires were administered by the researcher. However, after data collection, the data were subjected for screening for consistency and outliers. Twenty four respondents appeared to have provided inconsistent and contradictory information that did not match sensible criteria for inclusion in the study. The researcher, finally, reduced the number to 376, which was still considered a high response of 94%.

Data analysis and interpretation revealed a major finding under this objective. It was evident that the factors that influenced grid power connectivity were related to improvement of environmental factors ranging from competition in the business sphere to security. From the findings the concept of connectivity to the grid scored a 86% with the 344 respondents responding to recognizing the advantages to being to the electrical grid. In comparison to the policy documents analyzed the slum electrification program appears to be limping with many users not aware of the opportunities provided. The concept of drop a line and pay via prepaid meters was not only not embraced but a majority of residents did not know that the prepaid meters were not to be purchased in advance hence the presence of illegal connections that led to electrocutions and illegal vendors via landlords.

The second objective of this study was to identify the sources of electrical power and its economic importance to small and micro-enterprises in Obunga informal settlement in Kisumu City. Some 235 businesses or 63% of micro-enterprises and small businesses used electricity for making products or producing a service. From the view of individual businesses a sizeable number of the businesses were from health providers and pharmacies with 43 out of 63, entertainment spots with 67 out of 74 and fuel providers with 12 out of 16 businesses. Pharmacies introduced, parallel services including basic laboratory tests for common ailments. Although all entertainment spots said yes to using electricity in their business for making or producing services they could not mention a service made or produced because of having electricity referring to only say their businesses depend on the use of electricity. Actually, all of them were unanimous in the theme of using electricity to provide services. One customer remarked 'no electricity no entertainment'. Numerous others also talked of electricity having sparked unprecedented competition. An almost similar situation obtained for fuel service stations where 12 had mechanized and are using electricity to pump fuel. Only four fuel stations remained manual. These findings indicate that small businesses have not fully innovated on more diverse usage of electricity. This could owe to the businesses smaller sizes and lack of management knowledge of the owners and or their managers.

Gough *et al.* (2013) concluded that micro and small businesses require an entrepreneurial spirit. Entrepreneurial spirit is about strategic orientations that not only work for producing novel products and services but also being market oriented in a culture of innovativeness, reactivity, risk taking, autonomy and competitive aggressiveness. The complexity of entrepreneurial orientation appears to be the inhibition for the small-sized businesses whose employee numbers and education may be low.

The third objective of this study was to determine the influence of electricity usage on product offers and customer service among small businesses at Obunga informal settlement in Kisumu City. Data analysis and interpretation revealed a major finding under this objective where 52% of micro-enterprises and small businesses answered yes to using electricity for improving products and services. Again this was about 50% the respondents. Respondents in entertainment spots reported use of electricity in their businesses for improving products and services with 67 out of 74. Entertainment spots recording the highest, followed by 43 out of 63 health providers and pharmacies, beauty and boutiques businesses and 12 out of 16 fuel providers all with indicators of use of electricity to improve products and services. 24 out of 145 retail shops and mini-markets, however recorded the lowest use of electricity to improve products and services followed by 24 out of 43 food vendors and hotels. Small businesses do not appear keen on branch expansions perhaps related to ownership and management. Close attention has been advised on the socio-cultural context and challenges faced by the small business users, operators and managers (Coad & Tamvada, 2011). Customer service is a key pathway through which a firm's customer orientation positively affects new product development (Du, Yalcinkaya & Bstieler, 2016). Training of small business owners and managers can make a difference.

#### **Interpretation of the Findings:**

The study established that in spite of many businesses having the national energy supplier of Kenya, (Kenya Power) as their supplier of electricity connection, the diversity of use for purposes of product and customer orientation is still wanting slated at just 52% of businesses surveyed had positive influence of electricity in their businesses. It further established that product awareness has not been established as per the policy and strategy papers of the national power provider. Community and consumer awareness is yet to be advocated on the offers available with regard to the slum electrification paper and with free pre-installations for prepaid users in the slum areas. They have largely used electricity connection for social dimensions like lighting for long hours and just for routine basic services. Micro and small businesses have not, therefore, entirely leveraged at the innovative uses of electricity in introducing new products and services. This means that usage of grid power electricity is poorly related to product and customer orientation in micro and small businesses in the informal settlement of Obunga, considering the potential diversity that electricity connection can offer such businesses.

## **6. CONCLUSION**

The electricity provided by the national supplier Kenya Power positively influences small and micro business enterprises. The presence of ever increasing illegal connections is an attribute associated with limited awareness to the dangers posed to the residents in the slums while exposed the yearning for electrification by the residents. It has significantly improved the business environment, the security and the competitiveness in the business arena thus the economic state of the residents. Among eleven micro-enterprises and small businesses in food and hotel business there was a two percent

reported business expansion in terms of branches, ten percent expanded in terms of product or service range, twenty-two percent increased opening hours, twenty-seven percent attracted new customers; nine percent ensured more comfort for their customers, and four percent exhibited disrupted business more than expected, this was partly due to entertainment spots that would play loud music and or show football games (World Cup 2018), late into the night yet they were in close proximity to a medical facility or school. Among thirty seven micro-enterprises and small businesses in retail shops and minimarkets only twelve expanded business in terms of branches, sixty-three expanded business in terms of product or service range, sixty-five increased opening hours, sixty-seven attracted new customers, fifty ensured more comfort for customers, while only twenty reported disruption more than expected. Among micro-enterprises and small businesses in health services and pharmacies none of the sixteen businesses expanded in terms of branches, forty out of forty-eight expanded in terms of product or service range, all seventy-five reported increased opening hours, forty-four attracted new customers, forty ensured more comfort for customers while twenty-one out of sixty-one felt electricity disrupted business more than expected. Among micro-enterprises and small businesses in Entertainment spots sixteen expanded in terms of branches, sixty-eight out of seventy-six expanded in terms of product or service range, seventy-two increased opening hours, sixty attracted new customers, forty-four ensured more comfort for your customers, forty-eight disrupted more than expected. Among micro-enterprises and small businesses in fuel provision forty-eight expanded in terms of branches /outlets , twenty expanded in terms of product or service range, eighty attracted new customers, one hundred and forty-eight ensured more comfort for customers, forty-eight ensured more comfort for their customers due to improved service time and security and none was disrupted more than expected. Among nine micro-enterprises and small businesses in cosmetics, beauty and boutiques, sixty expanded in terms of branches, forty-eight expanded in terms of product or service range, fifty-six increased opening hours, seventy-six attracted new customers, twenty-four ensured more comfort for your customers, and twenty-eight disrupted more than expected.

#### **Conclusion:**

#### **Factors Influencing Informal Settlements Grid Power Connectivity Among Small Businesses In Obunga Informal Settlement In Kisumu City:**

This study investigated the influence of electricity connection on the diversity of micro and small businesses in Obunga informal settlement in Kisumu. This study, specifically, sought to identify the uses of electricity among micro-enterprises and small businesses at Obunga informal settlement in Kisumu City and to determine the influence of electricity use on product offers and customer service among small businesses at Obunga informal settlement in Kisumu City. The study established that in spite of many businesses having electricity connection, the diversity of use for purposes of product and customer orientation is still lacking if anything just 52% of businesses surveyed had positive influence of electricity in their businesses. The provision of illegal power connection was still vibrant and thus a deterrent to legal connections as per policy papers of the Kenya Power.

#### **The Sources Of Electrical Power and Its Importance Connectivity Among Small Businesses At Obunga Informal Settlement In Kisumu City:**

The study established that small and micro businesses appreciate the importance of electrical power as a driver for their business on a day to day basis. However due to limited knowledge and fear of the unknown they view it as an expensive commodity meant for a “few of the well to do persona” or the bourgeoisies while considering themselves as the proletariats. This has facilitated the cartels to act as vendors who illegally provide power at lower rates than commercial yet illegal and dangerously connected to the grid lines. Due to confidentiality and the nature of the investigative study some respondents attribute the illegal connections to elements and persons working within the Kenya Power organization. It is thus imperative that lack of knowledge resulted to the fear to acquiring legal electrical connections.

#### **Factors Influencing Grid Power Connectivity among Small Businesses at Obunga Informal Settlement in Kisumu City:**

The study established that small and micro businesses have largely used electricity connection for social dimensions like lighting for long hours and just for routine basic services. Thus rendering electrical connectivity limited within these spectrum while sparsely distributed to individual use. Micro and small businesses have not, therefore, entirely leveraged at the innovative uses of electricity in introducing new products and services. This means that usage of electricity is poorly related to product and customer orientation in micro and small businesses in the informal settlement of Obunga, considering the potential diversity that electricity connection can offer such businesses.

## 7. RECOMMENDATIONS

The main points of view advanced in the discussions are that despite many of the micro and small businesses in the informal settlement of Obunga, there is no clear linkage between business diversity and electricity connection. The public knowledge of policy documents and development agenda on slum electrification requires better dispensation and implementation approach so that no one in the slum is deprived the opportunity. The study has also shown that just about 52% of micro and small businesses demonstrated that the use of electricity in their businesses has influenced their business diversity. Therefore, this study makes recommendations that are useful for policy, management and academia notwithstanding the limitations. Against this background, this study generalizes on the findings and, accordingly, recommends that micro and small businesses should leverage on electricity connection to be more product and customer oriented. Specifically, the study recommends that micro and small businesses focus on diversity for growth in terms of businesses leverage with regards production and product or service range, increased opening hours, attracting new customers, ensuring more comfort for customers, and avoiding disruption more than expected. Further studies can help scholars, businesses and organization managers identify more innovative uses of electricity in small businesses for diversity in informal settlements. The study recommended that further studies be conducted in specific sectors within the small business enterprises to access the implementation of government policy with regards to the slum electrification program.

## REFERENCES

- [1] Ajzen, I., & Fishbein, M. (1980). Understanding attitudes and predicting social behavior. Englewood Cliffs, NJ: Prentice-Hall.
- [2] Albarracin, D., Johnson, B.T., Fishbein, M., & Muellerleile, P.A. (2001). Theories of reasoned action and planned behavior as models of condom use: A meta-analysis.
- [3] Alstone P., Gershenson, D. and Kammen D.M (2015). Decentralized energy systems for clean electricity access. *Perspective*. doi: 10.1038/nclimate2512.
- [4] Beaman, L., Magruder, J and Robinson, J (2014). Minding small change among small firms in Kenya. *Journal of Development Economics*
- [5] Bazilian M, Pielke Jr R. (2013). Making energy access meaningful. *Issues Sci Technol*,29(4)
- [6] Benjamin Schneider, B., Ehrhart, M.G and Macey, W. H (2013). Organizational Climate and Culture Annual Review of Psychology. Vol. 64: 361-388 (Volume publication date January 2013). First published online as a Review in Advance on July 30, 2012. DOI: 10.1146/annurev-psych-113011-143809.
- [7] Bartlett, S (2010), "Editorial: responding to urban youth's own perspectives", *Environment and Urbanization*
- [8] Bazilian M, Pielke Jr R. (2013). Making energy access meaningful. *Issues Science Technology*.
- [9] Bunyasi, G.N.W., Bwisa, H., and Namusonge, G (2014) Effect of Access to Business Information on the Growth of Small and Medium Enterprises in Kenya. *International Journal of Business and Social Science* Vol. 5, No. 10 (1)
- [10] Byrne, D. (1971). The attraction paradigm. New-York: Academic Press.
- [11] Chakravarty, S., and Xiang M. (2013). The international evidence on discouraged small businesses. *Journal of Empirical Finance*. Vol 20, 63-82. January. <http://dx.doi.org/10.1016/j.jempfin.2012.09.001>.
- [12] Chakravarty, S., and Xiang M., (2013). The international evidence on discouraged small businesses. *Journal of Empirical Finance*.
- [13] Chigunta, F, J Schnurr, D James-Wilson and V Torres (2005), "Being 'real' about youth entrepreneurship in Eastern and Southern Africa: implications for adults, institutions and sector structures", SEED Working Paper No 72, ILO, Geneva.
- [14] Coad, A. & Tamvada, J.P. (2012). Firm growth and barriers to growth among small firms in India. *Small Business Economics*. Vol 39 Issue 2 pp 383-400. Doi:10.1007/s11187-011-9318-7.
- [15] Dornan, M., (2014). Access to Electricity in Small Island Developing States of the Pacific: Issues and Challenges. *Renewable and Sustainable Energy Reviews*.

- [16] Eder, J., Mutsaerts, C., Sriwannawit, P. (2015). Mini-grids and renewable energy in rural Africa: How diffusion theory explains adoption of electricity in Uganda. *Energy Research & Social Science, Special Issue on Renewable Energy in Sub-Saharan Africa:- Contributions from the Social Sciences*. <http://dx.doi.org/10.1016/j.erss.2014.12.014>
- [17] Energy Regulatory Commission (2015). Annual Report 2014–2015, Kenya.
- [18] Gough, K V (2010), “Continuity and adaptability of home-based enterprises: a longitudinal study from Accra, Ghana”, *International Development Planning Review* 32
- [19] Gough, K., Langevang, T., and Namatovu, R. (2013). Researching entrepreneurship in low income settlements: the strengths and challenges of participatory methods. Environment & Urbanization Copyright © 2013. *International Institute for Environment and Development (IIED)*. 26 (1) : DOI : 10.1177/0956247813512250www.sagepublications.com.
- [20] Greenhalgh T, Robert G, Macfarlane F, Bate P, Kyriakidou O. (2004). Diffusion of innovations in service organizations: systematic review and recommendations. *Milbank Q*
- [21] Heather Adair-Rohani, H., Zukor, K., Bonjour, S., Wilburn S., Annette C Kuesel, A.C., Hebert, R., and Fletcher, E.R (2013). Limited electricity access in health facilities of sub-Saharan Africa: a systematic review of data on electricity access, sources, and reliability. *Global Health: Science and Practice*
- [22] Institute of Economic Affairs (2015). Situational Analysis of Energy Industry, Policy and Strategy for Kenya.
- [23] International Energy Agency (2013). World energy outlook.
- [24] Jacobson, A. (2007). Connective Power: Solar Electrification and Social Change in Kenya. *World Development*. Elsevier Ltd. doi:10.1016/j.worlddev.2006.10.001
- [25] Jayne M.E.A & Dipboye R.L (2004). Leveraging diversity to improve business performance: research findings and recommendations for organizations. *Human Resource Management*. Vol. 43, No. 4
- [26] KENGEN (2016)
- [27] Kiveu, M. and Ofafa, G. (2013). Enhancing market access in Kenyan SMEs using ICT. *Global Business and Economics Research Journal*, 2(9): 29-46. © Global Business and Economics Research Journal. Available online at <http://www.journal.globejournal.org>
- [28] Kothari, C. R. (2009). *Research methodology :new age international 2nd edition*. london:longman publishers.
- [29] KPLC (2016)
- [30] Langevang, T, R Namatovu and S Dawa (2012), “Beyond necessity and opportunity entrepreneurship: motivations and aspiration of young entrepreneurs in Uganda”, *International Development Planning Review*. Lee, K., Brewer, E., Christiano, C., Meyo, F., Miguel, E., Podolsky, M., Rosa, J., Wolfram, C., (2014). Barriers to Electrification for "Under Grid" Households in Rural Kenya. CEGA Working Papers. August 18.
- [31] MacKinnon, J., Nancarro, T., and Nieves, O. (2016). A meta-study of the effect of thermodynamic parameters on the efficiency of geothermal power plants worldwide.PAM Review: *Energy Science & Technology*. 3. DOI: <http://dx.doi.org/10.5130/pamr.v3i0.1420>
- [32] Moore, G.A (2002). *Crossing the chasm: marketing and selling high-tech products to mainstream customers*. New York: Harper Business Essentials.
- [33] Mshenga, P.M. and Richardson, R.B. (2013). Small Bus Econ. Micro and small enterprise participation in tourism in coastal Kenya. 41: 667. doi:10.1007/s11187-012-9449-5.
- [34] Mugenda, O. M. and Mugenda, A.G. (2003): Research methods. Quantitative and qualitative Approaches. Nairobi: Acts.
- [35] Narver, J. C., and S. F. Slater. 1990. The effect of a market orientation on business profitability. *Journal of Marketing* 54
- [36] Ondraczeka, J. (2013). Are we there yet? Improving solar pv economics and power Planning in developing countries: the case of Kenya. Draft Working Paper FNU-200. April 18, 2013.

- [37] Patel, S and Baptist, C (2012), “Editorial: documenting by the undocumented”, *Environment and Urbanization* Vol 24, No 1.
- [38] Rogers, E. (2003). *Diffusion of innovations*. 5th ed. New York: Free Press.
- [39] Rogers, E.M. (1995). *Diffusion of Innovations* (4 ed.). New York: The Free press.
- [40] Rosa, P J, S Kodithuwakku and W Balunywa (2006), “Entrepreneurial motivation in developing countries: what does ‘necessity’ and ‘opportunity’ entrepreneurship really mean?” *Frontiers of Entrepreneurship Research*. (26) (20), Article 4, available at <http://www.digitalknowledge.babson.edu/cgi/viewcontent.cgi?article=1707&context=fer>.
- [41] Rosenfeld, S.A. (1997). Bringing Business Clusters into the Mainstream of Economic Development. *European Planning Studies*, Vol. 5. 1-22.
- [42] SBA (2012). Small Business Advocacy. September. [www.sba.gov/advocacy](http://www.sba.gov/advocacy)
- [43] Schein, E.H. (2010). *Organizational Culture and Leadership*. San Francisco: Jossey-Bass. 4th ed. Very clear statement, with examples, of what culture is and how it emerges in organizations.
- [44] Schneider, B, Ehrhart, M.G, Macey, W.H. (2011). Perspectives on organizational climate and culture. In *APA Handbook of Industrial and Organizational Psychology: Vol. 1. Building and Developing the Organization*, ed. S Zedeck, pp. 373–414. Washington, DC: Am. Psychol. Assoc. A detailed examination of the historical roots of contemporary climate and culture thinking and research.
- [45] Schumpeter, J A (1934/1949), *The Theory of Economic Development*, Harvard University Press, Cambridge MA (original work published 1934).
- [46] Sekaran, U. (2003), *Research Methods, a Skill Building Approach*, Fourth Edition, John Wiley and Sons, Illinois University, USA.
- [47] Shane, S and S Venkataraman (2000), “The promise of entrepreneurship as a field of research”, *Academy of Management Review*.
- [48] Sigarchian, S.G., Paleta, R., Malmquist, A. and Pina (2015). Feasibility study of using abiogas engine as backup in a decentralized hybrid (PV/wind/battery) power generation system – Case study Kenya. *Energy* (90) (2), October 2015, Pages 1830–1841. <http://dx.doi.org/10.1016/j.energy.2015.07.008>.
- [49] Spring, A and B E McDade (1998). Entrepreneurship in Africa: traditional and contemporary paradigms, in A Spring and B E McDade (editors), *African Entrepreneurship: Theory and Reality*, University Press of Florida.
- [50] Steyaert, C and J Katz (2004), “Reclaiming the space of entrepreneurship in society: geographical, discursive and social dimension”, *Entrepreneurship and Regional Development: An International Journal*.
- [51] Stokes, T.F., and Baer, D.M. (1977). An implicit technology of generalization. *Journal of Applied Behaviour Analysis*, vol. 10.
- [52] Tanguy, B. and Maximo, T., (2015). Social Interaction Effects and Connection to Electricity: Experimental Evidence from Rural Ethiopia. IFPRI. September 2014. Online at <http://mpr.ub.uni-muenchen.de/61303/> MPRA Paper No. 61303, posted 14. January 2015 13:29 UTC.
- [53] Ulsrud, K., Winther, T., Palit, D., Rohracher, H. (2015). Village-level solar power in Africa: Accelerating access to electricity services through a socio-technical design in Kenya. *Energy Research & Social Science*. 5, 34–44.
- [54] Zohar D, Hofmann DH. (2012). Organizational culture and climate. In *The Oxford Handbook of Industrial and Organizational Psychology*, ed. SWJ Kozlowski. Oxford, UK: Oxford Univ. Press. In press.