



Entrepreneurial Competency Needs Of Self-Employed Electrical Technicians for sustainable Economic Development In Enugu State

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ABSTRACT

The main objective of this study was to determine the entrepreneurial competency needs of self employed electrical technicians for sustainable economic development in Enugu state. The study was necessitated in response to the alarming rate of unemployment and stagnation of electrical business ventures of self-employed electrical technicians for sustainable economic development in Enugu state. Three purposes of the study with corresponding three research questions give the study and three null hypotheses were tested at 0.05 level of significance. A survey research design was adopted for the study. Ppopulation for the study was 55 respondents which include 30 electrical technicians and 25 master craftsmen in Enugu State. The instrument used for data collection was a 30 item structured questionnaire with four sections (A-D). The instrument had a 4-point response scale. The instrument was validated by experts. Reliability was determined using Cronbach Alpha, and it yielded a reliability coefficient of .97. Fifty five copies of the questionnaire were distributed, correctly completed and returned within three days. This accounts for a 100 percent return rate. Research questions were analyzed using mean with standard deviation. Any mean score of 2.50 and above were regarded as agree while items with mean below 2.50 were regarded as disagree. The three null hypotheses were tested at .05 level of significance using t-test. The findings of the study showed that electrical technicians need to acquire entrepreneurial competencies such as managerial, accounting and communication competencies for sustainable economic development in Enugu state. Based on the findings of the study, the following findings were made, that electrical technicians have to acquire entrepreneurial competencies like managerial, accounting and communication competencies for sustainable economic development in Enugu state, and that entrepreneurship should be made a core course by stakeholders and tertiary education in order to equip technical education recipients with the required entrepreneurial competencies for self-employment and sustainable economic development in Enugu state.

Keywords: Entrepreneurial, Competency, Electrical technician

INTRODUCTION

Competency is the ability to carryout specific tasks or activities creditably which individual has acquired through training and experience. It is the ability, capability, capacity or competence in carrying out an activity effectively. Competency is relative, to specific trades or occupations. For instance, competencies needed for mechanical trade differs from competencies needed for electrical trade. Emefu (2011) stated that without acquiring relevant competencies, the technical manpower of electrical/electronics graduates will be half baked and unproductive in the nation's labour force. Ekwe (2009) opined that technical college students require competent hands, adequate facilities and practical work experience towards effective skills acquisition in electrical trades to strive towards job creation, self-reliance and self employment for proper adaptation to the world of work that would subsequently enhance poverty reduction. However, for any trade or occupation to thrive sustainably, there is need for entrepreneurial competency.

Entrepreneurial Competencies are underlying characteristics such as generic and specific knowledge, motives, traits, self-images, social roles, and skills which result in venture birth, survival, and/or growth. According to Siwan (2019), entrepreneurial competencies are seen as important to business growth and success. Siwan further stated that entrepreneurial competencies have a key advantage in the inapplicability by individuals in a specific trade to a wide range of situations.

This makes it easier to define the core competencies to build a team of people in the trade. The competencies of an entrepreneur are important, few start-ups are comprised one-person, teams or others. Leonora (2016) noted that in order to outline the attitude and behavior of entrepreneurs, a set of qualities has been created and developed by a behavioral scientist and is collectively called Personal Entrepreneurial Competencies (PEC's). McClelland (2012), in his research, categorized 14 personal entrepreneurial competencies (achievement cluster, opportunity seeking, commitment to work, persistence, risk taking, demand for efficiency, planning cluster, goal seeking, information seeking, systematic planning & monitoring, power cluster, persuasion & networking, self-confidence and overall competencies) which characterized the behavior of a successful entrepreneur. Leonora further noted that the study also found that the PEC surpasses both culture and continent. A lot of studies have been made to characterize entrepreneurial competencies and even though there is no particular set of traits that can assure success, some identified behaviors or competencies are found common in most successful entrepreneurs. A well-known research on human behavior is done by McClelland and McBer (2018) and is able to identify 10 behavioral patterns grouped into three general clusters: the achievement, planning, and power clusters.

The entrepreneurial qualities, also known as the Personal Entrepreneurial Competencies (PECs) are classified as follows: (1) Opportunity Seeking, (2) Persistence, (3) Commitment to Work Contract, (4) Risk-taking, (5) Demand for Efficiency and Quality, (6) Goal Setting, (7) Information Seeking, (8) Systematic Planning and Monitoring, (9) Persuasion and Networking, (10) Self-Confidence. These PEC's are considered correlated to entrepreneurial skills. PEC's are transformed into actions by individuals and do not remain as mere passive traits. Most of these individuals are self employed. Mbah (2016) defined self-employment as the state of working for oneself rather than an employer. Self employed electrical technicians are the technicians that established their own enterprises dealing with electrical repairs, installations and maintenance. With these skills, they will contribute sustainable economic development.

Eli (2017) states that sustainable economic development is the investment in business, social, built, and natural environments that creates increasing prosperity for all, now and into the future. For electrical technician; electrical installations, maintenance, appliance repairs and instrument mechanics are sustainable economic development. For the technicians to contribute to economic development, people need to know them. Wim (2015) states that self employed technicians need entrepreneurial competencies for them to sell what they do to those interested in them. Electrical technicians will have to market that skills because they works for themselves.

Moses (2017) noted that entrepreneurial competencies are set of competencies required by an individual or an entrepreneur for the successful establishment, smooth running and sustainability of any business. Moses further noted that entrepreneurial competencies are the skills necessary for an entrepreneur to venture into an enterprise, organize and manage an enterprise ably and competently. Entrepreneurial competencies are the skills necessary for an entrepreneur to venture into an enterprise organize and manage an enterprise ably and competently thereby realizing the goals for which the enterprise was established. Moses (2017) further noted that entrepreneurial competencies help an entrepreneur to successfully venture into an enterprise. Moses however grouped entrepreneurial competencies into three as. Follows; behavioral competencies, enterprise launching competencies and enterprise managing competencies. He further enumerated entrepreneurial specific competencies to include; Initiative, systematic planning, creativity and innovation, risk taking and risk management, problem solving, persistence, quality performance, information management, persuasion and influencing abilities.

Onoh (2013), in Onoh & Moses (2015), stated that entrepreneurial competencies demanded for the establishment of a small scale and medium enterprises includes: Technical competence, which deals with intimate knowledge of physical products, job skills, manufacturing process and so on; System

competence which refers to having the ability to be planners and organizers, to exhibit skills in fixing all the pieces of the desired components of the business together in order to move the enterprise forward to the desired future and; Interpersonal competence which includes such role traits as accounting skills, marketing skills, communication skills and public relation skills.

Gana (2007) in Onoh & Moses (2015) also stated that entrepreneurial competencies include technical, managerial, financial, marketing and communication competencies. However, Onoh & Moses (2015) in their view noted that entrepreneurial competencies are necessary for the success of any business venture. The authors reiterated that an entrepreneurial competency necessary for the establishment of any enterprise includes technical, managerial and interpersonal competencies. Technical competencies are those competencies necessary for the accomplishment of a specific task (Onoh & Moses, 2015). For the establishment and smooth running of a small scale and medium enterprise, there are certain tasks involved. For which technical competencies are necessary. Without technical competencies, the objective of an enterprise may be difficult to manage (Onoh & Moses, 2015).

Managerial competencies are needed for effective management of a small scale and medium enterprise. Managerial competencies are the tactics for effective management of human and material inputs in order to enhance or achieve maximum output in an organization (Onoh & Moses, 2015). Human and material inputs in an enterprise can only be affectively managed for poverty reduction with managerial competencies in conjunction with the help of interpersonal competencies.

Interpersonal competencies are those competencies necessary for effective communication and public relations. It include; abilities to market goods and services as rendered by the enterprise. It also involves accounting ability, which deals with day to day financial inputs and outputs in the small scale and medium enterprise. The aforementioned entrepreneurial competencies are required of electrical technicians in Enugu state for sustainable economic development. These competencies will be obtained in schools, colleges, skill acquisition centres, or institutions with entrepreneurial curriculum

Enugu State is one of the States in the Eastern part of Nigeria. The state shares borders with Abia State and Imo State to the South, Ebonyi State to the East, Kogi State to the Northwest and Anambra State to the West. The name of the state was derived from its capital city, Enugu. The state has so many electrical ventures which are owned by electrical technicians and craftsmen.

Electrical technicians are trained professionals who are skilled in design, building installations and maintenance of electrical devices and equipment. Electrical technicians are graduates of polytechnics (that is National Diploma holders from polytechnics). Rajaraman (2018) state that people with personal entrepreneurial competencies survive better in business than people without it.

Statement of the Problem

Enugu State has several enterprise ventures owned by electrical technicians. However, the growth of these enterprise ventures is sluggish, with little or no seen sustainable economic development amongst the owners of these enterprise ventures. Akpomi (2009) pointed out that electrical installation and maintenance work taught in schools using theoretical method with less practical skills does not encourage acquisition of skills, attitudes or entrepreneurial behavior in students. It therefore means that the technical competencies such as electrical installation competencies, maintenance competencies, troubleshooting competencies, safety competencies, repair competencies etc as acquired by the electrical technicians are not enough for the establishment and smooth operation of an electrical venture for sustainable economic development. This could also imply deficiency of entrepreneurial competencies on the part of the electrical technicians, which has further resulted to some failed electrical ventures as a result of the electrical technician's inability to sustainably manage these ventures, hence the high rate of unemployment in the State. On this background, the need arose to determine the entrepreneurial competency needs of self employed electrical technicians for sustainable economic development in Enugu State. The main purpose of this study was to determine the entrepreneurial competency needs of self employed electrical technicians for sustainable economic development in Enugu state. Specifically, the study sought to determine the;

1. managerial competency needs of self employed electrical technicians for sustainable economic development in Enugu state.

2. accounting competency needs of self employed electrical technicians for sustainable economic development in Enugu state.
3. communication competency needs of self employed electrical technicians for sustainable economic development in Enugu state.

Research Questions

The following research questions guided the study;

1. What are the managerial competency needs of self employed electrical technicians for sustainable economic development in Enugu State.
2. What are the accounting competency needs of self employed electrical technicians for sustainable economic development in Enugu State.
3. What are communication competency needs of self-employed electrical technicians for sustainable economic development in Enugu State.

Hypotheses

The following null hypotheses were tested at 0.05 level of significance ;

1. There is no significant deference between the mean responses of electrical technicians and electrical master craftsmen on managerial competency needs of self-employed electrical technicians for sustainable economic development in Enugu state.
2. There is no significant deference between the mean responses of electrical technicians and electrical master craftsmen on accounting competency needs of self-employed electrical technicians for sustainable economic development in Enugu state.
3. .There is no significant deference between the mean responses of electrical technicians and electrical master craftsmen on communication competency needs of self-employed electrical technicians for sustainable economic development in Enugu state

METHODS

The study adopted a descriptive Survey research design. This was because the study collected and analyzed data from electrical technicians and master craftsmen in Enugu State. Alio (2008) defined descriptive survey research design as one in which a group of people or items are studied by collecting and analyzing data from only a few people or items considered to be a representative of the entire group, or by collecting and analyzing data from the entire people or items. The area of the study was Enugu state. The instrument used for data collection was a 30 item structured questionnaire. The instrument had a 4-point response scale with response categories of Strongly Agree (4), Agree (3), Disagree (2), Strongly Disagree (1). The instrument was validated by three experts, two experts from Department of Technology and Vocational Education, and one Measurement and Evaluation, Department of Science Education, all from the Faculty of Education, Enugu State University of Science and Technology, ESUT, Enugu. Reliability was determined using Cronbach Alpha, and it yielded a reliability coefficient of .97. The population for the study consists of 55 respondents, which include 30 electrical technicians and 25 master craftsmen in Enugu State. There was no sampling as a result of the relatively manageable size of the population. Fifty five copies of the questionnaire were distributed, correctly completed and returned within three days. This accounts for a 100 percent return rate. The research questions were analyzed using mean and standard deviations. Any mean score of 2.50 and above were regarded as agree while items with mean below 2.50 were regarded as disagree. The three null hypotheses were tested at .05 level of significance using t-test. It was decided that if the t-calculated is equal to or greater than the t-table at 0.05 level of significance, the null hypotheses is rejected, otherwise it will not be rejected.

RESULTS

The result analyses of the study were presented in tables according to the research questions that guided the study and the hypotheses tested for the study at 0.05 level of significance.

Research Question 1: *What are managerial competency needs of self employed electrical technicians for sustainable economic development in Enugu State?*

Table 1: Mean (\bar{x}) scores and standard deviation ratings on the responses of electrical technicians and electrical master craftsmen on managerial competency needs of self-employed electrical technicians for sustainable economic development in Enugu state.

S/ N	Managerial Competency needs of electrical technicians include the ability to;	Technicians (30)		Master Craftsmen (25)		Overall		Decision
		\bar{x}	SD	\bar{x}	SD	\bar{x}	SD	
1	manage human and material resources in the business	3.03	1.11	3.30	1.01	3.12	1.10	Agree
2	organize ideas and concepts related to the trade	3.40	0.90	3.23	0.93	3.32	0.88	Agree
3	accommodate and plan for changes in technology	3.32	0.96	3.11	1.22	3.33	1.08	Agree
4	Skills in time management	2.82	1.03	2.89	1.17	2.85	1.04	Agree
5	use feedback from customers and clients for improved performance	3.02	1.13	3.42	1.01	3.25	1.03	Agree
6	plan for improvement of products and services	3.04	1.05	3.30	1.08	3.23	1.07	Agree
7	plan for feasibility study for the business	3.24	1.06	3.15	0.90	3.32	0.98	Agree
8	make plans for payment of workers	3.01	1.05	3.12	1.12	2.96	1.27	Agree
9	Ability to make plans for recruitment	3.04	1.06	3.01	1.31	2.78	1.14	Agree
10	organize daily activities in the trade	3.02	1.04	3.13	1.06	3.03	1.12	Agree
Cluster Mean and Standard Deviation		3.09	1.03	3.16	1.22	2.78	1.07	Agree

Results in table 1 revealed that all the 10 items had their overall mean ratings ranging from 2.78 to 3.33 indicating that the respondents agree that ability to plan for feasibility study for the business, ability to use feedback from customers and clients for improved performance, and ability to plan for improvement of products and services among others are the managerial competencies needed by self-employed electrical technicians for sustainable economic development in Enugu state. The standard deviations scores also ranged from 0.88 to 1.14 indicating the homogeneity of opinions of the respondents.

Hypotheses 1

There is no significant difference between the mean responses of electrical technicians and electrical master craftsmen on managerial competency needs of self-employed electrical technicians for sustainable economic development in Enugu state.

Table 2: t-test summary of analysis of significant difference between the mean responses of electrical technicians and electrical master craftsmen on managerial competency needs of self employed electrical technicians for sustainable economic development.

Variables	N	\bar{x}	SD	d.f	t-cal	t-crit	Remark
Electrical Technicians	30	3.07	1.02	53	1.13	1.684	Not Significant
Master Craftsmen	25	3.07	1.03				

The data presented in Table 2 showed a computed t-value of 1.13 which indicated that t-calculated is less than t-critical value of 1.684, at 53 degree of freedom, hence the null hypothesis is not rejected. Electrical technicians and master craftsmen have uniform opinion on ability to accommodate and plan for changes in technology as managerial competency needs of self employed electrical technicians for sustainable economic developmentally in Enugu state. Their mean ratings are of no significant difference.

Research Question 2: *What are the accounting competency needs of self employed electrical technicians for sustainable economic development in Enugu State?*

Table 3: Mean responses and standard deviation ratings of electrical technicians and electrical master craftsmen on accounting competency needs of self employed electrical technicians for sustainable economic development.

S/N	Accounting Competencies needed by Electrical Technicians are ability to	Technicians (30)		Master Craftsmen(25)		Overall		Decision
		\bar{x}	SD	\bar{x}	SD	\bar{x}	SD	
11	keep daily, weekly and monthly records	3.02	1.02	3.30	1.03	3.12	1.12	Agree
12	keep and financial statements.	3.42	0.92	3.32	0.98	3.23	0.92	Agree
14	knowledge of accounting principles	2.80	0.68	2.80	0.66	2.80	0.67	Agree
16	control income and expenditure	3.30	0.93	3.10	0.90	3.20	0.92	Agree
17	audit financial information	3.10	1.05	3.14	0.92	3.32	0.98	Agree
18	analyze accounts and business plans	3.11	1.07	3.01	1.12	2.96	1.27	Agree
19	prepare budgets, and business plans,	3.04	1.06	2.66	1.31	2.78	1.14	Agree
20	financial forecasting and risk analysis	2.89	1.04	3.03	1.06	3.01	1.15	Agree
	Cluster Mean/Standard Deviation	3.07	1.02	3.07	1.03	3.08	1.08	Agree

Results in table 3 revealed that all the 10 items had their mean ratings ranging from 2.78 to 3.32 indicating that the respondents agree that ability to keep daily, weekly and monthly records, ability to keep financial statements, and ability to analyze figures among others are the accounting competencies needed by self-employed electrical technicians for sustainable economic development in Enugu state. The standard deviations also ranged from 0.92 to 1.15 indicating that the disparity/homogeneity in the opinions of the respondents is slim.

Hypotheses 2

There is no significant deference in the mean ratings of electrical technicians and electrical master craftsmen on accounting competency needs of self employed electrical technicians for sustainable economic developmentally in Enugu state.

Table 4: Summary of t-test analysis of significant difference in the mean ratings of electrical technicians and electrical master craftsmen on accounting competency needs of self-employed electrical technicians for sustainable economic development in Enugu state

Variables	N	\bar{x}	SD	df	t-cal	t-crit	Remark
Electrical Technicians	30	3.14	1.06	53	1.11	1.684	Not Significant
Master craftsmen	25	3.22	1.04				

The result of the data presented in table 4 showed a computed t-value of 1.11 which indicated that t-calculated is less than t-critical value of 1.684 at 53 degree of freedom, hence the null hypothesis is not rejected. Electrical technicians and master craftsmen have uniform opinions on ability to audit financial information, ability to analyze figures, and ability to keep financial statements and they are regarded among others as accounting competencies needed by self-employed electrical technicians for sustainable economic developmentally in Enugu state. The mean ratings have no significant difference, therefore the null hypotheses was not rejected.

Research Question 3: *What are the communication competency needs of self employed electrical technicians for sustainable economic development in Enugu State?*

Table 5: Mean responses and standard deviations ratings of electrical technicians and electrical master craftsmen on communication competency needs of self employed electrical technicians for sustainable economic development in Enugu state.

S/N	Communication Competencies needed by Electrical Technicians include the ability to;	Technicians (30)		Master Craftsmen(25)		Overall		Decision
		\bar{x}	SD	\bar{x}	SD	\bar{x}	SD	
21	State ideas clearly.	3.02	1.10	3.32	1.03	3.14	1.16	Agree
22	Communicate ethically.	3.41	0.92	3.22	0.98	3.32	0.87	Agree
23	Recognize when it is appropriate to communicate.	3.30	0.98	3.10	1.25	3.23	1.07	Agree
24	Identify their communication goals.	2.81	1.01	2.87	1.07	2.84	1.04	Agree
26	Demonstrate credibility.	3.0		3.1		3.2		Agree
27	Identify and manage misunderstandings.	3.14	1.06	3.15	0.90	3.32	0.98	Agree
28	Manage conflict.	3.01	1.05	2.92	1.12	2.96	1.27	Agree
29	Be open-minded policy about another person's point of view.	3.04	1.06	3.01	1.32	2.77	1.14	Agree
30	Listen attentively.	3.03	1.02	3.05	1.05	3.02	1.14	Agree
Cluster Mean/ Standard Deviation		3.07	1.02	3.07	1.03	3.08	1.08	Agree

Results in table 5 revealed that all the 10 items had their overall mean ratings ranging from 2.77 to 3.32 indicating that the respondents agree that identifying and managing misunderstandings, stating ideas clearly, and open-minded policy about another person's point of view among others are communication competencies needed by self-employed electrical technicians for sustainable economic development in Enugu state. The standard deviations also ranged from 0.97 to 1.27 indicating that the disparity in the opinions of the respondents is slim.

Hypotheses 3

There is no significant deference between the mean responses of electrical technicians and electrical master craftsmen on communication competency needs of self employed electrical technicians for sustainable economic development in Enugu state

Table 6: Summary of t-test analysis of significant difference in the mean ratings of electrical technicians and electrical master craftsmen on communication competency needs of self employed electrical technicians for sustainable economic development in Enugu State.

Responses	N	\bar{x}	SD	d.f	t-cal	t-crit	Decision
Electrical Technicians	30	3.11	1.02	53	1.21	1.684	Not significant
Master craftsmen	25	3.07	1.02				

The results of data presented in Table 6 showed that the computed t-value is 1.21 which indicated that t-calculated is less than t-critical value of 1.684 at 0.05 level of significance and at 53 degree of freedom, hence the null hypothesis is not rejected. Electrical technicians and master craftsmen have uniform opinion on the ability of the electrical technicians to communicate ethically, ability to recognize when it is appropriate to communicate among others are regarded as communication competency needs of self employed electrical technicians for sustainable economic development in Enugu state. The mean ratings of the respondents have no significant difference, therefore the null hypothesis was not rejected.

DISCUSSION OF FINDINGS

The study revealed that the respondents agree that the ability to accommodate and plan for changes in technology, ability to organize ideas and concepts related to the trade and ability to plan for feasibility study for the business, among others are the managerial competencies needed by self-employed electrical technicians for sustainable economic development in Enugu state. This finding agrees with the study of Onoh & Moses, (2015) who noted that managerial competencies are needed for effective management of any enterprise. Onoh & Moses also noted that managerial competencies are the tactics for effective management of human and material inputs in order to enhance or achieve maximum output in an organization.

The study also showed that the respondents agreed that the ability to audit financial information, ability to analyze figures, and ability to keep and financial statements among others was the accounting competencies needed by self-employed electrical technicians for sustainable economic development in Enugu state. This finding agrees with the study of Onoh (2013) in Ezeabii, Oluka & Moses (2017), who referring to accounting skills, noted that an entrepreneur's success is measured by how profitable the enterprise or firm is and the growth it has recorded over the years. Ezeabii, et al maintained that for one to achieve this needed success, that the accounting records on the day to day running of the enterprise must be recorded with regard to their customers, business associates, financial institutions and general prudent financial management.

The study further showed that the respondents agree that ability to communicate ethically, ability to recognize when it is appropriate to communicate among others are communication competencies needed by self-employed electrical technicians for sustainable economic development in Enugu state. This result agree with the findings of Onoh & Moses (2015) who noted that ability to state ideas clearly, ability to communicate ethically, ability to identify the communication goals, and ability to demonstrate credibility among others are communication competencies needed by self-employed electrical technicians for sustainable economic development in Enugu state. Ezeabii, Oluka & Moses (2017) also noted in their study that ability to identify and manage misunderstanding, ability to listen attentively, ability to operate open-minded policy about another person's point of view and ability to select the appropriate medium for communication are some of the communication competencies needed by self-employed electrical technicians for sustainable economic development in Enugu state.

CONCLUSION

Entrepreneurial competencies are prerequisite for the success of any economic venture. This study and its findings on the competency needs of self employed electrical technicians for sustainable economic development in Enugu state revealed that managerial competencies, accounting competencies and communication competencies among others are entrepreneurial competencies needed by self-employed electrical technicians for sustainable economic development in Enugu state.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made;

1. Governments should establish skills acquisition centres where the products of technical colleges, colleges of Education and polytechnics are to be equipped with entrepreneurial competencies like managerial, accounting and communication competencies and the likes for the sustainable economic development of Enugu state.
2. The stakeholders of education should make entrepreneurship studies a core course in technical colleges and polytechnics in other to equip technical education recipients with the required entrepreneurial competencies blended with technical expertise for self-employment to achieve sustainable economic development in Enugu state.
3. The federal and State Governments should organize the skills acquisition centers to become a continuum on graduation from .schools to reduce unemployment and encourage self-employment at the end of the training.

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