

# **ENTREPRENEURIAL COMPETENCIES NEEDED BY N.C.E ELECTRICAL TECHNOLOGY GRADUATES FOR SELF-EMPLOYMENT IN KATSINA STATE, NIGERIA**

**BY**

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## **Abstract**

The purpose of the study was to identify Entrepreneurial Competencies Needed by N.C.E Electrical Technology Graduates in Northwestern Nigeria. The study was guided by three research questions and three null hypotheses. A descriptive survey was used for the study. The population of the study comprised all the graduates from the two departments in Isa Kaita College of Education Dutsinma and Hassan Usman Katsina polytechnic offering NCE Electrical Technology. The entire population of the study was used as the sample for the study. A structured questionnaire was used to collect data from the respondents. Three experts validated the instrument for data collection. Mean and standard deviation was used to answer research questions. It was found that 20 technical competencies, 21 marketing competencies, and 15 Business competencies are required by NCE Electrical Technology graduates to make them employable in already scarce job vacancies in Nigeria with particular reference to the Northwestern region. Recommendations for the achievement of these competencies during the training of the students were provided.

**Key Words:** Entrepreneurship, Competencies, Electrical Technology, Self-employment

## **Introduction**

Entrepreneurship refers to an individual's ability to turn ideas into action and is therefore a key competence for all, helping young people to be more creative and self-confident in whatever they undertake. (EU, 2008, p. 7). Competence means the proven ability to use knowledge, Skills and Personal, Social and or methodological abilities in work situations. This is supported by the European Qualification Framework which viewed competence as a dynamic combination of knowledge, understanding, skills and abilities.

Undeniably, the economic recession being witnessed across the globe that manifested itself from the fall of crude oil prices in Nigeria today is affecting almost, if not all aspects of governance including upsetting workers' monthly salaries and financing public infrastructural development projects that will open employment opportunities. This situation is worsened by

high inflation rates occasioned by a high exchange rate of the dollar against the naira. Emeh, I.J.E (2012) observed that if unemployment was growing in geometric progression, it has now gone exponential. This claim is buttressed by the recent happening of the 2014 Nigeria Immigration service recruitment saga, where lots of lives were lost due to a stampede which was caused by many interviewees. It is therefore imperative for all of us to accept the fact that entrepreneurial competencies if imparted to the youth, especially the Nigeria Certificate in Education (NCE) Electrical graduates, maybe a way out of this difficult situation.

According to NCCE minimum standards (2020) the philosophy of this program, NCE (Technical) is to provide Basic Technology teachers with the intellectual and professional background adequate for teaching Basic Technology subjects offered at upper primary and junior secondary Education, to make them economically self-reliant and adaptable to any

emerging innovations in technological development not only in the country but also in the world at large. An individual may not be self-reliant if he does not have the required entrepreneurial competencies. Specifically, the general objectives of the program as stated in the minimum standards are as follows:

- To produce qualified Technical Teachers and Practitioners of technology capable of teaching Introductory Technology in Junior Secondary Schools.
- To produce Technical NCE Teachers who will be able to inculcate Scientific and Technological attitudes and values into Society.
- To produce qualified Technical Teachers motivated to start the so much-desired revolution of Technological development right from the Nigerian Schools.
- To imbue in the NCE Technical teachers the spirit of entrepreneurship for self-reliance on graduation.
- To prepare Technical Teachers to qualify them for a degree program in Technical Education.

This suggests that the training received by NCE (Technical) electrical/ electronic technology graduates is meant to train them as competent teachers in their area or to be employed in industries or become successful entrepreneurs. The objectives of the program as stated above can be seen as a solution to the massive unemployment of our youths. However, Oluka, N.S (2016) Observed that most of the graduates of higher institutions (NCE Technical inclusive) lack the necessary skills and competencies that would enable them to become self-reliant. The evidence is the high rate of unemployment among the graduates of tertiary institutions, electrical/electronic technology education inclusive. This is a clear indication that the objectives of the NCE program are not achieved as graduates lack relevant skills and competencies for self-employment. This problem calls for serious concern.

The word 'entrepreneur' originates from the French entrepreneur, to undertake. In a

business context, an entrepreneur is someone who starts a business. As a practice, Allawadi (2007) defined entrepreneurship as that which involves evaluating business opportunities, developing a business plan and determination of the required resources as well as managing a resulting enterprise.

In general, it is important to understand that entrepreneurs with the required competencies have a vision for a better way of doing things, thinking beyond the constraints of current rules and resources. Perhaps more importantly, they have the passion and sense of urgency that compels them to take the risks necessary to realize that vision. They create new organizations to make the changes they want to see in the world and by doing so, they inspire others to follow. Maigida, et. al (2013) concluded that competent entrepreneurs are risk bearers, coordinators, organizers, gap-fillers, leaders, innovators, or creative imitators who are focused and determined to make life meaningful. It is against this background that the Federal Government of Nigeria (FGN) directed that all institutions of higher learning in Nigeria introduce the study of entrepreneurship as a compulsory course for all students, irrespective of discipline with effect from the 2007/2008 academic session. (Borofice, 2008). But a study by Osakwe (2011) still showed a lack of entrepreneurship skills in tertiary institutions, in Nigeria.

### Statement of Problem

In the past graduates of Technical and Vocational Education programs got an easy transition from school to work as employed Staff. For instance, companies like Peugeot Automobile assembly plant in the 70s and 80s do visit Technical College Kaduna to absorb students directly at the end of their training. But now the reverse is the case as observed by Gladys et. al (2013) that the high rate of unemployment in the country is because of a lack of entrepreneurial skills and a lot of graduates only think about white collar jobs or what their certificates can offer them on graduation. Therefore, technical and

vocational education graduates need entrepreneurial competencies to be self-employed.

One of the goals of technical education as stated in the national policy on education (NPE) is to give training and impart the necessary skills to individuals who shall be self-reliant economically (NPE, 2014). This goal implies that graduates should stand on their feet to be self-employed in case they are not employed in a paid job. Wealth and a high majority of jobs are created by small businesses started by entrepreneurially minded individuals, many of whom go on to create big businesses. People exposed to entrepreneurship frequently express that they have more opportunities to exercise creative freedoms, higher self-esteem, and an overall greater sense of control over their own lives. As a result, many experienced businesspeople, political leaders, economists, and educators believe that fostering a robust entrepreneurial culture will maximize individual and collective economic and social success on a local, national, and global scale. It is with this in mind that the National Standards for Entrepreneurship Education were developed: to prepare youth and adults to succeed in an entrepreneurial economy. This view is in line with The EU Expert Group report which stated that: The important role of education in promoting more entrepreneurial attitude and behaviour is now widely recognized. However, the benefits of entrepreneurship education are not limited to start-ups, innovative ventures, and new jobs.

### Purpose of the Study

The purpose of the study is to examine the entrepreneurial competencies of NCE (Electrical Technology) graduates for self-employment in Katsina State Nigeria. Specifically, the purpose of the study is set to:

- (i) Examine the Technical competencies needed by NCE Electrical technology graduates.
- (ii) Determine the Business management competencies needed by NCE Electrical

Technology graduates.

- (iii) Determine Marketing competencies needed by NCE Electrical technology graduates.
- (iv) Proffer solutions to observed obstacles to entrepreneurial competencies of NCE Electrical Technology Graduates.

### Research Questions

The following research questions were used to guide the study:

- (i) What are the technical competencies needed by NCE Electrical technology graduates?
- (ii) What are the business management competencies needed by NCE Electrical technology graduates?
- (iii) What are the marketing competencies needed by NCE Electrical technology graduates?

### Literature Review

The numerous social interventions by the federal government of Nigeria in the name of N-Power, 'Trader-moni, and farmers' anchor borrowers has been seen as a remarkable step to reduce poverty and unemployment. Success in small-scale electrical installation in buildings, and maintenance of electrical /electronic devices required entrepreneurs with the requisite competence to handle the installation in buildings, circuit analysis and troubleshooting. The role of the electrician is appreciated whenever they have completed a new building ready to be supplied with electrical power, and also when any of their electrical/electronic has failed.

Entrepreneurship education is important to students of tertiary institutions because they are expected to acquire knowledge, skills and attitudes that would enable them to become self-reliant and adapt to changing needs of society due to globalization and integration processes. That is why in 2006 the federal government directed Nigerian higher institutions (HEIs) to include entrepreneurship education (EEd) as a compulsory course for all students with effect from the

2007/2008 academic session. The action of the Federal Government is in order as observed by Ogunmilade, O. J (2017) who observed that, acquiring entrepreneurial competencies is a requisite factor for achieving success in self-employment. Thus, entrepreneurial competencies can be described as factors that make a successful entrepreneur.

### Methodology

The study adopted a descriptive survey design. A descriptive survey research design according to (Ali, A 2006) is a systematic and unbiased investigation which is concerned with the collection of data to describe and interpret existing conditions, prevailing practices, beliefs, attitudes and procedures. The survey design was therefore suitable for this study because it is meant to obtain from these graduates, entrepreneurs, and employers in the industries the entrepreneurial competencies needed by NCE Electrical Technology graduates for self-employment.

The study was carried out in Katsina state of Nigeria. The population of the study comprises Graduates of this program from Colleges of Education and Polytechnics that run the program, entrepreneurs, and employees in the industries. The sample of the study was generated from the population of the study which 150 of the respondents were involved in the study, 80 graduates, 40 entrepreneurs and 30 employees in industries. The instrument was in three sections A, B, C

and D. Section A was organized to collect data on technical competencies needed by NCE Electrical Technology graduates, section B focused on Marketing competencies needed by NCE Electrical Technology graduates, while section C centered on Business competencies needed by NCE Electrical Technology graduates, while section D is on proffered solutions to the observed obstacles to entrepreneurial competencies of NCE Electrical Technology graduates. Each entrepreneurial competency is measured on 5- a point Likert scale of very highly needed (VHN), highly needed (HN), undecided (UD), slightly needed (SN) and not needed with weighting values of 5,4,3,2 and 1. Two lecturers from the department of Vocational and technical education validated the instrument for data collection 150 copies of questionnaires were distributed, completed and returned hence representing about a 100% response rate.

### Data Analysis Procedure

The data collected from the respondents were analyzed using mean and standard deviation to answer the research questions. In the analysis, any item with a mean score of 2.50 and above is considered highly needed, while items with mean ratings below 2.50 are regarded as slightly needed.

### Results

**Research Question One:** What are the technical competencies possessed by NCE Electrical technology graduates

**Table 1: Mean score and standard deviation of the responses on the Technical Competencies Possessed by NCE Electrical Technology Graduates.**

SN	Item	$\bar{X}$	SD	Remark
1	Reading and interpreting wiring diagrams.	4.6905	.56258	Highly Needed
2	Ability to identify open circuits faults in electrical/electronic equipment & appliances	4.5714	.76963	Highly Needed
3	Skills to trace short circuit faults in electrical circuits.	4.5714	.73726	Highly Needed
4	Ability to draw circuit diagrams for domestic and industrial electrical installations.	4.5476	.50376	Highly Needed
5	Ability to carry out surface conduit wiring in residential houses.	3.9524	.76357	Highly Needed
6	Ability to carry out concealed conduit wiring in residential houses.	4.1905	.59420	Highly Needed
7	Ability to test the condition of DC Motors and generators.	4.4762	.55163	Highly Needed
8	Ability to carry out rewinding of electric machine windings.	3.7381	.70051	Highly Needed
9	Ability to keep up with technological advancement.	4.3095	1.07040	Highly Needed
10	Proficient in the use of Information communication technology and computer skills.	4.3810	1.08093	Highly Needed
11	Conversant with various power protection schemes.	3.9762	.94966	Highly Needed
12	Proficiency in the use of both digital and analogue measuring instruments.	4.3095	.71527	Highly Needed
13	Conversant with the principles of plasma receiver, Always observe safe working habits.	4.0000	.93704	Highly Needed
14	Conversant with the principles of LED TV receiver.	4.1429	.81365	Highly Needed
15	Always observe safe working habits.	4.4286	1.06251	Highly Needed

In table 1 above all the items have their mean score above the cut-off mean score of 2.50 showing that all the statements in table 1 are technical competencies required by NCE Electrical technology graduates to be self-

employed.

**Research Question Two:** What are the Business management competencies required by NCE Electrical technology graduates?



**Table 2: Mean score and standard deviation of the responses on the Business management competencies required by NCE Electrical technology graduates.**

SN	Item	$\bar{X}$	SD	Remark
1	Ability to mount strategic customer mobilization	4.3571	.72655	Highly Needed
2	Discover customer problems	4.0476	.88214	Highly Needed
3	Ability to improve customer loyalty	4.6667	.65020	Highly Needed
4	Ability to improve customer satisfaction	4.2619	.91223	Highly Needed
5	Ability to create new customers	4.7619	.48437	Highly Needed
6	Ability to retain existing customers	4.5238	.67130	Highly Needed
7	Ability to drive a hard bargain	4.4524	.86115	Highly Needed
8	Ability to communicate effectively	4.2857	.70834	Highly Needed
9	Ability to develop a good personal image	4.1429	.97709	Highly Needed
10	Ability to carry out market research	4.4000	.74421	Highly Needed
11	The ability to use imagination and new ideas to produce solutions.	4.2143	.78198	Highly Needed
12	The ability to use financial calculations to justify, manage and approve the expenditure.	4.1429	.71811	Highly Needed
13	Ability to demonstrate knowledge and uses marketing tools principles and practices.	4.4524	.67000	Highly Needed
14	Understands and uses market research tools and techniques.	4.3810	.66083	Highly Needed
15	Ability to apply knowledge and use of technology in marketing.	4.0238	.97501	Highly Needed
16	Handle stress without panicking.	4.3571	1.12231	Highly Needed
17	Analyzes data, identifies market trends, draws conclusions, and seeks rationales.	4.2143	.56464	Highly Needed
18	Apply knowledge of key customers and competitors.	3.7857	1.15897	Highly Needed
19	Establishes and manages appropriate relationships with internal and external stakeholders.	3.8571	.92582	Highly Needed
20	Develops and applies knowledge of key customers and competitors	3.8571	1.13849	Highly Needed
21	Maintains good after-sale service.	3.7692	.90209	Highly Needed

In table 2 above all the items have their mean score above the cut-off mean score of 2.50 showing that all are the Business management competencies required by NCE Electrical technology graduates are to be self-

employed.

**Research Question Three:** What are the marketing competencies needed by NCE Electrical technology graduates?

**Table 3: Mean score and standard deviation of the responses on the Business competencies needed by NCE Electrical Technology Graduates**

SN	Item	$\bar{X}$	SD	Remark
1	Using business acumen from experience or learning.	4.4524	.67000	Highly Needed
2	The ability to work with others to the benefit of the business and its goals.	4.1905	1.01784	Highly Needed
3	The ability to work in a way that considers its impact on other people, organizational goals and the wider environment.	4.0476	1.20876	Highly Needed
4	Ability to work with others to the benefit of the business.	4.3571	.90585	Highly Needed
5	Ability to resolve ambiguity and uncertain situations and make sound decisions.	4.5238	.83339	Highly Needed
6	Ability to listen, asks questions, and express ideas and concepts effectively.	4.7619	.61721	Highly Needed
7	Ability to find and share useful business information for problem-solving.	4.5714	.80070	Highly Needed
8	Capacity to make independent decisions based on a clear understanding of the possibilities it entails.	4.1190	.88902	Highly Needed
9	Establishes and manages appropriate relationships with internal and external stakeholders.	3.7857	1.09401	Highly Needed
10	Ability to take initiative and manage multiple projects and activities simultaneously.	4.2381	.79048	Highly Needed
11	Ability to socialize and relate to a wide range of people honestly and professionally.	4.5714	.83060	Highly Needed
12	Ability to think ahead to spot opportunities and maximize them.	4.2381	.79048	Highly Needed
13	Always honest and sincere in dealing with customers.	4.4762	.77264	Highly Needed
14	Ability to change the status quo and drive change in a business environment.	3.9286	1.11296	Highly Needed
15	Ability to inspire and motivate others towards a common vision.	3.9762	1.09295	Highly Needed

In table 3 above all the items have their mean score above the cut-off mean score of 2.50 showing that all the marketing

competencies are vital for NCE Electrical technology graduates.

**Table 4: Mean score and standard deviation of the responses on the proffered solutions to the observed obstacles to entrepreneurial competencies of NCE Electrical Technology graduates.**

SN	Item		SD	Decision
1	Be familiar with organizational structure	4.2143	.78198	Highly Needed
2	Exhibit understanding of basic steps involved in business.	4.1429	.71811	Highly Needed
3	Familiar with various types of ownership.	4.4524	.67000	Highly Needed
4	Be familiar with the business to be started.	4.3810	.90585	Highly Needed
5	Determine factors involved in granting credit	4.0238	.66083	Highly Needed
6	Determine facilities, employment, tools and materials required.	4.2143	.97503	Highly Needed
7	Determine the source of capital.	4.5714	.56464	Highly Needed
8	Determine causes of business failure.	3.7857	1.15897	Highly Needed
9	Familiarity with the business registration procedure.	3.8571	.92582	Highly Needed
10	Exhibit knowledge of facilities for supplying information on starting a business.	3.8571	1.13849	Highly Needed
11	Use professionals like lawyers, bankers, etc.	3.76927	.90202	Highly Needed
12	Determine various types of insurance and the application of each	3.7857	.94966	Highly Needed

In table 4 above all the items have their mean score above the cut-off mean score of 2.50 showing that all the statements in table 4 are solutions to the proffered observable obstacles to entrepreneurial competencies of NCE Electrical technology graduates.

### Discussion of the results

The findings of the study according to the

research questions showed that the three components of the entrepreneurial competencies namely: Technical competencies, Business competencies and Marketing competencies are highly needed by NCE Electrical Technology graduates to fit into any of the three areas that they may find themselves, self-employable, classroom teaching or industry employee. This agrees



with findings in a previous study made by Oluka S.N (2016) which shows that those graduates who lack entrepreneurial competencies end up increasing the number of unemployed graduates while very few graduates who possessed the competencies, get themselves busy in their little way because of limited resources.

### Conclusion

In line with the findings of the study, it was concluded that NCE Electrical Technology graduates needed technical, marketing and Business competencies to be able to perform effectively both in the industry, classroom teaching or self-employment.

### Recommendations

The following recommendations are made:

1. Consultancy units of Colleges and

Polytechnics offering NCE must involve students in their work. School enterprise centres should be established to allow students to get an internship.

2. More time should be given to the period of practical training.
3. Public enlightenment by the government and cooperative practitioners that appropriate media on the importance of the cooperative in promoting entrepreneurship activities should be employed.
4. Cooperative practitioners should be included in the national policies for poverty eradication and the provision of employment opportunities.
5. Government should ensure that financial and material resources for promoting entrepreneurship reach the appropriate beneficiaries that a cooperative group.

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