

## ENTREPRENEURIAL SKILLS NEEDS OF ELECTRONIC TECHNICIANS FOR SUSTAINABLE INDUSTRIALIZATION IN RIVERS STATE

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### **Abstract**

*The objective of this study was to determine the entrepreneurial skills need of electronics technicians for sustainable industrialization in Rivers State. The study was necessitated in response to the prevailing issue of unemployment among graduates of technical colleges and the colossal alarm for industrialization. Four. A survey research design was used for the study. The area of study was Rivers State. Population was 50 electronics technicians, (35 less-experienced and 15 experienced electronics technicians) in Rivers State. There was no sampling done to the manageable size of the population. The instrument for data collection was a 36 item structured questionnaire with four sections (A-D). The instrument was validated by three experts. Reliability of the instrument was determined using Cronbach Alpha, and it yielded a reliability coefficient of .90. Fifty copies of the questionnaire were distributed, correctly completed and returned within three days. This accounts for a 100 percent return rate. Four research questions that guided the study were analyzed using mean with standard deviation. Four null hypotheses were tested at .05 level of significance using t-test. The findings of the study showed that electronic technicians must acquire entrepreneurial skills such as planning skills, technical skills, accounting skills and interpersonal skills, if they must establish and sustain their own enterprises/industries. Based on the findings of the study, the following recommendations were made, sensitization campaign by the government in collaboration with technical education institutions in quest to sensitizing both technical college students and graduates on the need to acquiring entrepreneurial skills for sustainable industrialization, also entrepreneurship education should be made a core course in technical colleges as to impart to the students requisite entrepreneurial skills for self-employment and sustainable industrialization.*

### **Introduction**

Electronic technology is a growing industry that is expanding rapidly into many areas within telecommunication, biotechnology and automation. Industries and businesses rely on electronics technology for creating, manufacturing, and maintaining industrial machinery and processes (Kenneth, 2014). The author further stated that companies can reduce costs and increase outputs by hiring electronics technology experts to implement robotics, automation, programing and analysis of manufacturing processes.

Today's booming industrial sectors-telecommunications, medical equipment, control systems, automation systems, navigational systems, and consumer appliances, all require trained electronics technology

professionals to build, maintain and repair. As the mechanization of industrial processes continues to advance, businesses need qualified technicians familiar with electronics systems to grow: from circuits to micro-processing, soldering to controller programming. Electronics technology graduates know how to build, maintain and innovate the devices that Societies rely upon such as mobile phones, home theatres, appliances, robotics etc.

Electronics technology covers the construction, operation, maintenance and repair of electrical and electronics equipment and devices (Steve, 2016). The author stated further that electronics devices are integral component of our society. Electronics technology systems are utilized worldwide involving communication networks, home and entertainment, industrial automation and controls, medical technology, public safety, satellite communications and security.

Electronics technology is an exciting and dynamic field. As an electronic technician, the individual is qualified to work in a variety of industries including:

- Research and development laboratories
- Military operations and facilities
- Networking facilities
- Public utilities
- Resorts
- Electronics equipment distributors
- Electronics equipment repair

According to Nwankwo (2016) the National Bureau of Statistics (NBS) estimated that the electrical and electronics sector created 37 jobs during the third quarter of 2015. The author further noted that a negligible number of electrical and electronics graduates got job during the period of the survey. Also, even if they got, they were probably underemployed.

Recently, Jobberman released a survey that 45 percent of graduates were unemployed (Nwankwo, 2016). According to Okoye and Chijeoke (2014) unemployment rate in Nigeria has been blamed mainly on lack of relevant practical skills needed for paid or self-employment. Does it mean that the graduates of electrical and electronics technology lack skills in some areas which has resulted to their inability to be employed.

Employability of graduates results from knowledge and skills they possess, curriculum placement program, physical and laboratory facilities, and on the job training (OJT) by schools. Mastery of content areas by electronics technology graduates will not totally respond to employers requirements. They need transferable skills to improve their job opportunities. This as a result, will give them the required abilities to establish electronics workshop and industries or enterprises.

The alarming unemployment of graduates in Nigeria could also be blamed on lack of industries. Hence, the inability of electrical and electronics graduates getting employed could be related to lack of electrical and electronics workshops, industries, and lack of experience.

According to Wikipedia (2016), experience is the knowledge or mastery of an event or subject gained through involvement in or exposure to it. The author further noted that the concept of experience generally refers to know-how or procedural knowledge, rather than propositional knowledge: on-the-job training rather than book-learning. It means the familiarity with a skill or field of knowledge acquired over months or years of actual practice and which, presumably, has resulted in superior understanding or mastery. This implies that an individual can be more experienced than the other, depending on how long or the number of years the individual has been in the field or trade. This concept also applies with electronics technicians as some are more experienced compared to others. A person with considerable experience in a specific field can gain a reputation as an expert. However, reputable electronic technicians are a mirage in Rivers State (Goddy, 2011).

Does it mean that these graduates of electrical and electronics trade cannot open up small scale enterprises/industries and manage them? Subsequently, can't they be employed to work and manage other electronics businesses, or are they lacking entrepreneurial skills needed to open and manage these industries to sustainable positions No matter your area of specialization, for you to open up a business and run it successfully, you need entrepreneurial skills.

Entrepreneurship is the practice of starting new organizations or revitalizing old enterprises generally in response to identified opportunities. Entrepreneurship creative force has spread across markets and industries, simultaneously creating new products and business models even in the electrical and electronics enterprises or ventures. For electrical and electronics technicians to articulate meaningful mission and vision goals in enterprises/industries, they need entrepreneurial skills such as planning skills, technical skills, accounting skills as well as interpersonal skills.

According to Onoh (2013; 20), three categories of expectations are demanded from all entrepreneurs;

1. They are required to possess technical competencies which deal with intimate knowledge of physical products, job skills, manufacturing process and the likes.
2. They must possess system competencies which implies; having the ability to plan, organize, and to exhibit skills in fitting of all the pieces of all the desired components of the businesses together in order to move the enterprise forward to the desired future.
3. They must have interpersonal competencies. This category include competence as accounting skills, marketing skills, communication skills and public relation skills.

The author further pointed out that often, the lack of planning skills makes entrepreneurs procrastinate when it comes to decision-making, forgetting that the lack of a decision to act is a decision on its own. The author stated the areas affected in such apparent lack of planning skills to include;

- Planning to increase sales volumes.
- Increase in the quality of goods to be produced or to improve the quality of such goods.
- Planning skills to cut down on cost and jeopardizing production
- Planning skills to expand facilities, employ new hands, and remove dead woods.
- Planning skills to buy or sell a new item or equipment

Onoh (2013; 99) 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. Noting further on how to achieve this success, the author pointed out that accounting records on the day to day running of the enterprise must be with regard to their costumers, business associates, financial institutions and general prudent financial management. Also, entrepreneurs need to know how much money that comes into the business every day, or week, how to determine the selling price for their products, how much is spent every day, week, month or year on raw materials, labour, utilities, and other miscellaneous expenditure. Pleshete (2009) in Uzodinma (2015; 195) also enumerated five basic skills one must acquire as an entrepreneur to run any kind of business. They are:

- Sale and marketing skills: This involves skills on how to reach target audience, excellent writing skills and oral communicating skills to be able sell your products.
- Financial know-how: This entails the ability to handle money well which include knowing how to stress the limited start-up capital that you have, spending only when necessary and making use of equipment and supplies that you currently have.
- Self-motivating skill: Have the extra drive and commitment to make sure that you are taking necessary steps to make your dreams successful and a reality.

- Time management skill: This has to do with the ability to plan your day and manage time.
- Administrative skill: This involves your ability to file your receipt, prepare bills, print invoices, collect payments and manage receivables.

An entrepreneur is a person who has the ability and is willing to put to function the skills in him to explore and exploit investment opportunities, establish and manage a successful business or enterprise. The electrical and electronics technician with the requisite entrepreneurial skills will be able to know how to employ the process of gathering both human and material resources needed for starting a business venture and for its sustenance. As managers of their establishment, the electronic technician entrepreneurs are involved in ensuring that the daily tasks are creditably, carefully and safely carried out. According to Onoh (2013) they should be able to ensure the smooth running of the enterprise so as to maximize profits, solve problems and plan for future. This implies creation and running of industries by electrical and electronics technicians which will meet both present and future needs for industrialization. Electronics technicians with entrepreneurial skills fall within business managers as persons who seek out investment opportunities for the purpose of achieving economic goals as they provide goods and services needed by the society. Electronics technician entrepreneurs harness the entrepreneurial skills to establish industries and create employment in a sustainable manner.

Sustainable industrialization refers to the process by which industries are established, replicated and sustained with a view to increasing the share of industrial output (DoubleGist, 2013). It also enhances the national productive capacity to process raw materials and to manufacture both consumption and capital goods that will respond to the needs of the society. According to Rashtriya (2005) sustainable industrialization refers to engagement in productive activities and enterprises in a way to foster skills, attitudes and values amongst the youths appropriate to starting, owning or working in successful business enterprises, creating room for future prospects. According to Sanjaya (2004) the main new feature of industrialization is the need to be competitive, facing intensive and immediate competition in domestic as well as export markets.

The features of sustainable industrialization can be achieved in Rivers State. Rivers State is one of the 36 states of Nigeria. Its capital, Port Harcourt is the largest city and is economically significant as the centre of Nigeria's oil industry. Rivers State is bounded on the South by the Atlantic Ocean, to the North by Imo, Abia and Anambra States, to the East by Akwa Ibom State and to the West by Bayelsa and Delta States. It is home to many indigenous ethnic groups; Ikere, Ibani, Opobo, Eleme, Okrika and Kalabari, Etche, Ogba, Ogoni, Engenni, Obolo, Abua and others. The author further stated that according to census data released in 2006, the state has a population of 5,185,400, making it the sixth most populous state in the country. Rivers State is currently consisted of 23 Local Government Areas. Rivers State has experienced industrial activities yet with nothing to show in terms of sustainability of these industrial ventures. There are many carcasses of failed industrial attempts even in electrical and electronics, in Rivers State. Therefore this study sought to find out entrepreneurial skill needs of electronics technicians for sustainable industrialization in Rivers State.

### **Statement of Problem**

Rivers State is an important case study of an industrious state in Nigeria. The state has experienced a pervasive industrial activities for over a decade, such as in agriculture, welding and fabrication, small scale and medium size enterprises, automobile workshops, electrical and electronics enterprises, etc. Alarming rate of unemployment is experienced there as a result of the inability of the owners of these enterprises to sustain them. Despite the need for sustainable industrialization, there seems to be a gap in the possession of entrepreneurial skills for such sustainability in industrialization. Does it mean the electronics technicians in Rivers State lack entrepreneurial skills requisite for establishing and sustaining enterprises/industries?

Therefore the need arose to determine the entrepreneurial skills needs of electronics technicians for sustainable industrialization in Rivers State.

### **Purpose of the Study**

The main purpose of this study was to determine the entrepreneurial skills needs of electronics technicians for sustainable industrialization in Rivers State. Specifically, the study sort to determine;

1. Planning skills needed by electronics technicians for sustainable industrialization in Rivers State
2. Technical skills needed by electronics technicians for sustainable industrialization in Rivers State
3. Accounting skills needed by electronics technicians for sustainable industrialization in Rivers State
4. Interpersonal skills needed by electronics technicians for sustainable industrialization in Rivers State

### **Research Questions**

The following research questions guided the study:

1. What are the planning skills needed by electronics technicians for sustainable industrialization in Rivers State?
2. What are the technical skills needed by electronics technicians for sustainable industrialization in Rivers State?
3. What are the accounting skills needed by electronics technicians for sustainable industrialization in Rivers State?
4. What are the interpersonal skills needed by electronics technicians for sustainable industrialization in Rivers State?

### **Hypotheses**

The following hypotheses guided the study;

- H<sub>01</sub>: A significant difference does not exist in the mean ratings of less-experienced and experienced electronics technicians on planning skills needed by electronics technicians for sustainable industrialization in Rivers State
- H<sub>02</sub>: There is no significant difference in the mean ratings of less-experienced and experienced electronics technicians on technical skills needed by electronics technicians for sustainable industrialization in Rivers State
- H<sub>03</sub>: A significant difference does not exist in the mean ratings of less-experienced and experienced electronics technicians on accounting skills needed by electronics technicians for sustainable industrialization in Rivers State
- H<sub>04</sub>: There is no significant difference in the mean ratings of less-experienced and experienced electronics technicians on interpersonal skills needed by electronics technicians for sustainable industrialization in Rivers.

## Methodology

A descriptive survey design was adopted for the study. This is because the study collected and analyzed data from the entire electronics technicians in Rivers 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 Rivers State. The instrument used for data collection was a 36 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). Reliability was determined using Cronbach Alpha, and it yielded a reliability coefficient of .90. The population for the study consisted of 50 electronics technicians *which include 35 less-experienced and 15 experienced electronics technicians* in Rivers State. There was no sampling as a result of the relatively small size of the population. Fifty 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 with 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 four null hypotheses were tested at .05 level of significance using t-test. The respondents were grouped into two categories with respect to their years of experience. Those who have been in the trade from 0-5 years were classified as less-experienced, while those who been in the trade for over 5 years were classified as experienced.

## Results

The result of the study are presented in table according to the research questions and hypotheses

### Research Question One:

**What are the planning skills needed by electronics technicians for sustainable industrialization in Rivers State.**

**Table 1: Mean ( $\bar{x}$ ) with standard deviation on planning skills needed by electronics technicians for sustainable industrialization in Rivers State.**

S/N	Planning Skills	less-experienced(35)			Experienced(15)			Aggregate(50)		
		$\bar{x}$	SD	Dec	$\bar{x}$	SD	Dec	$\bar{x}$	SD	Dec
1	Ability to be future oriented	3.04	1.10	Agree	3.2	1.02	Agree	3.12	1.06	Agree
2	Ability to set goals of the business	3.4	0.96	Agree	3.2	0.97	Agree	3.3	0.97	Agree
3	Ability to map out strategies to achieve the goals	3.3	0.98	Agree	3.1	1.15	Agree	3.2	1.07	Agree
4	Ability to take risks	2.81	1.01	Agree	2.87	1.07	Agree	2.84	1.04	Agree
5	Ability to be initiative and creative	3.08	1.03	Agree	3.40	1.01	Agree	3.24	1.02	Agree
6	Skills to set realistic goals	3.02	1.04	Agree	3.0	1.06	Agree	3.1	1.05	Agree
7	Ability to exhibit independence and self-confidence	3.14	1.06	Agree	3.5	0.90	Agree	3.32	0.98	Agree
8	Ability to carry out a feasibility study for the business	3.0	1.05	Agree	2.92	1.02	Agree	2.96	1.07	Agree
9	Ability to articulate favourable economic activities for profit purposes	3.0	1.06	Agree	2.56	1.20	Agree	2.78	1.13	Agree
	<b>Grand Mean/Pull Standard Deviation</b>	<b>3.09</b>	<b>1.03</b>	<b>Agree</b>	<b>3.08</b>	<b>1.04</b>	<b>Agree</b>	<b>3.10</b>	<b>1.15</b>	<b>Agree</b>

Results in table 1 revealed that all the 9 items had their overall mean ratings ranging from 2.78 to 3.32 indicating that the respondents agree to a great extent with all the items as planning skills needed by electronics technicians for sustainable industrialization in Rivers State. The standard deviations also ranged from 0.98 to 1.13 indicating homogeneity of opinions.

## Research Question Two:

**What are the technical Skills needed by Electronics Technicians for Sustainable Industrialization in Rivers State.**

**Table 2: Mean ( $\bar{x}$ ) with standard deviation on technical skills needed by electronics technicians for sustainable industrialization in Rivers State.**

S/N	Technical Skills	less-experienced(35)			Experienced(15)			Aggregate(50)		
		$\bar{x}$	SD	Dec	$\bar{x}$	SD	Dec	$\bar{x}$	SD	Dec
10	Ability to integrate all the components of the organization for effective production	3.08	1.03	Agree	3.4	1.01	Agree	3.24	1.02	Agree
11	Ability to carry out the production	3.1	1.0	Agree	3.3	1.0	Agree	3.2	1.0	Agree
12	Knowledge of the manufacturing process	3.1	0.74	Agree	3.3	1.0	Agree	3.2	0.87	Agree
13	Skills in being dynamic	3.01	1.01	Agree	2.95	0.77	Agree	2.98	0.89	Agree
14	Skills in carrying out action sequentially	3.02	1.20	Agree	2.54	1.06	Agree	2.78	1.13	Agree
15	Ability to check all ground wires ensure they are not broken	3.44	1.0	Agree	3.24	0.54	Agree	3.34	0.77	Agree
16	Ability to provide the right machines for the production process	3.02	1.0	Agree	3.3	0.86	Agree	3.16	0.93	Agree
17	Ability to operate the machines	3.06	0.88	Agree	3.10	1.0	Agree	3.08	0.94	Agree
18	Ability to demonstrate initiative in activities	3.1	0.68	Agree	3.02	1.0	Agree	3.06	0.84	Agree
	<b>Grand Mean/Pull Standard Deviation</b>	<b>3.1</b>	<b>0.95</b>	<b>Agree</b>	<b>3.13</b>	<b>0.92</b>	<b>Agree</b>	<b>3.12</b>	<b>0.93</b>	<b>Agree</b>

Results in table 2 revealed that all the 9 items had their mean ratings ranging from 2.78 to 3.34 indicating that the respondents agree to a great extent with all the items as technical skills needed by electronics technicians for sustainable industrialization in Rivers State. The grand mean also attested to that. The standard deviation ranged from 0.77 to 1.13 indicating that their opinions are the same.

**Research Question three:**

**What are the accounting Skills needed by Electronics Technicians for Sustainable Industrialization in Rivers State.**

**Table 3: Mean ( $\bar{x}$ ) with standard deviation on accounting skills needed by electronics technicians for sustainable industrialization in Rivers State.**

S/N	Accounting Skills	less-experienced(35)			Experienced(15)			Aggregate(50)		
		$\bar{x}$	SD	Dec	$\bar{x}$	SD	Dec	$\bar{x}$	SD	Dec
19	Ability to know how much money that enters the business daily	3.3	0.75	Agree	3.5	0.77	Agree	3.4	0.76	Agree
20	Ability to determine the selling price for their products	3.50	0.48	Agree	3.02	1.02	Agree	3.26	0.75	Agree
21	Ability to calculate money spent daily, weekly, monthly and yearly	3.06	0.49		3.3	1.01		3.36	0.75	Agree
22	Ability to know how much should be drawn for personal use	3.08	1.0	Agree	3.2	1.1	Agree	3.14	1.05	Agree
23	Ability to differentiate between working capital and gain	3.0	0.82	Agree	2.5	1.18	Agree	2.76	1.0	Agree
24	Ability to control the business finance	2.7	1.2	Agree	3.02	0.82	Agree	2.86	1.01	Agree
25	Ability to make provision for seasonal fluctuation in cash inflow or outflow	3.5	0.48	Agree	3.02	1.40	Agree	3.26	0.94	Agree
26	Ability to plan for most economic way of acquiring fund from different sources	3.03	1.0	Agree	3.01	0.76	Agree	3.04	0.88	Agree
27	Ability to efficiently put to use acquired money for the growth of the business.	3.06	0.97	Agree	3.5	1.05	Agree	3.28	1.01	Agree
	<b>Grand Mean/Pull Standard Deviation</b>	<b>3.14</b>	<b>0.79</b>	<b>Agree</b>	<b>3.12</b>	<b>1.01</b>	<b>Agree</b>	<b>3.13</b>	<b>0.91</b>	<b>Agree</b>

Results in table 3 revealed that all the 9 items had their mean ratings ranging from 2.76 to 3.4 indicating that the respondents agree to a great extent with all the items as accounting skills needed by electronics technicians for sustainable industrialization in Rivers State. The standard deviations ranged from 0.75:to 1.05 indicating that their opinions are the same.

**Research Question four:**

**What are the interpersonal Skills needed by Electronics Technicians for Sustainable Industrialization in Rivers State.**

**Table 4: Mean ( $\bar{x}$ ) with standard deviation on interpersonal skills needed by electronics technicians for sustainable industrialization in Rivers State.**

S/N	Interpersonal Skills	less-experienced(35)			Experienced(15)			Aggregate(50)		
		$\bar{x}$	SD	Dec	$\bar{x}$	SD	Dec	$\bar{x}$	SD	Dec
28	Ability to solve problems within the organization	3.03	0.80	Agree	3.13	1.0	Agree	3.08	0.90	Agree
29	Ability to be sensitive to the needs of others	3.02	0.96	Agree	3.1	1.0	Agree	3.06	0.98	Agree
30	Ability to be sensitive to the needs of others	3.2	1.0	Agree	3.04	0.92	Agree	3.12	0.96	Agree
31	Ability to be supportive to others	3.04	0.74	Agree	3.2	1.0	Agree	3.12	0.96	Agree
32	Ability to listen attentively	3.3	1.03	Agree	3.1	0.73	Agree	3.2	0.88	Agree
33	Ability to render supportive services to the employer	3.0	0.98	Agree	3.2	0.54	Agree	3.1	0.76	Agree



34	Being sensitive to the needs of others empathetically.	3.05	0.89	Agree	3.15	1.05	Agree	3.1	0.97	Agree
35	Ability to delegate authority to employees	3.20	1.0	Agree	3.08	0.92	Agree	3.14	0.96	Agree
36	Being honest to the employer and customers	3.10	0.93	Agree	3.06	0.87	Agree	3.08	0.90	Agree
<b>Grand Mean</b>		<b>3.10</b>	<b>0.93</b>	<b>Agree</b>	<b>3.12</b>	<b>0.89</b>	<b>Agree</b>	<b>3.11</b>	<b>0.90</b>	<b>Agree</b>

Results in table 4 revealed that all the 9 items had their mean ratings ranging from 3.06 to 3.2 indicating that the respondents agree to a great extent with all the items as interpersonal skills needed by electronics technicians for sustainable industrialization in Rivers State. Their standard deviation ranged from 0.76 to 0.98 indicating homogeneity of opinions.

### Hypotheses

**Ho<sub>1</sub>** A significant difference does not exist in the mean ratings of less-experienced and experienced electronics technicians on planning skills needed by electronics technicians for sustainable industrialization in Rivers

**Table 5: t-test summary for significant difference between less-experienced and experienced electronics technicians on planning skills needed by electronics technicians for sustainable industrialization in Rivers State.**

Responses	N	$\bar{x}$	SD	D.F	t-cal	t-crit	Remark
Less-experienced	35	3.09	1.03	48	0.13	1.684	Not Significant
Experienced	15	3.08	1.04				

The data presented in **Table 5** show a computed t-value of 0.13 which indicated that t-calculated is less than t-critical value of 1.684, at 48 degree of freedom, hence the null hypothesis is not rejected. Less-experienced and experienced electronics technicians have uniform opinion on planning skills needed by electronics technicians for sustainable industrialization in Rivers State. Their mean ratings are of no significant difference.

**Ho<sub>2</sub>** A significant difference does not exist in the mean ratings of less-experienced and experienced electronics technicians on technical skills needed by electronics technicians for sustainable industrialization in Rivers State

**Table 6: t-test summary for significant difference between less-experienced and experienced electronics technicians on planning skills needed by electronics technicians for sustainable industrialization in Rivers State.**

Responses	N	$\bar{x}$	SD	D.F	t-cal	t-crit	Remark
Less-experienced	35	3.1	0.95	48	0.10	1.684	Not Significant
Experienced	15	3.13	0.92				

The data presented in **Table 6** show a computed t-value of 0.10 which indicated that t-calculated is less than t-critical value of 1.684 and at 48 degree of freedom, hence the null hypothesis is not rejected. Less-experienced and experienced electronics technicians have uniform opinion on technical skills needed by

electronics technicians for sustainable industrialization in Rivers State. The mean ratings have no significant difference.

**H<sub>03</sub>** A significant difference does not exist in the mean ratings of less-experienced and experience electronics technicians on accounting skills needed by electronics technicians for sustainable industrialization in Rivers.

**Table 7: t-test summary for significant difference between less-experienced and experienced electronics technicians on accounting skills needed by electronics technicians for sustainable industrialization in Rivers State.**

Responses	N	$\bar{x}$	SD	D.F	t-cal	t-crit	Decision
Less-experienced	35	3.04	0.88	48	0.97	1.684	Not significant
Experienced	15	2.76	1.00				

The data presented in **Table 7** show a computed t-value of 0.97 which indicated that t-calculated is less than t-critical value of 1.684 and at 48 degree of freedom, hence the null hypothesis is not rejected. Less-experienced and experienced electronics technicians have uniform opinion on accounting skills needed by electronics technicians for sustainable industrialization in Rivers State. Any divergent opinion is of no significance.

**H<sub>04</sub>** A significant difference does not exist in the mean ratings of less-experienced and experienced electronics technicians on interpersonal skills needed by electronics technicians for sustainable industrialization in Rivers State.

**Table 8: t-test summary for significant difference between less-experienced and experienced electronics technicians on interpersonal skills needed by electronics technicians for sustainable industrialization in Rivers State.**

Responses	N	$\bar{x}$	SD	D.F	t-cal	t-crit	Decision
Less-experienced	35	3.14	0.86	48	0.97	1.684	Not significant
Experienced	15	2.84	1.04				

The data presented in **Table 8** show a computed t-value of 0.97 which indicated that t-calculated is less than t-critical value of 1.684 and at 48 degree of freedom, hence the null hypothesis is not rejected. Less-experienced and experienced electronics technicians have uniform opinion on interpersonal skills needed by electronics technicians for sustainable industrialization in Rivers State.

### Discussion of Findings:

The findings in table 1 revealed that the respondents agree with all the items as planning skills needed by electronics technicians for sustainable industrialization in Rivers State. This finding agrees with Thom-Otuya (2003) who noted that planning is an orderly or step-by-step conception or proposal for accomplishing an objective. The author further noted that planning is a proposed or intended course of action towards the achievement of a set goal.

Results in table 2 revealed that the respondents agree with all the items as technical skills needed by electronics technicians for sustainable industrialization in Rivers State. This result agree with the findings of Oluka (2016) who stated that technical competence is the ability of the graduates to innovate, or

initiate new products or ideas, act positively and decisively with available facts to carryout specific tasks and functions to a standard.

The results in table 3 revealed that the respondents agree with all the items as accounting skills needed by electronics technicians for sustainable industrialization in Rivers State. This also agree with the findings of Onoh (2013) which revealed that accounting skill is the core to an entrepreneur's success. Also that entrepreneur's success is measured by how profitable the enterprise or firm is and the growth it has recorded over the years.

Also, the results in table 4 revealed that the respondents agree with all the items statements as interpersonal skills needed by electronics technicians for sustainable industrialization in Rivers State. This also agree with the findings of Onoh (2013) who noted that entrepreneurs must have interpersonal competence such as accounting skills, marketing skills, communication skills and public relation skills.

### **Conclusion**

Entrepreneurial competencies are the core to the success of any business endeavour. This study and its findings on the entrepreneurial skill needs of electronics technicians for sustainable industrialization in Rivers State revealed that electronic technicians must acquire entrepreneurial skills such as planning skills, technical skills, accounting skills and interpersonal skills, if they must establish and sustain their own enterprises/industries. However, no significant difference was found in the mean ratings of less-experienced and experienced electeonics technicians with respect to the entrepreneurial skills needed. Their opinions were found to be the same.

### **Recommendations**

Based on the findings, the following recommendations were made;

1. Electronic technicians have to acquire entrepreneurial skills such as planning skills, technical skills, accounting skills and interpersonal skills, which will help them to establish and sustain their own enterprises/industries.
2. Sensitization campaign should be carried out by the government in collaboration with technical education institutions in quest to sensitizing both technical college students and graduates on the need to acquiring entrepreneurial skills for sustainable industrialization.
3. Entrepreneurship education should be made a core course in technical colleges as to impart to the students requisite entrepreneurial skills for self-employment and sustainable industrialization.

### **REFERENCES**

- Alio A. N. (2008). *Fundamentals of educational research*. Enugu: Samireen Nig. Ltd.
- DoubleGist, K. (2013). *Industrial Development of Nigeria, The Role of the World Bank*. Port Harcourt: WordPress
- Federal Republic of Nigeria (FRN 2013). *National Policy on Education*: Lagos: NERDC Press
- Goddy, N. N. (2011). Relationship Between Local Government Headquarters and Rural Hinterland Settlements in Rivers South West Senatorial District of Rivers State, Nigeria. *Journal of Agriculture and Social Research*, 11, 60-62

- Hamilton, J. (2011). Careers in Solar Power. Retrieved on 20th October 2016, from [www.bls.gov/green/solar\\_power/](http://www.bls.gov/green/solar_power/)
- Kenneth J. N. (2014). *Applied Science in Electronics Technology*. Retrieved August 10, 2016, from <https://www.fountainheadcollege.edu/tec>.
- Nwankwo, E. (2016). I Pity the Nigerian Youth. Retrieved August 10, 2016, from <https://www.thecable.ng/i-pity-the-nigerian-youth>
- Okoye, K.R.E. & Chijeoke, O. (2014). Technical Vocational Education and Training (TVET) as Intervention Mechanism for Global Competitiveness: Perspectives from Nigeria. *Developing Country Studies*. (3)4, 195-200.
- Okoye, K.R.E. & Okwelle, P.C. (2013a), "Complex Mix of Socio-political Synergy on Technical Vocational Education and Training (TVET) in Nigeria". *Kuwait Chapter of Arabian Journal of Business and Management Review*, 3(3), 28 - 40
- Okoye, K.R.E. & Okwelle, P.C. (2013b), "Technical and Vocational Education and Training (TVET) In Nigeria and Energy Development, Marketing and National Transformation", *Journal of Education and Practice* 4(14), 143 - 138
- Okoye, P.I. (2013). Entrepreneurship through Technical and Vocational Education and Training (TVET) for National Transformation. *Unizik Orient Journal of Education* (7)1, 53-58.
- Oluka S. N. (2016). Entrepreneurial Competencies Needed by Electrical/Electronics Graduates of Technology Education for Self-employment in nugu State. *British Journal of Education*. 4, 117-125.
- Onoh, B. C. E. (2013). *Fundamentals of Entrepreneurship Studies*. Enugu: Cheston Agency Press Ltd.
- Rashtriya, G. (2005). *Women Education*. New Delhi: A. P. A. Publishing Corporation.
- Sanjaya R. (2004) *The Role of Industrial Development in the Achievement of the Millennium Development Goals*. New York: Oxford University Press.
- Steve, S. (2016) *Applied Computing and Engineering Technology*. Retrieved August 10, 2016, from [http://study.com/associates\\_degree\\_in\\_electronics\\_technology](http://study.com/associates_degree_in_electronics_technology).
- Thom-Otuya, V. C. (2003). *Business Management for Professionals*. Port-Harcourt: Nice Prints International.
- Uzodinma C. U. (2015). Entrepreneurship Skills Possessed For Self-employment by Technical Students of Federal Colleges of Education (Technical) in South South Nigeria. *International Technology Research Journal*. 3, 195-200.