

# Improving Youth Engagement; the ICT Entrepreneurship Panacea

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**ABSTRACT**The increase in crime rate has been attributed to the absence of youth engagement within the south-south region of Nigeria, therefore this study examined ICT entrepreneurship impact on youth empowerment in Rivers State. Key components of ICT entrepreneurship which included but not limited to cyber business, systems hardware maintenance, and systems accessories vending were subjected to empirical test in this study. This study adopted the cross-sectional survey research design given the infinite nature of the population elements. The micro level study was done on the individual young ICT entrepreneurs within the 23 local government areas in Rivers state. A first stage cluster sampling of eight (8) local government areas representing the Rivers East Senatorial District. Available data with the Computer dealers of Association registered under the Pillars of Association in Rivers State made accessible revealed 900 active members in the sector were registered. The Krejcie and Morgan sampledetermination table was used to derive a sample size of 269. The study hypotheses were tested with the Spearman Rank Order Correlation Coefficient. Empirical review on the study constructs show that ICT entrepreneurship is the contemporary aspect of entrepreneurship that is striving and needs to be embraced by all young entrepreneurs. The study also revealed that ICT entrepreneurial ventures such as cyber business, systems hardware maintenance and systems accessories vending have significant positive influence on youth empowerment. Data analysis also shows that digital literacy significantly moderates how ICT entrepreneurship enhances youth empowerment. The work concluded that ICT entrepreneurial activities such as cyber business, systems hardware maintenance, and systems accessories vending are the bedrock of youth empowerment in Nigeria. The study recommended amongst other things that Government should encourage ICT entrepreneurship skills to enhance

youth engagement and reduce restiveness in the state.

**Keywords:** Cyber Business, Systems Hardware Maintenance, Systems Accessories Vending, Youth Empowerment

## I INTRODUCTION

Entrepreneurship is derived from the French word “entreprendre” which means to initiate or take action. The French used it to describe contractors holding projects like roads and bridges [1]. Entrepreneurship is seen as accepting the risk of starting and running a business. The major thrust is the fact that it is the ability and willingness of an individual to create and build something that is virtually none existing. The concept of entrepreneurship was first established in the 1700s, and the meaning has evolved ever since. Many simply equate it with starting one’s own business. Most economists believe it is more than that. To some economists, the entrepreneur is one who is willing to bear the risk of a new venture if there is a significant chance for profit. Others emphasize the entrepreneur’s role as an innovator who markets his innovation. Still other economists say that entrepreneurs develop new goods or processes that the market demands and are not currently being supplied. Most economists today agree that entrepreneurship is a necessary ingredient for stimulating economic growth and employment opportunities in all societies. In the developing world, successful small businesses are the primary engines of job creation, income growth, and poverty reduction. Therefore, government support for entrepreneurship is a crucial strategy for economic development. [2] defines Entrepreneurship as the process of identifying, developing and bringing a vision to life. He also puts it that entrepreneurship is the pursuit of opportunity beyond the financial management of the entrepreneurial ventures. Entrepreneurship is the willingness and ability of an individual or group of persons to search for investment

opportunities, establish and run a business unit successfully". Entrepreneurship connotes action rather than starts event. It involves taking action necessary to analyze business opportunities to launch and /or grow a business, to finance to the venture and possible to harvest it.

The term entrepreneurship in business management literature is a multi-dimensional concept that has been given different interpretations after its first identification by Richard Cantillon as a major economic driver. [3] sees entrepreneurship as the process by which individuals pursue opportunities without regard to resources, they currently control. The distinguishing trait of entrepreneurs is their mental and operational readiness to engage in uncertain economic activities that do not guarantee regular profit or monthly salaries as earned by workers in public or private organizations. With the advent and proliferation of technological resources today, coupled with globalization, entrepreneurial activities are gradually shifting from economic and social activities to technology-solution services. [4] sees information and communication technology as an electronic technology used for accessing, processing, gathering, manipulating, presenting and communicating information. Similarly, [5] described ICT as the varied collection of technological resources used for the purpose of communication. They are also use to generate, distribute, collect and administer information. Successful organizations are taking advantage of data/information needs in the society and a lot of information and communication services are springing up in both rural and urban communities in Nigeria. This has ushered in a new form of entrepreneurial business known as "ICT Entrepreneurship." This work conceptualizes ICT Entrepreneurship as the process of identifying the business opportunities in information and communication and providing solutions in this area using technology on commercial basis. For the purpose of this work variables such cyber business, hardware maintenance services, and systems accessories vending were tested.

**Cyber business** is a form of entrepreneurial activity that provides online services such as browsing, uploading and downloading of materials and pictures, online registration, typesetting, printing and photocopying on commercial basis. Cyber operators also provide web services such as checking and printing from email, chat online, play online and offline games or for those who just want to meet friends in a casual atmosphere [6]. Apart from cyber businesses, there

are entrepreneurs who specialize in information technology services such as systems hardware maintenance. Entrepreneurs in this line of business make money by providing solutions to clients' computer problems such as setup problems, computer crashes, software issues, networking challenges. Phone repairers help end users to rectify common mobile device problems such as broken screen, phone hanging and freezing, battery problem, slow browsing, unlocking and charging. Every household and business with a computer has the potential to need computer repair and maintenance help from someone who is knowledgeable in the field of information technology. To youths who have technical background and expert understanding of computers, peripherals, and software, establishing an ICT entrepreneurial business could be a great idea. Some youths especially the millennial ones engage in another entrepreneurial activity known as systems accessories vending. This research conceptualizes systems accessories vending as commercial activities which deal with wholesale or retailing of computer hardware, printers, mobile devices, software, and electronic accessories (peripherals like chargers, spare parts, modems, etc.). Information and communication technology vendors also provide software installation activities and provide basic information to their customers on how to use and maintain the devices, applications, and accessories they buy [7]. Many youths who possess entrepreneurial spirit in addition to digital skills provide solutions to the problems and needs people have as they continue to use information and communication technologies. Providing ICT solutions to the ever-increasing number of end users is a modern day lucrative activity capable of empowering youths economically although many of our youths are yet to embrace it [8]. Youth unempowerment has remained the bane of African under-development as more potentially energetic young people lay about streets without getting engaged in any meaningful employment. This has resulted in increased restiveness and criminality amongst the young populations. Empowerment means assisting people to overcome obstacles which might prevent them from achieving their potentials. The need for empowerment arises from the inability of an individual or a group of people to actualize their dreams and reach their greatest potential due to artificial barriers created by individuals and other groups within the same society [9]. [10] opined that "young people are empowered when they acknowledge that they have or can create choices in life, are aware of the implications of those choices, make an informed

decision freely, take action based on that decision and accept responsibility for the consequences of those actions.” Operationally, this research sees youth empowerment as the level or extent to which individuals in a given society within the ages of 18 and 40 years are able to economically engage themselves. An empowered youth in this context is one who is meaningfully engaged in economic activities capable of providing them relative financial freedom. Youth empowerment within the context of this work is measured in terms of sustainable income generation, innovativeness, and employment generation for self and others. Sustainable income generation implies that an average empowered Rivers youth makes money on regular basis. A youth in Rivers State who is not engaged in full time economic activities may not make money on a regular basis. Empowered youths have a stable source of income that provides relative financial security. Empowered youths are also engaged productively. Another characteristic of empowered youths is that they create job for their fellow youths. Young entrepreneurs who are doing well employ one or more hands to work with them. As their businesses expand, they need more hands to work for them. This culminates in creation of new jobs in the informal ICT sector. Poverty is one major problem that Nigeria is facing just like other countries especially among the developing nations. This is common because of inability of government to engage the youths in economic positions which has led to increase in crime (Juvenile) due to idleness. The ignorance about cyber business entrepreneurship, poor engagement in systems hardware maintenance, systems accessories vending and digital literacy which are ICT core areas of engagement are not considered.

Schumpeter looks at entrepreneurship as innovation and not imitation [11]. The basic assumptions of Schumpeter’s discovery and opportunity theory are as follows: i) An entrepreneur as an innovator is an economic and social leader who does not care much about economic profits and but his singular joy is being an innovator and being a server to his society. ii) The entrepreneur moves the economy out of the static equilibrium. The entrepreneur moves the economic system out of the static equilibrium by creating new products or production methods thereby rendering others obsolete. This is the process of "creative destruction"(creating uncertainty) which Schumpeter saw as the driving force behind economic development.

## II. LITERATURE

The contemporary environment of business today seeks for youths with skills and competency to engage. However, according to the National Bureau of Statistics, it is a proven fact that at the end of the second quarter 2020, only 1.7 million out of 3.9 million people in Rivers State’s labour force were engaged full time. It is also evident to state that Rivers youths experience the highest rate of unemployment in the state. Even with the advent of ICT Entrepreneurship and its dimensions such as Cyber business, systems hardware maintenance, and systems accessories vending, majority of Rivers State youths are yet to embrace entrepreneurship opportunities but rather look out for white collar jobs that are not forthcoming. Thus, the problem that necessitated this study.

### Cyber Business

The cyber business involves the activities that create internet services within a cyber space. [12] noticed that in Nigeria, a cyber business or web bistro can be said to be where clients are offered access to PCs that are associated with the web and are made to pay an expense or charge for utilizing those PCs. Here, clients pay for utilizing these PCs for a predefined measure of time. Henceforth, they are offered token vouchers to stick to the allocated time and money made. The appearance of advanced mobile phones has had some negative effect on the bistro business yet it has not completely disposed of it. Individuals are now able peruse the web at less expensive rates from their cell phones yet that is just pretty much everything they can do. The web is utilized for a few purposes as it makes picking up, sending and getting messages, completing business exchanges, and so on simpler. Business keenness in this way, illuminates being occupied with this endeavor will mean incredible benefit as a few people can't manage without utilizing the web day by day. In Nigeria alone, measurements demonstrate that more than forty five million individuals approach the web and they do this by three noteworthy methods, PCs, cell phones and digital bistros. The following are stages that entrepreneur needs to take in running individual cyber business. Plausibility Study and Compose a Marketable strategy – Before beginning any business, it is vital to do a definite attainability to guarantee that the entrepreneur comprehends how best to maintain the business just as how not to maintain the business. It will likewise help the entrepreneur comprehend what others that have ventured out earlier have done, how they maintained their businesses, and what they do to

improve their administrations etc. Lease a Shop – The subsequent stage is getting a shop that will house the bistro. It is ideal to site the shop in a business arranged territory as digital bistros are most required in business concentrated regions. Outfit the Shop – In the wake of gaining the shop, the following stage is making the shop client well-disposed by putting in the fundamental goods. Get the Web Access Bundle – In the wake of getting all the above mentioned, it is necessary to get a web access supplier. Get the Essential Helpers – To get more benefit just as give ideal administrations to clients, it is practical to likewise have in the cyber space a few assistants, for example, printers, scanners, and so on. Legitimate Record Keeping – This is basic for any business to flourish. It is imperative to keep record of what number of clients comes in, how much time is paid for by every client, different exchanges did, and so on.

#### **Systems Hardware Maintenance**

Hardware maintenance services are preventive and remedial services that physically repair or optimize hardware, including basic installation, contract maintenance and per-incident repair –both on-site and at a centralized repair depot. Hardware maintenance also includes telephone technical troubleshooting and assistance for setup and all fee-based hardware warranty upgrades. A computer or phone repair technician is a person who maintains computers servers and phones of different range. The Technician's responsibilities may extend to include building or configuring new hardware, installing and updating software packages and creating and maintaining computer or phone networks. According to [13] computer technicians work in a variety of settings, encompassing both the public and private sectors. Private sector computer repair technicians can work in corporate information technology departments, central service centres or in retail computer sales environment. Public sector computer repair technicians might work in the military, national security or law enforcement communities, health or public safety field, or an educational institution. Despite the vast variety of work environments, all computers and phone repair technicians perform similar physical and investigative processes including technical support, and often customer service. Experienced computer or phone repair technicians might specialize in fields such as data recovery, system administration, and networking or information systems. Some hardware technicians are self-employed or own a firm that provides services in a regional area. Some

are subcontracted while others are freelancers or consultants. Computer malfunctions can range from a minor setting that is incorrect, to spyware, viruses, and as far as replacing hardware and an entire operating system. [14] examined youth joblessness and wrongdoing in the Niger Delta; with spotlight on three states; Akwa Ibom, Bayelsa and Rivers State. The discoveries of the examination exhibit that adolescent joblessness is basic to the three states. Nonetheless, there are varieties in the power of wrongdoing in the investigation states. It is low in Akwa-Ibom, and extremely high and recurrence in Bayelsa and Rivers state. The examination noted further that the nearness of occupation searchers, aptitude work with vast populace of incompetent adolescents or more all, the inclination for snappy cash making, made high rate of wrongdoing in Bayelsa and Rivers State. [15] investigated youth strengthening in advanced education for feasible improvement of creating networks in Cross River State Nigeria. The aftereffect of the investigation demonstrated that when young people in higher instructive organizations are engaged, they will add to economical advancement of their networks. The study suggested that administration, guardians and partners should address the issue of youth strengthening in instructive establishments to empower them procure abilities for strengthening in the general public.

#### **Systems Accessories Vending**

This is a form of business activity that deals with wholesale or retailing of computerized devices and their peripherals Mobile phone or computer accessories are secondary or supplementary articles that contribute to the utilization of mobile phones/computers. They might come along in its pack or bought separately to complement the phone/computers.[16]. These accessories includes, ear pieces, Bluetooth, head sets, power banks, selfie-stick, travelling adapters, wireless keyboards, phone covers, phone cases, phone batteries, screen guards, memory cards, USB cables, modem, mouse, and much more. The use of computers and mobile phones keeps increasing day by day as technologies advances. Computers and cell phones are used for many purposes and activities in the world today and most importantly for communication; hence their accessories are needed to be able to carry out these activities. Mobile phones are used by both the young, old, the rich and the poor. And as new accessories are brought into the market, everyone loves to upgrade to the latest. These has made phone and computer accessories business a lucrative one all over the

world.[17]. Although, the business is a very competitive one, as there are many competitors, like: well-known stores, e-commerce sites etc. but, with the right attitude, determination and good customer service and marketing one would be able to compete favorably as a new entrant into this line of business and make a lot of money.

### III. METHODS

This study adopted the cross-sectional survey research design given the infinite nature of the population elements. The micro level study was done on the individual young ICT entrepreneurs within the 23 local government areas in Rivers state. A first stage cluster sampling of eight (8) local government areas representing the Rivers East Senatorial District. Available data with the Computer dealers of Association registered under the Pillars of Association in Rivers State made accessible revealed 900 active members in the sector were registered. The Krejcie and Morgan sample table was used to determine a sample size of 269. Questionnaire was the main instrument for the collection of primary data. The instrument was titled "ICT Entrepreneurship and Youth Empowerment Index (T-YEI)". The questionnaire was designed in five point Likert rating scale format with the following response options: Very High Extent (VHE) 5, High Extent (HE) 4, Moderate Extent (ME) 3, Low Extent (LE) 2, and No Extent (NE) 1.

#### Method of Data Analysis

This subsection describes how data from the field were arranged and analyzed for decision-making. The Statistical Package for Social Sciences (SPSS) version 20.0 was applied in the data analysis using the following statistical tools: In analyzing the data for this study the arithmetic, mean and standard deviation method of analysis was used. The demographic data was also presented in tables and bar charts, while the hypotheses were tested with the Spearman's Rank Order Correlation Coefficient, with the help of the Statistical Package for Social Sciences (SPSS). The formula for simple percentage method of analysis is given as:

$$\frac{\text{Response}(r)}{\text{Total respondent}} \times \frac{100}{1}$$

While the formula for Spearman Rank is

$$R_s = \frac{1 - 6 \sum d^2}{n(n^2 - 1)}$$

Where

$R_s$  = Spearman Ranks Order Correlation Coefficient

$\sum d^2$  = Sum of the squared difference

n = Number of sets of ranking

Decision Rule: Decision Rule: Using a level of significance of 0.05 (confidence interval of 95%), when a calculated significant value is less than 0.05 the null hypothesis is rejected, if otherwise, the null hypothesis was accepted.

Table 1: Summary of the comparative Questionnaire Response

| S/N | Lga of Rivers State  | No Distributed | Returned No | Unreturned | % Success  |
|-----|----------------------|----------------|-------------|------------|------------|
| 1   | <u>Emuoha</u>        | 15             | 12          | 3          | 5          |
| 2   | <u>Etche</u>         | 11             | 10          | 1          | 4          |
| 3   | <u>Ikwerre</u>       | 20             | 17          | 3          | 7          |
| 4   | <u>Obio/Akpor</u>    | 65             | 63          | 2          | 26         |
| 5   | <u>Ogu - Bolo</u>    | 30             | 25          | 5          | 10.5       |
| 6   | <u>Okrika</u>        | 25             | 22          | 3          | 9          |
| 7   | Omumma               | 20             | 15          | 5          | 6          |
| 8   | <u>Port-Harcourt</u> | 83             | 75          | 8          | 31         |
|     | <b>Total</b>         | <b>269</b>     | <b>239</b>  | <b>30</b>  | <b>98%</b> |

Source: SPSS output version 23.0

Table.1 above shows that out of the 269 (Two hundred and sixty nine) copies of the questionnaire administered to respondents in the Eight Local government of Rivers East Senatorial District youths under survey, 239 (Two hundred

and Thirty nine) copies were returned making up 98%, while 30 (thirty) copies were not dully completed and returned by the respondents, making 12% of the total number of questionnaire not returned. This percentage was appropriate for the

research because it is above average range of used for analysis.

**Bivariate Analysis**

This section of the study is concerned with the bivariate analysis. Ahiauzu&Asawo (2012) states that bivariate analysis is the presentation and analysis of the data on the interface between the predictor (independent) variable and the criterion (dependent) variable. The secondary data analysis is carried out using the Spearman’s Rank Order Correlation tool at a 95% confidence interval. Specifically, the tests cover hypothesis (H<sub>01</sub>) to hypothesis (H<sub>010</sub>) and all stated in their null form. The Spearman’s Rank (rho) statistics is relied to undertake the analysis. The 0.05 significance level is adopted as criterion for the probability of either accepting the null hypotheses at (p>0.05) or rejecting the null hypotheses at (p<0.05).

Statistical Test of Stated Research Hypotheses and their Interpretations In a bid to carry out a statistical test for the research hypotheses and its interpretations, the researcher must obey the laid down decision scale frame, especially when it concerns the test of association. As discussed earlier, the current study adopted and applied the Spearman’s Rank Order Correlation for the bivariate correlation association analysis. Just as it

was substantiated by Chikwe (2012) which postulated that “in carrying out this bivariate analysis and respective correlation results decision interpretation, the research is guided with decision scale. Dana (2001) itemized the following correlation decision scale frame as illustrated below:

- (a) ±.00-.19(very weak)
- (b) ±.20-.39 (weak)
- (c) ±.40-59 (moderate)
- (d)±. 60 - .79 (strong)
- (e) ±.80 - .99 (very strong)

Salkind (2010) also gave the following parameters as benchmark for interpreting correlation coefficient (r):

- (a) 0.8 - 1.0 = very strong relationship
- (b) 0.6 -0. 79 = strong relationship
- (c) 0.4 - 0.59 moderate relationship
- (d) 0.2 -0.39 = weak relationship
- (e) 0.0 -0.19 = very weak or no relationship

The 0.05 significance level is adopted as criterion for the probability of either accepting the null hypotheses at (p>0.05) or rejecting the null hypotheses at (p<0.05). The statistical tests of H<sub>01</sub> to H<sub>09</sub> are illustrated below accordingly.

**Test of Hypotheses**

**Table 2 Correlation for Cyber business and measures of Youth empowerment**

|                               |                         | Cyber business | Sustainable income generation | Innovativen Job ess | Creation |
|-------------------------------|-------------------------|----------------|-------------------------------|---------------------|----------|
| Spearman's Cyber business rho | Correlation Coefficient | 1.000          | .743**                        | .698**              | .552**   |
|                               | Sig. (2-tailed)         | .              | .000                          | .000                | .000     |
|                               | N                       | 239            | 239                           | 239                 | 239      |
| Sustainable income generation | Correlation Coefficient | .743**         | 1.000                         | .845**              | .917**   |
|                               | Sig. (2-tailed)         | .000           | .                             | .000                | .000     |
|                               | N                       | 239            | 239                           | 239                 | 239      |
| Innovativeness                | Correlation Coefficient | .698**         | .845**                        | 1.000               | .909**   |
|                               | Sig. (2-tailed)         | .000           | .000                          | .                   | .000     |
|                               | N                       | 239            | 239                           | 239                 | 239      |
| Job creation                  | Correlation Coefficient | .552**         | .917**                        | .909**              | 1.000    |
|                               | Sig. (2-tailed)         | .000           | .000                          | .000                | .        |
|                               | N                       | 239            | 239                           | 239                 | 239      |

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS output version 23.0

Table .2 shows the test result for the three previously postulated bivariate hypothetical statements in relation to cyber business:The correlation coefficient (r) shows that there is

significant relationship between Cyber business and sustainable income generation amongst youths in Rivers State. The rho value 0.743\*\* indicates this relationship and it is significant at p 0.000<0.01.

The correlation coefficient represents a high correlation indicating a strong relationship. Therefore, the null hypothesis earlier stated is hereby rejected and the alternate upheld. Thus, there is a significant relationship between Cyber business and sustainable income generation amongst youths in Rivers State. The correlation coefficient (r) shows that there is significant relationship Cyber business and innovativeness amongst youths in Rivers State. The rho value 0.698\*\* indicates this relationship and it is significant at  $p < 0.000 < 0.05$ . The correlation coefficient represents a high correlation indicating a strong relationship. Therefore, the null hypothesis

earlier stated is hereby rejected and the alternate upheld. Thus, there is a significant relationship Cyber business and innovativeness amongst youths in Rivers State. The correlation coefficient (r) shows that there is significant relationship between Cyber business and job creation amongst youths in Rivers State. The rho value 0.552\*\* indicates this relationship and it is significant at  $p < 0.000 < 0.01$ . The correlation coefficient represents a moderate correlation. Therefore, the null hypothesis earlier stated is hereby rejected and the alternate upheld. Thus, there is a significant relationship between Cyber business and job creation amongst youths in Rivers State.

Relationship between Systems Hardware maintenance and Youth Empowerment

**Table 3: Correlation for Hardware maintenance and measures of Youth Empowerment**

|                |                               | Hardware Maintenance    | Sustainable income gene | Innovativeness | Job creation |        |
|----------------|-------------------------------|-------------------------|-------------------------|----------------|--------------|--------|
| Spearman's rho | Hardware Maintenance          | Correlation Coefficient | 1.000                   | .771**         | .892**       | .878** |
|                |                               | Sig. (2-tailed)         | .                       | .000           | .000         | .000   |
|                |                               | N                       | 239                     | 239            | 239          | 239    |
|                | Sustainable income generation | Correlation Coefficient | .771**                  | 1.000          | .845**       | .917** |
|                |                               | Sig. (2-tailed)         | .000                    | .              | .000         | .000   |
|                |                               | N                       | 239                     | 239            | 239          | 239    |
|                | Innovativeness                | Correlation Coefficient | .892**                  | .845**         | 1.000        | .909** |
|                |                               | Sig. (2-tailed)         | .000                    | .000           | .            | .000   |
|                |                               | N                       | 239                     | 239            | 239          | 239    |
|                | Job Creation                  | Correlation Coefficient | .878**                  | .917**         | .909**       | 1.000  |
|                |                               | Sig. (2-tailed)         | .000                    | .000           | .000         | .      |
|                |                               | N                       | 239                     | 239            | 239          | 239    |

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS output version 23.0

Table 3 shows the test results for the three previously postulated bivariate hypothetical statements in relation to Hardware maintenance services. The correlation coefficient (r) shows a significant relationship between Hardware maintenance services and sustainable income generation. The rho value 0.771\*\* indicates this relationship and it is significant at  $p < 0.000 < 0.01$ . The correlation coefficient represents a high correlation indicating a strong relationship. Therefore, based on this result the null hypothesis earlier stated is hereby rejected and the alternate upheld. Thus, there is a significant relationship between Hardware maintenance services and sustainable income generation amongst youths in Rivers State. The correlation coefficient (r) shows a significant relationship between Hardware maintenance services and productive

innovativeness. The rho value 0.892 indicates this relationship and it is significant at  $p < 0.000 < 0.01$ . The correlation coefficient represents a high correlation indicating a strong relationship. Therefore, based on this result the null hypothesis earlier stated is hereby rejected and the alternate upheld. Thus, there is a significant relationship between Hardware maintenance services and productive innovativeness amongst youths in Rivers State. The correlation coefficient (r) shows that there is a significant relationship between Hardware maintenance services and Job creation. The rho value 0.878\*\* indicates this relationship and it is significant at  $p < 0.000 < 0.01$ . The correlation coefficient represents a high correlation indicating a strong relationship. Therefore, based on this result the null hypothesis earlier stated is hereby rejected and the alternate upheld. Thus,

there is a significant relationship between Hardware maintenance services and Job creation. Relationship between systems accessories vending and youth empowerment

**Table 4 Correlation for System accessories Vending and Measures of Youth Empowerment**

|                |                               |                 | System Accessories Vending | Sustainable income generation | Productive innovativeness | Job creation |
|----------------|-------------------------------|-----------------|----------------------------|-------------------------------|---------------------------|--------------|
| Spearman's rho | System Accessories Vending    | Correlation     | 1.000                      | .759**                        | .425**                    | .737**       |
|                |                               | Coefficient     |                            |                               |                           |              |
|                |                               | Sig. (2-tailed) | .                          | .000                          | .000                      | .000         |
|                |                               | N               | 239                        | 239                           | 239                       | 239          |
|                | Sustainable income generation | Correlation     | .759**                     | 1.000                         | .845**                    | .917**       |
|                |                               | Coefficient     |                            |                               |                           |              |
|                |                               | Sig. (2-tailed) | .000                       | .                             | .000                      | .000         |
|                |                               | N               | 239                        | 239                           | 239                       | 239          |
|                | Productive Innovativeness     | Correlation     | .425**                     | .845**                        | 1.000                     | .909**       |
|                |                               | Coefficient     |                            |                               |                           |              |
|                |                               | Sig. (2-tailed) | .000                       | .000                          | .                         | .000         |
|                |                               | N               | 239                        | 239                           | 239                       | 239          |
| Job Creation   | Correlation                   | .737**          | .917**                     | .909**                        | 1.000                     |              |
|                | Coefficient                   |                 |                            |                               |                           |              |
|                | Sig. (2-tailed)               | .000            | .000                       | .000                          | .                         |              |
|                | N                             | 239             | 239                        | 239                           | 239                       |              |

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS output version 23.0

Table 4 shows the test result for the three previously postulated bivariate hypothetical statements in relation to System accessories vending. The correlation coefficient (r) shows a significant relationship between systems accessories vending and sustainable income generation. The rho value 0.759\*\* indicates this relationship and it is significant at p 0.000<0.01. The correlation coefficient represents a high correlation indicating a strong relationship. Therefore, based on this result the null hypothesis earlier stated is hereby rejected and the alternate upheld. Thus, there is a significant relationship between systems accessories vending and sustainable income generation amongst youths in Rivers State. The correlation coefficient (r) shows a significant relationship between systems accessories vending and productive innovativeness. The rho value 0.425\*\* indicates this relationship

and it is significant at p 0.000<0.01. The correlation coefficient represents a moderate correlation indicating between the variables. Therefore, based on these results the null hypothesis earlier stated is hereby rejected and the alternate upheld. Thus, there is a significant relationship between systems accessories vending and productive innovativeness. The correlation coefficient (r) shows that there is a significant relationship between systems accessories vending and job creation. The rho value 0.737\*\* indicates this relationship and it is significant at p 0.000<0.01. The correlation coefficient represents a high correlation indicating a strong relationship. Therefore, based on this result the null hypothesis earlier stated is hereby rejected and the alternate upheld. Thus, there is a significant relationship between systems accessories vending and job creation amongst youths in Rivers State.

**Moderating Role of digital literacy**

**Table 5: Digital literacy, ICT entrepreneurship, and youth empowerment**

| Control Variables |                         | ICT Entrepreneurship | Youth Empowerment | Digital Literacy |
|-------------------|-------------------------|----------------------|-------------------|------------------|
|                   |                         | p                    | ent               |                  |
| ICT Entrepreneurs | Correlation             | 1.000                | .685**            | .543**           |
| hip               | Significance (2-tailed) | (2-                  | .000              | .000             |



|                  |                         |          |       |       |
|------------------|-------------------------|----------|-------|-------|
|                  | Df                      | 0        | 239   | 239   |
|                  | Correlation             | .685     | 1.000 | .373  |
| Empowerment      | Significance(2-tailed)  | .000     | .000  | .000  |
|                  | Df                      | 239      | 239   | 239   |
|                  | Correlation             | .543     | .373  | 1.000 |
| Digital Literacy | Significance (2-tailed) | (2-.000) | .000  | .     |
|                  | Df                      | 239      | 239   | 239   |
|                  | Correlation             | 1.000    | .619  |       |
| Entrepreneurship | Significance (2-tailed) | (2-.000) | .000  |       |
| Digital Literacy | Df                      | 239      | 239   | 239   |
|                  | Correlation             | .619     | 1.000 |       |
| Empowerment      | Significance (2-tailed) | (2-.000) | .000  | .000  |
|                  | Df                      | 239      | 239   | 239   |

Source: SPSS output version 23.0

Table 5 above reveals r value of 0.685 at a significant level of 0.00 signifying a correlation between ICT entrepreneurship and youth empowerment; this shows a positive relationship which is accurately significant. The partial relationship controlling for digital literacy, in any case is a strong positive association (0.543) and quantifiably huge. Furthermore, the significance value of 0.00 which is less than the alpha level of 0.05 implies that the equal increase between ICT entrepreneurship and youth empowerment is moderated by the influence of digital literacy level. This implies that the extent to which ICT entrepreneurship ventures positively influence youth empowerment in Rivers State is moderated by the level of digital literacy of the individuals.

#### IV. DISCUSSION OF FINDINGS

The test of hypotheses one, two and three revealed that involvement in cyber business enhances youth empowerment in Rivers State in terms of sustainable income, Innovativeness, and job creation. This finding implies that the more youths in Rivers State engaged in cyber business, the more empowered they become economically as they generate income sustainably, and are time innovative in creating jobs for themselves and others. This revealed that infopreneurial business activities such as hardware/software maintenance services, computer consultancy services, and phone/phone call/recharge card business has significantly and positively influenced socio-economic emancipation of the Niger Delta in terms of income generation and job creation. The 21<sup>st</sup> century work and life revolve around the use of

information and communication technologies; people need to type their documents, send and access mails as well as print documents from their electronic mail box from time to time. There is also the need to reproduce or photocopy documents for one purpose or the other from time to time. These and other societal needs are often met with the services of cyber operators. Cyber business operators also provide online registration and e-payment services for clients and they are paid for. They also make money from selling stationeries, laminating documents, spiral binding, and other typesetting related services.

As indicated by our findings above, cyber business also creates job opportunities for Rivers youths especially the males. The research findings of Petti and Zhang (2011) revealed that cyber business provided job opportunities and meaningful engagement for the Chinese youth population. Most of the cyber business owners do not have the time to run the business themselves so they employ skilled and vibrant youths to handle different aspects of their core services. Sometimes, they also employ computer instructors who provide basic certificate or diploma courses in ICT. One major feature of the cybercafé business is that girls and young women are mostly attracted to it. This is perhaps owing to the fact that women naturally do better and are more patient in manipulating the keyboard than men.

The test of hypothesis four revealed that rendering Hardware maintenance services do not enhance sustainable income generation by youths in Rivers State. This finding does not indicate that hardware maintenance services are not lucrative; it

rather points to the fact that hardware maintenance services generate income but not a sustainable (consistent bases). Going by this view, hardware maintenance services may not enable Rivers youths to generate income on a regular basis. However, more recent research efforts point to the fact that computer systems, printers, smart phones, etc habitually develop technical faults which must be fixed before the end-user can continue using it. This suggests that hardware maintenance needs arise regularly so the technician will be sought after regularly. Thus, hardware maintenance services can be a sustainable source of income for the entrepreneur provided he or she is strategically located and accessible.

The test of hypotheses five and six revealed that rendering hardware maintenance services promotes innovativeness and job creation for youths in Rivers State especially amongst male entrepreneurs and those with O'level certificate. Information and communication facilities develop faults on a regular basis: smart phones hang or their screen got broken; there is always a technical problem the skilled ICT-technicians have two or more apprentices or students on internship who assist them in repairing these devices. By so doing, hardware maintenance services enhance innovativeness and job opportunities for the teaming Rivers youths. The fact that the results revealed that male youths are more involved in hardware maintenance services than their female counterpart is instructive. While women are very good at social media platforms and typesetting, they are less likely to go into hardware and software maintenance services considering the demanding and complicated or risky nature of IT maintenance services.

The test of hypotheses seven and eight revealed that Systems accessories vending promotes sustainable income generation and innovativeness of youths in Rivers State especially those who have SSCE certificate. Business outlets that sell brand new or fairly used laptops and accessories do not only generate income for the owners but also play the economic role of providing innovation for youths employed in such places. A youth who owns ICT-sales outlet or who is employed to attend to customers is innovative as they are paid and do not have time to loiter about.

The test of hypothesis nine revealed that Systems accessories vending does not enhance the number of jobs created by youths in Rivers State. The presence of systems accessories vending business has not made any significant reduction in the level of unemployment in Rivers State. At the end of the third quarter of 2017, only 1.91 million

out of 4.3 million people in Rivers State's labour force were engaged full time, meaning that they worked 40 hours a week during the period. The national misery index is now at 3.7% of 55.90 with Rivers State having the highest unemployment rate of 41.8% and a misery index of 79.87

The culmination of various ICT entrepreneurial initiatives with the occurrence of a variable with a differing role in an aggregated form could result in general enterprises growth which, to a greater extent, can be measured in terms of increase in competitiveness, market share, quality, profitability, and innovation gained by the business units. The influence of this is normally driven by their activities in provision of a wide range of services. Investment-generated innovative services are associated with lower transaction costs and, therefore, greater efficiency, competitiveness, market growth as well as increased earnings. Consequently, absence of funds yields little room for opportunities in terms of increased innovative activities. Expectedly, given the abundant natural resources and cheap labour in Nigeria, the entrepreneurs will be able to develop a number of excellent enterprises in Nigeria. The entrepreneurs will be able to manifest characteristics such as product and process innovativeness, high growth rate, technology adoption, and high market growth rate. This could contribute significantly to the business as well as economic growth through value addition, wealth creation and job opportunities. Therefore, there is a strong relationship between innovative services, entrepreneurship and enterprise. The growth of entrepreneurship drive and SMEs significantly depend on the availability and accessibility of innovative services. Innovative entrepreneurship is becoming the corner stone of economic growth in the developed and developing world. Industries in the developed world spend huge sum annually on research and development, with the eye of fostering innovation and a culture of risk and reward.

The test of hypothesis ten reveals that digital literacy level moderates the relationship between ICT entrepreneurship and youth empowerment to a very great extent. This finding implies that the digital competency which is the level of computer skills an entrepreneur has controls determines whether his business will empower him economically or not. Unlike other forms of entrepreneurship ventures, ICT entrepreneurship requires certain basic computer skills on the part of the entrepreneur for basic success in the business. Thus, an entrepreneur who is not grounded in basic computer skills will not be able to satisfy his/her customer. Based on all the

analysis done in this study, the result reveals that information communication technology entrepreneurship significantly correlates with the manifest of youth empowerment. This association between the two variables is positive, implying that improved levels of information communication technology entrepreneurship will contribute significantly towards the management of empowerment among the youths in Rivers state. In line with that, all the 10 hypothesis were rejected and the alternate accepted. The summary of the test of the study hypotheses are as follows:

## V. CONCLUSION

Based on the analyses of data and discussion of findings, the study concluded that ICT entrepreneurship activities such as cyber business, hardware maintenance services, and Systems accessories vending are the bedrock of youth empowerment in Rivers State, Nigeria. The success or the potential ICT entrepreneurship activities to bring about youth empowerment is a function of the personal digital literacy level of the entrepreneur. Low digital literacy level makes ICT entrepreneurship ineffective in empowering youths. Male youths in Rivers State are more involved in ICT entrepreneurship than their female counterpart and this resulted to higher level of economic empowerment among males than their female counterpart. Moderate educational attainment (O'level) is the only basic requirement for successful ICT entrepreneurship engagement and empowerment. Rivers youths who neglect entrepreneurship face the risk of impoverishment, economic dependency, and unemployment. The findings of this study provided valid and reliable empirical evidence on the relationship between ICT entrepreneurship and youth empowerment in Rivers State, Nigeria. The findings of this study also serve as a wake-up call to governmental and non-governmental bodies on how to empower Rivers youths economically and maximize their burning energy through the instrument of innovative entrepreneurial engagements. Though often ignored, by adopting the recommendations of this study, Rivers State Government and other stakeholders living and doing business in Rivers State will succeed in reducing youth idleness, joblessness, and restiveness. By making Rivers youths to be lucratively innovative, the prevalent threatening atmosphere of insecurity in the state will be drastically checked. This will help to protect the future of the state. Investors who are into Information and Communication Technology would find this study useful as it has become an eye opener for them to put in more resources

towards this line of entrepreneurship. The study extends the frontiers of knowledge on how ICT entrepreneurship influences youth empowerment. Before the present study, there was no empirical evidence on how dimensions of ICT entrepreneurship such as cyber business, hardware maintenance services, and systems accessories vending interact with youth empowerment in terms of sustainable income generation, innovativeness, and job creation in Nigeria and Rivers State in particular. This research effort has evidently closed this knowledge gap.

## VI RECOMMENDATIONS

Based on the results and conclusions, the following recommendations were made:

1. Youths in Rivers State should stop depending on government for jobs rather they should start up small scale cyber or typesetting centre to enable them generate income on a regular basis.
2. Rivers state youths irrespective of their educational attainment should be committed to establishing and running internet services in strategic places.
3. Youths involved in rendering Hardware maintenance services should get more innovative in their service delivery to minimize costs and increase their profit margin.
4. Female youths should acquire necessary ICT-maintenance skills and collaborate with successful male technicians to start making best use of their time in productive Hardware maintenance services engagement.
5. Regular quality hardware maintenance training should be provided for Rivers youths with special encouragement for female participation to increase their expertise and entrepreneurship consciousness in this area.
6. More Rivers youths irrespective of their educational level should take up Systems accessories vending in small scale.
7. Government should open skills training and business incubation centres to train our youths on skills required for entrance into entrepreneurship ventures.
8. Soft loans and financial grants should be provided by the authorities to assist interested and trained youths.
9. Rivers youths who are involved in Systems accessories vending should be more committed as well as innovative their marketing strategies to make their effort more innovative.
10. Those running systems accessories vending businesses should expand their business sites

even outside the metropolitan areas thereby creating job for others.

11. Government, politicians, and non-governmental organizations should provide general ICT maintenance training centres as well as technical kits for youths in Rivers State to build their digital literacy level in order to enhance their participation in entrepreneurship ventures rather than waiting for jobs that do not exist.

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