

Information and Communication Technology: A Drive for Entrepreneurial Education for Sustainable National Development

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Abstract. The study looks at the possible entrepreneurial opportunities inherent in information and communication technology. The paper briefly defines the concept of information and communication technology and entrepreneurial education as given by some authors. The study explains the various ICT entrepreneurial possibilities which young Nigerians and other people can venture into become job creators. For instance, people can engage in data management services, networking, computer hardware and software engineering, data base and soft ware design, management and administration of ICT, computer repairs, handset repair and other related entrepreneurial ICT possibilities. It also identifies some constraints to entrepreneurial education in ICT which include lack of funds for establishment and maintenance of ICT facilities and services, problem of constant power failure, lack of entrepreneurial mindset of the people, lack of sufficient ICT experts to run the programme and problem of constant technology change which quickly make some ICT equipment to be outdated. The study concludes by urging government,

private sectors and organizations to encourage people to exploit the entrepreneurial opportunities in ICT.

Keywords: Information Communication technology-drive, entrepreneurial, education, sustainable, national development.

1. Introduction

The existence of human being in this 21st Century is highly influenced by Information and Communication Technology (ICT). This is because of the vital roles ICTs is playing in every facet of man's existence in the recent years. The ICT revolution has really created jobs for several thousands of people and has greatly improved the scope of communication and interaction in the society. ICT is also a vital tool in development of entrepreneurial education for sustainable national development. This is because several components of ICT's equipment and services are embedded with different forms of entrepreneurial opportunities.

The current economic down-turn of the country is making everybody to source for ways of creating jobs rather than seeking for white collar jobs which are no longer there. The positive thinking by most Nigerians towards entrepreneurial development will ensure adequate sustainable development in Nigeria. ICT is a good way to knowledge about all forms of development in human endeavour. ICTs should be focused toward better entrepreneurial mindset for positive sustainable development in Nigeria. For instance, good ICT's knowledge and skills should expose Nigerian citizens especially the youths and working class to better ways of improved agricultural yields, better creativities in engineering, architecture, fine and applied arts and even in medicine. The trust of this paper is to identify ICTs entrepreneurial possibilities that will promote entrepreneurial education for sustainable national development in Nigeria.

2. Concept of Information and Communication Technology (ICT)

Information and communication technology and has been defined in various ways by experts in ICTs, educationist, scientists and other experts in other disciplines. Mangal and Mangal (2009) defines information and communication technology as the type of technology employed in the shape of tools, equipment and application support which helps in the collection, storage, retrieval, use, transmission, manipulation and dissemination of information as accurately and efficiently as possible for the purpose of enriching the knowledge, developing communication, decision making and problem solving ability of the user. Olateju (2013) asserts that ICT includes all devices of communication that make information gathering and dissemination possible in an integrated and automated manner. It encompasses radio, television, networks,

software, satellite system and other related systems that allow people to access, analyse, create and exchange data information and knowledge.

Adedeji and Adedeji (2013) states that in the world of today, information and communication technology has become an indispensable part of our educational system. It has been embraced at almost all levels of our education. Computer, internet and other areas of ICT are now being taught in our schools. The question is, to what extent? What is the level of mastery of the learners in ICT for eventual application?

The term information and communication technology is an expansion or comprehensive name for information technology (IT). Hasan (2010) asserts that the term information technology (IT) is sometimes said to have been coined by Jim Domsic of Michigan in November, 1981. Momsic who worked as a computer manager for an automotive related industry. He supposed to have created the term to modernize the outdated phrase "data processing".

The oxford English Dictionary however, defines information technology as the branch of technology concerned with the dissemination, processing and storage of information, especially by means of computers. Hassan (2010) equally defines IT as the study, design, development, implementation, support or management of computer based information systems, particularly software applications and computer hardware.

3. Concept of Entrepreneurship

Production is carried out through four major factors. These are land, labour, capital and entrepreneur. Entrepreneur co-ordinates

other factors of production. An entrepreneur is manager of other factors of production he/she is able to identify and economic opportunity and later brings together a package of resources and implement action in other to maximize the value of the identified opportunity with minimum financial risk for his/her personal gains. Entrepreneurs are found in all professions such as education, engineering, architecture, social works, law, medicine and the hosts of others. Olowa (2013) states that Kuratko and Hodgetts (2007) asserts that entrepreneurs are both thinkers and doers, not by birth alone but with environmental nurturing refined by experiences, and they take calculated and moderate risks when they see opportunities.

Adelokun and Obe (2013) states that entrepreneurship is a key driver of economic growth and job creation. It provides many people with career opportunities that better fit their preferences than waged employment. In addition, self-employment or business start-up is a response by significant numbers of people to job losses in the current global economic crises and from the collapse of small and medium scale businesses resulting from lack of formalized training, ignorance and requisite skills.

They equally assert that in becoming successful entrepreneurs, many different inputs are required for successful entrepreneurship. One of the most important is entrepreneurial skills. Motivated people need the right skills to identify entrepreneurial opportunities and to turn their entrepreneurial projects into successful ventures. It follows the process from when motivated people with entrepreneurial attitude make the decision to start up with the skills they need to help their business survive and grow on supports provided through vocational training, universities,

infirm support, chambers of commerce, business associations and so on.

Adedokun and Obe (2013) also asserts that the advancement of any nation in terms of economic and technological know-how hinges on the successful entrepreneurs of small and medium scale business, hence, all over the world entrepreneurial development has become a tool for total poverty alleviation and national wealth creation.

In line with Adedokun and Obe (2013) assertion, there is the need for Nigerian government to develop entrepreneurial education in Nigeria. This is very essential especially in this era of massive unemployment of people and dangling national economy. The government at all levels should venture into development of entrepreneurial education in line with ICT programme. This is an era of ICT, many people and organizations use it and there is the need to develop, maintain and service the ICT facilities. The development of entrepreneurial education that will expose people to the inherent entrepreneurial opportunities in the ICT will definitely create jobs for Nigerians and move our nation forward.

4. Information and communication Technology entrepreneurial possibilities

There are several ICT entrepreneurial possibilities which people can be engaged in to become job creators. Hasan (2010) states that IT professionals perform a variety of duties that ranges from installing applications to designing complex computer networks and information databases. He listed some of the duties IT professionals perform. These include data management, networking, engineering computer hardware, database and software design, as

well as the management and administration of entire systems. The above listed duties that IT professional perform can be a good focus of entrepreneurial education.

Data management is a very lucrative aspect of IT. People can be trained in the skills of data management, on the completion of their training they can secure work in different companies that specialize in data management or other jobs that are related to data management. They can as well set up their own data management companies.

Today, there are very few computer networking engineers. These people are over worked due to large volume of networking that need to be done in the country, for instance, both small and big business organization, government ministries, departments, agencies and non-governmental organizations need computer networking to function. These computer networking may be local area networking (LAN) or wide area networking (WAN) of these organizations. There is need for more people to do several networking services that a yet to be done.

More people can be trained or retrained in computer networking in order to make them employable and job creators. The focus on this IT entrepreneurial education will definitely reduce unemployment rate in Nigeria which will eventually lead to sustainable national development.

The working of IT rests heavily on hard ware engineering. It is the work of hard ware engineers to put adequate and functional hard ware architecture in place to ensure proper functioning of the IT networks. There are still very few hard ware engineers compared to the several jobs available in this area. Entrepreneurs can look into a way of creating jobs for the unemployed people in hard ware

engineering. More people can be trained as hard ware engineers through short, medium and long time training programmes. This area of entrepreneurial education will turn several jobless graduates in Nigeria to job creators and employable employees to several ICT companies, ministries, departments, agencies and private business organizations.

There are also the possibilities of creating jobs through training and retraining of software developers and managers.

In IT or ICT world, the duties of software engineers, developers and managers are inevitable. These groups of experts are very crucial and essential in ICT based organizations. The rate of which ICT is embraced by different organizations calls for the training of more software engineers, developers and managers. In fact, unemployment is almost in existence in ICT related organizations. On daily bases, new areas of ICT development spring up in telecommunication sector, oil and gas sector, aviation sector and other related sectors. The training and retraining of more people in software development, software engineering and software management can create more jobs for the unemployed people in Nigeria including old and young people. The training or retraining of more people in the above areas will definitely reduce unemployment rate in Nigeria.

The ICT development also creates room for systems managers and administrators. The work of systems managers and administrators are in every ICT based organizations. They see to the smooth running of the networks and to prevent systems collapse or system malfunctioning. For instance in banking industry which is majorly computerized now, every customer's account is computerized.

The customers can cash their money in the bank hall or use automated cash machine (ATM). The customers can also use on –line banking facilities through their phones. At times, customers can withdraw with their ATMS from other banks apart from where their accounts are domicile. All these banking services are possible through ICT facilities in the banks. These facilities are managed and administered by training systems managers and administrators. Entrepreneurial education will expose more people to the opportunities inherent in the training as systems managers and administrators. Through training or retraining of several jobless Nigerians in systems management and administration, more people will be employable and useful to the economy of the country.

Entrepreneurial education can also be designed for technicians on how to service and repair computers of different types. Today, different types and brands of computers are found in our schools, homes, offices and even religious houses. The computers will need capable technicians to service them and repair them when they get spoilt. This kind of training and retraining programme can be organized for secondary school leavers, diploma certificate holders and other groups of people that may be interested in such training programmes. This training or retraining programme if effectively organized and managed will address problem of unemployment in our society.

ICT entrepreneurial education can also include training people in how to service, maintain and repair handsets. This is another lucrative business when one looks at the number of people using different types of handsets. To train or retrain as handset technician will only require a short period of training.

The government can incorporate computer and handset repairs in the curriculum of introductory technology in the Junior Secondary School and curriculum of technical education in the Senior Secondary School. When this is done, it will translate to production of junior and senior secondary school students with some dependable skills that will make them have a means of livelihood after their education.

5. Constraints to Entrepreneurial Education in Information and Communication Technology

There are several problems to the development of entrepreneurial education in ICT. Everybody knows that to set up ICT systems, a lot of funds are needed, this is a major constraint to the programme especially now that the government is broke and there is economy depression in the country.

In the same vein, there is the problem of constant power failure. ICT is power driven, no matter how small the ICT entrepreneurial project is, it needs electricity to power it. The situation of power supply in the country now is not reliable for adequate powering of ICT entrepreneurial projects. This is a very big blow to the development of entrepreneurial education in information and communication technology.

In addition to this problem is the problem of poor entrepreneurial mindset of the people. Most Nigerian especially the young school leavers and university graduates rely highly on looking for white collar jobs, this has blind folded them to the inherent entrepreneurial opportunities in ICT projects through which they can earning good living and turned job creators. Many of the people do not even think of retraining in ICT entrepreneurial skills that will make them employable and job creators. Till today the

mass demand for white collar jobs is still high among Nigerians.

There is the need for sufficient ICT experts to take up ICT entrepreneurial education in Nigeria, but this not the situation in the country. Most of the ICT experts always get different lucrative jobs which will not make them accept programme of training and retrain of people in ICT entrepreneurial programmes. These experts are still very few in Nigeria and until there is appreciable increase in the number of ICT experts, the running of ICT entrepreneurial programmes will still be a mirage.

Another problem of accessing the benefits in ICT entrepreneurial education is the problem of constant technological change that is affects the sector. On regular basis, new model of computers and other ICT components are made. This requires a lot of funds and retraining of experts to cope with the dynamism in technology. This is a big problem to ICT entrepreneurial education development.

6. Conclusion

It is not a new thing talking about the economic situation in Nigeria today. The poor economic situation is felt by every Nigerian either rich or poor. This situation is majorly caused by insurgent problem in the North East, unpatriotic activities of the Niger Delta youths, poor price of the oil in the world market and large scale of corruption among Nigerians in influential places. This economic down turn can be improved upon if Nigeria government can find a way of promoting ICT entrepreneurial education through setting up of small scale apprenticeship training programmes. The government can also engage in regular campaign to the youths on the lucrative

entrepreneurial opportunities inherent in ICT entrepreneurial education.

Private sectors and Non-governmental organizations should also be encouraged by government to development ICT entrepreneurial education in order to reduced unemployment and poverty among Nigerians. If everybody sees ICT entrepreneurial education as a means towards wealth creation, more Nigerians will be interested and poverty in the land will be reduced and there will be sustainable national development.

Recommendations

A major problem in Nigeria today is youth unemployment. This is because many of the youths are not skillful in any particular trade because of the nature of education they went through. The education they received has only made them to be white collar job-seekers. The only solution to this problem is to blend it with some entrepreneurial skills which will promote entrepreneurial mindset of the youths. This solution could include exploring several areas of ICT which can make them more functional in the society.

They can be trained or retrained in practical data management services, networking engineering, computer hardware and software engineering, database and software design, management and administration of information and communication technology, computer repairs, handset repairs and general computer services management. When the youths received adequate practical skills in these different ICT entrepreneurial skills, they will be highly skillful in these areas. This will turn them to be employable and job creator individuals and it will definitely promote sustainable national development in Nigeria.

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