

**AFRICAN SOCIAL AND EDUCATIONAL JOURNAL
FACULTY OF BUSINESS ADMINISTRATION
IMO STATE UNIVERSITY
NIGERIA**

VOL. 8 NO. 2 DECEMBER 2019

**INTEGRATING INFORMATION AND COMMUNICATION TECHNOLOGY IN
ENTREPRENEURSHIP EDUCATION FOR SUSTAINABLE DEVELOPMENT IN UNIVERSITIES
IN RIVERS STATE.**

OKAI, N. OKAI, PhD.

**Department of Educational Management, Faculty of Education
Ignatius Ajuru University of Education
Rumuolumeni, Port Harcourt**

And

WORDU, JOHN AMAOGE

**Department of Educational Management, Faculty of Education
Ignatius Ajuru University of Education
Rumuolumeni, Port Harcourt**

Abstract

The upswing of information and communication technology globally has changed the way we relate, share ideas and communicate with each other. The adaptation of ICT into educational system has enriched content delivery, changed the methodology of teaching and learning and has improved sharing of information and ideas. The use of ICT has provided the platform where people acquire certain skills in information technology which is a prelude to acquisition of skills that will make the individuals providers of jobs and self-sustaining. The paper examines extensively the concepts and nexus of information and communication technology, entrepreneur ship education and sustainable development. The paper looks at the various benefits associated with the integration of ICT for entrepreneur ship education for sustainable development namely, provider of job opportunities and multi spring income, expertise on the use of information technology, cyber cafe business and others which help to reduce the poverty level among the citizens, increase their saving and investment and finally improve the GDP. The paper¹ concludes that ICT tools is the best platform for the achievement of entrepreneurship education, an inclusive education that will encourage sustainable development. The paper suggest among others that government at all levels should make concerted efforts to provide adequate fund for educational institutions and human capacity building should be upper most if the state must participate in 21st century information driven age, the educational curriculum should be redesigned to integrate computer education.

Keywords. Information and Communication Technology, Entrepreneur ship, Entrepreneurship Education, Development and Sustainable Development.

Introduction

Education all over the world is acknowledged as a potent tool for human and national development, no nation can develop without the right education. It is pertinent to state that all over the world resources are channeled towards achieving an inclusive education that will meet the needs and aspirations of the immediate society. Unfortunately, the system of education bequeathed to Nigerians by the colonial master was factored towards meeting the needs of the missionaries mainly, the interpretation of the bible and to provide clerks to the colonial masters. The colonial education was built towards making Nigerians seekers of white collar jobs and not necessarily creator of job opportunities. The proliferation of schools, colleges and universities and graduation of students has increased the number of graduates consequent on the increased number of graduates has led to massive unemployment among Nigeria Youths. This was vividly captured in the National Bureau of Statistics (NBS) that the country's unemployment rate has risen from 14.2% to 18.8% in 2017. It also said that Nigerian's labour population increased from 83.9 million in the second quarter to 85.1 million in the third quarter of 2017, a difference of 1.2 million in additional workforce. These massive unemployment rate and astronomical increase in population if not checkmated will adversely affect the economy of the country. The resultant effect of unemployment will lead to low income, low saving and eventually low investment.

The remedy to this vicious circle of poverty is the integration of entrepreneurship education into school curriculum. Entrepreneurship education is education that will enhance the ability of the learners to acquire certain skills and knowledge that will enable the learner set their own business. The educations that will expose the learners to new ideas, critical thinking and generators of business acumen and thus will be provider of employment and in the process break the circle of poverty. Entrepreneur is a critical thinker who explores any given situation in order to maximise profit. It is a risk bearer who organizes, establish, plan and control the business enterprises in order to make profit and ensure the welfare of the people. In the same vein, Oxford Advance Learner's Dictionary, define entrepreneur as a person who makes money by starting or running businesses, especially when this involves taking financial risks.

Entrepreneurship is the ability to gather resources towards setting up a business enterprise with the view of boring the associated risks in order to make profit.

Entrepreneurship is about setting up of business, identifying problems and proving-solutions and channelling all resources towards achieving the stated goals. Is about thinking outside the box and doing the extra ordinary things in order to achieve the set goals. Entrepreneurship is widely acknowledged as the key driver for rapid development of any society. The right entrepreneurship skills and knowledge will lead to the creation of jobs, wealth and it will enable the individual to start up business which in turn will provide employment to the teeming unemployed youths. Furthermore this will also boost the self-esteem of youth since gainfully employed will certainly uplift their status and will reduce crime and criminality in Nigeria polity. Entrepreneurship education if well-articulated and aggregated into the educational systems will inculcate in the learner such potentials or skills, knowledge, ability and attitudes to help the learner to survive within a giving setting. It is a lifelong learning process that helps the learner to be a creator of jobs and opportunities for

sustenance within a given environment. It bestowed on the individual the act of creative thinking, turning ideas into action, seeking for an opportunity to explore to the greatest advantage or to maximise profits. It is pertinent to note that ICT has become the platform through which these laudable goals of entrepreneurship education are achieved.

ICT is the acronym for information and communication technology. Information and communication technology is the use of computer in processing of data, analysing and dissemination of information to the large audience for maximum use. It is the use of electronic devices in storing of information; it include computer, CD, and other electronic devices used in disseminating and storing of information. ICT is viewed as a veritable tool for sustainable development. It has a multiplier effects on the economy by providing multi strings of income to the youths, encourage expertise knowledge on the use of technology, providing employment for the citizens and by extension reduced the level of poverty among the population and increase individual saving and investment. These will reduced crime in the society and will help to accelerate economic growth and the country's GDP among others. Sustainable development is the ability of providing the developmental needs of the people without incapacitating the future generation for achieving their developmental needs. ICT becomes a veritable resource in the development of the present and future generations.

Government in recognition of the importance of information and communication technology in university education assert that the university should make all students to offer general courses on philosophy of knowledge, nationalism and information technology among others and making entrepreneurial skills acquisition a requirement for all Nigerian universities.

(FGN 2014). A cursory look at the number of university graduates rooming the-streets in search of the white collar jobs and Nigeria the acclaimed head quarter of poverty in the world has left much to be desired.

The advanced economy has integrated information and communication technology tools into their economy and this has contributed to the development of their economy. The ICT has infiltrated every sphere of human activities in banking, commerce, marketing, and governance. In fact the rapid development of any economy is closely associated with the acquisition and the use of ICT tools but it does appear that the third world are yet to extensively integrate information and communication technology into universities in Nigeria.

From the foregoing, it is imperative to emphasize that in a world driven knowledge ICT is a potent tool that helps entrepreneurs to start up business, ideas and innovation that will help to generate massive employment. It is a truism that sustainable development cannot be achieved without information and communication technology. Therefore, the importance of ICT cannot be overlooked. It is against this background that the paper explores the integration of ICT for entrepreneurship education for sustainable development in Rivers State.

Theoretical Framework.

The study on the integrating information and communication technology in entrepreneurship education for sustainable development in universities in Rivers state is hinged on Technology-Organisation-Environment (TOE) framework that was developed by Tormatzky and Fleischer in 1990. TOE is a framework that explain how establishment or institution adopt new technology. The framework identifies three basic concepts that influence how organization adopt new technology and they are; Technology, Organisation and Environment. In collaborating this, Pudjinto and Hangjung (2009), opines that TOE provides a framework that explain the decision to adopt a technology innovation based on technological consideration, organization and the environment context.

Technology Context.

The adaptation of new technology is premise on the existing technology that will help to assimilation the new technology. The technology could be internal or external. For instance the adaptation of internet facilities in educational institution is presumed the existence of computers and other information technology that will facilitate the dissemination of information to wider audiences. Kinanath, (2013), opined that technology is an important element in integrating ICT to higher education.

Organizational Context

Refers to the existing resources that will expedite the adaptation of new resources. This is acknowledged by Lippert and Govindarajulu (2006), when they assert that organizational context are the resources available to support the acceptance of the innovation.

Environment Context

This means the platform where the organization or the institution exist. It consists of the size of the organization, the structures, the contemporaries, and the regulatory bodies that oversee the activities and the funding authorities. In case of universities the contemporaries could be other universities, the structure could be Monotechnics, Polytechnics, or full fledge universities. While the regulatory bodies for universities is National University Commission, while National Board for Technology Education is saddle with responsibility to handle all aspects of technical and vocational education outside the preview of the university. All the public tertiary institutions are funded by government depending on the ownership. The federal universities are funded by Federal Government while the State Universities are funded by the various State Governments.

The strength of this framework as relate to the study is predicated on the factors that determine the adaptation of new technology. The framework is able to explain the reasons that influence the adaptation of new technology namely the prevailing technology in the institution, the organizational resources that will help to integrate the new technology and the environment where the institution exist.

Conceptual Clarifications

Information and communication technology

Information and communication technology (ICT) is a term that involves the use of electronic devices to create, organise, store and analyse information and transmit to end users. It include the telephone, radio, Computer, CD, internet etc. Okai, (2008), opined that

information and communication technology are computer based tools that people use to work with information that support the information and information processing needs of an organization. It include key board, mouse, screen, monitors, printers, moderns, payroll software. Etc. To Saidu, Tukar & Adamu (2014), ICT is the use of computer- based technology and internet which have the capacity of making information and communication services available to a wide range of users. A more comprehensive definition of ICT is the one defined by British computer society as the scientific, technological and engineering disciplines and management techniques used in information handling, processing and disseminating their application; computers, networking and communication and their integration with men and machines; and associated social, economic and cultural matters. ICT is a composite terms that consist of computers and accessories; communication technology, and network technology. Computer is one of the components of ICT that is gaining general acceptance in modern society. The origin of computer is traceable to Charles Babbage, an English mechanical engineer and polymath, he conceptualized and invented the first mechanical computer in the early 19th century, (wikipedia.org) since then computer has become a household name. It is used in a wide variety in mathematical operation in the entire society. Therefore, computer is man-made machine that accept data, analyse, store and process through a systematic pattern. Gbadesan (2006), defined computer as an electronic device which accept and process data by following a set of instruction (programmes) to produce accurate and efficient results at a high speed.

Communication technology is another important aspect of ICT. Communication is passage of information from one person to another, while communication technology is the use of technology in transmitting information or signals from one location to another. It consists of television, audio technology, audio visual technologies, telephones, cell phones etc.

Network technology is the combination of computer and information devices in order to transfer data, process, analyse and disseminate to the end users.

Entrepreneurship Education

Entrepreneurship is the ability to set-up business enterprises, develop and manage it in such a way to make profits. The risks and profits are burn by the entrepreneur. The entrepreneur is a creative mind that sees opportunity in any given situation and work towards creating jobs in order to maximize profit. Entrepreneur involves innovations and changing the status quo in order to achieve a set goal. The Wikipedia online define entrepreneurship as the act of being an entrepreneur or one who undertakes innovation, finance and business acumen in- an efforts to transform innovations into economic goals.

Entrepreneurship education is the kind of education that instils on the learners the skills and attitude of creating jobs and the ability to manage a successful business. It is the kind of education that bestowed on the learners the necessary skills, ability and knowledge to self-sustaining, self-employed, creativity and innovative. It encourages the spirit of "I can do it" the spirit of never give up. Olanipekun, Brimah and Rabi (2015) conceptually, define entrepreneurship education as a specialised knowledge that inculcates in learners the traits of risk taking, innovation arbitrage and co-ordination of factors of production for the purpose of creating new products or services for new and existing users within human communities.

Entrepreneurship education does not only instil into the youths the spirit of self-reliance but also help in reducing the rate of unemployment among the teeming youths. Entrepreneurship education also ensures human capacity development and long life learning process vis-a-vis national development. The importance of entrepreneurship education are enormous, hence Akintola (2012), defined entrepreneurship education as the willingness and ability of an individual to acquire educational skills to explore and exploit investment opportunities, establish and manage a successful business enterprise. It is about making the individual been creative and the ability to recognize such an opportunity whenever it arises. The Nigeria curriculum should be restructured in such a way that entrepreneurship education should be inculcated into the basic, secondary and tertiary education in such a way that the graduates will acquire skills and knowledge that will enhance substance development.

Sustainable Development

The term sustainable development was coined in the paper "Our common future" released by the Brundtland commission in 1987. The commission defined sustainable development as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. The sustainable development means the long lasting development that will meet the needs of the present without endangering the potentials of future generation in meeting their own needs. Eziaghghala, Ukwuoma, and Adiaha (2017), posited that sustainable development is aimed at effective and efficient use of human, material and environmental resources for a continuous improved quality of life in human society. .Sustainable development placed premium on development that can stand the test of time and never impeding the future generation from attainment of developmental needs.

Wikipedia (online) posits that sustainable development is the organizing principle for meeting human development goals while simultaneously sustaining the ability of natural system to continue to provide the natural resources and ecosystem services upon which economy and society depends <https://en.wikipedia.org>.

From the above definitions of sustainable development the following inference can be drawn;

- 1 Sustainable development means the human development
- 2 The development that can last long.
- 3 The development must not only be interested in the development of the people but must develop and preserve the ecosystem- environment
- 4 Sustainable development is also interested in the economic system in a bid to develop the human capital and it should not destroy the existing infrastructures in the economy.

In similar vein, Arjen (2009),classified sustainable development into three classes: firstly, *sustainable social development this is aimed at the development of people and their social organization in which the realization of social cohesion, equity, justice and well-being play an important role, secondly: a sustainable environment development (planet); refers to the development of natural eco-system in ways that maintain the carrying capacity of the earth and respect; thirdly the non-human development (prosperity) focuses on the development of the economic infrastructure in which the efficient management of our natural and human*

resources is important. Therefore, sustainable development that must take care of the people, environment and the economic system. A good example of unsustainable development is the continuous oil exploration and exploitation with continuous flaring of gas in Niger Delta which has destroyed the aquatic lives and eco- system.

Nexus of ICT, Entrepreneurship Education and Sustainable Development

The relationship between ICT and entrepreneurship are enormous. It is unarguable that ICT has influence the creation of jobs and thus enhance the socio-economic development of any nation. The evidence of a successful ICT and entrepreneurship are explicitly seen in Western countries where ICT tools have been integrated into economy. Amue, Igwe and Abiye (2014), defines entrepreneurship education as the education that is geared towards making the learner self-reliance, self-direction and self-management. It inculcates on the learners skills and knowledge to strive in any business settings. It is a lifelong learning process and the recipients of entrepreneur education are impacted with the knowledge and acumen to recognise business opportunities so as to maximize the opportunities for greater good of the society. Damiem (2005), posited that ICT allows for teaching the younger generation and them to be aware of ICT tools that might increase their employability or self-employment capability. Interestingly is the fact that the computer and its accessories are now a household name and this will eventually enhance teaching entrepreneurship education.

The introduction and use of ICT tools has enhanced the creation and development of entrepreneurial skills. The introduction of global communication system has open vista of opportunities for youth empowerment and business opportunities. Examples are the cyber cafe, printing and sales of recharge cards, computer training, internet services, internet marketing and advertisement. Etc. The upsurge of information and communication technology tools has enhances the learning of technological skills and improved the decision making skills of the entrepreneur. Also worthy of note is that ICT helps to facilitate the exchange of business ideas and effective communication within the business setting. With the use of ICT there are no barriers in dissemination of ideas and information but rather a robust exchange of ideas and knowledge that will enhance the growth business enterprises.

The use of ICT tools help in research and development. ICT help the prospective entrepreneurs to have an in-depth knowledge about a product and the market situation before embarking on that line of business. The use of computer networking and internet has created various platform that help in publicity and marketing of products. Examples are the Facebook, Jamie and other social media through which products are purchased and sold through online. More importantly job are advertised through online and employed given, this in no small measure help to reduce the poverty level in the state and reduced the level of crime in the state.

Entrepreneurship Education for Sustainable Development

In order to achieve sustainable development through entrepreneurship education the curriculum should be restructured towards enhancing acquisition of skills and knowledge that will sustain lifelong learning process. The education system must be improved towards human capacity development, improved quality services delivery; and creating awareness about entrepreneurship education and importantly, providing the prerequisite man power development skills that will drive the system. The hallmark of entrepreneurship for sustainable development is anchored on the premise that entrepreneurship education equips the people with necessary skills and ability for a sustainable development. Also, it emphasize the process of empowering the individuals and inspiring individuals in innovative ideas .skills , knowledge and life style that can benefit the developmental needs of this generation without inhabiting the future generational goals.

The essence of entrepreneurship education for sustainable development is the emphasize on enhancing the potentials of individuals and equipping them with skills that will

improve the quality of life, reduce poverty, alleviate the effects of unemployment and make the individual self-employed and self-reliant. In the process the individual will be provider of jobs and not seekers of jobs.

ICT Entrepreneurship Skills for Sustainable Development

Entrepreneurship is the engine in cushioning the effect of unemployment in the country and thereby reducing the level of poverty. It is pertinent to state that ICT is the platform to achieve sustainable development and this can be achieved through the acquisition of the right skills and knowledge. Information and communication technology are the basic tools that are needed for any entrepreneurial activity, therefore, ICT can act as an agent of change in different aspects of entrepreneurship and more importantly in job creation. The use of internet has revolutionized the business industry and make it a global village in the exchange of business ideas, in marketing, sales of items, in advertising and online job.

The use of information and communication technology has provided the academy vista of opportunities in academic writing and publishing of academic works. The lecturers can now sit at the comfort of their rooms and publish academic work in both local and international journals and earns hard currency. Other prospects of ICT to entrepreneurship skills are in the areas of sales and maintenance of ICT tools, web design and development, printing, and sales of recharge cards, and the establishment of cyber cafe has provided employment to the numerous unemployed youths.

Computer networking and the use internet has created various platform for the exchange of market and business ideas, marketing of products and acquisition of knowledge in every facets of human endeavours. Today we have the e- commerce, e marketing e learning and other electronic enable devices that has enable the people to acquire various skills and knowledge that helped in the provision of employment to the people and make them self-sustaining and alleviate the poverty level.

Objectives of Entrepreneurship Education

Basically the objectives of Entrepreneurship Education are

- > Provision of employment to the people. With entrepreneurship education the youth acquire certain technological skills that will make them provider of jobs and in turn reduce the level of unemployed people.
- > Provision of multi spring of income. Entrepreneurship education will provide multi string of income to the youths thereby reduce poverty level in the society.
- > To enhance the competencies of the individual by encouraging individuals in critical thinking, innovative and encourage the acquisition of skills and knowledge that will encourage self-development and self-sustaining.
- > To provide employment to teeming unemployed youths and in the process reduced the crime rate in the society

Paul in Ojefo (2012) posits that entrepreneurship education is structured to achieve the following:

- *To offer functional education for the youth that will enable them to be self-employed and self-reliant.*
- *Provide the graduates with adequate training that will enable them to be creative and*

innovative in identifying novel business opportunities.

- *To serve as a catalyst for economic growth and development*
- *Offer tertiary institution graduates with adequate training in risk management to make certain bearing feasible.*
- *To reduce high rate of poverty*
- *Create employment generation*
- *Reduction in rural- urban migration*
- *Provide the young graduates with enough training and support that will enable them to establish a career in small and medium size business.*
- *To inculcate the spirit of perseverance in the youths and adults which will enable them to persist in any business venture they embark on.*
- *Create smooth transition from traditional to a modern industrial economy.*

Challenges in the use of ICT for Sustainable Development

The uses of ICT in enhancing entrepreneurship education for sustainable development are not without challenges. These challenges are factors that inhibits the effective integration of I C T in entrepreneurship education, they are as follows;

Suggestions

Following the identified challenges that inhabits the effective entrepreneurship education for sustainable development, the following suggestions are proffered:

- 1 Federal and state government should partner with communication providers to further subsidise the price of internet facilities, this is to ensure that internet facilities are affordable.
- 2 Education curriculum should be redesigned to integrate computer education and internet studies as core subjects in primary, secondary and tertiary education and this will enhance the knowledge of information and communication technology which will eventually be a panacea to entrepreneurship education.
- 3 Human capacity building is the key to ICT development consequently government at all levels should train and retrain teachers in the use of ICT tools.
- 4 Government should provide enabling environment that will enhance the survival of small scale business. In others words, Government at all level should work towards the provision of constant electricity to the people.
- 5 Government should provide adequate funds to educational system to enable the administrator of education to procure the necessary ICT tools and infrastructure that will facilitate the effective use of ICT facilities.

References

- Aguocha, F. (2012). Promoting sustainable development through ICT entrepreneurship Education. In developingnations; Education and sustainable development, (Eds.)
- Unachuckwu, G. C. & Ijioma B. C. Owerri, the Nigeria Academic of Education.
- Amue, G.J, Igwe, S.R. & Abiye, H. (2014). ICT entrepreneurship and small business mechanism for sustainability; *European journal of Business and social science*, 6(3), 6, pp.103-112.

- Arjen, N. (2009). Learning for sustainable development; Review of content and structure for education for sustainable development. <http://www.IJNSCO.org/education>
- Brundtland, G.H. (1987). Our common future. Report of the world commission on environment and development. Oxford: Oxford university press.
- Domain, P. (2005). Implementation in use of B2B- enabling technologies; five manuchuray c&sq. *Journal of manufacturing technology management* 16(5), 554-512. Emerald group publishing limited.
- Ezekiel, R.P. (2016). Information and communication technology facilities management for Schools' productivity. In
- Oluwuo, S. O. & Asodike, J. D. (Eds.). Managing schools for productivity; emerging perspective.
- Gbaderan. J.A. (2006). Computer and research activities in EDA 751: Principles of instructional Administration: National open university of Nigeria: Lagos gold-print
- Jogodic, G. & Dermol, V. (2015) ICT tools for the development of entrepreneurial competencies; managing intellectual capital management, and innovation for sustainable knowledge and learning and inclusive society, joint conference 27-29 July 2015.
- Kinanath, M. (2013). The use of information and communication technology in teaching and learning within higher education sector of a small- island developing state; a case of Maldives; New Zealand.
- Lippert, A. H. & Govindarajulu, C. (2006). Technological, organizational, and environment antecedents to web services adaptation. *Communication of the HMA*,6(1), 146-148.
- Ohanaka, B.U., Udeogu, C. & Aguocha, F. (2012).Promoting sustainable development through ICT- Entrepreneurship Education in developing Nations; education and sustainable development; the Nigeria academic education.
- Ojeifo, S. A. (2012). Entrepreneurship education in Nigeria; *Journal of education and practice*: retrieved April, 2018, from <http://www.epre.org.edu>.
- Okai, N. O. (2008). *Information and communication technology and its usage in Nigerian Universities*. An unpublished PhD dissertation university of Port Harcourt.
- Olanipakan,W. D., Brimah, .A.N. & Rabi, R.O. (2015). Entrepreneurial and" vocation education revolution; A catalyst for sustainable development. *Arabian Journal of Business and Management Review*, 14, (12).
- Pudjianto, B. & Hangjung, Z. (2009). Factors effecting the e- government assimilation in developing countries. Paper presented South Conference, Negombo, Sri lanka. developing countries. Paper presented at the 4 *Communication Policy Research*,
- SAIDU, A. Turkur, Y. & Adamu, S.H. (2014). Promoting sustainable development through ICT in developing countries. *Journal Education and Practise* 5(14) pp. 163-168.<https://Wikipedia.org>.
- Tornarzky, L. G. & Fleischer, H. (1990). The processes of technological innovation, Idaho Falls, ID: Lexington Books.

Van de ven, A. H. (1986). Central problems in the management of innovation, *management Science*, 32(5), 590-607.