UTILIZATION OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) AMONG BUILDING TECHNOLOGY EDUCATION ENTREPRENEURS FOR SUSTAINABLE DEVELOPMENT (SD)

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Abstract
The study determined the extent of utilization of information and communication technology (ICT) among building technology education entrepreneurs for sustainable development (SD) in Lagos State. The design employed was the survey research with a population of 402 entrepreneurs, made up of 168 entrepreneurs with less than five years experience and 234 entrepreneurs with over five years. No sampling was made because of the relative size of the population, as the study was targeted at self employed building technology education graduates. The study was guided by four research questions and four hypotheses respectively. Validated instrument with 0.8 reliability coefficient was obtained using cronbach alpha to obtain data. Mean, Standard Deviation statistics and t-test were employed for the data analysis. The findings of the study revealed that to a high extent, the building technology education entrepreneurs utilize ICT to enhance marketing of goods and services; for accounting and financial records; and entrepreneurship knowledge acquisition. It was also concluded that entrepreneurs experience barriers to the utilization of ICT among them. Based on the findings of the study, it was recommended that building technology education entrepreneurs with over five years experience should undergo ICT training to improve their ICT skills and also avail themselves to the use of ICT to acquire information on entrepreneurship in other to grow their business better and faster.

Key words: *Utilization, ICT, Building Technology Education, Entrepreneur, Sustainable Development*

Introduction

The emergence of information and communication technology (ICT) has revolutionized the way we access, process, retrieve, store and disseminate information within business enterprise across the globe. Whether it is vocal, pictorial, textual, macro-electric based, ICT is now a topical issue in Nigeria. It may not be because it is relatively new in this part of the world, but because ICT encompass a range of technology application systems of microprocessors that have had profound impact on the society and its way of life (Ome, 2016). According to Adewoyin (2007), ICT revolution is gradually affecting the advancement of knowledge and transforming the Nigeria educational system in unexpected ways, most importantly in building technology education.

Building technology education is a form of educational training aimed at preparing and equipping individuals with knowledge, attitude and skills in the field of drafting-architectural design, building drawing using auto-card, blocklaying and concreting, costing and estimation, building structures detailing, plumbing, repairs and installation, and supervision of the building construction enterprise (Ariba, 2011). Building enterprise project is undertaken among the building technology education entrepreneurs to design, construct, market, prepare financial records and acquire entrepreneurship knowledge under the control of set of instructions, which could be demonstrated through the utilization of ICT for sustainable development.

LITERATURE REVIEW

ICTs and Building Technology Education Entrepreneurs

Information and communication technology (ICT) has been defined variously by many authors. It has ICT has become key tools and had a revolutionary impact on how we live and grow in business (Apagu & Wakili, 2015). United Nations Educational Scientific and Cultural Organization (UNESCO, 2006) described ICT as a form of technology that are used to transmit, store, create, share or exchange information. Thus, broad definition of ICT includes such technologies as radio, television, video, DVD, telephone (both fixed line and mobile phones), satellite systems, computers, internet, hardware and software as well as the equipment and services associated with these technologies such as video conferencing, electronic mail, online banking, and electronic commerce among others. In the view of Adesoji (2012) ICT comprises computer and ICT materials and applications, which aid in information collection and dissemination, research and global exchange of ideas that are critical for advancing meaning, educational initiatives, training skilled labour force and understanding issues related to global development.

More so, businesses need to grow bigger, respond to environmental needs swiftly with little or no errors. ICT plays a crucial role in a building technology education enterprise as it can be applied in a wide range of areas in the building technology education business. Akande and Yinus (2013) asserted that ICT plays an important role in productivity and economic activities and also make the way business operate to be less complicated, time saving and new trends on how business are managed. While Gyaase, Anokye-Sarfo and Bediako (2013) argued that ICT is used for capturing financial data. Apagu and Wakili asserted that modern day businesses are conducted and facilitated through the use of telephones, fax machines and computer communication networks through the internet. The phenomenon has given birth to the contemporary e-commerce, e-government, e-machine, e-banking and e-education among others. In the context of this study, ICT refers to the use of computers and other electronic devices such as radio, television, video, DVD, telephone (both fixed line and mobile phones), satellite systems, computers, and internet to manage business informations among building technology education entrepreneurs.

Building is a permanent or temporary structure enclosed within exterior walls and a roof. Buildings are utilized primarily for working, storage and shelter. Shelter in the form of a building is amongst the three basic needs of life universally accepted and recognized as essential for life sustenance and survival. Building technology in the opinion of Sullivan (2013) building technology is the technical processes and methods of assembling permanent or temporary structures to provide shelter, comfort, security and privacy to man for his needs. It covers the training and planning for the creation of residential or commercial buildings or properties. Sullivan described building technology as the technical processes and methods of assembling permanent or temporary structures to provide shelter, comfort, security and privacy to man for his needs. Building technology education therefore, provide individuals with the skills needed to be successful building contractors or as managers in the construction of walls, roofs, floors, and foundations, estimating, piping and electrical systems as well as other woodworking interior and exterior products. Building construction experience can be acquired through building technology education.

Building technology education graduates can set up an enterprise in the production of sandcrete blocks, production of well rings, fancy blocks, concrete kerbs, renting of building equipment and tools like concrete mixers, wheel barrows, shovels, diggers, theodo-lite, ranging poles, levelling staff and the sale of building materials such as cement, timber-wood, paint-finishes, glue-adhesives, fittings, among others, they can also train individuals on how to carry out operations in building construction. The building technology education

graduate according to the Federal Government of Nigeria (FGN, 2004) has the option to further his/her education, secure employment or set up his/her own business and become self-employed. Hence, they quest to become entrepreneurs.

An entrepreneur is an individual who has a talent for seeing opportunities and the abilities to develop those opportunities into profit-making enterprise (Susan, 2013). These opportunities according to Susan compel the entrepreneur to assume responsibilities in making various sacrifices to keep the enterprise afloat. Entrepreneurs are builders, creators, investors, managers and leaders all at the same time. The entrepreneur performs certain functions according to Keister (2005**)** include: to prepare plan; selection of site; provision of capital; provision of land; provision of labour; purchase of machines and tools; provision of raw materials; co-ordination of the factors of production; division of labour; quality of product; sale of goods; advertisement; search for markets; supervision; contact the government; payment to factor of production; quality of production; risk-taking; and innovation. An entrepreneur in view of this study is an individual who ensures the smooth running and management of building technology education enterprise so as to solve problems, maximize profits and plan for the future as a building technology education entrepreneur.

Building technology education entrepreneurs are individuals that possess teaching pedagogical qualifications, technical and entrepreneurship skills to be able to establish and run small scale business enterprise thereby becoming self-employed. In managing a business enterprise the building technology education entrepreneurs train individuals on building construction operations; analyze day-to-day transactions; keeps records of daily sales and invoicing. Some of these operations are done manually, which wastes time and job done characterized with errors as a result of the use of technologies that are obsolete. The building technology education entrepreneurs therefore, will need to enhance their entrepreneurship competencies and improve the process of their business managerial practices utilizing ICT, which has become an inextricably linked as veritable tool to nation sustainable development.

Utilization of ICT and Sustainable Development

In managing a business enterprise, the utilization of ICT improves business skills and leads to greater efficiency in the creation of knowledge for business management of the building technology education entrepreneur. Amalu (2015) defined utilization as the process of using objects to improve business educational practice. According to Ajayi (2008) utilization of ICT involves various methods, which include: systematized feedback system, computer-based operation/network, video conferencing and audio conferencing, internet/ worldwide websites and computer assisted instruction. In order to key into the current trend in daily business transactions, the FGN (2004) made several efforts towards utilization of ICT to enable graduates at all levels of the education system to compete favourably with graduates of other countries of the world in their enterprise undertaken in life. The strategic benefits of utilizing ICT in business according to Love and Irani (2004) include: improving growth and success; improve customer/suppler satisfaction; customer relations; and reduced marketing costs. Marketing is the total system of business activities designed to plan, price, promote, and distribute want satisfying goods and services to potential customers (Stanton, 2002). Love and Irani further argued that ICT enhances enterprise efficiency; reduce costs; lead to greater job creation; income generation; poverty reduction; rise in the standard of living; and broadens market research both locally and globally. Within the context of this study, utilization of ICT refers to practicable use of a range of technology application systems of micro-process to enhance the business enterprise of building technology education entrepreneurs for sustainable development.

The term sustainable development (SD) according to Shobowale and Akinwale (2011) was popularized in 1987 by the United National Commission on Environment and Development. The authors stated that the commission released the most widely used definition for sustainable development, as given by the Norwigian Prime Minister; GroHarlem Brundtland (popularly called the Brundtland Report) as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. The three interdependent and mutually reinforcing pillars of sustainable development according to the United Nations 2005 World Summit Outcome Document in Shobowale and Akinwale include: economic development, social development and environmental protection, as shown in Figure 1:

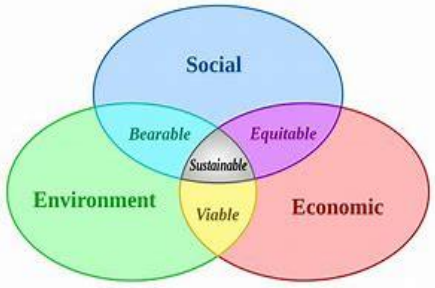

Figure 1: *The three interdependent and mutually reinforcing pillars of sustainable development (Shobowale & Akinwale, 2011)*

Operationalized the three interdependent and mutually reinforcing pillars of sustainable development as shown in Figure 1, Shobowale and Akinwale emphasized that sustainable development is a means of resolving the conflict between the various competing goals and involves the simultaneous pursuit of economic prosperity, environmental quality and social equity famously known as three dimensions with the resultant vector being technology education. The idea that there should be a balance between economic, social and environmental priorities in the decision making process was born. Since the notion of sustainable development in the opinion of Ehlers (2007) is centered in the use of new "*thinking processes*" to realize new values and attitudes; learning and reinforcement of learning must occur continuously and should be part of a lifelong learning process. Indeed, utilization of ICT among the building technology education entrepreneurs will enhance the training of students/youths on building technology education operations; marketing of building goods and services; and use computer to prepare accounting and financial record of their business enterprise to meet their own needs for economic growth, human development and environment conservation. Despite the advantages of utilization of ICT among building technology education entrepreneurs, Akpan-Obong (2007) argued that factors like, lack of: awareness, funds, skills and training, cultural factors, electricity constraints, and proper information are barriers to the utilization of ICT in business enterprises. Oladapo (2007) emphasized that some of the building technology education entrepreneurs still experience barriers in the utilization of ICT to do business, while the author further identified barriers to utilization of ICT by the entrepreneurs to include: insufficient/erratic power supply, high cost of hardware and software, inadequate ICT content of construction education, low return on investment and lack of appreciation of ICT by the entrepreneur as barriers in ICT utilization. In order to improve and sustain building technology education entrepreneurs business it becomes imperative to determine the utilization of ICT among building technology education entrepreneurs for sustainable development in Lagos State, Nigeria.

Statement of the Problem

Information and communication technology (ICT) has revolutionized building technology education enterprise in advanced countries of the world. Building technology education entrepreneurs in Lagos State, Nigeria, appears in the past and even now utilizes old techniques and manual operations in: training

students/youths on how to manage building construction business; their daily transactions of preparing statement of account and financial records; marketing of goods and services; and entrepreneurship knowledge acquisition. The use of this method wastes time and is characterized with errors as a result of the adoption of obsolete technology. The utilization of old technologies are not sufficient to: grow and manage business, market goods and services and keep accounting and financial records. In order to key into the current trend in daily business transactions, the FGN has made several efforts towards utilization of ICT in teaching and learning to enable graduates at all levels of the education system to compete favourably with graduates of other countries of the world.

Regrettably, studies revealed that ICT has not been considered central to the techniques and operations in building technology education entrepreneurial transaction process, especially in Lagos State, Nigeria. For the entrepreneurs to respond swiftly to marketing of goods and services; keep accounting and financial records; and entrepreneurship knowledge acquisition. These factors become difficult tasks, which is a barrier. When entrepreneurs are ready to utilize ICT, they encounter barriers, which serve as drawbacks. Barrier is anything, which makes it difficult for entrepreneur to utilize ICT to meet daily business transactions from one place to another. It is against this background that this study therefore, determines the extent to which ICT can be used among building technology education entrepreneurs to enable them meet business challenges, manage and grow their business for sustainable development in Lagos State, Nigeria.

Purpose of the Study

The purpose of this study was to determine the utilization extent of ICT among building technology education entrepreneurs for sustainable development in Lagos State, Nigeria. Specifically, the study sought to:

1. Determine the extent to which building technology entrepreneurs utilize ICT to enhance marketing of goods and services.
2. Examine the extent to which building technology entrepreneurs utilize ICT for accounting and financial records.
3. Determine the extent to which building technology entrepreneurs utilize ICT for entrepreneurship knowledge acquisition.
4. Identify barriers to the utilization of ICT among building technology education entrepreneurs.

Research Questions

The following research questions guided the study.

1. To what extent do building technology education entrepreneurs utilize ICT to enhance marketing of goods and services?
2. To what extent do building technology education entrepreneurs utilize ICT for accounting and financial records?
3. To what extent do building technology education entrepreneurs utilize ICT for entrepreneurship knowledge acquisition?
4. What are the barriers to the utilization of ICT among building technology education entrepreneurs?

Hypotheses

The following hypotheses were tested at 0.05 level of significance.

Ho_1: There is no significant difference in the mean responses of building technology education entrepreneurs with less than five years experience and those with over five years experience on the extent to which ICT are utilized to enhance marketing of goods and services.

Ho_2: There is no significant difference in the mean responses of building technology education entrepreneurs with less than five years experience and those with over five years experience on the extent to which ICT are utilized for accounting and financial records.

Ho_3: There is no significant difference in the mean responses of building technology education entrepreneurs with less than five years experience and those with over five years experience on the extent to which ICT are utilized for entrepreneurship skill acquisition.

Ho_4: There is no significant difference in the mean responses of building technology education entrepreneurs with less than five years experience and those with over five years experience on barriers to utilization of ICT.

Methodology

The study employed survey research design. Nworgu (2015) described a survey research as one in which a group of people or items are studied by collecting and analysing data from only a few people or items considered to be representative of the entire group. The survey research design was considered appropriate since information were elicited from the building technology education entrepreneurs. The study was conducted in Lagos State, Nigeria, while the population for the study consisted of all 402 building technology education entrepreneurs. Made up of 168 entrepreneurs with less than five years experience and 234 with over five years experience with building technology education background. The sample is 402; sampling technique employed was the purposive sampling as the study was targeted at graduates that are self-employed.

A structured questionnaire developed by the researchers, title: Utilization of ICT for Sustainable Development Questionnaire (UICTSDQ) was used as the instrument for data collection. The questionnaire contained 40 items arranged in line with research questions and hypotheses. The questionnaire consisted of section A personal data of respondents and section B of the instrument was on research question one and comprised of 11 items to elicit information on the extent to which building technology education entrepreneurs utilize ICT to enhance marketing of goods and services. Section C on research question two comprised of 11 items to gather information on the extent building technology education entrepreneurs utilize ICT for accounting and financial records. Section D, research question three comprised of 8 items, elicited information on ICT usage for entrepreneurship knowledge acquisition. Section E is on research question 4, which comprised of 10 items which elicited information on the barriers to the utilization of ICT among building technology education entrepreneurs. Items in section B-E are assigned a four point response scale of: Very High Extent (VHE) 4 points; High Extent (HE) 3 Points, Very Low Extent (VLE) 2 Points; and No Extent (NE) 1 Point. Items in section E are assigned a four point response scale of: Strongly Agreed (SA) 4 points; Agreed (A) 3 Points; Disagree (D) 2 points; and Strongly Disagree (SD) 1 point. The instrument was face validated by three lecturers from Department of science and Technology Education, University of Lagos, Akoka and their suggestions were used to produce the final draft of the questionnaire. Cronbach Alpha method was used to determine the reliability of the instrument. A co-efficient of 0.80 was obtained. 402 copies of the questionnaire were administered on the respondents. 342 copies were collected back representing 85 per cent return rate. The mean statistic was employed to answer the four research questions while the null hypotheses were tested at 0.05 level of significance. Any item with mean value of 2.5 or above was considered usable, while any item with the mean value less than 2.5 was considered not usable. Any null hypothesis whose p –value is greater than 0.5 is accepted but if p-value is less than 0.5 is rejected.

RESULTS

Research Question 1: To what extent do building technology education entrepreneurs utilize ICT to enhance marketing of goods and services?

Table 1: *Mean Scores of Entrepreneurs on the Extent of Utilization of ICT to enhance Marketing of Goods and Services.* *N= 40*

Experience		**< 5years**		**> 5 years**			
S/N	***Extent of Utilization of ICT to Enhance Marketing of Goods and Services***	$\overline{X}$	**SD**	$\overline{X}$	**SD**	$\overline{X}$ **Average**	**Remarks**
1.	Advertising building technology education equipment, tools, goods, and services on the internet.	3.63	0.51	2.91	1.16	3.27	High Extent
2.	Using internet services to capture the attention of building technology education customers on available goods.	3.55	0.50	3.19	0.92	3.37	High Extent
3.	Visit web site to know latest trend of building technology education goods and services needed in the building construction industry.	3.53	0.53	2.87	1.00	3.2	High Extent
4.	Use internet for on – line purchase of building technology education goods and services.	3.66	0.48	3.48	0.50	3.57	High Extent
5.	Use of internet for delivery of building technology education goods and services.	3.67	0.49	2.99	1.07	3.33	High Extent
6.	Utilization of satellite conference to share knowledge on techniques of use of some building technology education materials.	3.67	0.47	3.04	1.12	3.36	High Extent
7.	Use of e – mail to communicate on the readiness of produced building technology education goods for collection.	3.62	0.49	2.87	1.04	3.25	High Extent
8.	Use web site to increase building technology education customers' awareness of services available.	3.52	0.56	2.95	1.13	3.24	High Extent
9.	Use of the internet for effective marketing building technology education research.	3.43	0.59	3.10	1.00	3.27	High Extent
10.	Brows to know foreign exchange rates in other to price tag building technology education goods and services.	3.57	0.52	2.82	1.13	3.19	High Extent
11.	Use internet banking services for payment of building technology education goods and services.	3.44	0.55	2.89	0.94	3.17	High Extent

Table 1 showed that building technology education entrepreneurs utilize ICT to a high extent as their mean scores are above the cut-off point of 2.50, to enhance marketing of goods and services. The Table shows the standard deviation of the items were within the range 0.47 to 0.59; this indicated that the mean values of entrepreneurs with less than five years experience from one another on their responses. Building technology

education entrepreneurs with over five years experience mean values is between 0.50-1.16, which also signifies their responses are not too far apart.

Hypothesis 1: There is no significant difference in the mean responses of building education entrepreneurs with less than five years experience and those with over five years experience on the extent to which ICT are utilized to enhance marketing of goods and services.

Table 2: *t – test on Mean Responses on the Extent to which ICT are Utilized to enhance Marketing of Goods and Services between Entrepreneurs with less than Five Years Experience and those With over Five Years Experience.*

Entrepreneurs	**N**	$\overline{x}$	**Std Dev**	**Df**	**P.Val**	**Level of Sig.**	**Decision**
Less than 5 years	141	39.31	3.24	140	0.00	0.05	S
Over five years	201	33.10	6.35	200			

Table 2 indicated that P – value is less than 0.05 level of significance. The null hypothesis is therefore rejected. This means that there is a significant difference in the utilization of ICT to enhance marketing of goods and services among entrepreneurs.

Research Question 2: To what extent do building technology education entrepreneurs utilize ICT for accounting and financial records?

Table 3: *Mean Scores of Entrepreneurs on the Extent of Utilization of ICT for Accounting and Financial Records* *N= 40*

Experience		**< 5years**		**> 5 years**			
S/N	**Extent of Utilization of ICT for Accounting and Financial Records**	$\overline{X}$	**SD**	$\overline{X}$	**SD**	$\overline{X}$ **Average**	**Remarks**
1.	Use of internet banking to verify payment for building technology education goods and services.	3.45	0.53	3.05	0.91	3.25	High Extent
2.	Use computer to prepare building technology education financial statement.	3.47	0.54	3.09	0.80	3.28	High Extent
3.	Use e-mail to collect building technology education statement of account.	3.41	0.60	3.00	0.91	3.21	High Extent
4.	Use computer to download building technology education transactions.	3.57	0.58	2.90	1.06	2.16	High Extent
5.	Use a data base to keep building technology education transaction.	3.72	0.46	3.06	1.07	3.39	High Extent
6.	Use computer to estimate building technology education gross profit and net profit.	3.54	0.54	2.86	1.14	3.21	High Extent
7.	Use computer to keep records of building technology education transactions.	3.64	0.48	2.81	1.03	3.25	High Extent
8.	Browsing to search for building technology education customers' needs.	3.35	0.60	2.72	1.01	3.04	High Extent
9.	Scan building technology education financial document.	3.38	0.63	3.60	0.54	3.49	High Extent

10.	Use of accounting packages for building technology education cash flow reports.	3.49	0.53	2.95	1.15	3.22	High Extent
11.	Use web site to access information from other building technology education parts of the world.	3.44	0.54	3.50	0.51	3.47	High Extent

Table 3 revealed that the mean values of items are above 2.50, which indicated that the building technology education entrepreneurs utilize ICT for accounting and financial records to a high extent. The Table also shows the standard deviations of the items for entrepreneurs with less than five years range between 0.46 to 0.63 entrepreneurs with over five years their standard deviation ranges between 0.51 to 1.15. This indicates that their responses are not too far from one another.

Hypothesis 2: There is no significant difference in the mean responses of building education entrepreneurs with less than five years' experience and those with over five years experience on the extent to which ICT are utilized for accounting and financial records.

Table 4: *t – test on Mean Responses of Entrepreneurs with less than Five Years Experience and those with over Five Experience on the Extent to which ICT are Utilized for Accounting and Financial Records.*

Entrepreneurs	**N**	$\overline{\mathbf{x}}$	**Std. Dev.**	**Df**	**P.Val**	**Level of Sig.**	**Decision**
Less than 5 years	141	38.38	0.93	140	0.00	0.05	S
Over five years	201	31.42	1.51	200			

For the result in Table 4 we used SPSS version 22 to carry out the analysis. A t test was done to see if there is a significant difference between the utilization of ICT for accounting and financial records for entrepreneurs. The test was carried out at 5% level of significance ($\alpha = 0.05$) difference between that the P – value is less than 0.05 level of significance. The null hypothesis is therefore rejected. This implies there is a significant difference in the utilization of ICT for accounting and financial records among entrepreneurs.

Research Question 3: To what extent do building technology education entrepreneurs utilize ICT for entrepreneurship knowledge acquisition?

Table 5: *Mean Scores of Entrepreneurs on the Extent of Utilization of ICT for Entrepreneurship knowledge Acquisition.* *N=40*

Experience		**< 5years**		**> 5years**			
S/N	**Extent of Utilization of ICT for Entrepreneurship knowledge Acquisition**	$\overline{X}$	**SD**	$\overline{X}$	**SD**	$\overline{X}$ **Average**	**Remarks**
1.	Visit to web site to search information on building technology education business opportunities.	3.65	0.48	3.00	1.02	3.32	High Extent
2.	Use internet to download and search for building technology education business strategies.	3.43	0.64	2.80	1.06	3.12	High Extent
3.	Use internet to access information on building technology education employment opportunities.	3.18	0.85	3.06	0.96	3.12	High Extent
4.	Visit web site to get information on how to raise building technology education capital.	3.24	0.82	2.98	1.09	3.11	High Extent
5.	Use computer to analyse building technology education business risks.	3.22	0.73	3.56	0.52	3.39	High Extent
6.	Use internet to retrieve information on building technology education entrepreneurs roles.	3.44	0.55	2.91	0.93	3.18	High Extent
7.	Use email to communicate information	3.41	0.52	2.87	0.99	3.14	High Extent
8.	Use internet to collect information on building technology education entrepreneurs roles	3.44	0.58	2.60	0.92	3.02	High Extent

Table 5 shows that all the items have their mean values above 2.50 which indicate that the building technology education entrepreneurs utilize ICT for entrepreneurship knowledge acquisition to a high extent. The standard deviations for the entrepreneurs range between 0.48 -1.09, this indicates that their responses are not too far apart.

Hypothesis 3: There is no significance difference in the mean responses of building technology education entrepreneurs with less than five years experience and those with over five years experience on the extent to which ICT are utilized for entrepreneurship knowledge acquisition.

Table 6: *t – test on Mean Responses of Entrepreneurs with less than Five Years Experience and those with over Five Years Experience on the Extent to which ICT are Utilized for Entrepreneurship knowledge Acquisition.*

Entrepreneurs	**N**	$\overline{x}$	**Std Dev**	**df**	**P.Val**	**Level of Sig.**	**Decision**
Less than 5 years	141	27.01	2.96	140	0.00	0.05	S
Over five years	201	23.79	4.74	200			

Table 6 indicated that the P – value is greater than 0.05 level of significance. The null hypothesis is therefore accepted. This implies there is a significant difference in the utilization of ICT for entrepreneurship knowledge acquisition.

Research Question 4: What are the barriers to the utilization of ICT among building technology education entrepreneurs.

Table 7: *Mean Scores of Entrepreneurs Barriers to the Utilization of ICT among Building Technology Education Entrepreneurs. N=40*

	Experience	**< 5 years**		**> 5 years**			
S/N	***Barriers to the Utilization of ICT among Entrepreneurs***	$\overline{X}$	**SD**	$\overline{X}$	**SD**	$\overline{X}$ **Average**	**Remarks**
1.	Lack of awareness of ICT potentials	3.43	0.62	2.87	1.11	3.15	Agreed
2.	Lack of power supply	3.40	0.69	3.38	0.54	3.39	Agreed
3.	High cost of computer hardware accessories	3.52	0.53	2.91	1.03	3.21	Agreed
4.	Cost of upgrades to increase in processing power	3.35	0.59	3.44	0.52	3.39	Agreed
5.	Maintenance cost for accessories	3.23	0.80	2.91	0.94	3.07	Agreed
6.	Poor ICT literacy skills	3.46	0.69	2.99	1.06	3.23	Agreed
7.	Poor availability of internet services	3.48	0.62	2.91	1.04	3.19	Agreed
8.	Resistance of end – users to new technology	3.52	0.53	3.58	0.51	3.55	Agreed
9.	Cost of data for internet	3.56	0.50	3.49	0.50	3.53	Agreed
10.	Inadequate network infrastructure	3.47	0.50	3.60	0.49	3.54	Agreed

Table 7 showed that all the items have their mean values above 2.50, which indicate that the entrepreneurs experience barriers to the utilization of ICT amongst them. The standard deviation for the entrepreneurs ranges between 0.50 – 1.11. This indicates that their responses are not too far apart.

Hypothesis 4: There is no significance difference in the mean responses of building technology education entrepreneurs with less than five years experience and those with over five years experience on barriers encountered to the utilization of ICT.

Table 8: *t – test on Mean Responses of Entrepreneurs with less than Five Years Experience and those with over Five Years Experience on barriers encountered to the utilization of ICT* among entrepreneurs.

Entrepreneurs	**N**	**x**	**Std Dev**	**df**	**P.Val**	**Level of Sig.**	**Decision**
Less than 5 years	141	34.4	3.45	140	0.66	0.05	NS
Over five years	201	34.0	4.7	200			

Table 8 indicated that the P – value is greater than 0.05 level of significance. The null hypothesis is therefore accepted. This implies that there is no significant difference in barriers encountered in the utilization of ICT among entrepreneurs.

Discussion of Findings

The findings of the study in Table 1 revealed that the building technology entrepreneurs with less than five years experience utilize ICT to a very high extent compared to the entrepreneurs with over five years experience. These experiences of utilization of ICT include: Advertising construction equipment, tools, goods, and services on the internet; Using internet services to capture the attention of customers on available

goods; Visit web site to know latest trend of goods and services needed in the building construction industry; among others. The study is in line with work of Stevenson (1997) who stated that ICT is a major part of the new economy as it creates new products, new jobs, spurs consumers' activity and act as a vehicle for global trade and investment. The findings of this study also agreed with study of Hallberg and Bond (2002) who posited, that ICT enhances marketing of goods and services. The findings and the opinions of authors above helped to justify the findings of this study on the extent do building technology education entrepreneurs utilize ICT to enhance marketing of goods and services sustainable development in Lagos State, Nigeria.

The result on the findings in Table 3 indicated that building technology education entrepreneurs utilize ICT for accounting and financial records to a high extent. These experiences include: Use of internet banking to verify payment for goods and services; among others. The findings are in consonance with the study of Gyaase, Anokye-Sarfo and Bediako (2013) who opined that ICT is used for capturing financial data. The study is also in agreement with work of Kevin (2001) who explained that computer will be needed to avoid loss of audit trial and other problems associated with data source and documents. The findings and the views of authors above gave credence to the findings of this study on the extent the building technology education entrepreneurs utilizing ICT for accounting and financial records for sustainable development in Lagos State, Nigeria.

The result on the findings in Table 5 disclosed that building technology education entrepreneurs utilize ICT for entrepreneurship knowledge acquisition. These experiences include: Visit to web site to search information on business opportunities; Use internet to download and search for business strategies; Use internet to access information on employment opportunities; among others. The study is in agreement with the view of Fienhold (2016) who stated that entrepreneurs use the internet for entrepreneurship knowledge acquisition. The study is also in line with study of Ajayi (2008) who posited that utilization of ICT facilities involves various methods, such as: systematized feedback system, computer-based operation/network, audio conferencing, internet/ worldwide websites and computer assisted instruction. The findings and the studies of authors above helped to add value to the findings of this study on building technology education entrepreneurs utilizing ICT for entrepreneurship knowledge acquisition for sustainable development in Lagos State, Nigeria.

Table 4 of the study showed that all the building technology education entrepreneurs encountered barriers in the utilization of ICT. These barriers include: Lack of awareness of ICT potentials; Lack of power supply; High cost of computer hardware accessories; Cost of upgrades to increase in processing power; Maintenance cost for accessories; among others. The findings of this study are in agreement with the studies of Akpan-Obong (2007) who observed that factors like, lack of: awareness, funds, skills and training, cultural factors, electricity constraints, among others. The study is also in line with study of Oladapo (2007) who identified barriers to utilization of ICT by the entrepreneurs to include: insufficient/erratic power supply, high cost of hardware and software among others as barriers in ICT utilization. The findings and the studies of authors above gave credence to the findings of this study on building technology education entrepreneurs encountered barriers in the utilization of ICT for sustainable development in Lagos State, Nigeria.

The findings on the hypotheses 1, 2, and 3 showed significant differences in the use of ICT between entrepreneurs with experiences less than five years and experiences over five years. This may be unconnected to the age difference of exposure to ICT. Hypothesis 4 showed no significant difference in the barriers

encountered in the use of ICT by building technology education entrepreneurs for sustainable development in Lagos State, Nigeria.

Conclusion

The study concluded that there is a gap in the use of ICT for marketing of goods and services; accounting and financial records keeping and entrepreneurship knowledge acquisition. These gaps support the fact that barriers exist in the utilisation of ICT.

Recommendations

Based on the findings of this study, the following recommendations are proffered.

1. Government should assist in subsidizing the cost of ICT accessories and solve the problem of power supply.
2. The entrepreneurs with over five years experience need to avail themselves to the utilisation of ICT to enable them acquire information on entrepreneurship knowledge in order to grow their business better and faster.
3. The entrepreneurs with over five years experience needs to undergo ICT training to improve their utilisation of ICT skills and resources better.

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