



## CHALLENGES AND STRATEGIES FOR NEW TECHNOLOGIES APPLICATION IN TEACHING AND LEARNING BUSINESS EDUCATION IN THE E-WORLD IN UNIVERSITIES IN SOUTH EAST NIGERIA

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### Abstract

The study investigated challenges and strategies for new technologies application in teaching and learning business education in the e-world in universities in Southeast Nigeria. Two research questions were answered while two hypotheses were tested. The study adopted descriptive survey design. The population for the study comprised 75 business education lecturers in the eight public universities offering business education in South-East Nigeria. The entire population was used for the study because of its manageable size, hence, there was no need for sampling. Data were collected using a structured questionnaire structured on a 5-point Likert scale of Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree with corresponding values of 5, 4, 3, 2 and 1 respectively. Three experts in business education validated the questionnaire and the Cronbach Alpha reliability of the questionnaire yielded a reliability coefficient of 0.75. Copies of the questionnaire were distributed to the respondents. However, 73 copies representing (97%) out of the 75 copies of the questionnaire were retrieved and found usable. Data collected were analyzed using mean and standard deviation for the research questions, while the t-test was used to test the hypotheses. The findings of the study identified 10 challenges and 10 strategies for improving new technologies application in the teaching and learning of business education in universities in South-East Nigeria. There were no significant differences in the mean ratings of business education lecturers on 16 out of the 20 items, whereas, there were significant differences in the mean ratings of the lecturers on the remaining four items of the study. The study among others recommended the organization of in-service training for business educators on the application of new technologies in instructional delivery.

### Introduction

Technology has become an integral part of the instructional delivery as a tool resulting in the development of new concepts in the logistics of instruction. The application of new technologies has made teaching and learning a bit easier, concrete, real and more result-oriented. Ile, Udegbunam and Odimegwa (2015) asserted that since the introduction of ICT, there has been a growing concern for the use of new technologies in the educational system to improve quality of teaching and learning process. Nigerian government, in order to implement the national policy on education, has emphasized that new technologies should be increasingly used and improved upon at all levels of the education system (FRN, 2013). Considering the relevance of new technologies in the teaching and learning process, Nigeria has promised to provide facilities and necessary infrastructure for the promotion of new technologies application at all levels of education system, business education in the universities inclusive (Amiaya, 2016).

The emergence of new technologies application in the teaching and learning process has revolutionized the entire educational system in Nigeria. Thus, Utoware and Onyesom (2012) maintained that education generally has received the massive penetrating influence of the new technologies application in the instructional delivery and had impacted on the quality and quantity of



teaching and learning in the conventional and distance educational learning system. Teaching and learning with new technologies application has become important instructional process to enhance accessibility, efficiency and quality of teaching and learning by facilitating access to resources and services as well as improve remote exchange and collaboration (Amiaya, 2016). New technologies can help to improve teaching and learning only when they are used effectively with clear goals and proper strategies. The effective use of new technologies requires innovation in teaching methods.

Johnson in Amiaya (2016) defined new technologies as modern equipment useful in solving problems. New technologies are set of any productive electronic techniques which offers a significant improvement over the established technologies for a given process in a specific historic context. New technologies include internet and other information technologies such as mobile phone, DMB (Digital Multimedia Broadcasting) that have been widely used in other social environments as well as in the educational field. New technologies application have the great potential to support education across curriculum, business education curriculum inclusive, and thus provide opportunities for an effective communication between teachers and students in ways that have not been possible before (Utoware, Kren-Ikidi & Apreala, 2016). Business education deals with empowerment necessary to meet business challenges in a dynamic business in the e-world or society. It offers recipients the ability to cope with emerging changes in education and in business where the person is expected to manifest all the skills acquired while in training.

Thus, business education is planned for training and developing recipients to expose them in the field of business, and as professionals, expanding the way for imparting competencies for economic development in the e-world or society. For Business education programme to sustain its relevance in providing the needs of individuals and that of the society in the e-world, it must embrace current trends in new technologies application in the academic and economic demands of the society. New technologies in teaching and learning in business education programme, according to Ezenwafor (2012), include broadcast materials or CD-Rom for information collection and storage, micro-computers with soft-ware applications to write or produce documents, E-mail and messaging, internet browsing using search engines, windows messenger and yahoo chat room. Others are opaque projectors, slide projectors and multimedia projectors, different computer software and applications such as word processors, spreadsheets, power-point, desktop publishing and graphics, among others.

Challenges of new technologies application has led to learners not being adequately exposed to those experiences that will guarantee the total development of their being in the e-world. At present we leave in a global village; around the globe, the latest and most complex technology is the area of educational technology. The growth in new technologies and its application in education have brought great transformation in the e-world. The use of new technologies has made teaching and learning less burdensome effective and result-oriented by providing cyberspace for learning, avenue for sharing idea and information. The level of development in any society is usually determined by the quality and quantity of knowledge in the various spheres of human activity available to and acquired by the citizens. Knowledge is acquired and sustained through efficient information and communication system based on the technology level attained. However, there are many challenges in new technologies application in teaching and learning. In developing countries like Nigeria, there is frequently a shortage of qualified ICT teachers and lack of fund. The rapid changes that have taken place all over the world pose a challenge to the educational sector. There is the need to enrich the universities with new technologies application strategies for effective teaching and learning process.



### **Statement of the Problem**

The aim of new technologies application in the teaching and learning process is to improve the quality of education and expand access to education. The education sector is expected to be technologically driven and requires that technological resources are fully applied for effective teaching and learning process. Unfortunately, the education sector seems to be lacking the necessary technological resources needed to bring the Nigerian education sector at par with international standards. Business education programme being a skills development programme seem to be worst hit by the dearth of requisite technological resources on the one hand and the skills needed to effect the application on the other hand. The consequence is that the programme is faced with the challenge of producing the needed manpower for the e-world of work. According to Nagel (2013), despite increasing widespread adoption of new technologies in virtually every aspect of education, significant challenges are preventing widespread effective implementation. Nagel observed that key among all the challenges is the lack of sustainable professional development for business educators who are required to apply the new technologies in the classroom practices. It is against this background that this study was carried out to ascertain the challenges and strategies for new technologies application in the teaching and learning of business education in universities in South-East Nigeria.

### **Purpose of the Study**

The main purpose of the study was to ascertain the challenges and strategies for new technologies application in the teaching and learning of business education programme in universities in South-East Nigeria. Specifically, the study sought to:

- ascertain the challenges for new technologies application in the teaching and learning of business education in universities in South-East Nigeria.
- determine the strategies for improving new technologies application in the teaching and learning of business education in universities in South-East Nigeria.

### **Research Questions**

The following research questions guided the study.

- What are the challenges for new technologies application in the teaching and learning of business education in universities in South-East Nigeria?
- What are the strategies for improving new technologies application in the teaching and learning of business education in universities in South-East Nigeria?

### **Hypotheses**

The following null hypotheses were tested at 0.05 level of significance.

- There is no significant difference in the mean responses of male and female business education lecturers on the challenges for new technologies application in the teaching and learning of business education in universities in South-East Nigeria.
- There is no significant difference in the mean responses of business education lecturers from State universities and those from Federal universities on the strategies for improving new technologies application in the teaching and learning of business education in universities in South-East Nigeria.

## Method

The study adopted descriptive survey design. According to Nworgu (2015), a survey research design is one in which a group of people or items is studied by collecting and analyzing data from only a few people or items considered to be representative of the entire group. This design, therefore, was considered appropriate for the study as it collected data on the opinions of business education lecturers and students in universities in South East Nigeria. The study was carried out in public universities in South East Nigeria. The population for the study comprised 75 business education lecturers in the eight public universities offering business education in South-East Nigeria. The entire population was used for the study because of its manageable size, hence, there was no need for sampling. The data for the study were collected using a structured questionnaire. The instrument was constructed using a five point rating scale of Strongly Agreed (SA) 5 points, Agreed (A) 4 points, Undecided (U) 3 points, Disagreed (D) 2 points and Strongly Disagreed (SD) 1 point. Three experts in business education validated the questionnaire. The questionnaire has a reliability index of 0.75, which was established through a pilot test on 10 lecturers and 30 students of business education in Delta State University, Abraka and University of Benin, Benin City. The internal consistency was determined using Cronbach Alpha procedure. Copies of the questionnaire were administered and collected by the researchers with the help of seven research assistants after proper briefing on the purpose of the study. The questionnaire were distributed to the respondents. However, 73 copies representing (97%) out of the 75 copies of the questionnaire were retrieved and found usable. Data collected were analyzed using mean and standard deviation for the research questions, while the t-test was used to test the hypotheses. The decision rule for the research questions was based on the real limit of numbers as follows:

Response Options	Point	Real Limit of Numbers
Strongly Agreed (SA)	5	4.50 - 5.00
Agreed (A)	4	3.50 - 4.49
Undecided (U)	3	2.50 - 3.49
Disagreed (D)	2	1.50 - 2.49
Strongly Disagreed (SD)	1	1.00 - 1.49

The null hypothesis was accepted when the t-calculated value is less than the t-table value. On the other hand, the null hypothesis was not accepted when t-calculated value is greater than the t-table value.

## Results

### Research Question One

What are the challenges for new technologies application in the teaching and learning of business education in universities in South-East Nigeria?

### Hypothesis One

There is no significant difference in the mean responses of male and female business education lecturers on the challenges for new technologies application in the teaching and learning of business education in universities in South-East Nigeria.

The data for answering research question one and testing hypothesis one are presented in Table 1 below:

**Table 1:** Mean Ratings of Male and Female Business Education Lecturers on Challenges for New Technologies Application in the Teaching and Learning of Business Education in Universities in South-east Nigeria (n = 73)

SN	Challenges for New Technologies Application	$\bar{X}_M$	$\bar{X}_F$	$\bar{X}_G$	$SD_G$	t-cal	t-tab	Remarks	
								RQ	H0
1	Dearth of new technologies equipment	4.30	4.23	4.26	0.85	1.21	1.96	A	NS
2	Financial problem for procurement of new technologies equipment	4.33	4.35	4.34	0.90	0.37	1.96	A	NS
3	Unsteady electricity supply to power the new technologies equipment	4.71	4.50	4.60	0.79	2.10	1.96	SA	S*
4	Lack of space to accommodate the available new technologies equipment	4.71	4.66	4.69	0.74	1.23	1.96	SA	NS
5	Lack of maintenance of available new technologies equipment	4.12	3.63	3.87	0.61	3.32	1.96	A	S*
6	Inability of some business educators to apply new technologies in instructional delivery	4.47	4.43	4.45	0.70	0.89	1.96	A	NS
7	Inadequate training opportunities for business educators to update themselves on changes of new technologies in instructional delivery	4.52	4.49	4.50	0.89	0.69	1.96	SA	NS
8	Inadequate knowledge of some students to cope with the application of new technologies in instructional delivery	4.35	4.33	4.34	0.86	0.36	1.96	A	NS
9	Inadequate internet connectivity in the universities environment to reach out to every body	4.26	4.22	4.24	0.92	0.04	1.96	A	NS
10	Cost of subscribing to the new technologies for use.	4.76	4.40	4.58	0.74	2.23	1.96	SA	S*

**Key:**  $\bar{X}_M$  = Mean of Male;  $\bar{X}_F$  = Mean of Female;  $\bar{X}_G$  = Grand mean;  $SD$  = Standard Deviation;  $t$ -cal =  $t$ -calculated;  $t$ -table value; Number of the Respondents (73); SA = Strongly Agree; A= Agreed, S\* =significant; NS = Not Significant.



The grand mean ratings of the responses of the respondents on six out of the 10 identified items in Table 1 range from 3.87 4.45 which are within the boundary limit of 3.50 4.49 on 5-point Likert rating scale. This indicated that the respondents agreed that the six identified items in the table are challenges for new technologies application in the teaching and learning of business education in universities in South-East Nigeria. The grand mean ratings of the respondents of the remaining four items in the Table, that is, items 3, 4, 7 and 10 are 4.60, 4.69, 4.50 and 4.58 respectively which fell within boundary limit of 4.50 5.00 on a 5-point Likert rating scale. This implied that the respondents strongly agreed that the remaining four items in the table are challenges for new technologies application in the teaching and learning of business education in universities in South-East Nigeria. The standard deviation values for the 10 items were between 0.61 0.92 which indicates that the responses of the respondents are close to the mean and one another.

The data presented in the table on t-test statistics showed that the t-cal (t-calculated) values of seven out of the 10 items in the table ranged from 0.04 to 1.23 which are all less than the t-tab (t-table) of 1.96. This indicated that there are no significant differences in the mean ratings of male and female lecturers of Business education on the seven items of challenges for new technologies application in the teaching and learning of business education in universities in South-East Nigeria. Therefore, the hypothesis of no significant difference in the mean ratings of male and female lecturers of Business education is accepted on the seven items in the table. The t-cal (t-calculated) values of the remaining three items in the table, that is items 3, 5 and 10 are 2.10, 3.32 and 2.23 which are all greater than the t-tab (t-table) of 1.96 indicating that there are significant differences in the mean ratings of male and female lecturers of Business education on the remaining three items of challenges for new technologies application in the teaching and learning of business education in universities in South-East Nigeria. Hence, the hypothesis of no significant difference in the mean ratings of male and female lecturers of Business education is rejected on items 3, 5 and 10 in the table.

### **Research Question Two**

What are the strategies for improving new technologies application in the teaching and learning of business education in universities in South-East Nigeria?

### **Hypothesis Two**

There is no significant difference in the mean responses of business education lecturers from State universities and those from Federal universities on the strategies for improving new technologies application in the teaching and learning of business education in universities in South-East Nigeria.

The data for answering research question two and testing hypothesis two are presented in Table 2 below:

**Table 2:** Mean Ratings of Business Education Lecturers in State and Federal Universities on Strategies for Improving New Technologies Application in the Teaching and Learning of Business Education in Universities in South-east Nigeria (n = 73)

SN	Strategies for Improving New Technologies Application	$X_S$	$X_F$	$X_G$	$SD_G$	t-cal	t-tab	Remarks	RQ	H0
1	In-service training for business educators on the application of new technologies in instructional delivery	4.57	4.52	4.54	0.87	0.79	1.96	SA		NS
2	Installation of internet facilities to make the universities e-environment	4.57	4.29	4.43	0.83	3.59	1.96	A		S*
3	Provision of regular electricity to power new technologies equipment	4.35	4.40	4.37	0.71	1.05	1.96	A		NS
4	University and private sector partnership to invest in provision of new technologies	4.14	4.23	4.18	0.82	0.46	1.96	A		NS
5	Employment of qualified business educators with competencies of ICT in the application of new technologies	4.33	4.49	4.41	0.53	1.36	1.96	A		NS
6	Enactment of institutional law to enforce maintenance of new technologies equipment	4.26	4.18	4.22	0.68	0.91	1.96	A		NS
7	Favourable institutional policies governing the application of new technologies should be formulated	4.28	4.34	4.31	0.60	0.24	1.96	A		NS
8	Every student should have the right to ICT services at low or no cost around the university environment	4.47	4.45	4.46	0.73	0.37	1.96	A		NS
9	Students telephone lines should be digitalized to get the universities internet connectivity	4.50	4.54	4.52	0.93	0.61	1.96	SA		NS
10	Government should subsidize internet facilities for students for new technologies application	4.21	4.23	4.22	0.66	0.35	1.96	A		NS

**Key:**  $X_S$  = Mean of State;  $X_F$  = Mean of Federal;  $X_G$  = Grand mean;  $SD$  = Standard Deviation;  $t-cal$  = t-calculated;  $t-table$  value = 1.96; Number of the Respondents (73); SA = Strongly Agree; A = Agreed, S\* = significant; NS = Not Significant.

The grand mean ratings of the responses of the respondents on eight out of the 10 identified items in Table 2 range from 4.18 4.46 which are within the boundary limit of 3.50 4.49 on a 5-point Likert rating scale. This signified that the respondents agreed that the eight identified items in the table are strategies for improving new technologies application in the teaching and learning of business education in universities in South-East Nigeria. The grand mean ratings of the respondents of the remaining two items in the table, specifically, items 1 and 9 are 4.54 and 4.52 respectively which fell within the boundary limit of 4.50 5.00 on a 5-point Likert rating scale. This indicated that the respondents strongly agreed that the remaining two items in the table are strategies for improving new technologies application in the teaching and learning of business education in universities in South-



East Nigeria. The standard deviation values for the 10 items were between 0.53 0.93 which indicated that the responses of the respondents are close to the mean and one another.

The data presented in the table on t-test statistics further showed that the t-cal (t-calculated) values of nine out of the 10 items in the table ranged from 0.24 to 1.36 which are all less than the t-tab (t-table) of 1.96. This indicated that there are no significant differences in the mean ratings of business education lecturers from State universities and those from Federal universities on the strategies for improving new technologies application in the teaching and learning of business education in universities in South-East Nigeria. Consequently, the hypothesis of no significant difference in the mean ratings of the two groups of Business education lecturers is accepted on the nine items in the table. On the other hand, the t-cal (t-calculated) value of the remaining 1 item in the table, that is item two was 3.59 which was greater than the t-tab (t-table) of 1.96 indicating that there was significant difference in the mean ratings of business education lecturers from State universities and those from Federal universities on item two in the table. Therefore, the hypothesis of no significant difference in the mean ratings of Business education lecturers from State universities and those from Federal universities is rejected on item two in the table.

### **Discussion of Results**

The study identified the challenges for new technologies application in the teaching and learning of business education in universities in southeast Nigeria to include dearth of new technologies equipment, financial problem for procurement of new technologies equipment, unsteady electricity supply to power the new technologies equipment, lack of space to accommodate available new technologies equipment and lack of maintenance of available new technologies equipment. Others are inability of some business educators to apply new technologies in instructional delivery, inadequate knowledge of some students to copy the application of new technologies in instructional delivery and cost of subscribing to the new technologies all for use, among others. The findings of this study agreed with that of Ssekakubo, Suleman and Marsden (2011) who found that some probable causes of failure in the adoption of electronic-learning management include high ICT illiteracy rate among the student community, low comfort levels with technology, poor marketing strategies, ineffective maintenance strategies and insufficient user/technical support, Internet accessibility and knowledge gap between LMS stakeholders; which is corroborated with the result of the present study. The findings of this study also corroborated that of Lawal, Bassey and Ani (2008) who found that the constraints and hindrances such as insufficiency of resources to be shared, inadequate funds, communication bottlenecks, absence of relevant ICT facilities, epileptic power supply and absence of a national policy on resource sharing were identified as obstacles in adopting of technology in Nigerian school system.

This study identified strategies for improving new technologies application in teaching and learning of business education in universities in South-East Nigeria to include in-service training for business educators on the application of new technologies in instructional delivery, installation of internet facilities to make the universities e-environment, provision of regular electricity to power new technologies equipment. Other strategies are that there should be university and private sector partnership to invest in provision of new technologies, enactment of institutional law to enforce on maintenance of new technologies equipment, student telephone lines should digitalized to get the university internet connectivity, government should subsidize internet facilities for students for new technologies application and favourable institutional policies governing the application of new technologies should be formulated, among others. The findings of this study supported that of Tarus, Gichoya and Muumbo (2015) who reported that strategies such as expansion of ICT e-learning



infrastructure to facilitate the access to e-learning by students, teaching staff and other stakeholders through allocation of more resources towards ICT and e-learning infrastructural development, prioritization of ICT and e-learning in budgetary allocation like other core activities of the university and reduction in the cost of internet bandwidth to make it more affordable to universities will enhance the rate of adoption of technology use in university education. In addition, the findings of this study conformed with that of Ukachi (2011) who carried out a study on awareness and utilization of open source software in Nigerian schools and proffered solutions to include engaging in continuous professional development, joining concerned software user's group and collaborating with colleagues with vast experience in the software were put forward for improved adoption and use of open source software by Nigerian Universities.

### **Conclusion**

The challenges of new technologies application in Nigerian public schools has led to learners not being adequately exposed to those experiences that will guarantee the total development of their being in the e-world. Around the globe, the latest and most complex technology is the area of educational technology. The growth in new technologies and its application in education have brought great transformation in the e-world but this has not been adequately embraced in Nigerian tertiary institutions. It was based on this background that this study was carried out to identify challenges and strategies for new technologies application in teaching and learning business education in the e-world in universities in Southeast Nigeria. Data were collected from 75 Business education lecturers with the use of structured questionnaire. From the data collected and analysed, the study identified 10 challenges hindering the adoption of new technologies for teaching and learning Business education and 10 strategies for improving new technologies application in the teaching and learning of business education in universities in South-East Nigeria. The result on the hypotheses tested showed no significant differences in the mean ratings of business education lecturers on 16 out of the 20 items, whereas, there are significant differences in the mean ratings of the lecturers on the remaining four items of the study.

### **Recommendations**

Based on the findings of the study, the study recommended that:

- immediate adoption of the identified strategies for enhancing new technologies application such as organization of in-service training for business educators on the application of new technologies in instructional delivery,
- installation of internet facilities to make the universities e-environment,
- employment of qualified business educators with competencies of ICT in the application of new technologies and
- provision of subsidies for internet facilities in school environment by the government and school management for staff and students use to foster quality teaching and learning.

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