Unizik Journal of Business Education and Entrepreneurship (UJBEE) Vol. 1 No. 3 Pg 130-140

COMPARATIVE ANALYSIS ON THE UTILIZATION OF WEB-BASED TECHNOLOGIES BY BUSINESS EDUCATORS IN PUBLIC AND PRIVATE UNIVERSITIES IN ANAMBRA STATE

Chinwe Felicia Ezenwaji
cf.ezenwaji@unizik.edu.ng
Business Education Department
Nnamdi Azikiwe University, Awka
&
Faith Makwe
fn.makwe@unizik.edu.ng
Business Education Department
Nnamdi Azikiwe University Awka
&
Anastasia Nwadiuto Ikeh-Anayo
annikeh99@gmail.com
Department of Office Technology and Management.
Federal Polytechnic Nekede, Owerri Imo State

Abstract
This paper examined the comparative analysis of the utilization of web-based technologies by business educators in public and private universities in Anambra State. Three research questions guided the study, while three null hypotheses were formulated. The study adopted a descriptive survey research design. The population consisted of 32 business educators in two public universities in Anambra State and 10 business educators in 1 private university in Anambra State. A validated structured questionnaire titled "Questionnaire on Web-based Technology for Business Educators" (QWTBE) was employed. QWTBE was divided into two sections: A and B. Section A contains demographic profiles of the respondents, while Section B was subdivided into three clusters with items in line with the purpose of the study. The questionnaire was subjected to reliability testing using the Cronbach Alpha Method, and an overall coefficient of 0.89 was obtained for the three clusters. Mean and standard deviation were used to answer the research question, while an independent samples t-test was used to test the null hypotheses at 0.05 alpha level. It was recommended amongst others that internet resources should be made adequately available in Universities in Nigeria, through collaborative efforts of the University authorities, government, and nongovernmental organizations.

Keywords: Technology, Web-based Technology, Business Education, Business Educators, Universities

Introduction

The university as an institution is generally regarded as a custodian of knowledge where students from different disciplines acquire knowledge and skills for self-development. Acquisition of knowledge is necessary for greater understanding and participation in community affairs and to prepare one for future contributions to society. According to Ukachi (2019), the university contributes towards the solution of problems as well as a preparatory ground for creativity and independent thinking. The university environment is a place where transfer of knowledge and information takes place for holistic achievement.

In the University, business education as a branch of vocational education under the Faculty of Education is concerned with exposing its recipients to the functioning of business and the workplace. Business education, as a discipline, is expected to expose its recipients to diverse curricula; hence, it inculcates in them attitudes, knowledge, skills, and values required in the business world. It is a means of producing healthy, literate, self-reliant citizens that would create wealth for human development, thereby helping in sustaining the nation's development at large (Kaegon, 2019).

In Nigeria, the use of technology has been recognized to favour the education sector. Education as an important means for promoting economic and social development is important at both the individual and national levels. The growth of the global economy and the rise of web-based society have pressured education systems around the world to use technology to teach students the knowledge and skills they need (United Nations Educational, Scientific and Cultural Organization, UNESCO, 2019). It is therefore on this note that the application of various web-based technologies by business educators is necessary to achieve all-around academic success.

Web-based technology is defined as electronic tools and resources for learning (Seels & Richey, 2018). The authors further stressed that technology is a network device used to achieve a certain, defined set of learning objectives. There are two aspects of technology, i.e., technology as things and technology as a social process. Technology, as things means the application of scientific knowledge to do practical work through an organization that consists of machinery and men. On the other hand, technology as a social process is the application of scientific and systematic knowledge to do practical work through a hierarchically systematic ordered mechanism that consists of men and machines (Aggarwal, 2018). In furtherance, internet-based technology in the view of this study is referred to as the intangible/tangible activities/facilities/tools or equipment, software that can aid or help the users of the Internet to achieve benefits. These web-based technologies are, therefore, the means through which the internet is accessed. The internet has many technologies that can be utilized. For the purpose of this study, such technologies include internet-enabled technologies; electronic library technologies and social network technologies (Voochees, 2015; Wood 2018).

Internet-enabled technologies are e-devices through which the internet can be accessed by users. Internet-enabled technologies, as asserted by Metz (2016), are web-connected gadgets,

which include desktops, cellular devices, laptops, mobile internet devices such as mobile phones, data cards, handheld game consoles, and a lot of others. These e-devices allow business educators/researchers to connect to the internet from anywhere there is service that supports the technology.

Electronic library technology is another important technological device that is essential to be considered in this study. An electronic resource is any center of information that the library provides access to in an electronic format (Wood, 2018). Jason (2017) classified electronic library technology to include full-text journals, newspapers, company information, e-books, dictionaries, encyclopedias, economic data, industry profiles, and market research or career information, among others. These resources also include e-magazines and database journals.

Social network technologies, as another web-based technology, provide people with services as uploading photos and videos, updating status, making friends, and other additional activities. Social networks, according to Encarta (2022), are computer-based online communities of individuals who exchange messages, share information, and, in some cases, cooperate on joint activities. Social network sites are mostly common and one of the most educational Internet services in society these days (Hameed, Magbool, Aslam, Hassan & Anwar, 2016). Social network sites like WhatsApp, Facebook, LinkedIn, and Twitter have involved millions of users, many of whom have involved these social sites in their day-to-day lives.

Sequel to this, Kiptalam and Rodrigues (2018) remarked that many universities in Nigeria have adopted web-based technology to provide fast and better services to their staff and students alike. Broadly speaking, universities in Nigeria are of two categories: private universities and public universities. Public universities are universities that are mainly funded by public means through a national or sub-national government. It is subject to government rules and regulations. Tuition is much cheaper than that of a private university.

Making a comparative analysis of business educators in both public and private universities in Anambra State in terms of utilization of web-based technology, it is believed that private universities, through sound management has been able to create an atmosphere that accommodates technological advancement to facilitate the teaching and learning process when compared to public universities. But it is not the situation when it comes to the establishment of Business education programmes at the university level. Daramola (2018) remarked that establishing a business education programme following the NUC guidelines is capital-intensive and, as such, very few public universities can afford.

Empirically, the studies of Daramola (2018) and Ogunkunle and Fomis cited in Samuel (2020) revealed that less than 50% of lecturers in public tertiary institutions in Rivers State access the internet through their smartphones, computers and laptops while in the private universities the result revealed that more than 80% of lecturers use internet-enabled devices both at the institution and at home. This means that the lecturers in private universities are rapidly joining the technology trains in an era of technological advancement, when compared to lecturers in public universities. Similarly, the study of Ganiyu, Airen and Adebayo (2019) revealed that the internet was readily available in Babcock (83.5%) and Ajayi Crowther University (92.8%) while other e-resources were not readily available. Most of the respondents in Babcock (64%) and Redeemer (89.1%) used the e-resources for assignment and research/project, compared to respondents in Osun State University (44%) and Obafemi Awolowo University (54%). These

gaps in knowledge relate to comparative analysis of web-based technology among business educators in public and private universities in Anambra State, which prompted this study.

Statement of the Problem

Utilization of web-based technology by business educators is in line with the Federal Republic of Nigeria in her National Policy (2013) that the objective of Computer Education at the tertiary level of education is that business educators should utilize the internet to enable them to facilitate an effective teaching and learning process in the classroom settings. On this note, this has resulted in heavy dependence on the web-based technology by business educators to access free online journals, magazines, e-books, graphics, voice, video information/illustration, and other research information through its numerous resources. Reports have revealed that it is evidently clear today that the usage of web-based technologies by most private universities cannot be compared to business educators in Public Universities. Despite the provision of funds by the government and other sources of funds available for public universities, most business educators still have a low level of utilization of web-based technology when compared to their counterparts in private universities. Preliminary investigations by the researcher, coupled with existing literature review, revealed that business educators in private universities frequently utilize e-mail services and social network technologies more than business educators in public universities. It is therefore against this backdrop that this study examined the comparative analysis on the utilization of web-based technologies by business education lecturers in public and private universities in Anambra State.

Research Questions

1. To what extent do business educators in public and private universities in Anambra State utilize internet-enabled technologies?
2. To what extent do business educators in public and private universities in Anambra State utilize electronic library technologies?
3. To what extent do business educators in public and private universities in Anambra State utilize social network technologies?

Hypotheses

1. There is no significant difference in the mean ratings of business educators in public and private universities in Anambra State on their extent of use of internet-enabled technologies.
2. There is no significant difference in the mean ratings of business educators in public and private universities in Anambra State on their extent of use of electronic library technologies.
3. There is no significant difference in the mean ratings of business educators in public and private universities in Anambra State on their extent of use of social network technologies.

Method

This study adopted a descriptive survey research design. The study will be carried out in all the public and private Universities offering business education in Anambra State. Only Nnamdi Azikiwe University, Awka, and Chukwuemaka Odumegwu Ojukwu University, Igbariam are the two public universities offering business education, while St. Paul's University, Awka is the only private university offering business education in Anambra State. The population consisted of 32 business educators in the two public universities in Anambra State and 8 business educators in one private university in Anambra State. The whole population of 40 business educators was used as a sample because the size was considered manageable by the researcher. The instrument for data collection for this study is a structured questionnaire titled "Questionnaire on Utilization of Web-based Technology" (QWBT). The instrument consists of two sections- Section A and B. Section A contains one item on demographic data of the respondents based on institution type. Section B contains 36 items built in three clusters of B1 – B3. Each of the clusters is according to the specific purpose of the study. All items in cluster B1 – B3 are structured on a five- point scale of Always Utilized (AU); Frequently Utilized (FU); Occasionally Utilized (OU); Rarely Utilized (RU), and Not Utilized (NU). The face validation was carried out to establish if the instrument measured what it is supposed to measure. Cronbach Alpha method was used to determine the internal consistency of the instrument, and an overall coefficient of 0.79 was obtained. Mean and standard deviation were used to answer the research questions, while the t-test of independence was used to test the null hypotheses at 0.05 alpha level. The criterion mean score of 3.00 was used to adjudge the level of utilization; any mean score below the criterion mean score of 3.00 means that such an item is not utilized, while mean scores above 3.00 benchmark mean that such an item is utilized.

Results

Research Question 1: To what extent do business educators in public and private universities in Anambra State utilize internet-enabled technologies?

Table 1: Mean and Standard Deviation on the extent do Business Educators in Public and Private Universities in Anambra State Utilize Internet-Enabled Technologies

S/N	To what extent to you utilize the following internet-enabled electronic devices for research	Resp.	X	SD	Remarks
1	Laptop computer	Public	3.38	0.61	Utilized
		Private	3.44	0.55	Utilized
2	Mobile phone	Public	3.43	0.57	Utilized
		Private	3.58	0.51	Utilized
3	Internet-enabled TV	Public	2.43	0.64	Not Utilized
		Private	3.57	0.49	Utilized
4	Desktop computers	Public	3.94	0.52	Utilized
		Private	4.02	0.66	Utilized
5	Tablets/iPads	Public	3.62	0.53	Utilized
		Private	3.65	0.64	Utilized
6	Palm-tops	Public	3.49	0.51	Utilized

		Private	3.53	0.48	Utilized
7	Personal Data Assistance	Public	2.36	0.72	Not utilized
		Private	2.44	0.65	Not utilized
8	Electronic Note Pad	Public	2.21	0.75	Not utilized
		Private	3.01	0.70	Utilized
9	Kindle Reader	Public	2.37	0.65	Not utilized
		Private	2.41	0.86	Not utilized
	Cluster Mean	**Public**	**3.08**		**Utilized**
		Private	**3.29**		**Utilized**

From the data in Table 1, the results in items 1, 2, 4, 5, and 6 revealed that business educators in both public and private universities jointly utilized laptop computers, mobile phones, desktop computers, tablets/iPad and palm-tops as internet-enabled technologies. Conversely, both respondents revealed that they did not utilize the personal data assistance and Kindle reader. The result also revealed that business educators in private universities utilized internet-enabled TV and electronic notebook while their counterpart in public universities did not utilize. The cluster means of 3.08 and 3.29 indicated that business educators in public and private universities in Anambra State utilized internet-enabled technology. The standard deviation ranging from 0.51 to 0.72, shows that the respondents do not vary too much in their mean ratings.

Research Question 2: To what extent do business educators in public and private universities in Anambra State utilize electronic library technologies?

Table 2: Mean and Standard Deviation on the extent to which Business Educators in Public and Private Universities in Anambra State Utilize Electronic Library Technologies

	To what extent do you utilize e-library resources to:	**Resp**	**X**	**SD**	**Remarks**
10	Access and retrieve various e-resources (national and international)	Public	3.46	0.70	Utilized
		Private	3.39	0.61	Utilized
11	Retrieve data online concerning business education contents	Public	3.27	0.72	Utilized
		Private	3.34	0.75	Utilized
12	Source e-books and e-text material concerning business education contents	Public	2.34	0.75	Not utilized
		Private	3.29	0.78	Utilized
13	Access and retrieve current analytical tool	Public	2.58	0.76	Not utilized
		Private	3.29	0.79	Utilized
14	View index websites and retrieve patterns of indexation to guide business education contents	Public	3.44	0.67	Utilized
		Private	3.36	0.71	Utilized
15	Obtain general information for business education	Public	3.31	0.59	Utilized
		Private	3.33	0.75	Utilized
16	View and obtain professional journals for business education	Public	3.32	0.62	Utilized
		Private	3.92	0.88	Utilized
	Cluster Mean	**Public**	**3.05**		**Utilized**
		Private	**3.42**		**Utilized**

From the Data in Table 2, the result revealed that 10, 11, 14, 15 and 16 revealed that business educators in both public and private schools jointly utilized how to access and retrieve

various e-resources (national and international); retrieve data online concerning business education contents; source e-books and e-text material concerning business education contents; view index websites and retrieve patterns of indexation to guide business education contents; obtain general information for business education; and view and obtain professional journals for business education as electronic library technologies. The result also revealed that business educators in private universities utilized e-books and e-text material concerning business education contents and access, and how to retrieve current analytical tools more than their counterparts in the public universities, who did not utilize. The cluster means of 3.05 and 3.42 indicated that business educators in both public and private universities in Anambra State utilized electronic library technology. The standard deviation scores ranging from 0.59 to 0.75 mean that the respondents were closely related in terms of their mean ratings.

Research Question 3: To what extent do business educators in public and private universities in Anambra State utilize social network technologies?

Table 3: Mean and Standard Deviation on the extent to which Business Educators in Public and Private Universities in Anambra State Utilize Social Network Technologies

	To what do you utilize WhatsApp for:	Resp.	X	SD	Remarks
17	Share information with a large audience for feedback in business education	Public	3.31	0.64	Utilized
		Private	3.19	0.55	Utilized
18	Chat and obtain information regarding business education from a distance group or unknown persons	Public	3.21	0.58	Utilized
		Private	3.77	0.47	Utilized
19	Share videos, pictures, and audio/voice notes regarding business education contents	Public	3.65	0.51	Utilized
		Private	3.70	0.48	Utilized
20	Share files, e.g., MS. documents such as Excel, PowerPoint, etc., for business purposes	Public	3.59	0.66	Utilized
		Private	3.55	0.54	Utilized
21	Create a group chat for business education experts to share and obtain business education contents	Public	3.48	0.52	Utilized
		Private	3.49	0.61	Utilized
	To what extent do you utilize Google+ to:				
22	create profile for public view and obtain information for business education purposes	Public	3.36	0.48	Utilized
		Private	3.38	0.52	Utilized
23	Share business education content for public view and criticism	Public	3.40	0.58	Utilized
		Private	3.44	0.49	Utilized
24	Create feedback pages for information sharing regarding business education	Public	3.52	0.50	Utilized
		Private	3.51	0.53	Utilized
	Cluster Mean	**Public**	**3.44**		**Utilized**
		Private	**3.50**		**Utilized**

From the Data in Table 3, the result revealed that 17, 18, 19, 20, 21, 22, 23 and 24 revealed that business educators in both public and private universities in Anambra State jointly utilize how to share information with large audience for feedback in business education; chat and obtain information regarding business education from distance group or unknown persons; share videos, pictures and audios/voice notes as regards business education contents; share files e.g M.S document such as excel, power-point etc concerning business purpose; create a group chat for business education experts to share and obtain business education contents; create profile for

public view and obtain information for business education purposes; share business education contents for public view and criticism; and create feedback pages for information sharing as regards business education. The cluster mean of 3.44 and 3.50 indicated that business educators in both public and private universities in Anambra State utilized social network technology. The standard deviation scores ranging from 0.47 to 0.61 mean that the respondents were closely related in terms of their mean ratings.

Hypothesis 1

There is no significant difference in the mean ratings of business educators in public and private universities in Anambra State on their extent of use of internet-enabled technologies.

Table 4: t-Test Analysis on significant difference in the mean ratings of business educators in public and private universities in Anambra State on their extent of use of internet-enabled technologies

Variables	N	$\overline{X}$	SD	df	p-value	α-value	Remark
Public	32	18.21	4.22				
				38	0.01	0.05	Significant
Private	8	19.25	4.55				

The result in Table 4 shows a p-value of 0.01 with 38 degrees of freedom and α—level of 0.05 ($df = 38$; $p < 0.05$), the null hypothesis is not rejected. This means that there is a significant difference in the mean ratings of business educators in public and private universities in Anambra State on their extent of use of internet-enabled technologies.

Hypothesis 2: There is no significant difference in the mean ratings of business educators in public and private universities in Anambra State on their extent of use of electronic library technologies.

Table 5: t-Test Analysis on significant difference in the mean ratings of business educators in public and private universities in Anambra State on their extent of use of electronic library technologies

Variables	N	$\overline{X}$	SD	df	p-value	α-value	Remark
Public	32	18.57	5.21				
				38	0.00	0.05	Significant
Private	8	20.86	4.99				

The result in Table 5 shows a p-value of 0.00 with 38 degrees of freedom and α—level of 0.05 ($df = 38$; $p < 0.05$), the null hypothesis is not rejected. This means that there is a significant difference in the mean ratings of business educators in public and private universities in Anambra State on their extent of use of electronic library technologies.

Hypothesis 3: There is no significant difference in the mean ratings of business educators in public and private universities in Anambra State on their extent of use of social network technologies.

Table 6: t-Test Analysis on significant difference in the mean ratings of business educators in public and private universities in Anambra State on their extent of use of social network technologies

Variables	N	$\overline{X}$	SD	df	p-value	α-value	Remark

Public	32	24.46	4.06				
				38	0.14	0.05	Not significant
Private	8	24.29	3.66				

The result in Table 6 showed a p-value of 0.14 with 38 degrees of freedom and α—level of 0.05 (df = 38; p > 0.05), the null hypothesis is not rejected. This means that there is a significant difference in the mean ratings of business educators in public and private universities in Anambra State on their extent of use of social network technologies.

Discussion of Findings

The findings in question one revealed that business educators in public and private universities in Anambra State utilized internet-enabled technology. This finding was in line with the finding of Samuel (2020) that 32% of lecturers in tertiary institutions in Rivers State, Nigeria, access the Internet at home through their smartphones, computers, and laptops, which shows that the lecturers in these institutions are joining the technology train in an era of technological advancement. The findings further revealed that 12.5% access the internet through internet Cafes while 6.5% use their institution's ICT centers. The corresponding hypothesis revealed that there is a significant difference in the mean ratings of business educators in public and private universities in Anambra State on their extent of use of internet-enabled technologies. This finding opposed the finding of Omotayo (2016); there is no significant difference in the mean ratings of male and female undergraduates on the extent to which they utilize internet-enabled devices.

The findings in research question two revealed that business educators in both public and private universities in Anambra State utilized electronic library technology. This finding was in line with the finding of Ozoemelem (2019) that there was high level of usage of electronic resources even as evident among both male and female gender was an indication to the fact that without the expertise knowledge of manipulating information in an electronic environment, students are still getting satisfaction from the little they could get out of electronic sources although handicapped by their low level of ICT experience. The corresponding hypothesis revealed that there is a significant difference in the mean ratings of business educators in public and private universities in Anambra State on their extent of use of electronic library technologies. This finding disagreed with the finding of Daramola (2018) that there is no significant difference in the mean responses of male and female undergraduate students on electronic resources utilized. The difference between the two findings could be attributed to different opinions of respondents.

The findings in question three revealed that business educators in both public and private universities in Anambra State utilized social network technology. This finding was in line with the findings of Hameed et al., (2016) that usage of social networking sites has a positive and significant relationship with students' educational performance and students' attitudes. The study revealed that the perception of most of the students was that they learn from the group pages, and it was helpful for all of them to achieve their goals. The corresponding hypothesis revealed that there is a significant difference in the mean ratings of business educators in public and private universities in Anambra State on their extent of use of social network technologies. This finding was in line with the findings of Hameed et al. (2016) that social networking sites differ significantly among male and female respondents in their academic performance and attitude.

Conclusion

Based on the findings of the study, it was concluded that business educators in both public and private universities in Anambra State utilized internet-enabled technologies, electronic library technology, and social network technology. It was also concluded that there is a significant difference in the mean ratings of business educators in both public and private universities in Anambra State on their utilization of internet-enabled technologies and social electronic library technology.

Recommendations

Based on the findings of this study, the following recommendations were made:

1. University authorities and the government should ensure that internet-enabled technologies are made adequately available and utilized in Universities in Nigeria, through collaborative efforts of the University authorities, government, and nongovernmental organizations.
2. Universities that offer business education programmes should, through collaborative effort with Network providers, regularly organize seminars, workshops, and training of business educators as regards the utilization of internet-enabled technologies
3. The University administrator should encourage business educators to further use electronic library resources to access and retrieve current analytical tools.

References

Aggarwal, G. (2018). Social interaction and the digital divide: Explaining variations in internet use. *Information Systems Research, 20,* 277 – 294.

Daramola, R. (2018). Strategies for overcoming the challenges of evaluation in business education programme. *Nigerian Journal of Business Education, 7*(1), 90 -101.

Encarta. (2022). *Internet. Microsoft* ® Encarta ® 2020). © 1993-2020 Microsoft Corporation.

Federal Republic of Nigeria, (2014). *National academic performance and productivity in secondary Policy on Education (6 edition).* Lagos: NERDC.

Ganiyu, O. Q., Airen, A., & Adebayo, I. O. (2019). A study of availability and utilization of library electronic resources by undergraduate students in private universities in Ogun State, Nigeria. *International Journal of Library and Information Science, 6*(3), 28 – 34.

Hameed, Z., Magbool, A., Aslam, N., Hassan, E., & Anwar, M. (2016). An empirical study to investigate the impact of social networking sites on students' academic performance and attitude in case of Pakistan. *Asian Journal of Empirical Research, 3*(6), 775 – 784.

Jason, G. (2017). Mobile technology and libraries, *American Library Association, 46*(3), 90 – 99.

Kaegon, I. E. S. (2019). Entrepreneurship and education of youths for sustainable development in Nigerian tertiary institutions *African Journal of Educational Research and Development*, *3*(2), 133-141.

Kiptalam, G. K. & Rodrigues, A. J. (2015). Internet utilization: A case of connected rural and urban secondary schools in Kenya. *International Journals of Computing and ICT Research* 4(1), 50 -63.

Metz, R. (2016). *Plan emerges to make internet-enabled devices play nicely*. Retrieved 22nd January 2014, from http://www.technologyreview.com/news/522406/planemerges-to-make-internet-enabled-devices-play-nicely/

Omotayo, B. O. (2016). A survey of internet access and usage among undergraduates in an African university. *Int. Inf. Libr. Rev. 38*(4), 215 – 224.

Ozoemelem, O. A. (2019). Use of electronic resources by postgraduate students of the department of library and information science in Delta State university, Abraka, Nigeria. *Library Philosophy and Practice, 11,* 1 – 23.

Samuel, N. (2020). University lecturers' perceived challenges to the use of digital technologies for research in the South-west. Nigeria. *University of Sindh Journal of Information and Communication Technology, 4*(2), 2 – 8.

Seels, M. B., & Richey, K. (2018). The impact of information technology on vocational and education for self-reliance. *Journal of Vocational & Technology Education, 1*(1), 90 – 99.

Ukachi, B. N. (2019). Accessibility and students' variables as correlates of the use of electronic information resources in university libraries in South-west, Nigeria. *An Unpublished Dissertation*. Submitted to the department of library and information science, University of Nigeria, Nsukka.

UNESCO Institute for Statistics. (2019). *Guide to measuring information and communication technology (ICT) in education.* Montreal, UNESCO Institute for Statistics.

Voorhees, E.M. (2015). *Natural language processing and information.* Retrieval: National Institute of Standards and Technology. Retrieved 14th February 2014, from http://en.wikipedia.org/wiki/Search_engine_(computing).

Wood, D. (2018). *Programming internet mail*. O'Reilly Inc., ISBN 1-56592-479-7.