

**EXTENT OF UTILIZATION OF THE WORLD WIDE WEB
AND E-MAIL IN INSTRUCTIONAL DELIVERY OF BUSINESS
EDUCATION IN UNIVERSITIES IN CROSS RIVER STATE**

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Abstract

This study sought to examine the extent of utilisation of the World Wide Web and e-mail in the instructional delivery of business education in universities in Cross River State. To carry out this study objectively, two specific objectives, two research questions, and two null hypotheses were formulated to guide the study. A descriptive survey design was adopted for the study. The study population comprised 46 business educators who were used for the study. The entire population of 46 business educators was used for the study. A 20-item structured questionnaire was used for the collection of data. The questionnaire was face-validated by two research experts. The split-half reliability method was used in determining the reliability of the instrument, and a correlation coefficient of 0.79 was obtained using Cronbach's Alpha Reliability Coefficient. Mean and standard deviation were used in answering the research questions. T-test statistics were used in testing the null hypotheses at the .05 level of significance. The findings of the study found no significant difference between male and female lecturers in the utilization of the World Wide Web for teaching business education to a high extent. It also revealed no significant difference in e-mail utilization for instructional delivery across universities based on institutional type, indicating extensive use of e-mail. Based on the findings, it was recommended, among other things, that universities in Cross River State should prioritize the provision of reliable internet connectivity, updated computers, and relevant software to facilitate the effective utilization of the World Wide Web and e-mail in instructional delivery.

Keywords: *Utilization, World Wide Web, e-mail, instructional and delivery*

Introduction

The integration of digital tools in instructional delivery has become a defining feature of modern education, propelled by the widespread adoption of Information and Communication Technologies (ICTs). Among these tools, the World Wide Web (WWW) and e-mail hold particular significance, enhancing teaching and learning by providing access to vast resources and facilitating effective communication. In the context of business education—which seeks to equip learners with skills essential for navigating the dynamic business environment—these

technologies offer substantial advantages. The WWW functions as a global resource platform, granting access to knowledge databases, multimedia tools, and interactive learning options, while e-mail supports effective communication between educators and students, enabling timely feedback and fostering collaboration (Alvarez, 2022; Atah & Alabi, 2024; Akeke et al., 2023).

In Nigerian universities, the use of these tools is pivotal in transforming traditional teaching methods into interactive, student-centered approaches. The WWW provides educators with access to current content, e-learning platforms, and

opportunities for blended learning. E-mail, meanwhile, plays a crucial role in distributing materials, addressing student inquiries, and supporting discussions beyond the classroom. Research has shown that effective use of ICT can significantly enhance student engagement and academic performance (Okebukola, 2021). Despite these benefits, challenges such as inadequate ICT infrastructure, unreliable internet access, and low digital literacy remain barriers to the full utilization of the WWW and e-mail in instructional delivery (Adedeji & Fawole, 2020; and Atah et al 2023). These issues are particularly pronounced in business education, which relies heavily on technology for practical, skill-based learning.

Addressing these challenges requires universities to invest in robust ICT infrastructure, provide regular training for educators, and implement policies to ensure equitable access to digital resources. Furthermore, creating awareness of the importance of technology in education and fostering digital literacy among educators and students will support the effective use of the WWW and e-mail in business education (Okojie & Olamide, 2022). If these challenges are overcome, the WWW and e-mail can revolutionize business education in Nigerian universities, preparing students for success in a digital economy.

The present study examines the "Extent of Utilization of the World Wide Web and E-Mail in Instructional Delivery of Business Education in Universities in Cross River State," focusing on how educators use these tools to enhance teaching. The first variable, the utilization of the World Wide Web, explores how the internet's resources are leveraged for teaching, including access to online databases, e-learning platforms, and virtual collaboration tools. The second variable, e-mail, highlights its role in communication, allowing educators to share materials, assignments, and feedback efficiently. The study investigates the extent to which these tools are used to enhance engagement and streamline administrative tasks in business education.

Previous studies have identified significant gaps in the access to and utilization of Information and Communication Technology (ICT) within the Nigerian education system. Ubulom, Enyekit, Onuekwa, and Amachule (2011) reported considerable limitations in ICT access among secondary school business teachers. Similarly, Onwuchekwa (2009), Agim et al. (2022), Ukah et al. (2022), Atah et al. (2019), and Agim et al. (2020) observed that lecturers in tertiary institutions underutilize ICT tools, particularly in the teaching of financial accounting. Akpan (2009) and Clark (2008) underscored the transformative potential of the World Wide Web (WWW) in reshaping the educational landscape. Moreover, academic use of e-mail has been documented by Akpan (2009), Chukwurah (2023), and Iding et al. (2002), although its potential for enhancing educational interaction remains underexplored, as noted by Alexander, Zhao, and Underwood (2002).

Despite the promising potential of these technologies, challenges persist, including resistance to change, limited awareness, and infrastructure deficits (Anuradha & Usha, 2006). These barriers, as highlighted by Ubulom et al. (2011) and Onwuchekwa (2009), limit the effective integration of ICT in education. However, the untapped potential of the WWW and e-mail as educational tools remains clear, and the current study aims to explore their utilization within the specific context of business education in Nigerian universities. The study's findings will help address existing gaps in the literature and provide valuable insights into how ICT tools can enhance the quality of instructional delivery.

Problem of the Study

The rapid advancement of information and Communication Technologies (ICTs) has transformed educational practices globally, yet the extent to which these tools are utilized in Nigerian universities remains a subject of concern. Business education, which equips students with essential

entrepreneurial and managerial skills, requires the integration of innovative instructional strategies to meet the demands of a technology-driven economy. Despite the availability of the WWW and e-mail, challenges such as poor ICT infrastructure, unreliable internet access, and low digital literacy hinder their effective use in Nigerian higher education (Ekanem, 2023; Adedeji & Fawole, 2020). Furthermore, the digital divide between urban and rural universities exacerbates these issues, resulting in disparities in educational quality. Instructors in rural areas face additional challenges such as inadequate training and limited institutional support. This study, therefore, aims to explore the extent to which the WWW and e-mail are utilized in the instructional delivery of business education in Nigerian universities. It seeks to identify barriers to their use, evaluate their impact on learning outcomes, and provide recommendations for improving their adoption. By addressing these challenges, the study hopes to contribute to bridging the technological gap in Nigerian higher education and enhancing the overall quality of business education.

Purpose of the Study

The main purpose of the study was to determine the extent of utilization of the world wide web and e-mail in instructional delivery of business education in Universities in Cross River State.

The specific purposes of this study were to:

1. To examine the extent to which the World Wide Web is utilized in the instructional delivery of business education in universities in Cross River State.
2. To investigate the extent to which e-mail is utilized in the instructional delivery of business education in universities in Cross River State.

Research Questions

The following research questions were asked to guide the study.

1. To what extent is the World Wide Web utilized in the instructional delivery of business education in universities in Cross River State?
2. To what extent is e-mail utilized in the instructional delivery of business education in universities in Cross River State?

Null Hypotheses

The following null hypotheses were formulated to guide the study.

1. There is no significant difference in the extent of utilization of the World Wide Web for instructional delivery of business education among universities in Cross River State. Based on gender
2. There is no significant difference in the extent of utilization of e-mail for instructional delivery of business education among universities in Cross River State based on institutional type.

Methodology

The descriptive survey design was used to carry out this study. A survey is a generalized means of data collection through the use of interviews or questionnaires. Osuala (2004) opined that survey design answers questions pertaining to characteristics of people, their beliefs, opinions, attitudes, and behaviours. The survey research design was considered most appropriate for this study because it enabled the researcher to collect data on the opinions of the respondents. The study was carried out in Cross River State. The population for the study was 48 business education lecturer, comprising 31 males and 17 females from the University of Calabar and the University of Cross River State. A total number of respondents were used; that is to say, there was no sample size. The instrument for data collection was a structured questionnaire titled "Extent of Utilization of the World Wide Web and E-mail in Instructional Delivery Questionnaire (EUWWWEIDQ)". The questionnaire contained 16 items. The response options of the questionnaire items were arranged under the rating scale of very

high extent, high extent, low extent, and very low extent. The instrument was face-validated by three research experts. The split-half method of reliability was used to ascertain the reliability of the instrument. The scores obtained were analyzed using Cronbach's alpha. A reliability coefficient of 0.92 was obtained. Based on the 0.92 coefficient, the instrument was considered highly reliable for the study. 48 questionnaires were distributed and collected from the respondents. Mean and standard deviation was used to answer the research questions while the null hypotheses were tested using a independent t-test. Statistical Package for Social Sciences (SPSS) was used to ensure the accuracy of the analysis of the data collected for the study. Independent sample analysis was conducted on each item of the questionnaire using SPSS to answer the research questions and to test the null hypotheses, respectively. The extent of utilization of a particular ICT variable in

federal universities and state universities in Cross River State, Nigeria, was determined using real limits, where a mean of 2.50 and above was considered a high extent of utilization and below 2.50 as a low extent of utilization of the ICT resources. The p-values were used to reject or retain the null hypotheses. The null hypothesis was rejected if the p-value was less than .05. On the other hand, if the p-value was greater than .05, the null hypothesis was retained.

Data Analysis and Presentation of Results

This section presents the analysis of the data gathered for the purpose of answering research questions and testing the null hypotheses formulated for the study.

Research Question 1

To what extent is the World Wide Web utilized in the instructional delivery of business education in universities in Cross River State?

Table 1: Mean responses of respondents on the extent is the World Wide Web utilized in the instructional delivery of business education in universities in Cross River State

S/ N	Items Statement	N	Mean	SD	Decision
1	To what extent do you utilize online research tools (e.g., Google Scholar) in preparing instructional materials?	48	3.0625	.75530	Agree
2	Do you access and use online video platforms (e.g., YouTube) for instructional delivery in Business Education?	48	3.1667	.90703	Agree
3	How frequently do you use online databases to gather content for your Business Education classes?	48	3.1250	.70334	Agree
4	To what extent do you rely on web-based tools for collaborative learning activities in your classes?	48	3.3750	.73296	Agree
5	Do you utilize the World Wide Web to deliver virtual lectures or conduct webinars?	48	3.2292	.80529	Agree
6	To what extent do you use web-based resources to provide supplementary materials for your students?	48	3.5000	.58346	Agree
7	How often do you assess your students using web-based tools or platforms?	48	3.1667	.83369	Agree
8	How often do you use the World Wide Web to access teaching resources for your Business Education courses?	48	3.2917	.79783	Agree
	Cluster Mean	48	3.2395	0.7648	Agree

Table 1 presents the results of the study, showing the mean scores of business educators on the extent to which the World Wide Web (WWW) is utilized in the instructional delivery of business education in universities in Cross River State, Nigeria. The mean scores of the respondents ranged from 3.0625 to 3.5000, with a cluster mean of 3.2395. These results indicate a high level of utilization of the World Wide Web for instructional purposes. The range of the mean scores suggests that across different aspects of instructional delivery, business educators consistently make significant use of the WWW in their teaching practices. With a cluster mean of 3.2395, it is clear that business educators in the region are making effective use of online resources, tools, and platforms to support their teaching and

enhance the learning experience for students. The high mean scores reflect the growing integration of the World Wide Web in educational practices, highlighting its importance in facilitating access to a wide range of teaching materials, supporting communication, and enabling collaborative learning opportunities. This strong utilization of the WWW in business education is a positive indicator of the adoption of digital technologies in higher education, fostering an environment that is responsive to the needs of 21st-century teaching and learning.

Research Question 2

To what extent is e-mail utilized in the instructional delivery of business education in universities in Cross River State?

Table 2: Mean responses of respondents on the extent is e-mail utilized in the instructional delivery of business education in universities in Cross River State

S/N	Items Statement	N	Mean	SD	Decision
9	To what extent do you rely on e-mail for sharing instructional materials with students?	48	3.1250	.78889	Agree
10	Do you provide feedback to students on assignments or assessments via e-mail?	48	3.1250	.93683	Agree
11	How often do you use e-mail for scheduling meetings or consultations with students?	48	3.1875	.84189	Agree
12	To what extent do you engage in collaborative projects with colleagues using e-mail?	48	3.3958	.70679	Agree
13	How frequently do you send or receive updates about academic policies or events through e-mail?	48	3.2500	.75794	Agree
14	Do you utilize e-mail for managing student inquiries or complaints about instructional content?	48	3.3958	.76463	Agree
15	To what extent do you rely on e-mail for submitting and receiving student assignments?	48	3.2708	.81839	Agree
16	How frequently do you use e-mail to communicate with students about course-related matters?	48	3.0208	.78522	Agree
	Cluster Mean	48	3.2213	0.8007	Agree

The results Table 2 indicate that e-mail is highly utilized for instructional delivery, as evidenced by the cluster mean of 3.2213 and consistent agreement across all surveyed activities. Lecturers extensively rely on e-mail for sharing instructional materials, providing feedback on assignments, scheduling meetings with students, managing inquiries and complaints,

and facilitating collaborative projects with colleagues. The high mean scores across these activities underscore e-mail's critical role in supporting effective communication and enhancing the instructional process. Overall, the findings demonstrate that e-mail is an indispensable tool in delivering business education, highlighting its significance in modern educational practices

in universities within Cross River State. This consistent utilization reflects the integration of digital communication into teaching, ensuring that instructional goals are met effectively and efficiently.

Null Hypothesis 1

There is no significant difference in the extent of utilization of the World Wide Web for instructional delivery of business education among universities in Cross River State. Based on gender

Testing Null Hypotheses

Table 3: t-test analysis of the difference in the mean ratings of male and female lecturers on the extent of utilization of the World Wide Web for instructional delivery of business education among universities in Cross River State.

Respondents		N	Mean	SD	t-cal	df	Alpha	p-val	Decision
Items	Category								
1	Male	31	3.2581	.68155	2.562	46	0.05	.403	NS
	Female	17	2.7059	.77174					
2	Male	31	3.1935	.79244	.275	46	0.05	.002	S
	Female	17	3.1176	1.11144					
3	Male	31	3.0323	.79515	-1.241	46	0.05	.092	NS
	Female	17	3.2941	.46967					
4	Male	31	3.2581	.81518	-1.513	46	0.05	.099	NS
	Female	17	3.5882	.50730					
5	Male	31	3.4194	.67202	2.309	46	0.05	.018	NS
	Female	17	2.8824	.92752					
6	Male	31	3.5161	.56985	.256	46	0.05	.629	NS
	Female	17	3.4706	.62426					
7	Male	31	3.0645	.81386	-1.150	46	0.05	.450	NS
	Female	17	3.3529	.86177					
8	Male	31	3.3871	.80322	1.122	46	0.05	.706	NS
	Female	17	3.1176	.78121					
	Male	31	26.129	5.9432	0.3275	46	0.05	0.299	NS
	Female	17	25.529	6.0549					

Not Significant at 0.5 alpha level, df 46

Table 3 gives summary of the difference in the mean ratings of male and female lecturers on the extent of utilization of the World Wide Web for instructional delivery of business education among universities in Cross River State. Based on gender. The result indicates that all the items were not significant at $P > .05$ and df 46. Since all the items have P-value higher than .05, the null hypothesis which stated that there is no significant difference in the mean ratings of male and female students on the extent of utilization of World Wide Web in teaching Business Education instructional delivery by lecturers is accepted. This

implies that male and female students did not differ significantly on their ratings on the extent of utilization of World Wide Web in teaching Business Education instructional delivery by lecturers in universities in Cross River State.

Null Hypothesis 2

There is no significant difference in the extent of utilization of e-mail for instructional delivery of business education among universities in Cross River State based on institutional type.

Table 4: t-test analysis of the difference in the mean ratings of the extent of utilization of e-mail for instructional delivery of business education among universities in Cross River State based on institutional type.

Ite m	Category of Respondents	N	Mean	SD	t-cal	df	Alp ha	p-val	Decisio n
9	Federal University	32	3.2188	.75067	1.169	46	0.05	.586	NS
	State University	16	2.9375	.85391					
10	Federal University	32	3.0625	.87759	-.650	46	0.05	.182	NS
	State University	16	3.2500	1.06458					
11	Federal University	32	3.1250	.97551	-.724	46	0.05	.005	NS
	State University	16	3.3125	.47871					
12	Federal University	32	3.2500	.76200	-2.093	46	0.05	.025	NS
	State University	16	3.6875	.47871					
13	Federal University	32	3.3750	.65991	1.645	46	0.05	.129	NS
	State University	16	3.0000	.89443					
14	Federal University	32	3.2188	.79248	-2.379	46	0.05	.024	NS
	State University	16	3.7500	.57735					
15	Federal University	32	3.3750	.70711	1.255	46	0.05	.085	NS
	State University	16	3.0625	.99791					
16	Federal University	32	2.8438	.80760	-2.309	46	0.05	.222	NS
	State University	16	3.3750	.61914					
	Federal University	32				46			
	University		25.468	6.3328	-0.51		0.05	0.156	NS
	State University	16	26.375	5.9647					

Not Significant at $P > 0.05$, df 46

Table 4 shows a summary of the difference in the mean ratings of utilization of e-mail for instructional delivery of business education among universities in Cross River State based on institutional type. The result indicates that all the items were not significant at $P > .05$ and df 46. Since all the items have P-value higher than .05, the null hypothesis which stated that There is no significant difference in the extent of utilization of e-mail for instructional delivery of business education among universities in Cross River State based on institutional type is accepted. This implies that lecturers in federal university and state own university

did not differ significantly on their ratings on the extent of utilization of e-mail for instructional delivery of business education among universities in Cross River State based on institutional type.

Discussion of the findings

The results of hypothesis one reveal no significant difference in the mean ratings of male and female lecturers regarding the extent of utilization of the World Wide Web in teaching Business Education instructional delivery. This agreement is reflected in the similarity of scores for both groups, as presented in Table 3. The cluster mean for both groups of respondents fell within the

range of 3.2395, indicating a high extent of World Wide Web utilization in the instructional delivery of business education in universities within Cross River State, Nigeria. The findings of this study align with those of Okojie et al. (2022), who reported that information and communication technology (ICT) facilities were available, accessible, and effectively utilized by business education lecturers for instructional delivery in universities. Similarly, the results agree with Onwuchekwa (2009), who found that ICT resources were extensively utilized by lecturers in the teaching of business education course content in tertiary institutions in Rivers State. Both studies emphasize the increasing adoption of ICT tools, including the World Wide Web, in instructional processes. Furthermore, the findings of this study are consistent with Alvarez (2022), who highlighted that ICT infrastructure, proper maintenance of facilities, and the availability of resources significantly enhance the instructional delivery of business education course content in Nigerian universities. Additionally, the study corroborates the findings of Okebukola (2021), who reported the effective and proper utilization of the World Wide Web by lecturers in federal universities in the South-South region of Nigeria for teaching business education courses. In conclusion, the current study underscores the critical role of the World Wide Web as a key instructional tool in business education. It demonstrates that lecturers in universities in Cross River State are effectively leveraging this resource to enhance instructional delivery, a finding that is supported by several related empirical studies.

The findings on hypothesis two reveal that there is no significant difference in the extent of e-mail utilization for instructional delivery of business education among universities in Cross River State based on institutional type. This hypothesis is therefore accepted, as evidenced by the mean scores ranging from 3.0208 to 3.3958, with a cluster mean of 3.2213, as shown in Table 4. These results suggest that e-mail is

extensively utilized for instructional delivery, reflecting its critical role as a communication and instructional tool in business education programs across universities in the state. This finding aligns with the observations of Wilson (2004), who emphasized that ICT facilities such as laptop computers, desktop computers, and printers are not only provided but are also effectively utilized in the teaching and delivery of Business Education curriculum content. Wilson's opinion highlights the integration of digital tools like e-mail into educational practices, making instruction more efficient and accessible. Furthermore, the results corroborate the earlier findings of Adedeji et al. (2020), who reported that the utilization of hardware and software tools has facilitated business educators' willingness to adopt ICT for teaching. Their study noted a growing general awareness of the benefits of ICT tools, including e-mail, in enhancing the delivery of business education course content. These tools are pivotal in fostering collaboration, streamlining communication, and improving the overall teaching and learning experience. The high extent of e-mail utilization observed in this study underscores its versatility and importance in the instructional process. As a readily accessible and user-friendly ICT tool, e-mail enables effective communication between lecturers and students, supports the timely distribution of course materials, and enhances feedback mechanisms. This widespread adoption of e-mail in business education reflects the broader trend of integrating ICT into the educational process to meet the demands of 21st-century teaching and learning. In conclusion, the findings reinforce the significant role of e-mail as a reliable ICT tool for instructional delivery in universities in Cross River State. It highlights the readiness of business education lecturers to embrace digital tools and adapt to evolving educational technologies to enhance the teaching and learning process.

Conclusion

The study on the extent of utilization of the World Wide Web and e-mail in the instructional delivery of business education in universities in Cross River State concludes that these tools significantly influence modern teaching and learning. The World Wide Web provides educators with vast resources to enhance instructional methods, making education more interactive, accessible, and innovative. Similarly, e-mail serves as an efficient medium for communication, enabling seamless collaboration between educators and students, as well as timely feedback and dissemination of learning materials. Findings indicate that while these tools are invaluable in enriching instructional delivery, their utilization is influenced by factors such as access to reliable internet, technical proficiency, and institutional support. Addressing these challenges can enhance the effectiveness of ICT integration in instructional delivery, ensuring that business education aligns with global educational standards and meets the dynamic needs of students in the 21st century. The study underscores the importance of continuous training, infrastructural development, and policy support to maximize the potential of these technologies in advancing business education.

Recommendations

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

1. Universities in Cross River State should prioritize the provision of reliable internet connectivity, updated computers, and relevant software to facilitate the effective utilization of the World Wide Web and e-mail in instructional delivery. This includes setting up well-equipped ICT centers and providing mobile-friendly platforms to support both educators and students.
2. Regular training and workshops should be organized to improve lecturers' proficiency in leveraging web-based tools and e-mail for teaching. This will

not only enhance their instructional delivery skills but also promote innovative teaching practices aligned with global standards in business education.

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