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Business education lecturers' perception and utilization of mobile learning technologies in enhancing course delivery in universities in South-east, Nigeria

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Abstract

The need to enhance the teaching of business education courses necessitated this study. The study determined business education lecturers' perception and utilization of mobile learning technologies in enhancing course delivery in universities in South-East, Nigeria. Two research questions and two null hypotheses guided the study. It adopted survey research design, with 124 business education lecturers in public universities offering business education programme in South-East, Nigeria. A-20 item structured questionnaire which was validated by three experts in the field of education was used for data collection. Reliability of the instrument was analyzed using Cronbach alpha formula which yielded correlation coefficients of.87 and.79 for clusters B1 and B2 with an overall coefficient of .83 obtained. Mean and standard deviation were used to answer the research questions and determine the homogeneity of the respondents' mean responses while t-test was used to test the null hypotheses at 0.05 level of significance. Findings revealed that business education lecturers in South East, Nigerian universities agree that the use of mobile learning technologies enhances course delivery. They however disagree that they use some of these mobile learning technologies in their course delivery. Their perceptions of the majority of these technologies differ significantly, but there was no discernible gender difference in how they felt about using them. Based on the findings of the study, the research concluded that although business education lecturers at South East Nigerian universities generally concur that mobile learning technologies could improve the way they deliver their courses, they do not yet make extensive use of the majority of these tools in their instructional delivery. It was recommended that the administrators of universities in South East, Nigeria should implement strategies to encourage and support business education lecturers in actively utilizing mobile learning technologies in their course delivery. This involves providing training, resources, and infrastructure to facilitate the practical application of these tools.

Introduction

The way knowledge is produced, shared, and distributed in higher education institutions around the world has changed dramatically as a result of the quick development of digital technology. Mobile learning (m-learning), the use of mobile devices like smartphones, tablets, and mobile applications to facilitate learning at any time and from any location is one of the most notable innovations in this digital age. The delivery of education, learning, or learning support via mobile devices is referred to as mobile learning. Mobile phones, tablets, MP3 players, notebooks, and portable computers are examples of m-learning technologies. It focuses on how students use portable devices and move around. Akinbowale and Adeagbo (2022) described mobile learning as a relatively

new method of accessing educational materials on mobile devices. Attewell and Savill-Smith (2023) posited that it is education through the internet or network using personal mobile devices such as tablets and smart phones to obtain learning materials through mobile applications, social interactions, and online educational hubs. Because of its adaptability, students can access educational resources at any time and from any location.

Mobile learning is a versatile, accessible teaching method that supports synchronous and asynchronous learning interactions, offering a chance to improve pedagogical practices and close the digital divide in Nigeria, where mobile phones and internet usage has increased rapidly. Mobile learners use mobile devices for educational purposes, enhancing portability and enabling learner-centered teaching. These technologies provide tailored learning materials, adapting to individual learning styles (Attewell & Savill-Smith, 2023). Mobile learning encourages collaboration and construction of knowledge, requiring changes in educational practices. Ademiluyi and Salam (2020) stated that mobile learning technologies increase students' participation, motivation, and retention, particularly in business education, thereby enhancing the learning process. Through messaging apps, online forums and social media, business educators can discuss assignments, share ideas and work on group projects, enhancing their communication and teamwork skills. Smartphones can be set up on any digital device, like a computer, laptop, mobile phone, desktop, tablet, and others for the purpose of teaching.

In business education, which focuses on equipping students with managerial, entrepreneurial, and technological competencies, the integration of mobile learning technologies can promote interactive, student-centered learning experiences. Business education is a skilled based vocational education programme that teaches students the fundamentals, theories, and processes of business at various levels, including secondary and higher education (Ademiluyi & Salam, 2020). It prepares students for careers in business by inculcating skills and knowledge useful in the business world. It contributes to economic growth and development by equipping youths with self-reliance skills and enabling them to create jobs, employ, and train others in the same field. It aims to impart marketable skills, knowledge, attitudes, and values to enable individuals to be producers of goods and services. Business education consists of two parts: office education, a vocational programme for office careers, and general business education, providing students with knowledge and competencies for managing personal business affairs and using business services. The business education programme aims to prepare students for the world of work and become successful entrepreneurs. It is career-oriented, with students choosing careers from the first year. Accounting careers cover principles of accounting, economics, and business mathematics. Office management courses cover office practice, business mathematics, law, commerce, economics, marketing, business study, keyboarding,asstudents' progress, they learn office operations, word processing, personnel management, records management, and management information systems.

In order to overcome difficulties with software and hardware upgrades and information-based technology maintenance, business education lecturers in Nigeria's higher education institutions, especially in South East, Nigeria, must make effective use of m-learning technologies.Despite its potential, studies have shown that the adoption and effective use of mobile learning technologies in Nigerian universities face significant challenges, including low digital literacy among lecturers, limited institutional support, and negative perceptions of technology integration (Eze, Chinedu & Okolie, 2022; Udo & Essien, 2021). Business simulation apps, digital content repositories, finance tracking applications, and collaborative platforms like Google Workspace can support the teaching of real-world business scenarios, decision-making, and critical thinking skills (Okebukola, 2020). Some business education lecturers may view mobile learning as a distraction rather than a pedagogical tool, while others may lack the skills or confidence to use mobile technologies effectively. Additionally, factors such as gender, academic qualifications, and institutional type may influence lecturers' attitudes and usage patterns (Ogunlade & Adebayo, 2020).

There is also a growing concern that Nigeria's higher education system, particularly in business education, is not adequately adapting to modern technological advancements, which may result in a mismatch between curriculum delivery and the demands of the dynamic labor market (Nwazor, 2021). As the world becomes increasingly digital, graduates who lack exposure to digital and mobile learning tools may find themselves ill-prepared for tech-driven workplaces and entrepreneurial ventures. Given this backdrop, it becomes imperative to investigate the perception and utilization of mobile learning technologies among business education lecturers in universities within South-East Nigeria. Understanding these dimensions can provide critical insights into how well lecturers are adapting to mobile-driven instruction, and identify the support structures needed to optimize mobile learning adoption for enhanced educational outcomes.

Consequently, gender could influence business education lecturers' perception and utilization of mobile learning technologies for enhancing course delivery. Gender is a characteristic that distinguishes between male and female in respect to behavior, activities, and attitudes, which must be considered in the investigation process of this study. Ede and Eze (2021) reported that gender had no significant impact on lecturers' access to or use of mobile learning platforms, as institutional ICT policies and training often target all staff members equally, regardless of gender. Danner and Pass (2023) established that females tend to be less interested in the use of mobile learning technologies than males. Similarly, Derbyshire (2020) found that females are less confident than males in their digital skills and that male perform better than females in digital-related knowledge and skills. This study, therefore examined business education lecturers' perception and utilization of mobile learning technologies in the delivery of business education courses in universities in South-East Nigeria.

Statement of the Problem

Technology is still changing education around the world in the 21stcentury. Because of their adaptability, accessibility, and capacity to facilitate individualized instruction, mobile learning (m-learning) technologies have become revolutionary instruments that can improve teaching and learning processes. Mobile learning technology integration has a lot of promise to enhance course delivery and students' engagement in business education, which necessitates interactive and real-world applications of concepts. It is unclear, nevertheless, how much business education lecturers in Nigerian universities especially those in the South-East, perceive and use these mobile technologies. There are claims that lecturers in Nigerian tertiary institutions are not fully utilizing mobile learning, despite rising investments in digital infrastructure and the proliferation of smartphones and mobile applications. Negative opinions, a lack of digital proficiency, or institutional constraints like insufficient technical assistance and training could be the cause of this. Additionally, some lecturers may still use conventional teaching strategies that do not meet the changing needs of students who are digital natives, even though they may see the value of mobile learning in supporting blended and remote learning. Furthermore, there is a dearth of empirical data on the perceptions and usage of mobile learning technologies by business education lecturers in South-East Nigerian universities. It is challenging to create policies or interventions that support the incorporation of mobile learning into the business education curriculum if their disposition and usage patterns are not well understood. Thus, the gap which this study intends to fill is to look at the perception of lecturers of business education in tertiary education in South-Easter Nigeria on the use of mobile technologies in lecture delivery.

Research Questions

The following research questions guided the study;

1. What are the perceptions of business education lecturers toward the influence of use of mobile learning technologies in enhancing course delivery in universities in South East, Nigeria?

2. What mobile learning technologies are utilized by business education lecturers for enhancing Course Delivery in Universities in South East, Nigeria?

Hull Hypotheses

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

1. There is no significant difference in the mean perception of business education lecturers toward the influence of use of mobile learning technologies in enhancing course delivery in universities in South East, Nigeria based on gender?
2. There is no significant difference in the mean perception of business education lecturers on the mobile learning technologies utilized for enhancing course delivery in Universities in South East, Nigeria based on gender.

Literature Review

Mobile Learning (M-Learning) and Its Relevance to Higher Education

Mobile learning (m-learning) refers to learning that is mediated through portable, wireless devices (smartphones, tablets) that enable anytime/anywhere access to instructional content, interaction and assessment (Pedraja-Rejas et al., 2024). It extends e-learning by exploiting mobility and context-awareness to support just-in-time learning, micro-learning and continuous engagement outside scheduled class times (Talan, 2020).Oyelere, Suhonen and Sutinen (2016) stated that m-learning is increasingly proposed as a pragmatic way to expand access, personalize learning pathways and support active pedagogy in tertiary education including Business Education, where practical activities, simulations and industry engagement benefit from mobile tools.

Theoretical frameworks

Technology Acceptance Model (TAM)(Davis, 1989)

The Technology Acceptance Model (TAM), developedbyDavis (1989) is one of the most widely used theories in information systems research. The model explains how and why individuals adopt and use new technologies. The TAMis a framework that focuses on two key factors: perceived usefulness (PU) and perceived ease of use (PEOU). These factors influence a user's attitude towards using a technology, which in turn influences their behavioural intention to use it. In business education, lecturers are more likely to adopt mobile learning technologies if they believe they improve teaching efficiency, student engagement, and course delivery outcomes. The ease of use of mobile learning applications also influences their intention to integrate them into their teaching practices. The stronger the intention, the higher the likelihood of business educators using these technologies in course delivery. TAM provides a solid theoretical foundation for studying business educators' perceptions and utilization of mobile learning technologies in South-East Nigerian universities.

Business Educators' Perception of Mobile Learning Technologies for Course Delivery

Several Nigerian studies report generally positive perceptions among academic staff toward digital technologies, including mobile tools, but with caveats concerning adequacy of infrastructure and training For example, Nathaniel, Makinde, and Ogunlade (2021) reported that lecturers recognize the usefulness and potential ease of use of mobile/digital technologies for research, collaboration and teaching; however, Abba and Lamido-Gora (2019) noted that perceived adequacy (access to devices, institutional support) often lags, and differences appear across university ownership and location. In studies focused on Business Education in South-East Nigeria, lecturer's express awareness of Learning Management Systems (LMS) and m-learning potentials but still report limited routine use often because of contextual constraints and reliance on traditional face-to-face pedagogy.

Utilization Patterns of Mobile Learning Technologies by Business Educators for Instructional Delivery

Empirical research in Nigerian tertiary institutions shows varied utilization patterns: some lecturers employ smartphones and tablets to share learning materials, run WhatsApp groups, record short lectures, or collect student responses; others integrate mobile apps, e-assessment tools and cloud platforms when available. Studies specifically on m-learning acceptance in Nigerian colleges and universities indicate that effort expectancy, social influence and facilitating conditions (network, power, training) significantly predict staff acceptance and use. Chaka and Govender (2017) found that while academic staff showed a positive attitude toward mobile learning, its utilization level was low due to inadequate institutional support and a lack of skills. Oyelere, Suhonen, & Sutinen (2016) conducted a study on mobile learning as a new paradigm for ICT education in Nigeria. They revealed that despite the widespread availability of mobile devices, educators' adoption was minimal for instructional delivery. The findings pointed to limited training and poor internet infrastructure as key constraints. Okolocha and Nwadiani (2018) investigated the challenges facing business educators in using technology, which includes mobile learning. Their study found a low level of technology utilization attributed to financial constraints, erratic power supply, and a lack of access to relevant digital resources. Pedraja-Rejas et al. (2024)it highlighted the global trend where the level of utilization is influenced by institutional and pedagogical support. This finding is relevant as it provides a theoretical framework that explains the varying levels of adoption observed in Nigerian studies.

Methods

The study adopted survey research design. It was carried out in South East, Nigeria. The population of the study consisted of 142 business education lecturers in public universities in South East, Nigeria that offer business education programme. There was no sampling since the population was manageable and accessible to the researcher. Structured questionnaire titled “Business Education Lecturers’ Perception and Utilization of Mobile Learning technologies for Enhancing Course Delivery (BELPUMLT-ECD)” was used for data collection. The instrument was in two sections; A and B. Section A contained item on demographic information of the respondents such as gender while section B contained 20 items covering the two research questions. The instrument was structured on a four points rating scale of Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD). Face and content validity of the instrument was established using three experts, two from the field of Business Education and one expert from Measurement and Evaluation. The reliability of the instrument was determined using pilot testing method, and data collected were calculated with Cronbach Alpha formula to determine the internal consistency of the instrument, and correlation coefficients of.87 and.79 for clusters B1 and B2 respectively with an overall coefficient of .83 obtained. The researcher with the help of five research assistants adequately briefed administered copies of the questionnaire to the respondents in their offices. On the spot distribution and collection of questionnaires was adopted. Out of 142 copies of questionnaire distributed, 135(95%) were correctly filled and returned. Mean and standard deviation were used to answer the research questions and determine the homogeneity of the respondents’ mean perceptions while t-test was used to test the null hypotheses at 0.05 level of significance. A null hypothesis was rejected where the p-value is less than the significant level; otherwise the null hypothesis was accepted. The analysis was carried out using Statistical Package for Social Sciences (SPSS) version 25.0.

Result

Table 1: Respondents' Mean Perceptions and Standard Deviations on influence of use of Mobile Learning Technologies in Enhancing Course Delivery in Universities

S/N	Perceptions on Mobile Learning Technologies	X	SD	Remarks
1	Mobile learning technologies improve access to teaching resources for business education lecturers	2.75	.74	Agree
2	I believe mobile learning promotes interactive and engaging learning experiences for students	3.25	.81	Agree
3	Mobile learning technologies are effective tools for delivering business education content.	3.63	.70	Strongly Agree
4	Using mobile learning tools helps to meet the diverse learning needs of business education students	2.55	.84	Agree
5	I perceive mobile learning as a reliable alternative to traditional classroom instruction	3.60	.86	Strongly Agree
6	The use of smartphones and tablets in teaching enhances my instructional effectiveness	3.35	.78	Agree
7	I believe the use of mobile learning should be encouraged in the university business education curriculum	3.53	.73	Strongly Agree
8	Mobile learning supports flexibility in time and location for teaching business education	3.58	.85	Strongly Agree
9	I feel confident integrating mobile learning technologies into my teaching practice	3.16	.79	Agree
10	Mobile learning tools help improve students' academic performance in business education	3.50	.80	Strongly Agree
	Cluster Mean	**3.29**	**.79**	**Agree**

Table 1 shows that five out of the 10 items have mean scores ranging from 3.50 to 3.63, indicating that respondents strongly agree on the influence of use of mobile learning technologies in enhancing business education course delivery. The remaining five items have mean scores ranging from 2.55 to 3.35, which means that respondents agree on the influence of use of mobile learning technologies in enhancing their course delivery. The cluster mean score of 3.29 indicates that business education lecturers agree that the use of mobile learning technologies enhance their course delivery in universities in South East, Nigeria. Standard deviations for all the items are within the same range showing that the respondents are not wide apart in their ratings opinions.

Table 2 shows that one out of the 10 items on utilization of mobile learning technologies have mean score of 3.66, indicating that respondents strongly agree that they assign and receive assignments or projects via mobile platforms such as email, and LMS apps. Item 11 has mean score of 2.59, indicating that the respondents agree that they utilize smartphones to access and share instructional content with students The remaining eight items have mean scores ranging from1.60 to 2.43, which means that respondents disagree on their utilization. The cluster mean score of 2.38 indicates that on the whole, business education lecturers disagree that the utilize majority of mobile learning technologies for enhancing their course delivery in universities in South East, Nigeria. Standard deviations for all the items are within the same range showing that the respondents are not wide apart in their ratings opinions

Table 2: Respondents' Mean Perceptions and Standard Deviation on Mobile Learning Technologies Utilized for Course Delivery in Universities in South East, Nigeria

S/N	Items on Use of Mobile Learning Technologies	X	SD	Remarks
11	I use smartphones to access and share instructional content with students	2.59	.80	Agree
12	I incorporate educational apps (e.g., Google Classroom, Kahoot) for teaching and assessment	2.25	.75	Disagree
13	I utilize Telegram groups to communicate and share learning materials with students	2.43	.86	Disagree
14	I use YouTube or other video-sharing platforms to teach practical business education concepts	2.15	.74	Disagree
15	I deploy Zoom, Google Meet or other virtual platforms for real-time class interactions	1.60	.76	Disagree
16	I use podcasts or audio learning tools to deliver recorded lectures or discussions	2.35	.68	Disagree
17	I apply mobile-compatible e-books and digital libraries during course instruction	2.36	.83	Disagree
18	I share class presentations and notes using cloud services (e.g., Google Drive, Dropbox)	2.18	.75	Disagree
19	I assign and receive assignments or projects via mobile platforms (e.g., email, LMS apps)	3.66	.69	Strongly Agree
20	I use social media platforms (e.g., Facebook, LinkedIn) for academic discussions and group collaboration	2.20	.70	Disagree
	Cluster Mean	**2.38**	**.76**	**Disagree**

Table 3: T-test Analysis of Significant Difference in the Perception of Business Education Lecturers on the Influence of Use of Mobile Learning Technologies in Enhancing Course Delivery in Universities Based on Gender

Gender	N	$\bar{X}$	SD	df	t-value	P-value	Decision
Male	53	3.32	0.81				
				133	2.01	1.23	Not Significant
Female	82	3.27	0.78				

Table 3 shows that the t - value is 2.01 with 133 degree of freedom and a p-value of 1.23, which is greater than the 0.05 level of significance. Since the p-value is greater than the significance value (P-value = 1.23 > 0.05), the null hypothesis is therefore accepted. This means that there is no significant difference in the mean perception of business education lecturers toward the influence of use of mobile learning technologies in enhancing course delivery in universities in South East, Nigeria based on gender.

Table 4: T-test Analysis of Significant Difference in the Perception of Business Education Lecturers on Mobile Learning Technologies Utilized in Enhancing Course Delivery in Universities Based on Gender

Gender	N	$\bar{X}$	SD	df	t-value	P-value	Decision
Male	53	2.40	0.79				
				133	1.00	0.03	Significant
Female	82	2.36	0.76				

Table 4 shows that the t - value is 1.00 with 133 degree of freedom and a p-value of.03, which is less than the 0.05 level of significance. Since the p-value is less than the significance value (P-value =.03 < 0.05), the null hypothesis is therefore rejected. This means that there is a significant

difference in the mean perception of business education lecturers on the mobile learning technologies utilized for enhancing course delivery in Universities in South East, Nigeria based on gender.

Discussion of Findings

Findings of the study revealed that business education lecturers agree that the use of mobile learning technologies enhance their course delivery in universities in South East, Nigeria. The findings of this study aligns with that of Anyanwu and Ezenwinyi (2025) which found that the use of smart phones and tablets highly influenced the teaching of business education courses. Similarly, Ogunlade and Omodara (2020) reported that lecturers' use of mobile learning technologies improved their teaching activities. Ademiluyi and Salam (2020) confirmed that business education lecturers perceived that the use of mobile learning technologies to highly influenced their course delivery. In addition, Ugwoke, Edeh and Ezemma (2019) disclosed that business education lecturers perceived LMS as effective tools for enhancing teaching and learning, particularly in accounting courses. Ahmadu (2023) which revealed that the use of smart phones enhances exchange of education-related messages between the lecturers and students. Similarly, Akinbowale and Adeagbo (2022) reported that smart phones can help business education lecturers to search the internet, and hold discussions with their students. Findings of this study also revealed that there was no significant difference in the mean perception of business education lecturers towards the influence of use of mobile learning technologies in enhancing course delivery in universities in South East, Nigeria based on gender. It could be that both male and female lecturers in Nigerian universities—particularly in the South-East have had relatively equal access to mobile devices**,** internet connectivity, and digital platforms for teaching. This parity in access reduces the possibility of gender-based perceptional differences. In support, Ede and Eze (2021) reported that gender had no significant impact on lecturers' access to or use of mobile learning platforms, as institutional ICT policies and training often target all staff members equally, regardless of gender.

Findings of the study revealed that business education lecturers disagree that they utilize majority of mobile learning technologies for enhancing their course delivery in universities in South East, Nigeria. While some business education lecturers in South East Nigerian universities agree that mobile learning technologies can enhance their course delivery, many also disagree or are hesitant about their widespread use.This disagreement could be due to factors such as limited access to technology, inadequate infrastructure such as poor power supply and internet connectivity, and insufficient training for business education lecturers on utilizing these mobile technologies effectively. In support, Ezeabii and Ekoh-Nweke (2024) revealed thatthe underutilization of mobile learning tools in course delivery is largely due to inadequate funding for ICT facilities and insufficient training on new technologies. Nwosu, Ekoh-Nweke and Ikpeama, (2023) found a low level of utilization of ICT tools, including mobile technologies, in teaching business education courses. It was also found that there was a significant difference in the mean perception of business education lecturers on the mobile learning technologies utilized for enhancing course delivery in Universities in South East, Nigeria based on gender. In agreement, Yusuf and Onasanya (2021) found that male lecturers exhibited higher engagement with educational technologies in Nigerian universities, attributing this to differences in technological confidence and access to professional development opportunities.

Conclusion

The purpose of this study was to ascertain how business education lecturers in South-East Nigerian universities view and use mobile learning technologies to improve course delivery. According to the study, lecturers of business education in South East Nigeria concur that mobile learning tools enhance the quality of instruction. Their perceptions of the majority of these technologies differed significantly, but there was no discernible gender difference in how they felt

about using them. The main conclusion drawn from these findings is that, although business education lecturers at South East Nigerian universities generally concur that mobile learning technologies could improve the way they deliver their courses, they do not yet make extensive use of the majority of these tools in their instruction.

Recommendations

Based on the findings of the study, the researcher makes the following recommendations;

1. The administrators of universities in South East, Nigeria should implement strategies to encourage and support business education lecturers in actively utilizing mobile learning technologies into their course delivery. This could involve providing training, resources, and infrastructure to facilitate the practical application of these tools.
2. Heads of Department (HODs) of business education programme in South East, Nigeria should set in motion targeted interventions and professional development opportunities designed to address any potential barriers and ensure equitable adoption of mobile learning technologies among male and female business education lecturers.
3. HODs of business education programme in universities in South East, Nigeria should cultivate an environment that encourages experimentation and the adoption of innovative teaching methods, including the use of mobile learning. This could involve establishing communities of practice, sharing best practices, and recognizing lecturers who effectively integrate technology into their teaching.

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