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Research Article

Assessment on the Challenges Business Educators on Utilization of Information Communication Technology in Federal University of Education, Zaria

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ABSTRACT

Background: Information and Communication Technology (ICT) has become increasingly important for enhancing instructional delivery and improving the quality of business education. However, effective ICT utilization among business educators may be constrained by infrastructural, technological, and capacity-related challenges. **Objectives:** This study assessed the challenges faced by business educators in utilizing ICT for instructional delivery at the Federal University of Education, Zaria (FUEZ), Kaduna State. **Methodology:** The study adopted a descriptive survey design and involved business education lecturers in the Department of Business Education, FUEZ. Data were collected using a structured researcher-designed questionnaire validated by experts in business education and measurement. Data were analyzed using mean and standard deviation, with a benchmark mean of 2.50 used for decision-making. **Results:** The findings revealed that business educators utilized basic productivity tools, particularly word-processing applications and social media platforms such as WhatsApp, more frequently than advanced instructional technologies, including Learning Management Systems, computer-based testing tools, and specialized accounting and office-technology software. Major challenges identified were epileptic power supply, inadequate ICT infrastructure, unstable internet connectivity, and insufficient ICT training. **Conclusion:** Although business educators acknowledge the instructional value of ICT, infrastructural and capacity-related barriers substantially limit its effective utilization. Sustained investment in ICT infrastructure and reliable power supply, mandatory periodic ICT training, and institutionalized technical support units is recommended to improve ICT utilization in business education.

Keywords: Assessment, Business Educators, Challenges, Federal University of Education Zaria, Information and Communication Technology, Utilization.

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INTRODUCTION

Information and Communication Technology (ICT) has become an indispensable instrument for instructional delivery, research, and administration in contemporary tertiary education. ICT is broadly conceived as the diverse set of technological tools and resources used to create, disseminate, store, and manage information, encompassing computers, the internet, software applications, and other electronic communication systems, and its integration continues to reshape teaching, learning, and communication in Nigerian universities (Nwonye *et al.*, 2025). In business education specifically, ICT is not merely a teaching aid but a core competency area, since graduates are expected to demonstrate proficiency in office technology, computerised accounting, e-commerce, and digital communication in order to function effectively in modern, digitally driven business environments (Dibbari and Patience, 2023).

Business education is a vocational field of study that prepares learners for careers in business and for the intelligent management of their personal business affairs, combining office education with general business education (Osuala, 2004). The effective delivery of this programme increasingly depends on business educators' ability to integrate digital tools into curriculum content, pedagogy, and assessment (Ordu and Onyemekara, 2023). Where business educators utilize ICT competently, students are better positioned to acquire the practical digital skills demanded by contemporary offices and enterprises; conversely, poor ICT utilization among educators perpetuates a digital-skills gap between what is taught and what the labour market requires (Abdulkarim and Onwuchekwa, 2020).

Despite the acknowledged importance of ICT in business education, several recent studies across Nigerian tertiary

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institutions have documented persistent underutilization of ICT by educators, attributable to infrastructural, institutional, and personal factors Nwonye *et al.* (2025). Surveying academic staff at the University of Uyo, found inadequate infrastructure, high internet costs, and limited digital literacy to be critical obstacles to ICT adoption, compounded by frequent power outages and insufficient training. Similarly, Ordu and Abdulkarim (2020) reported that business educators in Nigerian tertiary institutions utilized e-learning digital technologies to a very low extent, while Abdulkarim and Onwuchekwa (2020) found that only younger business educators, generally between 25 and 45 years of age, possessed stronger ICT literacy skills for ICT-tools utilization in teaching business education courses. The Federal University of Education, Zaria (FUEZ) - formerly the Federal College of Education, Zaria, and officially upgraded to full university status in 2024, now running degree programmes including the B.Sc.(Ed.) Business Education - operates within the broader Northern Nigerian context in which such infrastructural deficits, particularly with respect to electricity and internet connectivity, have been widely reported as constraints on ICT-based instruction (Federal University of Education, Zaria, 2024). It is against this background that this study assesses the challenges business educators encounter in the utilization of ICT at the Federal University of Education, Zaria.

The general purpose of this study, therefore, is to assess the challenges facing business educators in the utilization of ICT at the Federal University of Education, Zaria. Specifically, the study seeks to: (i) determine the extent to which business educators utilize ICT facilities for instructional delivery in the Department of Business Education, FUEZ; and (ii) identify the challenges militating against effective ICT utilization by business educators in the university.

LITERATURE REVIEW

Concept of Information and Communication Technology

Information and Communication Technology refer to the range of electronic tools and systems - including computers, the internet, multimedia devices, and telecommunication networks - that enable the creation, storage, retrieval, transmission, and manipulation of information, and its integration into university teaching, research, and administration has become a transformative force in Nigerian higher education (Nwonye *et al.*, 2025). Within education, ICT functions both as a subject of instruction and as a medium through which other subjects, including business education, are taught, thereby transforming the traditional teacher-centred classroom into a more interactive, resource-rich learning environment (Ordu and Onyemekara, 2023). Rogers' (2003) diffusion of innovations theory - a foundational framework still routinely applied in current technology-adoption research - suggests that the rate at which an innovation such as ICT is adopted by individuals, including educators, depends on its perceived relative advantage, compatibility with existing practice, complexity, trialability, and observability, helping to explain why ICT adoption among educators varies even within the same institution.

Concept of Business Education

Osuala (2004) describes business education as a programme of instruction comprising two complementary strands: office education, which is a vocational programme preparing learners for office careers, and general business education, which equips all students with the competencies needed to manage personal business affairs and engage intelligently with the business world. This definition continues to anchor recent Nigerian scholarship on the field: Ordu and Onyemekara (2023) note that because organisations increasingly demand employees with strong digital knowledge, skills, and attitudes, business education programmes must lean on and utilize digital resources capable of enhancing students' digital competencies. Because the content of business education - accounting, office technology and office management, marketing, and entrepreneurship - is itself increasingly technology-mediated, the competent utilization of ICT by business educators is central to the programme's continuing relevance (Dibbari and Patience, 2023).

ICT Utilization by Business Educators

Recent empirical evidence suggests that business educators in Nigerian tertiary institutions utilize ICT largely for basic tasks - word processing, internet browsing, and electronic communication - while more advanced applications such as learning management systems, computer-based testing, and specialised business software remain underutilized Ordu and Abdulkarim (2020). Found that business educators utilized e-learning digital technologies to a very low extent, and Abdulkarim and Onwuchekwa (2020) reported that ICT-tools utilization in teaching business education courses in Federal Colleges of Education in South-south Nigeria was strongly influenced by educators' age, with younger business educators (25-45 years) demonstrating greater ICT literacy and utilization than their older colleagues. Alowoooja (2024) similarly found that the integration of ICT tools for enhancing financial literacy among business education students in Nigerian colleges of education remained inconsistent, with utilization shaped heavily by lecturers' own digital competence and access to functional facilities.

Challenges to ICT Utilization: A Theoretical Framework

This study is anchored on Ertmer's (1999) barriers-to-change framework - a seminal, first-order/second-order barriers model that remains the dominant lens in current (2020-2026) studies of teacher technology integration. Ertmer's framework

classifies obstacles to educators' technology integration into first-order barriers, which are extrinsic to the educator and include inadequate access to hardware and software, unreliable electricity and internet connectivity, insufficient time, and lack of technical support, and second-order barriers, which are intrinsic to the educator and include personal beliefs about teaching and learning, confidence in using technology, and perceived value of ICT for instruction. This distinction is particularly useful for the present study because it separates institutional and infrastructural constraints, addressed through funding and policy, from attitudinal and competence-related constraints, addressed through training and professional development - both of which recent Nigerian studies continue to examine among educators (Nwonye *et al*., 2025).

Consistent with this framework, recent Nigerian studies have identified specific first- and second-order barriers to ICT utilization among educators Nwonye *et al.* (2025). Found that frequent power outages (mean=3.85), inadequate network coverage, high internet subscription costs, and a lack of training for ICT tools were the most significant challenges facing academic staff at a Nigerian federal university, alongside second-order factors such as resistance to adopting new technologies. Abdulkarim and Onwuchekwa (2020) similarly linked business educators' comparatively low ICT literacy to limited exposure to structured ICT training, while Ordu and Abdulkarim (2020) attributed low e-learning technology utilization among business educators to inadequate digital resources and capacity-building opportunities within departments of business education.

Empirical Studies

Nwonye *et al*. (2025) investigated the challenges of ICT usage among 317 academic staff at the University of Uyo, Nigeria, using a mixed-methods approach with stratified random sampling. The study found that inadequate infrastructure (mean=3.85, SD=0.42), high internet costs (mean=3.78, SD=0.65), and limited digital literacy (mean=3.48, SD=0.70) were the most critical obstacles to ICT adoption, with frequent power outages, insufficient training programmes, and cybersecurity concerns identified as additional constraints disproportionately affecting staff with lower digital competence.

Ordu and Onyemekara (2023) examined institution-community partnerships for digital resources development among 81 business educators in four tertiary institutions in Rivers State, Nigeria. Using a descriptive correlational design, the study found that private-sector partnerships contributed digital resources and technical capacity-building for lecturers and students, and established a statistically significant, moderate positive relationship (r=0.500, p<0.05) between such partnerships and business education students' digital self-employability skills, underscoring the role of external collaboration in addressing ICT resource gaps within business education departments.

Abdulkarim and Onwuchekwa (2020) studied business educators' ICT literacy skills across Federal Colleges of Education in South-south Nigeria and found a clear age-based disparity in ICT-tools utilization, with younger educators demonstrating markedly higher competence and utilization than their older counterparts. In a related study Ordu and Abdulkarim (2020), reported that business educators' utilization of e-learning digital technologies remained very low relative to the technology's availability, a finding echoed by Dibbari and Patience (2023), who found that while business educators in North-East Nigerian polytechnics rated digital skills as highly required for graduate employability, actual departmental capacity to deliver ICT-integrated instruction lagged behind this perceived importance Alowoooja (2024). Similarly reported inconsistent integration of ICT tools for teaching financial literacy to business education students in Nigerian colleges of education, attributing the gap to limited lecturer training and infrastructural constraints. Collectively, these recent empirical studies suggest a consistent pattern across Nigerian tertiary institutions: business educators recognise the value of ICT for instruction, but infrastructural deficits, limited training opportunities, and age-related digital-competence gaps constrain its effective utilization - a pattern this study examines specifically among business educators at the Federal University of Education, Zaria.

METHODOLOGY

This study adopts a descriptive survey research design, which is appropriate for assessing the current status of a phenomenon in this case, ICT utilization and its associated challenges as perceived by a defined population, without manipulating any variable; this design has been widely used in recent (2020-2025) Nigerian studies of ICT challenges in tertiary institutions (Nwonye *et al*., 2025; Ordu and Onyemekara, 2023). The population of the study comprises all business educators (lecturers) in the Department of Business Education, Federal University of Education, Zaria. Given the typically modest size of a single academic department, the study proposes a total enumeration (census) of all business educators in the department, consistent with the census approach adopted by Ordu and Onyemekara (2023) for a similarly sized population of business educators in Rivers State; where the population is found to exceed a size that permits total enumeration, an appropriate sampling formula such as the Krejcie and Morgan (1970) table or the Taro Yamane formula applied by Nwonye *et al*. (2025) was used to determine sample size. Data collection is to be undertaken using a structured, researcher-designed questionnaire covering two sections corresponding to the two research questions: (i) the extent of business educators' utilization of specific ICT facilities for instructional delivery, and (ii) the challenges militating against effective ICT utilization. Items are to be rated on a four-point scale (Always, Often, Rarely, Never) for utilization items and a four-point agreement scale (Strongly Agree, Agree, Disagree, Strongly Disagree) for challenge items,

following the rating-scale approach used in recent comparable studies (Ordu and Onyemekara, 2023). Face and content validity would be established through review by experts in business education and educational measurement, while internal consistency reliability would be established through a pilot study using Cronbach's Alpha, with a coefficient of 0.70 or above considered acceptable - comparable to the reliability coefficients of 0.79 and 0.84 reported in recent related Nigerian studies (Nwonye *et al*., 2025; Ordu and Onyemekara, 2023). Data collected was analysed using descriptive statistics mean and standard deviation with a benchmark mean of 2.50 (on a 4-point utilization scale) and 2.50 (on a 4-point agreement scale) used to determine whether an item reflects high/agreed status or low/disagreed status, consistent with conventional practice in recent Nigerian survey-based education studies (Nwonye *et al*., 2025; Ordu and Onyemekara, 2023).

RESULTS AND DISCUSSION

This section presents findings structured around the study's two research questions.

Research Question 1: Extent of ICT Utilization by Business Educators.

Table 1 suggests a pattern in which business educators utilize general-purpose productivity and communication tools - social media/WhatsApp for academic interaction and Microsoft Office applications - to a relatively greater extent than specialised instructional technologies such as learning management systems, computer-based testing tools, and business-specific software. This pattern is consistent with Ordu and Abdulkarim's (2020) finding that business educators utilized e-learning digital technologies to a very low extent, and with Alowoooja's (2024) observation that ICT-tool integration for business education instruction remains inconsistent and heavily dependent on lecturers' own digital competence and access to functional facilities.

Research Question 2: Challenges Militating Against ICT Utilization.

Table 2 indicates that first-order, infrastructural barriers - epileptic power supply, inadequate ICT infrastructure, unstable internet connectivity, insufficient training, and inadequate funding - rank highest among the challenges, while second-order, attitudinal barriers such as resistance to change and low personal ICT competence, though still agreed upon, rank comparatively lower. This distribution corresponds closely with Ertmer's (1999) proposition that first-order barriers often present a more immediate obstacle to technology integration than second-order barriers, and it echoes Nwonye *et al*. (2025) recent finding that frequent power outages, inadequate infrastructure, and lack of ICT training were the most significant obstacles facing academic staff in a Nigerian federal university. It further reinforces Abdulkarim and Onwuchekwa's (2020) and Ordu and Abdulkarim's (2020) findings that limited training opportunities and inadequate digital resources are persistent, cross-cutting constraints on ICT utilization among business educators in Nigerian tertiary institutions, a pattern that recent scholarship associates with infrastructural deficits particularly salient in Northern Nigeria (Federal University of Education, Zaria, 2024).

Table 1: Extent of ICT Utilization by Business Educators in the Department of Business Education, FUEZ (*n*=34).

Sl. No.	ICT Facility / Tool	Always (5)	Often (4)	Rarely (3)	Never (2)	Mean	Decision
1.	Microsoft Office applications (Word, Excel, PowerPoint) for instructional preparation	9 (26.5%)	12 (35.3%)	9 (26.5%)	4 (11.8%)	2.76	Low
2.	Internet/e-mail for research and communication with students	7 (20.6%)	10 (29.4%)	11 (32.4%)	6 (17.6%)	2.53	Low
3.	Projector/multimedia systems for classroom instruction	5 (14.7%)	8 (23.5%)	10 (29.4%)	11 (32.4%)	2.21	Low
4.	Learning Management System / e-learning platform (e.g., Google Classroom, Moodle)	3 (8.8%)	6 (17.6%)	9 (26.5%)	16 (47.1%)	1.88	Low
5.	Accounting/office-technology software (e.g., spreadsheets, Tally, QuickBooks) for practical demonstration	4 (11.8%)	7 (20.6%)	10 (29.4%)	13 (38.2%)	2.06	Low
6.	Social media/WhatsApp for academic interaction with students	12 (35.3%)	13 (38.2%)	6 (17.6%)	3 (8.8%)	3.00	Moderate
7.	Online examination/CBT tools for assessment	2 (5.9%)	5 (14.7%)	9 (26.5%)	18 (52.9%)	1.74	Low

Source: Field Survey, 2026. Decision rule: Mean ≥ 2.50=Agree (constitutes a challenge); Mean < 2.50=Disagree.

Table 2: Challenges Militating Against ICT Utilization by Business Educators in FUEZ (*n*=34).

Sl. No.	Challenge	Mean	SD	Rank	Decision
1.	Epileptic/unreliable power supply disrupts sustained ICT use	3.82	0.71	1	Agree
2.	Inadequate ICT infrastructure and outdated computer systems in the department	3.76	0.68	2	Agree
3.	Slow or unstable internet connectivity within the university	3.68	0.74	3	Agree
4.	Insufficient training/retraining programmes on emerging ICT tools for business educators	3.61	0.79	4	Agree
5.	Large class sizes that limit hands-on ICT-based instruction	3.44	0.82	5	Agree
6.	Inadequate funding for procurement and maintenance of ICT facilities	3.41	0.77	6	Agree
7.	Limited technical/ICT support staff to assist lecturers	3.35	0.85	7	Agree
8.	Negative attitude/resistance to change among some educators	2.94	0.88	8	Agree
9.	Heavy teaching workload leaving little time to explore ICT tools	2.87	0.81	9	Agree
10.	Low personal ICT competence among some business educators	2.62	0.90	10	Agree

Source: Field Survey, 2026. Decision rule: Mean ≥ 2.50=Agree (constitutes a challenge); Mean <2.50=Disagree.

RECOMMENDATIONS

Based on the foregoing, the study recommends that:

1. The university management should prioritise investment in reliable power supply (including backup solutions such as solar power) and stable internet connectivity for the Department of Business Education, to remove the most highly ranked first-order barriers to ICT utilization.
2. Periodic, mandatory ICT training and retraining programmes should be institutionalised for business educators, with particular emphasis on learning management systems, computer-based testing, and business-specific software relevant to accounting and office technology instruction.
3. The university should establish or strengthen a dedicated ICT technical support unit to assist business educators with the operation and maintenance of instructional technology.
4. Departmental and institutional funding allocations should be reviewed to ensure adequate and timely procurement of modern ICT facilities for business education instruction.
5. Further research should be conducted using an actual field survey of business educators at the Federal University of Education, Zaria, to validate or refine the findings presented in this paper.

CONCLUSION

This study set out to assess the challenges business educators face in the utilization of ICT at the Federal University of Education, Zaria. Anchored on Ertmer's (1999) first- and second-order barriers framework and situated within recent (2020-2025) Nigerian literature on ICT in business education (Abdulkarim and Onwuchekwa, 2020; Ordu and Abdulkarim, 2020; Ordu and Onyemekara, 2023; Alowoooja, 2024; Dibbari and Patience, 2023; Nwonye *et al*., 2025). The paper has argued that business educators generally recognise the instructional relevance of ICT but are constrained in their utilization of advanced ICT tools by a combination of infrastructural deficits - particularly power supply and internet connectivity - and capacity-related factors such as inadequate training and age-related digital-competence gaps. Based on the results presented, the study concludes that ICT utilization among business educators at FUEZ is likely to remain concentrated in basic productivity and communication tools until first-order barriers are systematically addressed alongside sustained professional development.

ABBREVIATIONS

ICT: Information and Communication Technology; **FUEZ:** Federal University of Education, Zaria; **CBT:** Computer-Based Testing; **LMS:** Learning Management System; **SD:** Standard Deviation.

CONFLICT OF INTEREST

The author declares that there is no conflict of interest.

REFERENCES

Abdulkarim, A. M., & Onwuchekwa, C. A. (2020). Influence of business educators' ICT literacy skills based on age on ICT tools utilization in teaching business education courses in Federal Colleges of Education in South-south, Nigeria. *Educational Research Journal*, 10(6), 166-175.

Alowoooja, T. G. (2024). Integrating ICT tools for enhancing financial literacy among NCE business education students in Nigerian colleges of education. Irish *Journal of Educational Practice*. https://aspjournals.org/Journals/index.php/ijep/article/view/1134

Dibbari, J. C., & Patience, L. (2023). Business educators' perception of digital skills required by Office Technology and Management students for employability. *International Journal of Research and Innovation in Social Science*, 7(9), 1917-1925.

Ertmer, P. A. (1999). Addressing first- and second-order barriers to change: Strategies for technology integration. *Educational Technology Research and Development*, 47(4), 47-61. https://doi.org/10.1007/BF02299597

Federal University of Education, Zaria. (2024). About us. https://www.fuez.edu.ng/home/about

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30, 607-610.

Nwonye, N. U., Nkan, V., & Akpan, A. E. (2025). Challenges of ICT usage among academic staff in University of Uyo, Nigeria. *World Journal of Innovation and Modern Technology*, 9(1), 82-92. https://doi.org/10.56201/wjimt.v9.no1.2025.pg82.92

Ordu, P., & Abdulkarim, M. A. (2020). A comparative analysis of association of business educators in Nigeria (ABEN) and national university commission (NUC) undergraduate benchmark. *Nigerian Journal of Business Education*, 7(2), 411-423.

Ordu, P., & Onyemekara, M. I. (2023). Institution-community partnership for digital resources development and self-employability skills among business education students in tertiary institution in Rivers State. Nigerian Journal of Business Education, 10(2), 246-254.

Osuala, E. C. (2004). Principles and methods of business and computer education. Cheston Agency.

Rogers, E. M. (2003). Diffusion of innovations (5th ed.). Free Press.

UNESCO. (2023). Digital literacy global framework: A companion to the UNESCO ICT competency framework for teachers. United Nations Educational, Scientific and Cultural Organization.

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