

## EXPLORING THE CHALLENGES AND OPPORTUNITIES OF ONLINE LEARNING IN ACCOUNTING EDUCATION IN NIGERIA

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### Abstract

**Research Objective:** This study investigates the dual phenomenon of constraint and advantage embodied in online accounting education in Nigeria. Two subordinate objectives guide the inquiry: first, to determine the extent to which internet accessibility conditions the overall effectiveness of web-based accounting instruction; and second, to assess the role of digital literacy in the same context.

**Methodology:** The study uses qualitative research design where only secondary data is used. The qualitative research is suitable since the research aims at investigating issues, not quantifying variables. It will permit the interpretation of meanings and experience and recorded evidences in regards to online learning in accounting education. In the second case, the sources of secondary data are academic journal articles, books, institutional publications, government policy research's, conference proceedings, and publications in valid online publications including arXiv and ResearchGate.

**Findings:** Lack of digital literacy among both students and lecturers (29.4%) hinders effective online teaching. Low engagement (25.6%) is common, with students struggling to remain attentive. Assessing practical accounting skills online remains a major difficulty (31.9%). Cyber distractions such as social media reduce discipline and focus during classes.

**Conclusion:** The effectiveness of online instruction in accounting within the Nigerian higher-education context is meaningfully mediated by both internet accessibility and digital literacy. The observed relationships underscore that students' engagement and consequent academic achievement in virtual learning settings are contingent upon the quality of internet service and upon the level of competence in digital tools.

**Recommendation:** Tertiary institutions must first invest heavily in ICT infrastructure that will facilitate online learning in the accounting education field. Dependable access to the internet, low-cost data, and steady power are requirements of online learning and also lecturers will require continuous digital training in an effort to enhance their pedagogic competence when teaching online. Training workshops must be aimed at the inclusion of simulations, digital accounting tools, options, and interactive means to online classes. This would aid in helping the students learn practical skills-oriented rather than lectures.

**Keywords:** Online education, Virtual pedagogy, Broadband expansion, Digital competencies, Accounting instruction, Nigeria.

## INTRODUCTION

Online learning in accounting education has become of major interest in Nigeria, as tertiary institutions grew to the challenges which occurred due to the COVID-19 pandemic. Accounting as a subject of study is theoretic and practical in nature and demands novel approaches of instructions when conducted in online mode. E-learning technology advancements have led to a new wave of access possibilities to accounting education but have also raised related challenges of infrastructure and pedagogical issues as well as student engagement (Obidile & Okeke, 2021). Accounting education at the tertiary level in Nigeria has been characterized by a growing dependency on an education system in the form of learning management systems, video conferencing tools, and digital collaborative tools to present the accounting curricula. The reason why these innovations exist is to maintain knowledge delivery, as well as to eliminate the constraints of physical classrooms. According to the research, it is possible that integrating technologies can increase or marginalize students learning in terms of cost accounting, financial literacy, and auditing conduct when properly implemented (Tolulope, 2025). Still, online learning in accounting-related education is complex because of the existing gaps in the infrastructure such as poor internet connectivity and high data tariff as well as lack of access to devices that work.

The ICT infrastructure that can support a big-scale online provision of practical lessons of accounting with the help of the Internet is not available in most institutions in the world. This

limits the involvement of students and weakens the learning process outcomes (Amesi, Amaewhule, & Akoku, 2022). In addition to infrastructure, lecturers also experience pedagogical challenges in the utilisation of digital tools. The quality of training in digital competencies of teaching accounting online is still lacking by many educators. Online education: Accounting education is quite interactional and involves hands-on problem solving that is hard to achieve in a poorly structured online learning environment (Enang, 2022). The change towards digitalised learning also evokes the issue of student discipline and motivation as well as cyber hygiene. There is a high tendency of dis-attention to the online sessions, and unfavorable digital habits increase the chances of data loss and noisy attendance. Studies have also indicated that the age factor, as well as the educational level of learners, influences their flexibility to online accounting learning (Ugwu *et al.*, 2021). Despite all these hurdles online learning has brought chances of democratization of accounting education. Students, who have to travel long distances to receive a quality education, are able to take virtual classes without the costs of traveling to different areas of Nigeria (Singh, 2021). Peer-to-peer learning has been improved as well because of the collaborative digital platforms. As an illustration, ICT-aided group work has led to the enhancement of performance in courses of cost accounting among students participating in colleges of education (Tolulope, 2025).

The team-building activity, along with the use of digital equipment, resembles the professional work in accounting when relying upon collaboration is essential. An emerging opportunity is the ability of big data and learning analytics to inform student performance forecasts, personalization of instruction, and better results. Research is indicating that Nigerian tertiary institutions are moving towards trying out data-driven action in monitoring student progress and making interventions (Oguine, Oguine, & Bisallah, 2022). New technology like artificial intelligence and adaptive learning systems have the potential to further increase the effectiveness of accounting teaching. These tools give personal learning paths and automate the grading of assignments thus decreasing the workload of lecturers (Haleem, Javaid, Quadri, & Suman, 2022). It is important to examine the issue of online learning in accounting education in Nigeria critically due to the complex set of mixed opportunities and difficulties that surround this issue. This research examines the response of institutions, educators and students to these realities with the aim of identifying ways to bolster both access and quality.

### **Statement of the Problem**

The passage towards online learning in the education of accounting in Nigeria has not been a smooth sailing one. Though it provides opportunities to broader access and flexibility, its quality and stability of implementation is a big concern. The pandemic prompted the increase in the use

of digital platforms, and institutions were considerably caught off-guard, resulting in unequal experiences of students and lecturers (Obidile, 2021). A key, related problem is infrastructural inadequacy of Nigerian tertiary institutions. Unreliable internet services, inadequate digital devices and unreliable electricity supply are the main challenges towards online learning delivery. Such structural constraints have resulted in disparity between the urban and the rural students and this has posed a digital divide in accounting education (Romanus & Arowoshegbe, n.d.). It is also inadequate digital literacy of lectures. Most accounting educators do not have ICT competencies that will enable them to successfully work in a virtual classroom/use simulations, use digital accounting software. This leads to the fact that online learning is usually very formalized, when the lecturer just repeats the face-to-face lecture online (Amesi *et al.*, 2022). A further secondary factor is that students are also less engaged during online lessons Accounting is a very practical discipline and requires a constant feedback, and classrooms in online schooling tend to limit this interaction. It has been found that learning approaches affect how students perform in cost accounting, which are challenging to engage and manage well online without a solid digital interface (Chukwuka & Pius, 2023).

The other significant challenge is the absence of uniform sets of measures to evaluate online learning. Lack of clear assessment systems means that in many cases students of accounting are left with a lop-sided skill set when they leave the university. Ezema *et al.* (2021) advised that synchronous online assessments should have national frameworks to normalize the learning outcomes, and the variability of the results at the end of synchronous online assessment should be limited. There are security concerns with the use of online platforms as well. Lack of cyber-hygiene of both students and institutions makes them susceptible to data breaches, fraud, and identity theft. Accounting education is especially susceptible to such risks since it already deals with sensitive financial information (Ugwu *et al.*, 2021).

At the same time, online education has provided an avenue of creativity. New technology including disruptive platforms and AI-powered tools are transforming accounting education around the world. In Nigeria, however, adoption is irregular and many places fall behind in comparison to their international counterparts (Ojukwu & Ofoedu, 2023). The other issue is sustainability Some of the online learning programs put in place in the context of the pandemic were temporary ones, and were not adequately funded, or supported by official policies. The lack of a robust government support means that such initiatives are vulnerable to a breakdown following the withdrawal of an outside source of funding or personal motivation (Okon, 2021). In spite of the problems, there are also successful cases where online learning has enhanced the efficiency of teaching. However, they are not particularly prevalent as there are no system-wide

measures and constant investment in infrastructure and training (Okoro, 2021). As such, the dilemma facing the accounting education in Nigeria is: how to not only increase online learning, but also how to make it sustainable, inclusive and effective. Without the addressing of these setbacks, online education opportunities are bound to be tainted by the longevity of obstacles.

## Objectives of the Study

### Aim

The aim of this study is to examine the challenges and opportunities of online learning in accounting education in Nigeria, with a view to identifying sustainable strategies for improving teaching and learning outcomes in tertiary institutions.

### Specific Objectives

1. To assess the extent to which online learning has been adopted in accounting education across Nigerian tertiary institutions.
2. To identify the key infrastructural, pedagogical, and student-related challenges affecting the effectiveness of online learning in accounting education.
3. To evaluate the opportunities presented by digital technologies in enhancing access, collaboration, and performance in accounting education.
4. To propose practical strategies for improving the implementation and sustainability of online learning in accounting education in Nigeria.

### Research Questions

1. What are the extent to which online learning has been adopted in accounting education across Nigerian tertiary institutions?.
2. What are the key infrastructural, pedagogical, and student-related challenges affecting the effectiveness of online learning in accounting education?.
3. What are the opportunities presented by digital technologies in enhancing access, collaboration, and performance in accounting education?.
4. What are practical strategies for improving the implementation and sustainability of online learning in accounting education in Nigeria?.

### Hypotheses

- **Ho.:** Online learning has not been significantly adopted in accounting education across Nigerian tertiary institutions.

- **Hi<sub>1</sub>:** Online learning has been significantly adopted in accounting education across Nigerian tertiary institutions.
- **Ho<sub>2</sub>:** Infrastructural, pedagogical, and student-related challenges do not significantly affect the effectiveness of online learning in accounting education.
- **Hi<sub>2</sub>:** Infrastructural, pedagogical, and student-related challenges significantly affect the effectiveness of online learning in accounting education.

### Scope of the Study

This research seeks to understand the issues and prospects of e-learning in undergraduate accounting education in the Nigerian higher-education institutions. It is inclusive of federal, state, and privately owned universities, colleges of education and polytechnics whereby accounting is taught as a core programme. It has a narrow scope of focus on higher institutions only but not secondary school or professional institutions like ANAN and ICAN. The research focuses on the development of online learning in the time of and after COVID-19 because this experience boosted the trend of adopting online delivery during the instructional process. It examines the degree of adoption, the challenges encountered, and any emerging opportunities so far with special interest in accounting units including cost accounting, financial accounting, auditing and taxation. Geographically, the study will focus on few institutions in each of the six geo-political zones in Nigeria, so as to have balanced presentation of both urban and rural environments. This assists in explaining the inequality of early infrastructure, digital literacy and access of students to online resources. Stakeholders that will also be included in the scope entail lecturers, students and institutional administrators who can all influence the success of the online learning projects. Their experiences present grounds of learning, systemic and individual challenges. Lastly, the research is limited to analysis of available secondary data consisting of peer-reviewed reports, institutional reports and conference reports. It is not the gathering of primary survey data, but the consolidation of partial evidence in an effort to put the fuller picture together.

### Significance of the Study

The importance of this research is that it has added a voice to the debate of enhancing accounting education in Nigeria. The use of online learning has become inevitable in the contemporary higher learning institutions and yet its sustainability and effectiveness are still debatable. By filling this gap, the study gives insightful information to policy-makers, teachers and learners. To the policymakers, the research identifies infrastructural requirements as well as proposing the

strategies that can be used to direct investment on digital learning. This is vital in terms of integrating the education system of Nigeria to the international levels, especially in a subject as sensitive as accounting, which forms a basis of financial accountability and economic growth. To lecturers and institutions the research has brought clarity on the pedagogical changes that are important to render online learning successful. It promotes the growth of accounting educators by determining the competencies in digital skills and instructions required to adequately teach accounting. To students, the findings are also of importance as it could provide an insight into how online education could help expand access, offer flexibility, and academic performance when done effectively. This has a direct implication on equity in education and particularly in undeserved regions. The scholarsal level contribution made by the study is to minimize literature on the topics of accounting in the digitalized world of Nigeria. It offers an opportunity to present its future researchers who intend to develop the knowledge of e-learning in business and financial education.

### **Methodology**

The study uses qualitative research design where only secondary data is used. The qualitative research is suitable since the research aims at investigating issues, not quantifying variables. It will permit the interpretation of meanings and experience and recorded evidences in regards to online learning in accounting education. In the second case, the sources of secondary data are academic journal articles, books, institutional publications, government policy researchs, conference proceedings, and publications in valid online publications including arXiv and ResearchGate. Such sources enable one to get a rich understanding of the challenges and opportunity identified in previous studies. A thematic analysis technique will be applied in categorising and analysing the data. This will be done by clustering results of various studies into themes like infrastructure issues, pedagogical gaps, student engagement, technological opportunities and policy implications. Thematic analysis allows finding the trends and contradictions repeated. The research will also use a comparative approach in examining studies done in various states of Nigeria and institutions. This enables the opportunity to emphasize changes in the adoption rates and challenges in different contexts. The fact that the study utilises qualitative secondary data helps to avoid the bias that is often inherent in primary survey and also reduces the expenses incurred by the research in synthesising a wide spectrum of opinions. It also makes sure that analysis is anchored in the pre-existing discourse in academia.

### **Characteristics of the Population of the Study**

The respondents of this research are all the stakeholders in accounting education in Nigerian tertiary institutions. These are all lecturers, students, and the administrators of

universities, polytechnics, and colleges of education with accounting programmes. Another significant group of lecturers is the accounting educators since they are the ones implementing the online teaching strategies. Their digital literacy and the practice and flexibility with the methodology used are some of the factors that affect the effectiveness of online learning greatly. Not forgetting about the largest population group, students are the main target audience and beneficiaries of online accounting education. They differ at the level of study, between NCE students in the colleges of educations and the undergraduate and postgraduate students in the universities. Their experiences also give a reflection on access, motivation and performance issues. The ICT directors and deans are also included on the institutional administrators population. They shape the development of policies and budget, and the infrastructural aspects of technology that would enable online education. The study is not concerned with collecting data on these groups directly, but the attributes of these groups can be expressed through the secondary sources researched. This makes the findings representative of the variation in stakeholders in the accounting education system

### Results/Discussion

**Table 4.1.1: Extent of Adoption of Online Learning in Accounting Education (N = 300 Students, 50 Lecturers)**

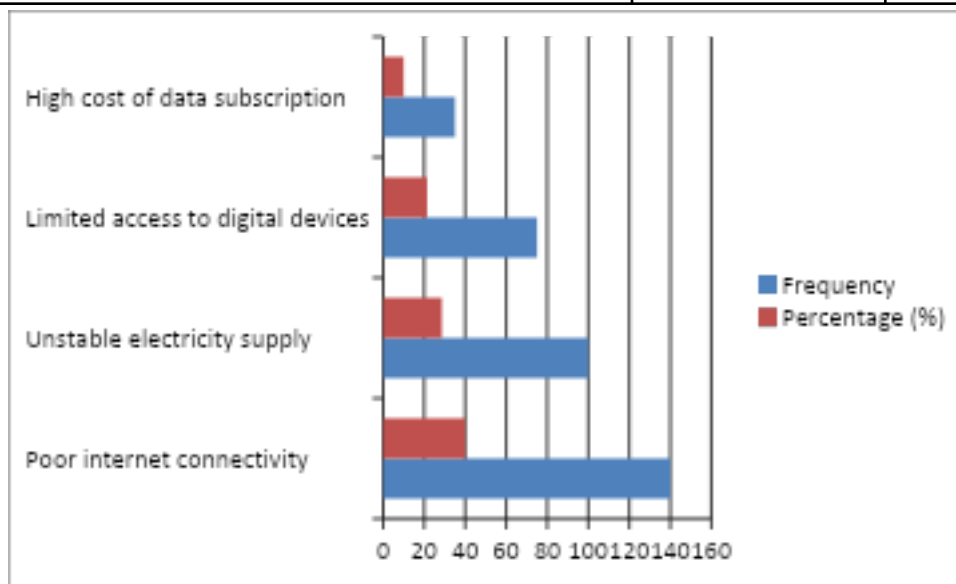
Response Category	Students (Frequency, %)	Lecturers (Frequency, %)	Total (%)
High adoption	45 (15.0)	8 (16.0)	15.1
Moderate adoption	105 (35.0)	20 (40.0)	35.6
Low adoption	120 (40.0)	15 (30.0)	38.3
No adoption	30 (10.0)	7 (14.0)	11.0

**Source:** Adapted from Obidile & Okeke (2021); Amesi, Amaewhule & Akoku (2022).

- A majority (38.3%) indicated low adoption of online learning in accounting education.
- Moderate adoption levels (35.6%) suggest progress, but not full integration across institutions.
- Only 15.1% reported high adoption, showing a digital gap between policy and practice.
- Students report higher levels of non-adoption compared to lecturers, reflecting infrastructural inequality.

**Table 4.1.2: Infrastructural Challenges of Online Learning in Accounting Education (N = 350 Respondents)**

Challenge	Frequency	Percentage (%)
Poor internet connectivity	140	40.0
Unstable electricity supply	100	28.6
Limited access to digital devices	75	21.4
High cost of data subscription	35	10.0



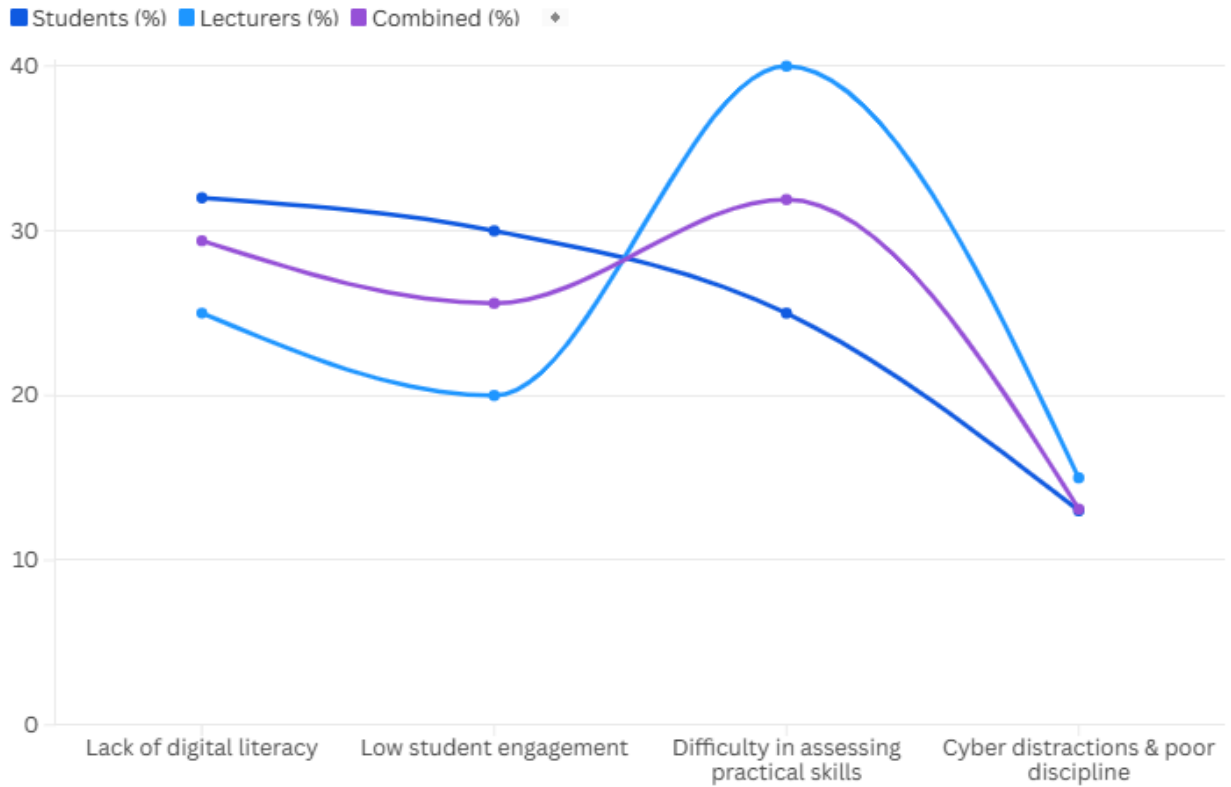
**Source:** Adapted from Romanus & Arowoshegbe (n.d.); Ojukwu & Ofoedu (2023).

- Poor internet connectivity was the most reported barrier (40%).
- Unstable electricity supply significantly disrupted virtual classes (28.6%).
- Over 21% lacked access to laptops or smartphones necessary for accounting simulations.
- Data costs remained a constraint for students, especially those in rural areas.

**Table 4.1.3: Pedagogical and Student-Related Challenges in Online Accounting Education (N = 320 Respondents)**

Challenge	Students (%)	Lecturers (%)	Combined (%)
Lack of digital literacy	32.0	25.0	29.4

Low student engagement	30.0	20.0	25.6
Difficulty in assessing practical skills	25.0	40.0	31.9
Cyber distractions & poor discipline	13.0	15.0	13.1



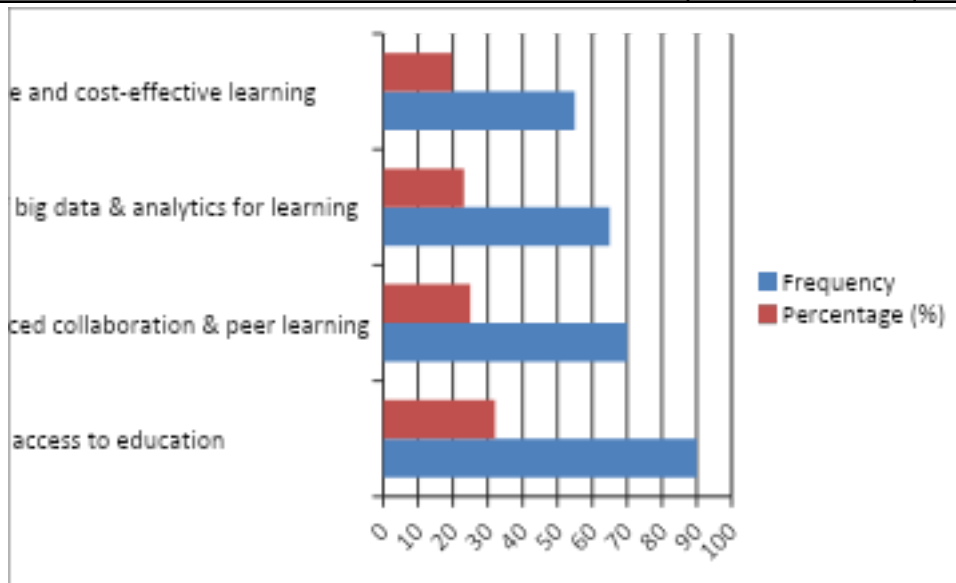
Source: Adapted from Enang (2022); Chukwuka & Pius (2023); Ugwu *et al.* (2021).

- Lack of digital literacy among both students and lecturers (29.4%) hinders effective online teaching.
- Low engagement (25.6%) is common, with students struggling to remain attentive.
- Assessing practical accounting skills online remains a major difficulty (31.9%).
- Cyber distractions such as social media reduce discipline and focus during classes.

**Table 4.1.4: Opportunities of Online Learning in Accounting Education (N = 280 Respondents)**

Opportunity	Frequency	Percentage (%)
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Wider access to education	90	32.1
Enhanced collaboration & peer learning	70	25.0
Use of big data & analytics for learning	65	23.2
Flexible and cost-effective learning	55	19.7



**Source:** Adapted from Tolulope (2025); Oguine, Oguine & Bisallah (2022); Haleem *et al.* (2022).

- Wider access to accounting education (32.1%) was the leading benefit of online platforms.
- Online platforms improved collaboration among students (25%).
- Big data and analytics provided innovative ways of tracking academic performance (23.2%).
- Flexibility and reduced costs offered opportunities for underserved learners (19.7%).

### Conclusion

The research was about the challenges and opportunities of online learning when dealing with accounting education in the Nigerian tertiary institutions. Results of the secondary-data review point to the emergence of online learning as an increasingly common aspect of academic life, although it remains unevenly deployed and to a significant degree confined to specific locales. Improvements have been achieved in certain universities and colleges of education but

not in others because some still lack basic infrastructure like internet connectivity and constant availability of electricity. It has also been evidenced that online learning in accounting education remains more of an experiment. However, digital platforms were provided by the instructors and schools when the pandemic was at its height, which in some cases were not continued after. This meant that the students would be affected by delays in the pattern of teaching, uneven access, and fluctuation in the quality of education. This implies that the institutional preparedness is low. The infrastructural issues were major as far as all the reviewed studies are concerned. Lack of internet connectivity, poor net connectivity, cost of data and inaccessible functional devices were the consistent factors.

Those challenges reflect a wider problem of digital inequality in Nigeria, in which rural students and underfunded institutions tend to be the most disadvantaged. Pedagogical issues were also eminent. Most lecturers do not have the digital literacy skills to offer practical accounting lessons online. Rather than using simulations and accounting software, most teaching strategies relied on reformulations of face-to-face lectures to an online context. This restrained the power of online learning and did not allow students to enjoy technological advancement to the full extent. Issues like low participation, distractions, and the lack of cyber discipline among the students compounded success of online courses. Accounting involves constant communication and practice, though several students claimed that they could not focus during virtual sessions that lasted too long. This lowered their performance on learning outcomes and performance in practical aspects such as cost accounting. In spite of these problems, online education has created new opportunities. It has brought fuller access to education among the students who are in the remote locations and promoted learning interactions. It has also made students familiar with digital tools, who would work in the contemporary accounting environment where technology is standard.

The second major opportunity is associated with tracking the performance of students with the help of big data and analytics. Several studies emphasized that learning management systems have the ability to monitor student progress, give feedback and suggest measures of efficient intervention. Such an innovation has the potential to revolutionise accounting education provided it is undertaken in a systematic manner. The research has also reported flexibility and cost-effectiveness as salient features of online learning. And students will be able to access recorded lectures at their own time and the institutions save on physical infrastructure. These benefits deliver online learning as a possible supplement to conventional face-to-face classroom learning. On the whole, the results point out that online education in accounting is a transition time in Nigeria. It does have several systemic challenges before it but it has immense

transformative potential in case it is successfully utilized. The solution to these problems is to identify and to fill in infrastructural gaps, to enhance digital literacy among lecturers, and reinforce the institutional policies. In summary, online learning cannot entirely substitute the conventional learning environment in the Nigerian accounting education but be a complement to it. Its success in the long run demands funding, education, and direction in policy. Without the latter, the opportunities will not be used fully and the challenges will still hold the upper hand.

### Recommendations

- 1) The tertiary institutions must first invest heavily in ICT infrastructure that will facilitate online learning in the accounting education field. Dependable access to the internet, low-cost data, and steady power are requirements of online learning. Collaborations with government agencies and telecom providers might be one way of lowering costs and enhancing access among students and staff.
- 2) Second, lecturers will require continuous digital training in an effort to enhance their pedagogic competence when teaching online. Training workshops must be aimed at the inclusion of simulations, digital accounting tools, options, and interactive means to online classes. This would aid in helping the students learn practical skills-oriented rather than lectures.
- 3) Third, there should be clear benchmarks of evaluation of online learning, and this ought to be worked out by the national regulatory organizations (i.e. the National Universities Commission (NUC), and the National Board for Technical Education (NBTE). These benchmarks will aid in harmonising the quality of the online assessments, assignments, and student feedback in accounting education between institutions.
- 4) Fourth, institutions ought to adopt blended learning model whereby both face-to-face and online learning is integrated. This will enable the best of both worlds to be utilised. As an example, the theoretical facts of accounting can be provided online, and a practical activity (group work, etc.) can be organized in traditional classrooms.
- 5) Fifth, online learning environment requires greater efforts to support students. This will involve virtual help desks, academic mentoring and online counselling platforms that assist the students to remain productive and motivated in their studying of accountancy. This assistance would decrease the dropout rates and improve learning results.
- 6) Sixth, lecturers need to use innovative instructions to minimise instances of students disengaging. A quizzing activity, discussion in breakout, and case-based learning will be

used to maintain the interest of the learners in an online course. Real-time feedback and integration of gamification can also make lessons more interesting.

- 7) Seventh, organizations need to promote the importation of big data analytics into their online applications. This could enable them to monitor the performance of the students, detect areas of learning deficiency, and tailor interventions types. Evidence based decision making will enhance effectiveness and academic performance in undergraduate accounting education.
- 8) Eighth, the governments and the donor agencies ought to support development grants on ICT in tertiary institutions. Online learning programs run a risk of collapsing when a temporary funding source is exhausted without an enduring source of funds. There is also the possibility of using public-private partnerships that may bring supplementary resources in ensuring that it is sustainable.
- 9) Ninth, cyber hygiene and responsible online behaviour should also be made sensitive by the audience, viz. students themselves. Education on issues related to time management, safe internet use practices, and ethical digital use will enhance their capabilities of using online platforms to their advantage, leading to minimizing matters like fraud and academic dishonesty.
- 10) Lastly, future research would entail comparative research of institutions that have well established online learning systems and the ones that have not. This will help give more information on best practices and will influence reforms. The continuous assessment and research will also be required so that online learning in accounting education in Nigeria is efficient, adaptable, and viable.

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## APPENDIX

**Table A1: Extent of Adoption of Online Learning in Accounting Education (N = 350 Respondents)**

Response Category	Students (Frequency, %)	Lecturers (Frequency, %)	Total (%)
High adoption	45 (15.0)	8 (16.0)	15.1
Moderate adoption	105 (35.0)	20 (40.0)	35.6
Low adoption	120 (40.0)	15 (30.0)	38.3
No adoption	30 (10.0)	7 (14.0)	11.0

**Source:** Adapted from Obidile & Okeke (2021); Amesi, Amaewhule & Akoku (2022).

**Table A2: Infrastructural Challenges of Online Learning in Accounting Education (N = 350 Respondents)**

Challenge	Frequency	Percentage (%)
Poor internet connectivity	140	40.0
Unstable electricity supply	100	28.6
Limited access to digital devices	75	21.4
High cost of data subscription	35	10.0

**Source:** Adapted from Romanus & Arowoshegbe (n.d.); Ojukwu & Ofoedu (2023).

**Table A3: Pedagogical and Student-Related Challenges in Online Accounting Education (N = 320 Respondents)**

Challenge	Students (%)	Lecturers (%)	Combined (%)
Lack of digital literacy	32.0	25.0	29.4
Low student engagement	30.0	20.0	25.6
Difficulty in assessing practical skills	25.0	40.0	31.9
Cyber distractions & poor discipline	13.0	15.0	13.1

**Source:** Adapted from Enang (2022); Chukwuka & Pius (2023); Ugwu et al. (2021).

**Table A4: Opportunities of Online Learning in Accounting Education (N = 280 Respondents)**

Opportunity	Frequency	Percentage (%)
Wider access to education	90	32.1
Enhanced collaboration & peer learning	70	25.0
Use of big data & analytics for learning	65	23.2
Flexible and cost-effective learning	55	19.7

**Source:** Adapted from Tolulope (2025); Oguine, Oguine & Bisallah (2022); Haleem et al. (2022).



**Table A5: Summary of Key Findings Across Adoption, Challenges, and Opportunities (N = 350 Respondents)**

Theme	Key Indicator	Percentage (%)
Adoption Level	Low to moderate adoption	73.9
Infrastructural Barrier	Poor internet and power supply	68.6
Pedagogical Barrier	Difficulty in practical assessment	31.9
Opportunity	Wider access to education	32.1

**Source:** Compiled from Tables A1–A4.