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EDUCATION STUDENTS IN TERTIARY INSTITUTIONS IN EPE, LAGOS STATE

¹Philomena C. N. OKOYE *PhD*

²Taiwo A. OMOMIA *PhD*

&

³Ada C. NWAGWU *PhD*

Pcn.okoye@gmail.com (*Correspondence author*)

^{1, 2, 3} *Department of Educational Foundations, School of Technical Education.
Yaba College of Technology in affiliation with
University of Nigeria Nsukka.*

Abstract

In this study, students studying business education at tertiary institutions in Epe, Lagos State, had their academic success predicted by digitalization. The design of the survey was cross-sectional. Using Yamane's (1967) formula, a sample of 333 respondents was chosen via proportionate stratified random sampling from the population of 2,000 students. A standardized questionnaire measuring the integration of digital tools, frequency of digital usage, digital competence, internet accessibility, and academic performance was used to gather data. Cronbach's alpha coefficients showed satisfactory reliability, ranging from 0.74 to 0.87. Multiple linear regression and descriptive statistics were used to evaluate the data at a significance level of 0.05. The results showed that a considerable percentage of the variance in academic achievement was explained by the combination of digitization variables ($R^2 = 0.61$, $p < .05$). The best predictor was found to be digital competency. The report suggests that business education curriculum incorporate structured digital literacy.

Keywords: Digitization, academic performance, business education, Counselling.

Introduction

Digital technology's explosive growth has changed how education is delivered in post secondary institutions around the world. Digitization has changed student participation, instructional strategies, and evaluation procedures in business education. Academic settings are progressively incorporating tools like online assessment platforms, digital collaboration platforms, virtual classrooms, and learning management systems. The degree to which digitization results in quantifiable gains in academic achievement is still up for debate, notwithstanding these developments. In Nigeria, advancements in learning outcomes have not always kept pace with the growth of digital infrastructure. There are still differences in organized use, educational

integration, and digital competency. The majority of current research concentrates on either

digital literacy or technology adoption separately, with little empirical attention paid to their combined predictive impact on business education students' academic performance.

Nigeria is rapidly turning digital, just like many other African countries, as technology is becoming an essential part of contemporary education as a result of the growing use of digital technologies in educational institutions, which is progressively changing traditional teaching and learning methods (Ololube, 2016). However, Nigeria faces peculiar problems that stand in the way of technological growth in its learning environments, compared to wealthier nations where educational digitization is more highly integrated. According to Ogundile and Ayeni (2022), these difficulties include disparity in access to digital infrastructure, poor internet connectivity, and a lack of technological competence among teachers and pupils. These obstacles cause educational technology to be implemented unequally, which lowers the quality and inclusivity of the digital learning opportunities that students have access to.

A considerable digital gap exists between Nigerian urban and rural schools, according to a study by Alabi and Onyenanu (2021). Rural students still face challenges due to insufficient infrastructure, while students in urban areas have more access to digital resources. This difference highlights how prompt actions are needed to close the digital gap, especially given the modern workforce's increasing requirement for technology proficiency (Ekong & Ekong, 2020).

Information technology was first primarily concerned with computer-based applications, but it has now broadened to encompass a variety of digital tools, including interactive multimedia platforms, online learning management systems, and mobile computing devices. These developments improve the administration of educational data as well as the distribution of information (Chinedu-Eze & Bello, 2018). In order to encourage student participation and cultivate critical thinking abilities, Nigerian educators are consequently incorporating digital tools into their lesson plans more frequently (Adeoye & Tomei, 2014).

Students can use a variety of digital tools and applications to learn as long as they have access to a computer and the internet. Lectures enhanced with multimedia like music and movies incorporated into podcasts are increasingly being recorded and made accessible for download so that students can examine the material whenever it's convenient for them. Multimedia Simulations of Learning Practices have shown promise in addressing the problem of teacher isolation (Ratheeswari, 2018). With the help of these tools, teachers can present lessons in an interactive way. For instance, students can use their fingers to access content on an interactive whiteboard. Teachers only need to tap symbols on the screen to start video segments that break down difficult ideas.

Another important factor in language learning is information and communication technology, or ICT. It aids in the growth of auditory language abilities, especially those related to pronunciation issues that non-native speakers frequently encounter. Furthermore, by translating

speech into readable text, transcription systems help deaf student's better follow and understand

lectures.

Digitization has enhanced institutional accountability and transparency beyond teaching, especially in financial management. Innovative learning environments like virtual universities, smart universities, digital universities, e-universities, agile universities, and the more general idea of University 4.0 have been sparked by the development of digital education. The COVID-19 pandemic, for example, impacted more than 287 million primary school students in India.

Nonetheless, during the 2019–2020 and succeeding semesters, online teaching and learning resources preserved academic continuity (Marta, Coscelluela, & Vazquez, 2021).

It supports the development of auditory language skills, particularly those pertaining to pronunciation problems that non-native speakers commonly face. Additionally, transcription devices assist deaf students in following and comprehending lectures by converting spoken words into legible text. Beyond education, digitization has improved institutional accountability and transparency, particularly in the area of financial administration. The growth of digital education has spurred the creation of innovative learning environments such as virtual universities, smart universities, digital universities, e-universities, agile universities, and the broader concept of University 4.0. For instance, the COVID-19 pandemic affected over 287 million Indian primary school pupils. However, online teaching and learning materials maintained academic continuity throughout the 2019–2020 and subsequent semesters (Marta, Coscelluela, & Vazquez, 2021).

One of the biggest obstacles to the digitization of higher education is still data security. Even though a lot of study has been done on the use of digital technologies in education, the majority of these studies concentrate on industrialized nations since they have better institutional resources and access to technology. Research on the effects of digitization in Nigeria, however, is still in its infancy. Nonetheless, research indicates that by creating adaptable, dynamic learning environments, digital tools can greatly improve students' educational experiences (UNESCO, 2021). Technology, for example, makes it possible to implement hybrid learning models that accommodate different learning preferences, increase accessibility, and improve students' digital literacy, which is becoming a more and more important ability in the modern workforce (Agbatogun, 2020).

This study examined the impact of technological change on the academic performance of Business Education students in Epe Local Government while taking these contextual factors into account. The study wanted to demonstrate the benefits and difficulties brought about by digitalization in Nigeria's educational system by extensively examining the impact of digital innovation on student results. In the end, the study offers recommendations based on data to guide future strategies for the successful incorporation of technology in educational settings.

The Paradigm of Educational Digitization:

The deliberate incorporation of cutting-edge technology systems, like interactive software, web-based learning platforms, and extensive digital repositories into pedagogical, instructional,

and administrative procedures is known as educational digitization. By utilizing contemporary

technological advancements to improve instructional delivery and overall educational outcomes, this revolutionary movement reinterprets traditional educational methods. In order to create deeply engaging and participatory learning environment that actively involves students and provides novel access to vast amounts of knowledge, it goes beyond the mere use of digital tools (OECD, 2015).

Academic Performance in the Business Education Context

Assessment, scores and more general learning objectives are some examples of the quantitative data that are commonly used to assess academic performance. However, scholarly excellence in business education goes beyond theoretical knowledge. It displays the capacity to use managerial and commercial ideas in practical work settings. This discipline entails a broad range of capabilities, from the development of practical skills in strategic decision-making, problem-solving and critical analysis in corporate settings to the proficiency of basic subjects like financial accounting, organizational management, marketing and economics.

In business education, both quantitative and qualitative methods are used to evaluate student performance. Cumulative grade point averages (CGPAs), scores on systematic tests, and performance on assignments as well as tests are examples of quantitative methods that evaluate students' understanding of fundamental business ideas and capacity for analytical reasoning (OECD, 2015). However, qualitative assessment techniques like case studies, project-based assignments, business simulations, and oral presentations provide more in-depth understanding of students' ability to integrate knowledge and apply it to real-world, contextualized situations (Gikas & Grant, 2013).

Influencing Factors on Academic Performance in Business Education

Student performance in business education is influenced by a number of factors. Educational approach is one of the most important of these and it is becoming more widely acknowledged that creative teaching methods, such as distance learning and participatory training models, can increase student engagement and encourage a better understanding of difficult business topics. These methods promote collaborative learning and active engagement, which leads to more fulfilling educational experiences and better academic results (Voogt & Knezek, 2008).

Another important factor is the availability of resources. Academic performance and innovation are promoted by having access to modern teaching resources, innovative technology, and well-equipped classrooms. The extent to which technology is incorporated into the curriculum is especially key in the current digital learning environment. In addition to improving personalization and interaction, digital technologies give instant feedback, which helps students spot and close learning gaps fast. Because digital technologies facilitate both theoretical comprehension and real-world application in business education, institutions that properly incorporate them typically report higher levels of academic performance (OECD, 2015).

In addition, the educational environment is greatly shaped by the intense discourses of

teaching methods, resource availability, and technological incorporation, which can either help or hurt students' academic performance. For example, although online tools and digital platforms have the potential to transform education, their efficacy is mostly dependent on how digitally literate teachers and students are. The full potential of these technologies might remain suppressed in the absence of proper training and institutional support, which would lead to digital inequalities and unequal learning outcomes (Gikas & Grant, 2013).

Integration of Digital Tools in Business Education

The objective of the unique academic subject of business education is to give students the conceptual framework and real-life skills they need to succeed in a variety of business-related fields, such as marketing, finance, management, and entrepreneurship. Being a multidisciplinary field, it incorporates basic topics like economics, management, marketing, and accounting while placing a strong emphasis on practical application through participatory training methods that mirror current business issues.

The incorporation of digital tools into business education has become a crucial component of present-day syllabus in response to the swift digitization of the global corporate environment. It is becoming more and more important for academic programs to prepare students for the technical needs of the changing workplace as digital transformation continues to redefine organizational operations.

Computerized marketing apps, virtual business simulations, data analytics tools, and online learning platforms are now compulsory components of educational methods.

In addition to facilitating individualized and interactive learning, these tools help students acquire the critical digital skills needed in the data-driven, tech-driven business world of today (Ifenthaler & Yau, 2020). In order to give students real experience with tools that are often used in the field, digital marketing courses, for example, frequently incorporate exercises in social media analytics, search engine optimization (SEO), and digital advertising. The strategic importance of digital media in contemporary marketing and communication is further supported by this real-life experience.

Similarly, using business simulation software gives students the chance to practice making decisions in a safe, virtual environment. By letting students examine market dynamics, test business plans, and see the results of their choices in real time, these simulations help close the gap between academic understanding and real-life application. Business education programs are better equipped to produce graduates who are not just mentally strong but also technologically proficient and prepared for the workforce thanks to these deeply engaging learning resources.

Concept of Digitization in Education

The deliberate incorporation of digital technologies such as interactive software, virtual

simulations, online learning platforms, and digital resources into teaching, learning, and

administrative procedures is known as "digitization" in education. By creating dynamic, adaptable, and customized learning environments, this shift redefines the educational experience and goes beyond the simple digitization of content. Traditional instructional approaches are changing to prioritize learner involvement, real-time feedback, and increased accessibility as educational institutions around the world adopt new technologies (Selwyn, 2016).

Digitization has been demonstrated to greatly improve student learning experiences and academic results in the setting of business education. For example, Eebo and Umoru (2019) looked into how project-based learning affected the academic achievement of Business Education students in Principles of Accounting at South-West Nigerian universities. According to the study, students' comprehension and application of accounting principles were positively impacted by project-based learning strategies, which are frequently aided by digital resources for research, collaboration, and presentation. This promoted active learning.

The impact of e-learning technologies on undergraduate Business Education students at universities in Delta and Edo States was also investigated in a study referenced in Track2Training (2023). The results showed that efficient use of digital platforms and resources enhanced academic achievement because they encouraged self-paced learning and offered flexible access to a variety of educational materials.

Digital technology integration in business education is not without its difficulties, despite the possible advantages. Digital literacy, infrastructure, opposition to change, and context-specific barriers, especially those that impact urban regions like Epe, are the four basic categories into which these challenges typically fall.

The high expense of purchasing, maintaining, and updating digital technology, erratic power supply, and a lack of technical support are some of the difficulties. Urban institutions may have greater access to modern digital gadgets and high-speed internet, but these benefits are frequently dimmed by financial limitations and the rapid advancement of technology, which necessitates ongoing investment (Beetham, 2013).

One major obstacle to digital adoption is still resistance, especially from teachers who are more accustomed to traditional teaching methods. The adoption of digital advances may be delayed by this opposition, which is frequently worsened by institutional inaction. The potential of digital tools to improve learning outcomes may be limited if they are eventually implemented without sufficient training and support, as both educators and students may find it difficult to use them successfully (Chigona, 2013).

Even though infrastructure in urban settings like Epe is typically more advanced than in rural ones, specific issues still exist and call for focused initiatives. The changing role of counsellors is one of such intervention. In order to support students not just academically but also emotionally and morally, counselling services must broaden their reach and embrace bold, tech-informed

practices as a result of the move toward digital learning environments. Students' academic

performance and general well-being can be greatly enhanced by the successful integration of counselling into digital education systems.

There are not many studies that explicitly look at tertiary institutions in Epe, Lagos State, where initiatives for digital transformation are growing in a semi-urban academic setting. In order to close this gap, this study looks at how digitization affects business education students' academic performance at Yabatech's Epe Campus and what it means for counselling practices. The study's contributions include the use of a predictive regression framework, the provision of empirical data unique to business education, and useful advice for curriculum developers and institutional managers. This study attempts to offer evidence-based suggestions for improving academic results through both technology integration and student support services by examining the advantages, drawbacks, and contextual difficulties related to digital learning.

The Technology Acceptance Model (TAM) and Digital Competence Theory serve as the study's pillars. Technology acceptance is determined by perceived utility and perceived ease of use, according to TAM. Technology adoption behaviours that impact academic results are reflected in the integration and frequency of use of digital technologies.

The theory of digital competency places emphasis on the abilities, know-how, and dispositions necessary for successful digital interaction. Technology access by itself does not ensure better performance; the educational benefits of using digital tools depend on one's ability to use them effectively. By taking into account both viewpoints, academic success is seen to be impacted by both user competency and digital integration, not only access.

Methodology

Research Design

The survey design used was cross-sectional, and both the population and the sample of 2,000 students from four academic levels studying business education made up the population. At a 5% precision level, 333 respondents were selected as the sample size using Yamane's (1967) formula. Since maximum = 4 and the Minimum = 1, the midpoint is:

$$\left[\frac{4 + 1}{2}\right] = 2.5$$

Decision Rule: Mean $\geq 2.50 \rightarrow$ High/Positive and Mean $< 2.50 \rightarrow$ Low/Negative

Reliability and Validity:

Business education specialists validated the tool. Cronbach's alpha coefficients showed satisfactory reliability, ranging from 0.74 to 0.87.

Analysis of Data:

The characteristics of the respondents were summed up by descriptive statistics. At a significance threshold of 0.05, the predictive impact of digitization variables on academic

performance was investigated using multiple linear regression. The following assumptions were

examined: multi-collinearity ($VIF < 5$), homoscedasticity, normalcy, and linearity.

Sampling Technique:

To guarantee representation across academic levels, proportionate stratified random sampling was employed. The respondents were chosen by simple random sampling within each strata.

Results

Table 1: *Demographic Characteristics of Respondents*

Proportionate Sample Allocation:

Academic Level	Population	Sample
Year I	500	83
Year II	550	92
Year III	480	80
Year IV	470	78
Total	2000	333

Instrumentation

A systematic questionnaire comprising four constructs, integration of digital tools, frequency of digital usage, digital competence, and internet accessibility, was used to gather data. Scale-based items were also used to measure academic performance. A four-point Likert scale, with Strongly Agree (4) and Strongly Disagree (1) as the extremes, was used to rate each item. In order to promote unambiguous answers and lessen central tendency bias, there was no neutral midway.

Research Questions/ Hypotheses:

To what extent does digital tools integration affect academic performance?

H₀₁: Digital tools integration has no significant effect on academic performance.

H₁₁: Digital tools integration has a significant effect on academic performance.

Does frequency of digital tool usage influence academic performance?

H₀₂: Frequency of digital tool usage does not significantly influence academic performance.

H₁₂: Frequency of digital tool usage significantly influences academic performance.

Does students' and lecturers' digital competence predict academic performance?

H₀₃: Students' digital competence does not significantly predict academic performance.

H₁₃: Students' digital competence significantly predicts academic performance.

Methodology

The study's sample size was established by applying the Yamane (1967) formula for finite

populations. With 2000 Business Education students in the population and a significance level of

0.05, 333 respondents made up the sample size. 360 copies of the questionnaire were sent out in order to accommodate for potential incomplete and non-response questions. This method guaranteed that every student had an equal chance of being included in the study, enhancing the representativeness of the findings. A self-structured questionnaire titled “Impact of Digitization on Business Education Students’ Academic Performance (IDBESAP)” was developed as the primary instrument for data collection. The questionnaire was designed to capture information on the variables of interest. The data obtained were analyzed using a combination of descriptive and inferential statistical methods. Descriptive statistics, including means and standard deviations, were used to summarize the responses and provide an overview of the data. The criterion mean of 2.50 served as the benchmark for decision-making. Mean scores above 2.50 were interpreted as high levels of agreement, while mean scores below 2.50 indicated low levels.

The average of item responses within each concept was used to calculate composite scores. The aggregation of several items approximates interval-level measurement, allowing parametric statistical techniques like multiple regression to be used even if Likert-scale replies are ordinal.

Presentation and Analysis of Data According to Research Questions.

able 2: *Descriptive Statistics for Digitalization Variables*

Variable	N	Mean (M)	SD	Cronbach’s α
Digital Tools Integration	333	3.78	0.62	0.81
Frequency of Digital Usage	333	3.65	0.71	0.76
Digital Competence	333	3.85	0.59	0.87
Internet Accessibility	333	3.40	0.82	0.74
Academic Performance	333	3.70	0.65	0.79

Table 3: *Multiple Linear Regression Predicting Academic Performance*

Predictor Variable	B	SE B	β	t	p	VIF
Constant	0.85	0.42	—	2.02	0.045	—
Digital Tools Integration	0.28	0.09	0.28	3.21	0.002	1.42
Frequency of Usage	0.14	0.07	0.15	2.10	0.037	1.35
Digital Competence	0.41	0.08	0.41	4.85	0.000	1.38
Internet Accessibility	0.08	0.07	0.09	1.20	0.230	1.32

Model Summary: $R = 0.78$, $R^2 = 0.61$, Adjusted $R^2 = 0.59$, $F(4, 328) = 128.47$, $p < 0.001$

Note: VIF values < 5 indicate no multicollinearity.

Discussion of Findings:

Digitization is a predictor of academic success. The greatest predictor was digital competence, emphasizing the value of skill development over merely having access to technology. While internet connectivity by itself could not predict results, the integration of digital tools and usage frequency also had a favorable impact on performance.

These results prove that when educational institutions bring technology into lessons or classes and set clear goals for what students should know, the students end up learning better. Training and the efficient use of technology in the classroom must be given top priority by educational institutions.

The results of the study, which included three main research questions, are as follows: according to research question1, to what extent are digital tools integrated into the Business Education curriculum of business education students of Yaba college of Technology students' Epe campus. The finding showed a moderate integration and this finding supports the framework of the Diffusion of Innovations Theory (Rogers, 2003), highlighting the progressive adoption of educational technologies. This finding was in line with the argument put by, Ifenthaler and Yau, 2020 that these technologies not only facilitate interactive and personalized learning experiences but also provide students with the technical competencies required in today's technology-driven business environment.

The secondary research inquiry examined the influence of technological innovations on the scholarly achievement of Business Education students at Yaba College of Technology, Epe Campus. The empirical evidence demonstrates that the academic accomplishments of Business Education students experienced substantial enhancement through the systematic incorporation of

digital instruments within their curricular framework. These outcomes align with the research

conducted by Eebo and Umoru (2019), whose investigations indicated that project-oriented pedagogical approaches—frequently employing technological resources for investigative research and academic presentations—generated favorable effects on students' scholastic performance. Their study established that such methodological frameworks foster participatory learning experiences while enhancing students' comprehension of fundamental accounting concepts.

Furthermore, these findings correspond with the research documented in Track2Training (2023), which explored the ramifications of electronic learning technologies on undergraduate business education students across universities in Delta and Edo States. The investigation determined that the strategic implementation of digital learning platforms and technological educational resources resulted in enhanced academic achievements, as these technological systems enabled adaptable learning modalities while providing comprehensive access to diverse educational materials and resources.

The third research question which was on challenges and strategies of digital integration and the study agreed that despite all the benefits that it was not without several challenges that can hinder academic performance. These challenges can be broadly categorized into issues related to digital literacy, infrastructure, resistance to change, and context-specific challenges unique to urban settings like Epe. Challenges include the high cost of maintaining and upgrading digital equipment, inconsistent power supply, and limited technical support. Although urban institutions may have access to high-speed internet and modern devices, these benefits can be offset by budgetary constraints and the rapid pace of technological change, which require continuous investment to keep systems up-to-date (Beetham, 2013).

Conclusion:

The study concludes that digitization, particularly digital competence and tool integration, enhances academic performance among Business Education students. Recommendations include:

1. Structured digital literacy training within Business Education curricula.
2. Continuous professional development for lecturers in digital pedagogy.
3. Curriculum redesign to embed digital tools into teaching and assessment.
4. Investment in technology aligned with learning objectives rather than infrastructure alone.

The digitization has a very strong effect on academic performance of Business education students' in Yaba college of Education Epe Campus, this has transformed the academic environment, creating both opportunities and challenges that affect student performance. Counselling plays a critical role in helping students navigate these changes effectively.

Limitations:

1. The fact that this study focused on only Epe, Lagos State, it makes it hard to say whether the same results would be found in other areas.
2. Since the data was collected all at once, it is hard to prove that one thing actually caused

another.

3. When students rate their own academic success, they may not always be fully honest, which could affect the results.
4. Only four digitization variables were looked at; other elements, like the caliber of instruction, were left out.

Future Research:

1. Extend research to national samples or several campuses.
2. To prove causation, use experimental or longitudinal designs.
3. Use CGPA, or objective performance measurements.
4. Look at other predictors including student involvement and the efficacy of instruction.
5. Examine the effects of digital skill or motivation on moderation or mediation.

Recommendations

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

1. It is necessary for institutions to provide reliable internet access, functional devices, and other essential digital tools to support learning. Lecturers should undergo regular training programs to improve their digital literacy and teaching with technology.
2. Schools should integrate digital activities like webinars and online tutorials into their lesson plans in a structured manner and efforts should be made to boost digital skills among both students and lecturers to close the competence gap.
3. Counsellor' must prepare students for a digital workforce, guiding them in developing digital competencies aligned with future careers. Institutions should set up dedicated support systems to help resolve technical issues quickly and effectively.

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