



MANAGING DIGITIZATION OF POST-PRIMARY EDUCATION FOR SUSTAINABLE DEVELOPMENT IN OGUN STATE, NIGERIA

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Abstract

The paper examines the managing digitization of post -primary education for sustainable development in Ogun State, Nigeria. The study adopted a descriptive survey research design. Population comprises all secondary school teachers in Ijebu North Local Government, Ogun state, Nigeria. The sample size for this study comprises often (10) secondary schools in which ten (10) teachers were randomly to make a total of one hundred (100) respondents for the study. A self-developed questionnaire was used as instrument for data collection. It was developed in closed-ended of Agree or Disagree. The instrument was moderated by experts who affirmed its validity. Reliability of the instrument was determined using Cronbach Alpha and the value of 0.54 was obtained which is reliable enough for this study. Data collected were analyzed using simple percentage, mean and standard deviation statistical tools. Findings revealed that digitization has the potential to enhance quality teaching and prepare students for future opportunities, its effective management remains a challenge due to infrastructural deficits such as poor internet connectivity, lack of adequate ICT facilities. It was therefore recommended that government should provide adequate funding and infrastructural support such as stable electricity, modern ICT facilities, and reliable internet connectivity to ensure effective digitization in post-primary schools.

Keywords: Development, Digitization, Managing, Post -primary, Sustainable

Introduction

The rapid growth of digital technologies in the 21st century has transformed education systems globally, reshaping how teaching and learning are organized, delivered, and managed. Digitalization refers to the process of integrating digital technologies into various aspects of social, economic, and institutional activities to enhance efficiency, accessibility, and innovation. In education, digitalization involves the transformation of teaching, learning, and administrative processes through the use of digital tools such as computers, mobile devices, e-learning platforms, artificial intelligence, and cloud-based systems (UNESCO, 2022). It is not limited to the adoption of ICT infrastructure but extends to the re-design of pedagogical practices, curriculum delivery, and school management to align with 21st-century learning goals (OECD, 2021). According to Gartner (2020), digitalization can be distinguished from digitization, where digitization simply means converting information into digital form, while digitalization involves using digital technologies to transform operations and create new value. In the context of post-primary education, digitalization entails the application of these technologies to expand access to learning resources, improve the quality of instruction, promote collaborative learning, and equip learners with skills for the digital economy (Adewale, 2022).

The concept of digitalization in education refers to the integration of information and communication technologies (ICT) into teaching, learning, and administrative processes. Digitalization is not only about using digital devices but also about transforming pedagogy, curriculum delivery, and management structures through technology (UNESCO, 2022). In post-primary education, digitalization includes e-learning platforms, interactive whiteboards, digital libraries, online assessments, and virtual classrooms, all of which enhance access to knowledge and improve student engagement (OECD, 2021). In post-primary education, digitalization goes beyond the use of computers; it encompasses e-learning platforms, digital libraries, virtual classrooms, artificial intelligence-driven assessments, and smart teaching tools that promote inclusive and

equitable learning opportunities (OECD, 2021).

Sustainable development, as defined by the Brundtland Commission, involves meeting the needs of the present without compromising the ability of future generations to meet their own needs (World Bank, 2021). Education is central to achieving the Sustainable Development Goals (SDGs), particularly SDG 4, which emphasizes “inclusive and equitable quality education and the promotion of lifelong learning opportunities for all.” The integration of digital technologies into education is seen as a catalyst for this goal, as it enhances access, quality, and efficiency of education delivery (World Bank, 2021). In developing countries like Nigeria, digitalization of education provides opportunities to bridge the gap between urban and rural learners, improve pedagogical practices, and prepare students for the demands of the global digital economy (Adewale, 2022).

In the Nigerian context, the Federal Government has acknowledged the importance of digital transformation in education by introducing policies such as the National Policy on Information and Communication Technology (ICT) in Education (FRN, 2019). These policies aim to promote digital literacy, expand ICT infrastructure, and encourage innovative teaching and learning practices. However, despite these initiatives, the adoption and management of digitalization in post-primary schools remain limited due to infrastructural deficits, inadequate teacher training, inconsistent electricity supply, and poor internet connectivity (Ogunleye & Adebayo, 2021).

Ogun State, often regarded as one of the educational hubs in Nigeria due to its concentration of schools and higher institutions, presents both opportunities and challenges for digital transformation. While urban schools in Abeokuta, Ijebu-Ode, and Sagamu have begun integrating digital tools, many rural schools still struggle with access to basic ICT infrastructure (Ogun State Ministry of Education, 2022). This digital divide not only widens educational inequality but also undermines the sustainability of education in the state. The proper management of digitalization in Ogun State post-primary schools is therefore essential to ensure that all students benefit from the opportunities digital learning offers. Moreover, teachers and school

administrators play a pivotal role in managing digitalization. Without adequate digital literacy, capacity-building, and institutional support, the potential of digitalization to enhance education for sustainable development may remain unrealized (Ajani & Oduola, 2023). Effective management of digitalization requires strategic planning, investment in infrastructure, continuous teacher training, and stakeholder collaboration to ensure sustainable implementation.

Thus, managing digitalization in post-primary education is not only about introducing new technologies but also about aligning them with educational goals that support sustainability, equity, and quality learning. Several studies have explored digitalization in Nigerian education. Ogunleye and Adebayo (2021) found that while ICT facilities were introduced in many schools, lack of maintenance, inadequate teacher training, and epileptic power supply hinder effective utilization. Similarly, Adewale (2022) reported that only 40% of secondary schools in Ogun State had functional computer laboratories, and less than 25% of teachers demonstrated proficiency in using digital teaching tools. These findings suggest that infrastructure alone is insufficient without capacity building and effective management.

Globally, OECD (2021) highlighted that countries that successfully managed digitalization invested in teacher training, created clear digital policies, and established monitoring mechanisms. UNESCO (2022) stressed the importance of aligning digitalization with inclusive education, ensuring that technology bridges rather than widens educational inequalities. Ajani and Oduola (2023) conducted a study on teacher digital competence in Southwest Nigeria and discovered that while many teachers were aware of digital tools, their application in classroom management was limited due to lack of confidence and inadequate training opportunities. This underscores the importance of continuous professional development in managing digitalization. The World Bank (2021) further emphasized that digital education systems in developing countries succeed when governments provide stable internet access, subsidize technology, and integrate ICT policies into national development

agendas.

In Ogun State, the Ministry of Education (2022) acknowledged progress in urban schools but admitted that rural schools remain disadvantaged, reinforcing the need for a comprehensive digital management strategy. For Ogun State, where education is seen as a driver of socio-economic development, understanding how digitalization can be effectively managed is crucial for building an inclusive and future-ready education system. This study, therefore, seeks to examine the management of digitalization in post-primary education in Ogun State with the aim of promoting sustainable development in line with global educational standards and national priorities.

Objective of the Study

The main objective of this paper is to examine the managing digitalization of post -primary education for sustainable development in Ogun State, Nigeria. The specific objectives are:

- i. To investigate the management of digitalization in post-primary education in Ogun State, Nigeria.
- ii. “To examine the challenges of effective implementation of digital technologies in post-primary schools in Ogun State”

Research Questions

- i. How is digitalization being managed in post-primary education in Ogun State, Nigeria?
- ii. What are the challenges and strategies for the effective implementation of digital technologies in post-primary schools in Ogun State?

Methodology

The study adopted a descriptive survey research design. Population comprises of all secondary school teachers in three Local Government in Ogun State, Nigeria. The sample size for this study comprises of ten (10) secondary schools in selected Local Government area of Ogun State. For the selection of the sample, stratified sampling technique was adopted to select ten (10) teachers each from the chosen primary schools to make a total sample of one hundred (100) primary school teachers in Selected Local Government Ogun State. A researchers’-developed questionnaire was used as instrument for data

collection. It was developed in closed-ended of Agree or Disagree. The instrument was moderated by an expert in the field of educational management and psychology who affirmed its validity. Reliability of the instrument was

determined using Cronbach Alpha and the value of 0.54 was obtained which is reliable enough for this study. Data collected were analyzed with simple percentage, mean and standard deviation statistical tool.

Presentation of Data Analysis and Results Discussion

Table 1: How is digitization being managed in post-primary education in Ogun State, Nigeria?

Item Number	Questionnaire ITEMS	Freq		Freq		<i>M</i>	<i>SD</i>
		(N)	Percent	(N)	Percent		
		Agree	%	Disagree	%		
1.	Digitalization in my school is well managed by administrators to support teaching and learning.	74	74.0%	26	26.0%	3.39	1.011
2.	The use of digital technologies in my school has improved the quality of education.	77	77.0%	23	23.0%	3.39	1.010
3.	Teachers in my school are adequately trained to manage digital learning tools.	54	54.0%	46	46.0%	3.13	0.854
4.	Digitalization in post-primary education helps to prepare students for future career opportunities.	72	72.0%	28	28.0%	3.18	0.998
5.	Proper management of digital technologies in schools contributes to sustainable educational development.	22	22.0%	78	78.0%	3.12	0.895
Weighted Mean (?) = 3.242 and STD = 0.954							

Make the table in APA standard.

The result presented in table 1 shows that digitalization is moderately well managed in secondary schools in Ogun State, though with some variations across specific items. A majority of respondents (74%) agreed that school administrators effectively manage digitization to support teaching and learning, with a mean score of 3.39 and a standard deviation of 1.011, indicating moderate agreement. Similarly, 77% of the respondents confirmed that digital technologies have improved the quality of education in their schools, suggesting that

digitalization has had a positive impact on teaching and learning outcomes. However, responses were less consistent regarding teacher preparedness, as only 54% agreed that teachers were adequately trained to manage digital learning tools. This reveals that while management efforts are evident, there are gaps in teacher capacity development.

Further analysis indicates that 72% of respondents believed that digitalization helps prepare students for future career opportunities, with a mean of 3.18. This shows a recognition of

the role of technology in equipping learners with 21st-century skills. On the other hand, only 22% agreed that the proper management of digital technologies contributes to sustainable development, while 78% disagreed. This highlights a disconnect between digitalization practices and broader sustainability goals, possibly due to inadequate strategies linking ICT

integration with long-term educational and developmental outcomes. The weighted mean (3.24) and standard deviation (0.95) suggest that while there is general agreement on the positive role of digitalization, responses remain moderately varied, reflecting inconsistencies in implementation across schools.

Table 2: What are the challenges for the effective implementation of digital technologies in post-primary schools in Ogun State?

Item No.	Questionnaire ITEMS	Freq		Freq		Mean (?)	S.D
		(N)	Percent	(N)	Percent		
			%		%		
		Agreed		Disagreed			
6.	Poor internet connectivity is a major challenge to the use of digital technologies in my school.	87	87.0%	13	13.0%	3.22	1.077
7.	Lack of adequate ICT facilities makes digitalization difficult in post-primary schools.	77	77.0%	23	23.0%	3.39	1.010
8.	Inconsistent electricity supply hinders the effective use of digital technologies in my school.	78	78.0%	22	22.0%	3.39	1.010
9.	Regular training of teachers is a key strategy for improving digitalization in schools.	68	68.0%	32	32.0%	3.13	0.967
10.	Government support and funding are necessary for effective management of digitalization in post-primary education.	78	78.0%	22	22.0%	3.39	1.010
Weighted Mean (?) = 3.304 and SD = 1.015							

The results presented in Table 2 reveal that respondents strongly identified several critical challenges hindering the effective implementation of digital technologies in post-primary schools in Ogun State. A significant proportion (87%) agreed that poor internet connectivity is a major challenge, with a mean score of 3.22, while 77% reported lack of

adequate ICT facilities as a major obstacle. Similarly, inconsistent electricity supply was highlighted by 78% of respondents, with a mean score of 3.39, confirming that infrastructural deficits remain a central barrier to digitalization. The weighted mean ($\bar{x} = 3.304$) and standard deviation ($SD = 1.015$) further indicate a general consensus among respondents on the severity of

these infrastructural challenges.

The findings also underscore the importance of strategies needed to overcome these challenges. A majority (68%) emphasized regular training of teachers as an essential strategy, while 78% agreed that government support and funding are crucial for effective digitalization in schools. These responses highlight that while infrastructural inadequacies are pressing, human capacity-building and policy-driven investment remain equally vital in managing digitalization for sustainable educational development. The relatively high mean scores across the items suggest that stakeholders are aware of both the challenges and the potential solutions needed to address them.

Discussion of findings

Result from research question 1 revealed how digitalization is being managed in post-primary education, and what is its impact on sustainable development in Ogun State, Nigeria. These findings are consistent with earlier studies. For instance, Ogunleye and Adebayo (2021) who reported that while Nigerian schools have adopted digital tools, poor teacher training and weak policy alignment hinder their effective utilization. Similarly, Adewale (2022) found that although ICT improves student learning experiences, gaps in infrastructure and sustainability planning reduce its long-term impact. Ajani and Oduola (2023) further emphasized that digital competence among teachers is still low, limiting the transformative potential of digitization. These studies corroborate the findings of the current research, suggesting that while digitization is making an impact in Ogun State, its management must be strengthened particularly in teacher training and sustainability strategies to maximize its contribution to educational development.

Moreso, research question 2 shows the challenges for the effective implementation of digital technologies in post-primary schools in Ogun State. These findings are consistent with Ogunleye and Adebayo (2021) who reported that poor internet services and inadequate ICT infrastructure limited digital adoption in secondary schools. Adewale (2022) found that unstable electricity supply and lack of consistent teacher training contributed significantly to the

underutilization of digital tools in Ogun State schools. Internationally, UNESCO (2022) emphasized that bridging the digital divide in education requires both infrastructural investment and continuous teacher development. Thus, the current study corroborates existing evidence by showing that infrastructural deficits, insufficient training, and lack of government support are interrelated challenges that must be addressed to ensure effective digitalization in post-primary education.

Conclusion

This study examined the management of digitization in post-primary education and its impact on sustainable development in Ogun State, Nigeria. Findings revealed that while digitalization has the potential to enhance quality teaching and prepare students for future opportunities, its effective management remains a challenge due to infrastructural deficits such as poor internet connectivity, lack of adequate ICT facilities, and irregular electricity supply. Furthermore, the study established that teacher training and government support are critical strategies for overcoming these challenges. Teachers and administrators play a central role in ensuring that digital technologies are effectively utilized, while sustainable funding and policy intervention are necessary to strengthen infrastructure and bridge the digital divide.

In conclusion, digitization can significantly contribute to sustainable educational development in Ogun State if properly managed through improved infrastructure, continuous teacher training, and active government involvement.

Recommendations

Based on the findings of the study, it is recommended that;

- i. Government should provide adequate funding and infrastructural support such as stable electricity, modern ICT facilities, and reliable internet connectivity to ensure effective digitalization in post-primary schools.
- ii. School administrators should prioritize the integration of digital tools into teaching and learning by creating enabling environments that support technology use in classrooms.

- iii. Teachers should undergo regular training and capacity-building programs to enhance their digital competence and confidence in managing technology-driven instruction.
- iv. Policymakers should design and implement sustainable ICT-in-education policies that address both urban and rural schools, ensuring equitable access to digital resources across Ogun State.
- v. Students should be encouraged to actively utilize digital platforms and resources responsibly to improve their learning outcomes and develop relevant digital skills for future opportunities.
- vi. Parents and community stakeholders should collaborate with schools by providing support and advocacy for digital initiatives that promote sustainable education.

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