



# The Need for Digital Transformation in the Education Sector in Nigeria

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## **Author's contribution**

*The sole author designed, analyzed, interpreted and prepared the manuscript.*

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## **ABSTRACT**

Digital technologies are being utilized in higher institutions of learning but there is a gap that is yet to be filled. Today's University leaders and faculties especially in Nigeria must reconsider higher education in a digital-dominated new world. The benefit of this is so that learning in public higher institutions of learning is not halted when environmental challenges such as that presented by the Corona Virus pandemic occur. When the Corona virus was declared a pandemic by the World Health Organization, there was a global shutdown worldwide to curtail the spread of the Corona virus and the educational sector was not an exception. It then became apparent that the educational models and traditional approaches to teaching/learning in the educational sector has to be redesigned as soon as possible. This opinion article thus contributes to existing discussions on the application of digital transformation within the context of education in the public sector in Nigeria by adopting a multidisciplinary focus. As the governments around the world imposed lockdowns in their respective nations in a bid to stem the spread of the Corona virus, traditional mode of education which took place in physical settings in institutions of learning, had to change as well in Nigeria. This research reviewed existing literature on digital transformation as a multidisciplinary tool for facilitating learning. The reviewed literature revealed that more needs to be done in the public educational sector if learning is to continue irrespective of environmental disruptions. Significant challenges in integrating mobile learning in higher education institutions within Africa: poor technological infrastructure, lack of access to modern mobile devices, lack of mobile learning pedagogical skills among lecturers, poor attitudes among students and lecturers, and incompatibility of mobile devices with the university online management systems. Policies to guide the

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implementation of mobile learning were also lacking. Therefore, for sustainable education in Nigeria there is a need for the adoption of digital technological solutions particularly in public higher institutions of learning.

*Keywords: Sustainable education; digital transformation; Corona virus; business models; innovation.*

## 1. INTRODUCTION

The Coronavirus disease (COVID-19) originated in Wuhan, China, in December 2019. On the 11th of March, 2020, the World Health Organization (WHO) declared it as a pandemic after it had spread to many countries worldwide [1]. More than 171 countries worldwide closed their educational institutions for several months in the year 2020. The impact of COVID-19 on education was bizarre and unprecedented because more than 1.5 billion students globally were affected by the closure of their schools. Most Nigerian students and other developing countries were more disadvantaged because most educational institutions in Nigeria still follow the traditional set-up of face-to-face lectures in the normal classroom settings.

Today's University leaders and faculties must strive to redefine higher education in a digital-dominated world. The most effective way to achieve this is through the adoption of digital transformation in the educational sector throughout the world. In the wake of technological advancement, jobs and competencies are changing faster than people or organizations are able to adapt to and the educational sector is not an exception [2]. The need has therefore arisen for higher institutions of learning especially in developing economies to apply digital technologies to teaching and learning in universities. According to Aldowah [3] the basic skills required for most professional work-related tasks will change by an average of 42% by 2022 and Nigeria is lagging behind in fully adopting and utilizing digital innovation in the educational sector [4,5]. The educational sector in the country predominantly employs the traditional method of teaching and learning and are yet to fully apply a blended learning approach across the public higher institutions of learning in the country as is the case in developed countries such as the United Kingdom.

The application of digital transformation to learning in developed countries has resulted in the following outcomes; increased student and lecturer collaboration and, provide distant communication, increased student participation

and engagement, facilitating authentic learning and reflective practice, as well as fostering learning communities; a change in the lecturers' approaches to teaching also occurred [6]. These benefits can equally be enjoyed by developing countries such as Nigeria. Tulinayo [7] affirmed that there is a gap in teaching/learning in the Nigerian sector that needs to be filled. The negative implication of this gap was revealed when there was a breakdown in teaching and learning in the year 2020 as a result of the Corona virus pandemic [8-10]. In many states around the country, radio and television programs were played for nursery and primary school children to help foster learning. However, none of these programs targeted students in public secondary schools or higher institutions of learning Olarewaju *et al.*, 2021.

This article highlights need for the application of digital transformation throughout the educational sector in Nigeria. The article is structured in the following way, the first section is a literature review that highlights the application of digital transformation in other fields, it then goes on to explain the benefits of digital transformation, highlighting the factors that can either facilitate the change from the use of traditional approaches to teaching and learning to the adoption of virtual learning or the adoption of a hybrid teaching and learning system.

## 2. THE IMPACT OF THE CORONA VIRUS PANDEMIC ON THE EDUCATIONAL SYSTEM IN NIGERIA

The Nigerian educational sector was one of the sectors that was negatively impacted by the advent of the COVID-19 pandemic [11]. Since the discovery of the first case of the COVID-19 virus on the 27th February, 2020 in Nigeria, the Federal government took all the necessary precautionary measures to boost social distancing in so doing limiting the spread of the corona virus pandemic. Therefore, on the 23rd March, 2020 the Federal government of Nigeria through the minister of education announced the immediate suspension of all educational activities. This measure forced over 46 million students across all levels of education to

abandon their schools following the closure notice given by the government (The Nigeria Education in Emergency Working Group: EIEWG, 2020). Unlike other affected countries worldwide, the closure of schools in Nigeria did not come with any back-up policy to address the learning disruptions for students (Oyeniran *et al.*, 2020). This presented a challenge for educational institutions of learning as there was no organizational strategies in place to change from physical delivery of lectures to online delivery therefore, these institutions of learning were shut down indefinitely till further notice. For a lot of middle class and low-income earning families, this meant that children were out of school; with no way to continue their education as institutions of learning were shut. Another direct implication of this was that children from such families were idle, most of the time and even became depressed (Olarewaju *et al.*, 2021). Another disadvantage of the lockdown meant that those students who were out of school would take a longer time to graduate, some would have forgotten all that they were taught once schools resumed. Students from disadvantaged backgrounds have suffered this disruption even more and are at a higher risk of dropping out of school [12].

### **3. DEFINING DIGITAL TRANSFORMATION AND PUTTING IT INTO PERSPECTIVE**

Digital transformation is defined as the cultural, organisational and operational change of a business enterprise, industry or ecosystem through the smart integration of digital technologies, processes and competencies across all levels of the organization in a strategic way to yield improvement and for the advancement of new development [13]. In addition, Nadkarni and Prügl (2021) described digital transformation as an actor-driven organisational transformation caused by the implementation of technology-driven digital disturbances. They purported that actor-driven transformation consist of, transformative leadership; managerial and organisational capabilities; company culture and work environment.

Digital transformation has become inevitable in organisations. The activities of digital transformations have further given rise to such terms as digitisation and the digital economy (Pavlou, & Venkatraman, 2013; Westerman, Bonnet, & McAfee, 2014; Bharadwaj, Sawy, Shafique & Beh, 2017; Wade, 2017; Heavin &

Power, 2018; Nwaiwu, 2018; Ejemeyovwi & Osabuohien, 2020).

Digital transformation influences the whole organisation and its ways of doing business (Amit & Zott, 2001) and goes beyond digitalisation — the changing of simple organisational processes and tasks. It rearranges the processes to change the business logic of a firm (Li, Su, Zhang, & Mao, 2018) or its value creation process (Gölzer & Fritzsche, 2017). Therefore, digital transformation is inherently linked to strategic changes in the education model as a result of the implementation of digital technologies throughout the learning process (Sebastian *et al.*, 2017).

### **4. BENEFITS OF DIGITAL TRANSFORMATION STRATEGY IN PUBLIC HIGHER INSTITUTIONS OF LEARNING**

Some of the benefits of digital transformation to the Nigerian Educational System include but not limited to;

1. Digital Transformation (DT) is a radical rethinking of how an organization uses technology, people and processes to fundamentally change business performance (Berman, 2012 & Westerman, 2016).
2. Clark (2018) sees technology as the enabler of DT, driven by four goals: Enhance competitiveness, improve profitability, better customer experience, and achieve greater agility across the enterprise value chain.
3. Digital Transformation in HEIs brings numerous benefits, such as cost savings from reduced administration time, improves data, Information and knowledge control, improve teachers-students communications and relations, increased contents quality and access, increased in enrolments and access, etc. The benefits of DT in HEIs are achieved as a result of leveraging on emergent technologies such as cloud computing, big data and learning analytics, artificial intelligence, digital identity, etc., which has helped in improving service and operational excellence.

### **5. THE DIGITAL TRANSFORMATION PROCESS IN EDUCATION**

From the present definitions of digital transformation, one can deduce that digital

transformation entails the integration of digital technologies into the process of learning in schools and higher institutions of learning. Some authors suggest that digital learning is designed to complement traditional learning and facilitate the acquisition of digital competencies necessary to thrive in the digital age [14]. Digital education and remote work rely on infocommunication technologies to facilitate collaboration and may include intelligent tools. Digital transformation (DT) has become a priority for higher education institutions (HEIs) in this second decade of the 21st century, and this is a natural and necessary process for organizations that claim to be leaders of change and be highly competitive in their domain [15]. Digital transformation not just enhances traditional solutions; it can lead to innovative approaches. There was also a demand to integrate digital solutions into education [16-47].

## **6. DISCUSSION**

The results of the literature review revealed that to cope with an increasingly unstable environment and to fully leverage the opportunities presented by new technologies, the Nigerian educational needs to transform its present educational model. Inasmuch as the value of real-life exchanges and interactions between teachers and students should not be undermined, as it is indeed essential to the educational experience; in the face of environmental disruptions of the magnitude presented by the Corona Virus, there is a need to build on the existing traditional educational methods by integrating digital technology into the teaching and learning process. This will make public higher institutions of learning more competitive and prepare students for the challenges they will encounter in the world in the future. Challenges of Adopting Digital Transformation in Public Higher Institutions of Learning in Nigeria. Some of the challenges of adopting digital transformation in public higher institutions of learning are;

1. Erratic power supply- to be able to use the internet for learning, students must have access to uninterrupted power supply from the comfort of their homes. In addition, lecturers also need to receive training on how to ensure efficient collaboration between them and the students since the physical element is no longer there.
2. The cost associated with buying computers and data bundles. Students from

disadvantaged backgrounds will struggle with gaining access to computers and buying data bundles to join the learning platforms throughout the day.

3. Lack of infrastructure to support the provision of internet connectivity throughout the nation including rural areas.

## **7. CONCLUSION**

Digital transformation of higher education is about more than just the digitalization of education. The goal at the end of the day is to adopt new ways of working in order to continue delivering user-focused services in the face of changing technology, competition, audience needs, and environmental disruptions. Therefore, for sustainable education in Nigeria there is a need for the adoption of digital technological solutions particularly in public higher institutions of learning.

## **8. RECOMMENDATIONS**

The following recommendations are suggested:

1. Appropriate involvement of government in the development of a digital transformation framework for learning in public higher institutions of learning. The government can equally work in collaboration with the private sector to ensure that a digital transformation framework that meets the needs of students enrolled in the public higher institutions of learning is developed. It should also be sustainable and affordable for students.
2. The adoption of blending traditional 'non-digital' educational approaches with digital applications: Despite advancements in remote learning and other digital modes of education, students need for digital skills, education and training delivered in social settings remains strong. Classroom activities that involve face-to-face interactions with others and engaging with physical resources have proven effective in a wide variety of contexts. Policy-makers should therefore not discredit the benefits of traditional offline methods of teaching and learning.
3. Curriculum adjustments should not only focus on academic competencies that are examinable but also on competencies that

are relevant when disruptions of this magnitude occur.

4. Monitoring and evaluating educational processes and outcomes to understand if the whole remote education strategy is effective to reach all students is equally important as this will sustain learning engagement, and increase learning outcomes.

## COMPETING INTERESTS

Author has declared that no competing interests exist.

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