



## DIGITALIZATION OF MANAGEMENT OF HIGHER EDUCATION SYSTEM: THE IMPACT ON QUALITY EDUCATION IN NIGERIA.



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### **Abstract**

*This work focused on “Digitalization of management of higher education system: The impact for quality education in Nigeria” Quality becomes milestone for enhancing learning and teaching practices through contemporary standards. In this respect, considering the outcomes of transformation is essential. School management is an umbrella for facilitating learning and teaching. Therefore, the role of digital transformation in school management is an intensified need to be underlined. In establishing school culture, school management plays an essential role in the digital transformation that affects the school management and culture for the quality of education. Today, more than ever, the role of educational technology in teaching and learning is of great importance because of the use of information and communication technology. With the help of various applications for distance education, and the internet, teachers and students themselves, see the advantage of technology in education. The central purpose of the digitalization of the management of higher education is to attain its manifest and latent goals. Modern teaching materials are very crucial and most preferred in the digitized world. A modern education system uses technology to impart knowledge. Digitalization of the education system is an opportunity to develop a cognitive resource-based mechanism in learners and improve their skills, lifelong learning, and continuous education. Digitalization produces information that can be conveyed in many different methods. It brings about a democracy of knowledge where education becomes a collaborative and self-driven enterprise. Digitization is the trending term, describing the 21st century in the most precise manner possible. We are in an era where unprecedented ideas are unfolding in our education sector and creating advancement that can’t be matched by lagging behind in terms of technology. The digital transformation of higher education institutions has become one of the most significant trends in recent years. Unfortunately, this change is facing many challenges and pitfalls. This study seeks to find out those digitalized ways of managing the higher education system. Therefore, understanding how to manage digitalization amid continuous change should be a top priority for administrators of higher education institutions. The work defined the concept of digitalization and the challenges of digitalization in higher education. It went further to highlight the possible ways of managing digitalization and its impact on quality education. The paper concluded that for higher education to function effectively digitalization must be kept to the levels where there should be an increment in the funding of higher education with specific allocation to digital education development in all the higher institutions in Nigeria.*

**Keywords:** Digitization, Management, Higher Education, Quality Education.

### **Introduction**

Digitalization in higher education has been an essential frontline to transform education systems and services in the era of the industrial revolution. Digital technologies have long been firmly entrenched in all spheres of human life. Undoubtedly, the higher education system can be attributed to one of the areas of widespread use of digital technologies. The crucial factors that determine the processes of digitalization in a higher institution are increasing competitive advantages in the educational services market, the availability of higher education to a wider range of society, a possible reduction in the cost of education by distance learning. Digitization in recent years has been increasingly evolving and having an increasing impact on society, work, school, and people's lives.



The situation that the entire education system has faced in 2020, related to the spread of COVID-19, accelerated the transition to a digital learning or environment, to move the economy, education, jobs, and relationships between people forward.

In some nations, like Italy, there has been a lockdown, during which, without digital means, many activities both work and school would have been interrupted. Here smart working and distance learning have certainly played a key role. This has involved a reorganization of activities, such as the purchase of the computer and additional training on the use of the devices. With regard to the development of digitization in education in particular, several tools and resources, in general, have been employed, to enhance the student experience in particular. Among them, we find some communication technology platforms, such as Zoom Video Communications, Google Meet,

Microsoft Teams, and Skype, which allow, through video calls, to hold online classes, create virtual rooms, use support chats, and many other features. On these platforms and others, such as Classroom, there are additional possibilities for sharing teaching materials, the electronic register, which also allows a direct link between teachers and students' families, and the possibility for students to register for admission or to exams via the app, the recording of progress of students during their course of studies. In addition, there are many other tools that provide a wide array of online learning options, such as web pages or YouTube channels with interesting points and explanatory videos or examples. Other useful tools, mainly in university settings, are digital libraries, i.e., archives, in which students can share their projects and work that can be viewed by all those enrolled in the same school. Of course, the use of this tool must be controlled so as to avoid any form of plagiarism.

With this, students are motivated and challenged to be active and interact with each other constructively. All of this has occurred starting with students in school and university, with online classes, some live. deferred, with teachers and professors implementing new teaching techniques, sometimes more interactive. There is the possibility to create quizzes or online galleries for reviewing a given topic, for the benefit of students, and to help teachers with possible modifications of teaching intervention. Among these is Kahoot, an application that allows the creation of ad hoc quizzes with questions and answers of various kinds in a simple and effective way to make the lesson interactive and engaging.

Analyzing the innovative processes of using digital technologies in higher education, it seems possible to assess the degree of readiness of higher educational institutions for the widespread use of this technology and future development prospects. Digital transformation in the higher education system implies sustainable management mechanisms to quickly adapt to changes associated with the use of new technologies. Digital technologies in education create favorable conditions for the systematization and development of educational processes. By reducing the volume of classroom work, and the transition to the interaction between students and teachers in a digital format, students' development of independence and individual abilities is stimulated (Kupchina E. 2020). Besides, online learning allows teachers and course creators to update and improve coursework continually. However, there is no talk of a complete transition to a digital format of education and the replacement of traditional approaches with online ones. Digital technologies are considered a useful tool for improving approaches to organizing education in the higher education system.

The use of technology has proven flexibility in the learning process and the opportunity to interact with trainers, educators, and classmates worldwide. The ease of the learning process also occurs when technology can be used to assist in monitoring students' learning progress and administration in the learning process. Underwood (2009) stated that there is a growing body of research from various backgrounds and cultures studying the impact of digital technology on measuring learning outcomes. Digitalization is the process of converting information such as texts, pictures, or sounds into digital format, that can be processed by a computer. In addition, digitalization means improving an organization's core business operations to satisfy customer requirements efficiently through the use of data and technology. In the education industry, the target customers can be students, teachers, staff, and alumni, and digitalizing the education sector can bring benefits to both students and faculty.



### **Concept of Digitalization:**

Digitalization of education according to Akinyemi et al., (2022) is a concept adopted to ensure the innovative incorporation of modern technology and digital tools to assist the progress of teaching and learning and to create more room for remote learning. Micheal and Jacob (2017) defined digitization as the process of converting educational resources from material forms to electronic forms where they can be stored and manipulated by a computer. Digitization is the process of converting manual information or data to a digital format for a more meaningful interpretation. Bejinaru (2019) observed digitalization is the conversion of text, pictures, video, and music into digital format utilizing technologies such as a laptop computer, the internet, mobile devices, a scanner, a digital camera, a projector, and printer, among others, that may be played by a computer. Machekhina (2017) viewed digitalization as the translation of all information kinds, such as text, audio, pictures, video, and other data from multiple sources into digital language. From the above, digitization can be conceptualized as those facilities that aid the conversion of teaching and learning into platforms like online courses, online assessments, and web seminars/conferences or workshops through the use of electronic platforms. Digitalization is the process of transforming physical teaching and learning resources into packages or platforms or electronic forms where they can be stored and manipulated by a computer for the implementation of teaching and learning programs in school.

Digitization in higher education will consist of support according to Panji o'g' li (2023):

A comprehensive guide to numbers, math, and statistics classes. Facilitating research and data analysis for digitization teachers and students.

Numbers help the imagination. One can learn to identify and organize information through transformation, and numbers.

Digitization helps students learn to work with qualitative data. In this form of education, students will have quality information for relevant work.

It can be used in various fields such as accounting, business, journalism, and other fields.

Digitization is part of the correction, which can also be identified in life.

Numbers can be used to collect and analyze the information we need today.

For breadth of knowledge in numbers, students can also go to developing fields. According to the information of the numbers, the students study the information and analyze it.

Digitization allows students to learn the statistical techniques needed to quantify data. In this view, students can become experts in this field.

Management is the process of achieving organizational objectives, within a changing environment by balancing efficiency, effectiveness, and equity, obtaining the most from limited resources, and working with and through other people. Nwa Oku (2005) defines management as the total system of organization, getting organizational personnel to accomplish their work so as to achieve organizational objectives. The ability to delegate authority and still get the job done effectively is an acid test for management. Management is also seen as an effective organization and utilization of human material resources in a particular system for the achievement of an identified objective or a social process that is designed to ensure the corporate participation, invention, and involvement of a given or predetermined objective (Ogunu, 2000).

Management involves the process of coordinating available resources through planning, organizing, controlling, and leading for the attainment of set goals. The management process draws individuals who possess the required knowledge and skills to coordinate and synchronize the actions of many people. Management in the context of this study refers to the art of understanding how to manage digitalization amid continuous change for the achievement of broad goals by the leaders of higher education institutions.

Higher education is the type of education received after secondary school. The role of Higher education is globally accepted and it encompasses more than just the acquisition of knowledge. Hence higher education remains the pivot of national development. This is because the stick of highly educated individuals produced by higher education plays important role in the innovation and sustainable development of any society, especially, Nigeria. In Nigeria, higher education (universities inclusive), according Federal Government of Nigeria (2013) in her national policy on education aims at



the acquisition of development and inculcation of the proper value orientation for the survival of individuals and society, the development of the intellectual capacities of individuals to understand and appreciate their environment; the acquisition of both physical and intellectual skills which will enable individuals to develop into useful member of the community; and the acquisition of an objective view of the local and external environment. University is conceived by Osakwe and Falani (2011) is a place for comprehensive academic and social exercises, where the youth is required to defer pleasure and settle for vigorous studies in order to attain competence in academics and social skills.

### **Quality education**

The call for quality has become a global slogan in all areas of human endeavor including the education industry. Quality is basically concerned with meeting customers' needs and requirements (customers' satisfaction). It is a recurring decimal in every business transaction. In education setting, the issues of quality academic delivery have been in the front burner of higher institution in the world. Thus, preference to some higher institution than others, with quality assurance being the mechanism put in place to ensure that programmes offering in higher institutions meet acceptable standard.

According to Akpan, (2009), the concept of quality in education is multidimensional and embraces all functions and activities in the academic system. It involves quality of students, academic personnel, instruction, curriculum, facilities and equipment, academic program and students' performance assessment . In view of this perspective, quality education in higher institutions involves quality educational inputs (students facility), processes ( teaching and learning) and output ( graduates) in its entirety. Aptly put, Uvah (2005), states that the quality of higher institution education could be measured on how well the students have been prepared for life and for services to the society in various spheres of human endeavour. However, the quality of higher institution education in Nigeria seems to continue to improve the institution learning environment and the effort of the NUC on monitoring and accrediting academic programmes.

### **Managing Digitalization in Higher Education**

There has already been digitization in higher education, but progress has been slow due to institutional and individual obstacles. As found in previous studies, the obstacles faced by each institution vary greatly. Therefore, understanding how to manage digitalization amid continuous change should be a top priority for leaders of higher education institutions (Alenezi, 2021). The focus of organizational leaders should be directed toward prioritized strategies. Generally, the management of digitization should be focused on four primary areas, namely: infrastructure for the use of the latest technology, curriculum, training, and collaboration.

1. Infrastructure for the latest technology. Effective use of technology requires adequate resources, infrastructure, and appropriate maintenance actions. The readiness of institutions to adopt technology is measured by the willingness to invest in infrastructure (such as offering up-to-date hardware and software, as well as reliable, fast internet connections). Therefore, the first strategy in managing digitization in education is to prepare the appropriate infrastructure to implement advanced technology.

2. Curriculum. One of the main dimensions in managing digitization in higher education institutions is the development of a curriculum that meets standards to accelerate the digital learning process and expand the use of information and communication technology (Alenezi, 2021). Digital technology should be integrated into higher education institutions curriculum to maximize the benefits of technology use throughout the learning process (KPMG, 2020). In addition, a digitally integrated curriculum will prepare graduates for work in the future.

3. Training. Students, teachers, and staff need regular training to stay up-to-date with constantly changing technology. The growing use of technology in the learning process will replace traditional learning methods with digital learning. Therefore, the strategy for managing digitization in HEIs should be directed toward investing in providing training for staff, teachers, and students.



4. Collaboration. The increasingly competitive global market in HELS encourages institutions to collaborate with many parties. By collaborating, the University can optimize digital technology to achieve competitive advantages. Technological developments enable institutions to collaborate better and more widely through platforms connecting government agencies, educational institutions, individual communities, and non-profit organizations (Guri-Rosenblit, 2009).

The Impact of Integrating Digital Technologies into Higher Institutions for Quality Education.

Ding (2000) noted that the advantages of digitization include; that digitization means no new buildings are required; the improvement in information sharing and the redundancy of collections. Digitization leads to the development of the Internet in digitalized-based institutions. Digital materials can be transmitted, sorted, and retrieved easily and quickly. It is cheaper to access electronic information than its print counterpart when storing files in an electronic device with compatible facilities and equipment. Digital texts can be linked and made interactively and improves the retrieval of more information. Also, Panji o'g'li (2023) outlined the benefits of digitization in Higher Education including;

**Transformation of Teaching:** The implementation of digital technologies in higher education has the potential to transform the way we teach and learn. One of the key benefits of digitization is increased access to education. Online learning platforms, for example, can provide students with access to educational resources from anywhere in the world. This can be particularly beneficial for students who are unable to attend traditional brick-and-mortar institutions due to financial, geographical, or personal constraints. Online learning can also provide students with more flexible learning opportunities, allowing them to study at their own convenient time.

**Customize Learning Experiences:** Another benefit of digitization is the ability to customize learning experiences to suit individual needs. Digital technologies can provide students with personalized learning experiences, allowing them to focus on areas where they need the most support and challenge themselves in areas where they excel. For example, educational apps can provide students with interactive and engaging learning experiences that are tailored to their individual needs and interests. In addition to these benefits, digitization can also enhance the quality of education. Multimedia resources, for example, can provide students with access to a wide range of educational materials, including videos, podcasts, and interactive simulations. These resources can help to bring complex concepts.

**The advent of online Testing:** Along with online education comes the advent of online testing, which is hugely beneficial for a whole host of reasons. Foremost among those reasons is the fact that online testing is impartial and entirely fair. If a machine is grading the test and automatically correcting wrong answers, it's impossible to show any signs of bias. Additionally, online testing can be an excellent solution for those who suffer from test anxiety and are distressed by taking tests in a room with a group of other people. Finally, it's also much better for those with busy schedules, who may struggle to be at a testing centre at a particular time. Online testing isn't without drawbacks, however. Most notably, it is only effective for multiple-choice tests, not for essay or short answer questions. Students can still take essay-based tests online, but a human teacher will need to evaluate them.

**Improved Ability to Meet Special Needs:** In the past, a rigid classroom structure defined the world of academia. Each student had the same experience, school's ability to meet the needs of all types of students. Now, students with hearing, speaking or seeing impairments, or those who are largely housebound, can still receive a quality education. Technological advancements can also meet the needs of students with intellectual, social, or developmental disabilities. No matter what a student's unique needs may be, technology affects education for the better by improving our ability to create learning environments that work for all. In today's digitalized environment, modern instructional materials are critical and desirable. Technology is used in modern schooling to impart knowledge. Education becomes a collaborative and self-driven business in which instructors, students, and other stakeholders are involved as a result of digitalisation, which provides information that may be transmitted in a variety of ways, for instance, teacher-directed, joint teacher-and-learner-directed, and learner-directed.



Digitisation makes it possible for nearly all hand-copy textbooks, journals and other literary works to be converted into soft copy and stored on the World Wide Web for easy access. With just a click one may have access not only to books written by our nationals but other international authors. Therefore, it bridges the gap in access to international books. Books with high costs may be affordable in soft copies. Digitization interconnects students from different schools, even internationally in the discussion of academic-related matters which widens the research of many students. E-libraries are available in many varieties. The world is increasingly becoming a global village, due to interconnectivity among nations. This is made possible through digitisation. Development in technology is gradually creeping into the academic system in Nigeria.

### **Challenges of Digitalization in Higher Education in Nigeria**

Digitization of education is a laudable project that encompasses the application of a wide spectrum of practices, including blended and virtual learning. Nevertheless, some hurdles impede its smooth operation, especially in higher education in Nigeria. There are many challenges militating against the digitalization of higher education in Nigeria. Some of these problems include; poor funding of digital education, inadequate digital facilities, unstable power, poor internet coverage, high cost of digital facilities, high cost of maintenance, shortage of digital personnel, poor lecturers' digital skills and knowledge, poor students' digital skills and knowledge. A brief description of each is as follows:

**Poor Funding of Digital Education:** Poor funding of digital education in Nigerian higher education has hampered the development of digital education in the sector. Higher education is underfunded in Nigeria and this affects all programs including the digitalization program in the sector.

**Inadequate Digital Facilities:** The development of digital education in higher institutions hinged on the availability of adequate digital facilities and adequate funding. The availability of digital facilities makes the digitalization process easy and fast. The non-availability of these digital facilities has prevented lecturers, researchers and students in higher institutions from fully deploying the facilities for teaching, researching. One of the key challenges according to Panji o'g'li (2023) is related to access and equity. While online learning platforms can provide students with increased access to education, they can also exacerbate existing inequalities. For example, students who do not have access to high-speed internet or who lack the necessary digital literacy skills may be disadvantaged by online learning platforms. The lack of digital facilities is one of the challenges militating against the deployment of digital technologies in Nigerian Universities.

**Unstable Power Supply:** Poor power supply distribution across the federation has hampered the digitalization programme in many higher institutions. Power generation and distribution in Nigeria as of today is poor. The negative effects of the power supply to higher institutions in Nigeria impair the development and utilization of ICT services.

**Students poor Internet Coverage:** Internet service is very important for the attainment of digitalization goals in Nigeria. Internet service is critical for the operation of digital education. Internet service is the life wire of digitalization. Availability and stable internet services make digital education efficient and effective in educational institutions. It is unfortunate that in Nigeria, internet coverage and accessibility are still a problem. Poor internet connection is a common problem in Africa especially in Nigeria. The inability of the government to ensure a meaningful internet connection across Nigeria has affected the digitalization of educational institutions.

**High Cost of Digital Facilities:** One of the challenges of deploying digital facilities in Nigerian higher institutions is the high cost of internet data and electronic services, which is the determinant of digital technology usage and value (Tongia, 2004).

**High Cost of Maintenance:** High-tech digital facilities needs maintenance always. The sustainability and survival of digital facilities depend on high maintenance culture from users. The maintenance of these technological facilities is very expensive to carry out. Ogunode (2020) submitted that the cost implication required for maintaining ICT facilities is high and this made many



administrators limit the time allocation for internet services within the university environment. This action limits academic and student access to the use of computers for school activities..

**Shortage of Digital Personnel:** One of the challenges of digital development in higher institutions in Nigeria is the shortage of professionals in digital technologies. Digital professionals are in short supply in Nigeria due to poor manpower planning and a shortage of higher institutions offering technological courses. The limited digital personnel produced in the country are found in the banking sector and oil and gas. The few individuals in the various higher institutions are leaving for developed countries due to poor motivation and the various challenges that have befallen the higher institutions. A poor shortage of digital personnel in higher institutions has hampered the development of digital education in higher institutions.

**Poor Lecturers' Digital Skills:** Digital illiteracy is another challenge of digital education in higher institutions in Nigeria. Digital literacy is the key that hinder the usage of the facilities. Some teachers in most schools play avoidance techniques in the utilization approach. They avoid any computer related activities which in most cases result in fear, ignorance' negative perception or inferiority complex.

**Poor Students' Digital Skills:** Poor digital knowledge and skills among students of higher institutions are a major problem for digital education in Nigeria. Ogunode (2020) argued that one of the most difficult aspects of digital education is the lack of digital skills and knowledge of the students. Many students struggle to deploy digital tools and connect with their lecturers through digital platforms because of a lack of skills and knowledge to operate the gadgets. When digital skills and knowledge aren't there, it's difficult to deploy digital facilities to carry out learning activities such as downloading notes and communicating with students and lecturers.

**High Cost of Internet Services:** The high cost of Internet services in Nigeria has hampered the digitalization of educational institutions. This is seriously affecting the deployment of ICT in Nigerian universities.

### **Conclusion and Recommendation:**

This paper discussed the digitalization of management of the higher education system: The impact on Quality Education in Nigeria. The paper identified poor funding of digital education, inadequate digital facilities, unstable power, poor internet coverage, high cost of digital facilities, high cost of maintenance, shortage of digital personnel, poor lecturers' digital skills and knowledge, poor students' digital skills and knowledge, high cost of internet services as problems militating against digitalization development in the higher institutions in Nigeria. To address these problems, the paper suggested:

Increment in the funding of higher education with specific allocation to digital Education development in all the higher institutions in the country. The government should provide adequate ICT facilities to all the public tertiary institutions to enable the institutions to deploy ICT facilities for teaching and learning in the classroom;

The government should ensure that educational institutions in the country especially the tertiary institutions are provided with constant power supply and internet services.

The government should increase the coverage of Internet services across the country;

The government should subsidize internet data costs and set a minimum tariff speed for internet providers, to enable Nigerian universities to embrace ICT.

More digital professionals should be employed in all the higher institutions.

Support the development of digital development;

Government should organize constant training for all academic staff to improve their digital capacity.

Government should organize constant training and retraining programme for students and lecturers, administrative staff and school administrators to reduce the tension and fear of digital facilities;

The government should subsidize the cost of digital facilities to enable schools to acquire digital facilities for the implementation of teaching and learning.



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