Digitalization of Higher Education in Nigeria: Benefits, Problems and Solutions

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Abstract

This paper was carried out to analyze the various problems militating against the digitalization of higher education in Nigeria. Secondary data were used in the paper. The secondary data were collected from print and online publications. A content analytical approach was employed in the research methodology. The study concluded that 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, the resistance of change and lack of self-control. To address these problems, the paper suggested an increment in the funding of higher education with specific allocation to digital education development in all the higher institutions in the country.

Keywords: Digitalization, Higher Education, Technology.

Introduction:

Higher education is the education received after post-secondary education. Higher education is an education that is anchored on teaching, researching and community services. According to the National Policy on Education (FRN, 2013), Higher Education is the Post - Secondary Section of the National education system, which is given by Universities, Polytechnics and Colleges of Technology including courses as are given by the Colleges of Education, Advanced Teachers Training colleges, Correspondence Colleges and such Institutions as may be allied to them.

The objectives of higher education in Nigeria include the acquisition, development and inculcation of the proper value orientation for the survival of the individual and societies; the development of the intellectual capacities of individuals to understand and appreciate the environment; the acquisition of both physical and intellectual skills which will enable individuals to develop into useful members of the community; the acquisition of an overview of the local and external environments (FRN, 2013). The National Policy on Education again stated that higher educational institutions should pursue these goals through Teaching, Research, the dissemination of existing and new information, the pursuit of service to the community; and being a storehouse of knowledge (FRN, 2013).

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Globally, the programme and activities of higher education are anchored around information and communication technologies and digitalization. Digital transformation has heavily impacted higher education. Digital transformation has affected classrooms and how lecturer reaches their students. These changes had been accelerated by the COVID-19 pandemic, which in 2020 closed schools across the country. And to help students keep learning, many higher institutions globally turned to technology education and digital education to help them bridge the gap.

The National Policy on Education, with the Digital Protocol Network on National Digital Policy, launched by the world economic forum together with the 2030 Agenda for sustainable development of United Nations policies, and the National Policy On Information and Communication Technology (ICT) in School Education provide better opportunities for deployment of technology and digital facilities for the acquisition of valuable knowledge and skills that will match the labour market skills demand. The goal of ICT policy is to ensure the full digitization of higher education in Nigeria. The digitization of higher education is an ongoing process that has the potential to transform the way we teach and learn. Digital technologies such as online learning platforms, educational apps, and multimedia resources have opened up new opportunities for students and educators to access and share knowledge.

Digitization has the potential to transform the entire higher education system by making teaching, research and the provision of community service more efficient and fast. Digitization of higher education can increase access to teaching and learning, enhance flexibility, and improve the quality of higher education in Nigeria. The digitalization programme of higher education in Nigeria seems to be confronting some problems despite the policies and programmes designed for the integration of higher education into digital education. Based on this, this paper intends to discuss problems hampering the digitalization of higher education in Nigeria.

Purpose of the Paper:

The purpose of this paper is to examine the various problems militating against the digitalization of higher education in Nigeria. Specifically, the paper will focus on the following;

i. Examine the concept of digitalization of higher education;
ii. Benefits of Digitization in Higher Education
iii. Problems with higher education digitalization in Nigeria

Research Methodology:

This paper focus on discussed examines the various problems militating against the digitalization of higher education in Nigeria. Among other things discussed was the concept of digitalization of higher education, the Benefits of digitization in higher Education and Problems of higher education digitalization in Nigeria. The study used secondary data. The content analysis method was adopted for the selection of data. The data were collected from the following sources review of published articles from reputable international journals such as CEON, Elsevier, Hindawi, JSTOR, IEEE, Learn Techlib SAGE, Nebraska and Springer amongst others.

Concept 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. The transfer of data from analogue to digital is viewed as a crucial driver of innovation in teaching and learning (Gillpatrick, 2020). Similarly, Jagboro et al. (2012) viewed digitization as all the steps involved in the process of making collections of historical and other materials available online. Digitization is the process of converting manual information or data to a digital format for a more meaningful interpretation.

Digitalization in education is conceptualized by Titus (2018) and Olatunde-Aiyedun, Eyiolorunse-Aiyedun, & Ogunode, (2021) as the process of transferring traditional teaching and learning materials such as online learning platforms, educational apps, and multimedia resources online courses, online assessments, and web seminars/conferences or workshops to electronic model for deployment in the school. Bejinaru (2019) observed digitalisation 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 programmes in school.

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

i.   A comprehensive guide to numbers, math and statistics classes. Facilitating research and data analysis for digitization teachers and students.
ii.   Numbers help the imagination. One can learn to identify and organize information through transformation, and numbers.
iii. Digitization helps students learn to work with qualitative data. In this form of education, students will have quality information for relevant work.
iv.   It can be used in various fields such as accounting, business, journalism and other fields.
v.   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.
vi.   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.
vii. Digitization allows students to learn the statistical techniques needed to quantify data. In this view, students can become experts in this field.
viii. Numbers, every part of our life, learning to digitize will help us even in our ordinary.

Benefits of Digitization in Higher Education:

There are many benefits of integrating digital technologies into higher institutions. Ding (2000) noted that the advantages of digitization include; digitization means no new buildings are required; improvement in information sharing and the redundancy of collections reduced. 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;

i.   **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 pace and on their schedule.

ii. **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 to life and make learning more engaging and interactive.

iii. **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.

iv. **Improved Ability to Meet Special Needs:** In the past, a rigid classroom structure defined the world of academia. Each student had the same experience,

no matter their differing needs or abilities. While some students could function well in this environment, others had unmet needs. Technology improves a 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 addition, McNulty (2021) opined that curricula that are delivered in digitalized environment improve learning and innovation skills, information, media and technology skills, and life and career skills. Whereas, curricula taught in non-digitized contexts cover cognitive skills such as critical thinking, problem solving and creativity because it is possible to teach and learn these skills without having access to digital tools and environments. As a result, the digitisation of education provides a chance for learners to establish a cognitive resource-based mechanism and enhance their abilities, as well as to engage in lifetime learning and continuous education (Abdullahi & Tijani, 2019). 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.

Problems Militating Against Higher Education Digitalization in Nigeria

There are many problems 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, the resistance of change and lack of self-control. A brief description of each is as follows:

    i.   **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

programmes including the digitalization programme in the sector. Dada et al., 2022 noted that inadequate financing and allocation for digital technology at university education have resulted in an insufficient supply of digital facilities, equipment, and materials. Funding according to Orunaboka & Nwachukwu (2012), Abdullah et al. (2017) and Akinyemi et al. (2022) is a critical component in education for lowering the cost of operating educational institutions, paying teachers' salaries, allowances, and pensions, and purchasing teaching and learning equipment such as textbooks, laboratories, multimedia, and computer equipment, among other things. As a result, government education spending is primarily reliant on federal account allocation, making its educational aims vulnerable to national mobilization and expenditure management issues (Okwuosa & Modibbo, 2021). The annual allocation for the administration and management of universities in Nigeria is small and is affecting the development of infrastructural facilities like ICT in various institutions. Many offices and departments in the universities in Nigeria do not have adequate computer systems and laptops enough for the Non-academic staff to work. Some Non-academic staff has to wait for others to finish using the computer before they can use it for office work. The universities due to their underfunding could not provide all the relevant information technologies to meet the information needs of their academic and non-academic staff (Ogunode, 2020).

ii. **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. A personal computer including a desktop, laptop, or tablet device ownership survey was done by A4AI as reported by Guardian (2022) the finding revealed that in Nigeria, only 68.7 per cent of the population owns a PC, 58.6 per cent in Ghana, 50.4 per cent in Kenya, 46.3 per cent in Mozambique, 31.5 per cent in Rwanda and 64.8 per cent in South Africa. In Colombia 60.4 per cent, India 21.8 per cent and Indonesia 51.6 per cent (Guardian, 2022). Also, it has been observed by Ogunode et al. (2021b) that many higher institutions are faced with a shortage of digital facilities to enable them fully integrate into digitalization programmes in the country. The non-availability of these digital facilities has prevented lecturers, researchers and students in higher institutions from fully deploying the facilities for teaching, researching and carrying out academic activities in the various institutions. Ogunode et al. (2021a) and Ohiwerei et al. (2013) noted that facilities like computers, printers, faxing machines, photocopiers, binders, projectors etc. are not adequately supplied in many higher institutions in the country. 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. Ogunode et al. (2021d) concluded that inadequate funding, poor implementation of ICT policies, corruption, poor maintenance culture, poor forecasting, lack of

data and high cost of ICT facilities were identified as the factors responsible for inadequate information communication technology(s) in the Nigerian public universities.

iii. **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. It has been observed that many higher institutions are located in communities where power generation and distribution are poor (Ogunode et al., 2021c). The energy problem is a major challenge in Africa and especially in Nigeria. For instance, Thisday (2022) reported that West Africa has one of the lowest rates of electricity access in the world with only about 42% of the total population and 8% of rural residents, having access to electricity, yet only three countries are on track to provide access to electricity by 2030. "At this slow pace, 263 million people in the region will be left without electricity in ten years," the World Bank said in its 'Putting Africa on the path to universal electricity access' report. Also, the 2022 Energy Progress Report released by Tracking SDG 7 observed that Nigeria has the lowest access to electricity globally, with about 92 million persons lacking access to power which is stifling the country's industrial growth and causing other problems. Ogunode et al. (2021g) concluded that the problem of energy in Nigeria has affected the development of digital education at all levels. Akinyemi et al. submitted that another issue that has hampered Nigeria's efforts to digitalize education is a lack of reliable electricity. Thisday (2016) reported that the electric power supply is insufficient to match the megawatts generated for users, and it cannot go around. Oyediran and Dick (2018) backed this up by stating that the public's power supply is dwindling and increasing worse. According to Azuh & Melody (2014) and Ogbnuogwo et al. (2019), the shortage of electric power has the impact of inhibiting the efficient use of information and computer technologies (ICT) among Nigerian students.

iv. **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. For instance, Guardian (2022) reported that only 12.1 per cent of the Nigerian population currently enjoys Internet services (Meaningful Connectivity) quality in the country. This is according to in-depth research by the Alliance for Affordable Internet (A4AI). A4AI, which explained that an 81 per cent meaningful connectivity gap exists in Nigeria, claimed that only 6.6 per cent of the rural population and 16.4 per cent of the urban have good Internet service. This is coming as broadband penetration in Nigeria hits 42.3 per cent, while users increased to 80.7 million. The Nigerian Communications Commission (NCC) statistics, which revealed this, also informed that Internet users via the narrow band also rose to 145.8 million within the same period. But A4AI explained that

meaningful connectivity is a policy framework and Internet access metric to understand the quality of Internet access someone has. Many communities and cities in Nigeria still do not have access to quality and reliable internet service to carry out various services including educational services. This problem has limited the opportunities of many higher institutions from enjoying digital education services in their respective institutions. Idowu et al. (2017) ascertained that due to poor internet services in some higher institutions, students and staff have to be moving from one location to another location within an institution just to access internet service and carry out academic services. Ogunode & Jegede (2020) and Ogunode et al. (2021f) concluded that poor internet services in many higher institutions in Nigeria have hampered the digitalization programme and development of many higher institutions in Nigeria. Attah (2021) expressed regret that access to technology has remained a major challenge facing Nigeria, noting that Internet penetration stands at 42.06 per cent in Nigeria where most of the population lives in rural areas. Another issue that has frustrated the usability of digital facilities by students is the high cost of the facilities.

v. **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). The internet as we know it today was created in the United States of America and introduced to the rest of the world. America still has a stronghold of control, as most developing countries pay huge amounts of dollars to the US Government for the connection of a few megabits per annum (ibid.). This affects the deployment and full utilization of information and communication technologies in these growing countries, of which Nigeria is one. In Nigeria, the high cost of digital facilities, internet data and fast tariffs set by internet providers, mostly international companies doing business in the country with the main interest of making profits. Higher institutions cannot afford to make ICT available to the whole university which includes staff and students, unless they have sponsors or government funding to embark on such projects. Ogunode et al. (2021e) noted that Nigeria's tertiary institutions lack basic office gadgets and technologies like computers, printers, faxing machines, photocopiers, binders, and projectors not even to talk of the internet in most institutions as a result of underfunding and the high cost of the facilities.

vi. **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. Kupoluyi (2015) stated that the challenges of the high cost of bandwidth and efficient utilisation of ICTs, awareness and mindset, lack of top-level commitment for the progress in ICT integration, a systematic method implementation, lack of technical support, insufficient knowledge, gender, age of teacher, lack of motivation, lack of technical skills, insufficient availability of

hardware/software and the inability of many Nigerian teachers to be computer-literate. Also, Emmanuel et al. (2014) concluded that the high Cost of Computer Equipment. The exchange rate of dollars, euros, Pounce and Nigerian currency (Naira) hinders schools with poor turnover in school fee payment and Parents Teachers Association contributions in the purchase and supply of computer systems in Nigerian schools. Some private schools go into higher purchase methods (hp) to acquire computer systems for their computer laboratory. Dada et al. (2022) noted that due to the poor maintenance culture of the staff and operators of ICT facilities viruses find their way into the computer system, Computer virus is a destructive programme that is cable of destroying both programme and document files in the computer system. Students corrupt the computer system in the laboratories with this virus.

vii.   **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. Another challenge according to Panji o'g'li, (2023) is the need for faculty development and support. Digital technologies require specialized knowledge and skills, and faculty members may need support and training to effectively incorporate these technologies into their teaching practices. Without adequate support, faculty members may be hesitant to adopt digital technologies, or they may use them ineffectively, which can negatively impact student learning outcomes. The shortage of professional digital experts is another problem hindering the effective use of digital facilities in institutions (Titus, 2018) lamented their dearth of digital professionals in educational institutions.

viii.   **Poor Lecturers' Digital Skills:** Digital illiteracy is another challenge of digital education in higher institutions in Nigeria. Digital literacy is the key to the deployment of digital facilities in the schools. When lecturers who are supposed to use these facilities are not literate in them, it becomes a problem and may hinder the usage of the facilities. Titus (2018) observed that digital education has become part and parcel of the higher institution. In an average university, digital technologies are needed for numerous tasks which includes: students' application to universities; processing and registration of large application of students; creation of students' records in a database for students and university staff; design and development of university website; conduct of research by members of the academic and students; university administration for managerial purposes; students' assessments, exams and records. Unfortunately, many lecturers are not digitally literate. Oyedokun et al. (2018), Olatunde-Aiyedun et al. (2021) and Livinus (2013) argued that poor digital skills and knowledge of lecturers in Nigerian higher institutions have affected the development of digitization

programmes in various institutions. Also, Idowu & Esere (2013) noted that an average Nigeria University staff is not computer literate, which is disappointing in this modern digital era. No doubt that most of them may have at some point studied computer applications or gone for basic computer training, but computer training without continuous practice is as good as nothing, as practice makes perfect. Computer illiteracy in this current age of the ICT boom is a great threat to any establishment, talk more of an educational institution as almost all human activities depend on ICT (Anene et al., 2014). Ogunode (2020), Umar & Rosnaini (2018) and Idowu et al. (2017) submitted much academic staff in Nigerian higher institutions are not ICT computer literate and this is limiting their usage of ICT for carrying out academic services

ix. **Poor Students' Digital Skills:** Poor digital knowledge and skills among students of higher institutions are a major problem for digital education in education in Nigeria. Ogunode (2020) argued that one of the most difficult aspects of digital education is the lack of digital skills and knowledge 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. Akinyemi et al., 2022 concluded that not all technology is created equal, and students may want to employ unapproved solutions in some circumstances which may damage the facilities. Ogunode (2020) did a study and discovered that the challenges preventing students of educational administration and planning from using ICT for learning include; poor computer literacy of the lecturers, unstable power supply, lack of personal laptop or computer system, unstable ICT Network services, high cost of ICT services and poor infrastructural facilities of ICT in higher institutions. Also, Airen (2011) did a study on the ICT literacy of undergraduates and found that students in the Faculty of Social Sciences were found to have poor skills in the use of computers and the Internet (with more than 33%) when the average was computed for very poor and poor ICT knowledge, while over 34% of the respondents in Faculty of Arts were found to have poor skills in the use of the telephone. Ogunode, Ahmed, Lawan & Ojo (2021g) observed that many higher students have internet mobile and other ICT facilities and universities have internet facilities yet many students cannot use these internet facilities for their learning. The inability of these students to use the Internet facilities effectively will limit the students' usage of ICT for learning (Ogunode et al., 2020).

x. **Resistance to Change:** Another challenge to the digitalization of educational institutions in Nigeria is resistance to change by the player in the sector. Many key stakeholders in educational institutions across the country are afraid of changing from old ways of doing things to new and modern methods. This is normal in all human activities and life processes, as people tend to be comfortable and hold on to the old ways of doing things rather than adopt new processes. Notwithstanding, changing from old practices to modern ways is challenging to any establishment, be it a university or any form of organization. It is difficult because it involves huge sums of money, planning, time, disruptions,

organizational changes and downsizing or increases in personnel as the case may be. The universities are not left out in this traditional habit, as most university staff are in their mid-age and as such tend to shy away from modern technologies, with the excuse that they are of the older generation and have no time to learn the new generation's ways of doing things (Idowu & Esere, 2013). Panji o'g'li, (2023) observed that the implementation of digitization in higher education can also have significant implications for the overall structure of higher education institutions. Digital technologies can disrupt traditional models of education, leading to changes in the way that courses are designed and delivered, the roles of faculty members and administrators, and the overall structure of higher education institutions. These changes can be disruptive and can require significant resources and planning to implement effectively. Ogunode (2020) and Akinyemi et al. (2022) observed that teachers frequently struggle to adjust to new digital solutions. Learning new digital platforms, where to find papers, and who to seek assistance to all contribute to lower student involvement and can even cause confusion. All of this can lead to an overworked employee and a poor learning experience.

xi. **High Cost of Internet Services:** The high cost of Internet services in Nigeria has hampered the digitalization of educational institutions. Babatunde & Paschal (2016) stated that in Nigeria, the high cost of internet data and fast tariff set by internet providers, mostly international companies doing business in the country with the main interest of making profits is among the challenges of ICT deployment. Although the government is supposed to regulate the internet distribution cost and tariff speed of these internet providers, most often the agencies in charge of such regulations are more interested in tax and the welfare of their organization that they overlook the value of services the companies they regulate offer to the people. This is seriously affecting the deployment of ICT in Nigerian universities. Olatunde et al. (2021) and Ogunode et al. (2021h) concluded that the high cost of digital facilities in Nigeria has limited students' and teachers' access to their usage for educational support.

xii. **Poor Implementation of Digital Policies:** Poor policy implementation has been a challenge to the digitalization of higher education in Nigeria. To realize the international goals of digital education and national goals of digitalization of education in Nigeria, the federal government has developed different ICT policies and digital policies to enable the development of digital education in Nigeria. For instance, The Federal Government of Nigeria through the Nigeria Digital Economy Policy and Strategy (NDEPS) document has set a corresponding target of achieving 95 per cent digital literacy by 2030 (NITDA, 2021). The policy is anchored around equipping Nigerians with relevant digital literacy skills to keep up with the best global practices will put the current workers, youths and other professionals in ready mode for opportunities that may open up within and beyond the shores of Nigeria. This will diversify the economy, significantly reduce unemployment and enhance labour productivity and mobility. In turn, this would improve investment and transform Nigeria into a country well-known for technology, problem-solving and critical thinking. The Nigerian digital policies stated that the National broadband brand that is targeting about 95 per cent digital

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levels to be achieved across states and local governments by 2030." And with a target to achieve 60 per cent digital literacy for youths and adults by 2025. The poor implementation of educational policies in Nigeria has affected the development of education (Ogunode et al., 2023). Also, Adavbiele (2016) that National Universities Commission (NUC) in Nigeria has prescribed that there should be at least one computer for every four students and one PC for every two lecturers below the grade of lecturer I, one PC per senior lecturer and one notebook per reader/ professor. The poor implementation of these ICT and digital policies is a major challenge to the development of digital education in higher education in Nigeria. Jegede & Abashi (2019), Jegede et al. (2021) and Joel et al. (2019) concluded that poor funding, political instability, policy instability, corruption, lack of political will and inflation are the factors responsible for the poor implementation of ICT policies in Nigerian schools.

Conclusion and Recommendations:

This paper discussed the digitalization of higher education in Nigeria, its benefits and problems. 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, the resistance of change, high cost of internet services and poor implementation of digital policies as problems militating against digitalization development in the higher institutions in Nigeria. To address these problems, the paper suggested:

i. Increment in the funding of higher education with specific allocation to digital education development in all the higher institutions in the country.

ii. 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;

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

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

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

vi. More digital professionals should be employed in all the higher institutions to support the development of digital development;

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

viii. 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;

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

x. The national policy on digital technology in all higher institutions should be well implemented beyond mere policy statements.

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