

## **Global Challenges to ICT Adoption in The Universities: The Nigeria Experience**

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### **Abstract**

The catalyst for an effective quality university education delivery in the modern age of technological development and growth is the Information and Communication Technology (ICT). The full benefits of its introduction have not been realized since its inception in the 90's. Despite the huge amount invested by the Nigerian Government and other donor agencies into the sector, the outcome has not been substantial. The authors examined some of the challenges to adopting ICT in the universities with particular reference to Nigeria. Recommendations were made on how to overcome the challenges which the National Universities Commission can explore and implement through seminars, conferences and workshops for the university staff.

**Keywords:** ICT, University, Global Challenges Adoption

### **Introduction.**

Education systems around the world are experiencing a range of drivers for fundamental change both from within and without. These include; globalization, changing concepts around the role of knowledge, knowledge workers and knowledge citizens, the wide spread need for quality, lifelong learning, and the relentless emergence of new information and communication technologies (ICTs), coupled with their growing penetration of, and impact on all sectors of society, including the most disadvantaged.

Understanding of the role of education has broadened significantly, recognizing that learners need to think independently and critically and collaborate with others to make sense of their changing environment. In the developing world in general and Nigeria in particular, the education systems are experiencing the greatest pressures, but have the poorest resources with

which to respond to yet few doubts that these education systems and especially the Universities have fundamental roles to play in socio-economic development and poverty alleviation.

This “digital divide” will continue to widen as long as Nigeria is excluded from the network society and the new economy; yet many believe that ICTs appropriately employed could be a driving factor in National development. The Millennium Development Goals (MDGs) put in place by the United Nations in 2000 highlighted the importance of Information and Communications Technology (ICT) in the global development agenda.

The last of the MDGs, goal number eight implies the need to ensure that the benefits of new technologies especially ICTs, are made accessible to all for the success of sustainable development. Production of information and knowledge is growing at a tremendous pace and ICT serve as a transmission belt in generation, dissemination and sharing of knowledge (Anderson, 2018).

The education sector plays a key role in information and knowledge production and distribution, hence the need to ensure that all lecturers and students are part and parcel of this trend. Nigeria as a developing nation needs to be part of this new dispensation and this means integrating ICT processes into the education system. There is little doubt that Nigeria’s education sector is missing out on the benefits of ICT especially in the rural areas. Kachembere (2019) observes that many students and lecturers are losing out on better education and well-paying ICT Jobs. It is through this realization that some institutions are striving to seize the opportunity to exploit the benefits of ICT for the purpose of teaching and learning. Their efforts are informed by the understanding that ICT in education is a significant key driver for student achievement through enhanced production of information and knowledge. The effective use of ICT in education also has the potential to enhance achievement among students through greater collaboration, improved communication and opening of wider opportunities to share information.

Information and Communication Technology (ICT) can be defined as technologies that enable recording, processing, retrieving and transmission of information or data. Herselman and Hay (2013) describe ICT as technologies that support the communication and cooperation of human beings and their organizations and the creation and exchange of knowledge Furthermore, Yu (2020) considers ICT as a range of technologies that allow the gathering exchange, retrieval, processing, analysis and transmission of information. In other words, ICT can be described as any tool that facilitates communication process and transmit information and share knowledge through electronic means.

Nigeria started implementing its ICT policy in April 2001 after the Federal Executive Council approved it by establishing the National Information Technology Development Agency (NITDA) as the implementing body. The policy empowers (NITDA) to enter into strategic alliances and joint ventures and to collaborate with the private sector to realize the specifics of the country’s vision of making Nigeria an IT capable country in Africa and a key player in the information society by the year 2020 using IT as an engine for sustainable development and global competitiveness. Unfortunately, twenty-two years after the take - off of the implementation, this vision is yet to be fulfilled. The adoption of ICT is however, affected by a lot of challenges.

### **Challenges of Adopting ICT in the Universities**

Adopting ICT in the Universities in Nigeria is not an easy task. The adoption is affected by a lot of challenges. These include cost of internet data and electronic services, fear of change, computer illiteracy, fear of being made redundant, lack of adequate facilities, Internet and electronic security among others.

One of the challenges of deploying ICT in Nigerian universities is the high cost of internet data and electronic services, which is basically the determinant of ICT usage and value (Tongia 2014). The internet as we know today was created in the United states of America and introduced to the rest of the world. America still has a strong hold of controls, as most developing countries pay huge amount of dollars to the US Government for the connection of few megabits per annum (Tongia, 2014). This apparently 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 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 organisation that they overlook the value of services the companies they regulate offer to the people.

This is seriously affecting the deployment of ICT in Nigeria universities, as most universities in Nigeria are autonomous (ie they manage their own funds) especially state owned universities like Abia State University, Uturu (ABSU). Here, they 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.

Another challenge facing deployment of ICT in Nigeria universities is the fear 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 practice to modern ways is challenging to any establishment, be it a university or any form of organisation. It is difficult because it involves huge sums of money, planning, time, disruption, organizational changes and downsizing or increase 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), while the students, on the other hand, are too lazy to make efforts to learn modern technologies, apart from their normal Facebook, WhatsApp and Black Berry services.

This is evident in the fact that an average Nigerian university staff and student prefers to type any official document at business centres instead of doing it themselves. The cure to this traditional habit is awareness.

Computer illiteracy is another challenge of ICT in Nigeria universities. This is due to the fact that an average Nigeria University staff is not computer literate, which is disappointing in this modern digital era (idowu& Esere, 2013). No doubt that most of them may have at some point studied computer application or gone for basic computer training, but computer training without continuous practical is as good as nothing, as practice makes perfect. Computer illiteracy in this

current age of ICT boom is really a great threat to any establishment, talk more of an educational institution as almost all human activities depends on ICT (Anene, et al. 2014).

It is interesting, as ICT is actually more important in Universities than most organizations. In an average university, ICT is 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 (Beda, 2022).

In Nigeria, it is normal practice that people do not want to hear about modern technologies, as they believe that once it is adopted their value in the organization will be reduced or dispensed with. Universities in Nigeria are not excluded from this false ideology, which is the reason most staff tend to hate any discussion about technologies, talk more of embracing it. Also, owing to inflation, aging work class do not want to retire so fast, as they have to pay for their children's school fees and up keep, take care of utility bills and their own selves. This actually makes the introduction of anything that will question their value or proficiency in the work place a threat. Information and communication technologies is one of such threats to university staff, as most of them have been in the job for many years as their means of livelihood in that education is one of the oldest industries (Azuh & Melody, 2020). This is a big problem to the nation's growth, because the progress and development of any country depends on the ability to search for and learn new ways of doing things better, thus creating more job opportunities and improved standard of living for the benefit of all citizens and tourists.

Lack of facilities is one of the challenges militating against the deployment of Information and Communication Technology in Nigerian Universities (Idowu & Esere, 2013). This is evident in the fact that Nigeria universities lack basic office gadgets and technologies like computer, printers, faxing machines, photocopiers, binders, projectors etc. This is appalling compared to other universities of the world, not to even talk of internet connection. These basic facilities contribute to the challenges facing deployment of information and communication technology in Nigeria universities, as no university can function effectively in this modern trend of ICT without these facilities. It is important, in that apart from educational training, these office gadgets and technologies are needed to equip students for future office and corporate activities after their studies.

In universities of developed countries, students while in school learn how to use these office gadgets effectively as it is 'Do it yourself curriculum. This means that although the students would be taught and guided at every step of learning, they are however expected to do things themselves. This includes typing all their coursework's (assignments and dissertation/projects), printing, photocopying, binding etc. However, this is not so in Nigeria as students constantly, depend on commercial office services known as business centres for all their coursework's. This ends up not equipping them for corporate and general office work, as they cannot operate such gadgets after school when they become working-class without formally being trained.

It is not in doubt that Nigeria has a bad reputation on internet fraud and usage, which disappointingly deter most responsible Nigerians from engaging in any electronic transaction or internet activities (Ebenezer, 2021). This is as a result of youth joblessness which pushed most young people into cyber-crimes in order to survive. Although the government is presently addressing these issues with current Central Bank of Nigeria BVN registration exercises in all

banks to tackle financial fraud and creation of new job opportunities to take care of youth unemployment. However, the stigma of past experience is still in the blood stream of most responsible citizens and foreigners of which the Universities are not an exception. This is a huge challenge to the deployment of information and communication technology in Nigerian universities and has a staunch bad reputation on Nigeria among other countries of the world. It is bad to the point that as a Nigerian once you introduce yourself abroad as a citizen of Nigeria, people will just keep you at arm's length or usually very careful or cautious in any business dealings with you due to their notion that Nigerians are fraudsters which is not true of all Nigerians.

In Nigeria, the biggest challenge to the growth and development of most industries is poor electricity supply. This is a huge setback to the progress of Nigeria, as it is difficult to boast of one full day without electricity interruption not to talk of a week or a month. Meanwhile, most countries of the world are beginning to celebrate 100 years and still counting of no electricity interruption. Also, neighboring countries that Nigeria supplied electricity manage to have better and improved electricity supply than Nigeria (Azuh & Melody, 2020) This problem is caused by the greed of some rich and influential citizens, who manipulate and lobby for non-electricity supply in order to sell their imported electricity generators to frustrated citizens for business and home use on one hand; and the corruption and poor management of the electricity distribution company on the other hand.

The government has been so reluctant in addressing this issue for long time, despite the plight of citizens on the high cost of petrol and diesel to power their private generating plants in the midst of rising inflation. It is also funny and saddening that Nigeria is both a producer and export of these costly petroleum products. The government has in the past few years privatized electricity supply in Nigeria, with the aim of solving this problem but it is obviously not helping the situation. This is a big challenge to information and communication technology deployment in Nigeria Universities, as the University and indeed all industries require electricity in order to operate ICT and electronic gadgets (Azuh & Melody, 2020)

Inadequate funding of public universities in Nigeria affects the deployment of ICT in the country. Many public tertiary institutions in Nigeria are underfunded. School administrators are not having access to adequate funds for the implementation of school programme. Many ICT facilities are not available in the institutions due to poor funding. Ogunode (2021) disclosed that inadequate funding is a major problem facing the administration of public higher institution in Nigeria. He went further to say that the inability of the government to implement the UNESCO 20% recommendation for educational budget annually is among the factors responsible for the underdevelopment of Nigerian Universities.

Unstable internet services is a challenge that hindered many public tertiary institution from deploying and adopting virtual education. The internet services in Nigeria is weak and unstable. The services providers are not investing on quality ICT facilities and this is affecting the quality of services they are providing in the country. The computer system needs the internet services to enable online teaching and learning. Once these services are not stable or weak it affects the implementation of teaching and learning. The problem of unstable and weak internet service prevented effective teaching and learning during the COVID -19 for the institutions that decided to switch to virtual education during the period. Adebayo (2020) noted that many students and academic staff cannot upload their notes and students cannot receive e-notes via their ICT facilities due to weak services. Ogunode, Adamu&Ajape (2021) submitted that internet services is what gives life to other ICT facilities to function. In the absence of stable and quality internet

service, other ICT facilities are useless. Internet services can be described as fuel that the ICT needs to operate or move. Internet services is very important to the operation and utilization of ICT facilities in educational institutions. In Nigeria, the quality of the internet service is poor and ineffective. The various internet service provider have not actually invested in the provision of quality service. The Federal government agencies regulating the activities of the internet service provided are very weak, and this is responsible for ineffectiveness in the internet service provision. Many higher institutions are not covered properly with internet service and this is affecting the application of ICT for teaching. Many academic staff with their ICT facilities cannot effectively use them because of weak internet service. In some public universities, ICT facilities have been provided in the lecture halls to aid delivering of lecture through ICT but absence of poor internet services, such ICT facilities are abandoned by the academic staff who are supposed to be using them for lecturing.

Information and communication Technology Infrastructures (ICT) most often are being imported from the developed nations. African nations on the other hand are often faced with poverty due to recession and the likes. In a society where poverty characterized its citizens and the government, definitely such country would find it difficult to afford goods with high rates of exchange. The rise in foreign currency do not encourage importation hence the inability to purchase infrastructures required for ICT development. In a World Bank report Yonazi, Kelly, Halewood and Blackman (2018) revealed that price service of ICT infrastructure tends to increase; most especially the cost of broadband continues to go beyond the reach of most African societies. When an African state could not afford to purchase or obtain a service of a broadband it thus means that such a state would not develop technologically. The high cost of the broadband is often determined by the high rate of exchange. For African nations to afford such, government control of the rate of currency exchange is inevitable

Some ICT infrastructures are found to be durable and affordable but the language of presentation often deters individual and/or organizations in Nigeria to patronize such infrastructures. Also, as a result of the language barrier, such facilities are difficult to use most especially when they develop trouble – shooting problems. Some of the ICT facilities are either found to be labeled in French, Latin, Dutch, Chinese and Arabic among others. Such language of presentation affects the procurement and use of the ICT facilities even though they could be of great value.

Most often innovations in ICT facilities result to incompatible software and hardware. A system that is designed today might be improved upon to meet up with the societal needs. When this happens, the systems which were acquired earlier, become legacy systems hence are found to be incompatible with latest software or hardware in the market. As a result, the systems in due course must be kept aside.

One of the factors that stand as a global challenge for ICT adoption in Nigeria is lack of conducive environment. By conducive environment it entails an environment which is free from government policies and actions that might be detrimental to ICT business investment that do not encourage foreign investors to feature into ICT development in Nigeria. When policies and actions do not favour investors, definitely, no investor would like to come into the scene and this might greatly hamper the adoption of ICT in Nigeria.

## SUGGESTIONS

It is worthy to note that successful deployment of ICT as stimulant to development depends to a large extent on the supportive policy of government, therefore, the following suggestions are made to promote and improve the adoption of ICT in Nigeria universities.

**Adequate Funding for ICT programme:** The government should increase the funding of ICT programme in universities in Nigeria.

**Provision of ICT Facilities:** The government should provide adequate ICT facilities to all universities to enable the institutions to deploy ICT facilities for teaching and learning.

**Subsidize the Cost of ICT Facilities:** The government should subsidize ICT facilities for students and lecturers to enable them buy their personal systems and use them.

**Implement the ICT Policies on Education:** The National Policy on Information and Communications Technology in all universities should be well implemented beyond mere policy statement.

**Capacity Development for Lecturers:** Capacity development programmes should be provided for university lecturers to enable them use ICT facilities to support their teaching.

**Provision of Constant Electricity and Internet Services:** The government should ensure that educational institutions in the country especially universities are provided with constant power supply and internet services.

## Conclusion

There are huge challenges to the deployment of ICT in Nigerian Universities, some of which have been discussed above. However, if the government in collaboration with the Nigerian Universities Commission [NUC] can explore some of the suggested solutions to these challenges, we do believe that ICT will be embraced by Nigerian universities. Also, there is need for continuous manpower development of both universities staff and ICT professionals, through regular seminars and conferences in order to be conversant with new technologies in the world.

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