

Deployment of Information Communication Technology for Universities Administration in Nigerian Public Universities: Challenges and Way Forward

Dr. Mathew Sunday Dada¹, Ishaya Samaila Atobauka², Ogunode Niyi Jacob³

¹*University of Abuja, Nigeria*

²*Federal University, Wukar, Nigeria*

²*Federal University, Wukari, Nigeria*

ABSTRACT

The roles of information communication technology in the administration of universities cannot be underestimated. However, in Nigeria, there are problems hindering effective deployment of ICT for universities administration. This article discusses the challenges preventing effective deployment of ICT for universities administration in public universities in Nigeria. The article employed the use of secondary data. The secondary data were sourced from print and online publication. The article identified: inadequate funding of ICT programme, inadequate ICT facilities, poor computer literacy of administrative staff, unstable power supply, unstable internet services, poor implementation of ICT policies and high cost of maintaining ICT facilities and poor maintenance culture among Universities Staff as challenges preventing utilization of ICTs for administrative purposes in the Nigerian universities. For effective utilization of ICTs for Universities administration, the following recommendation were made: adequate funding of ICT programme, adequate ICT facilities in all offices, training and retraining programme for administrative Staff and teaching staff, implementation of all ICT policies in the universities, subsidizing the cost of ICT facilities staff and educational institutions, imbibing good culture of ICT maintenance, ensure stable power supply and ensuring stable and quality internet services.

KEYWORDS: *Administration, Challenges, ICT, University System, Education*

1.0 Introduction

Public universities according to Ogunode (2020) are universities owned by the government. Public universities are universities established to provide post-secondary schools for Nigerian. Public universities are universities established by act of parliament to serve the interest of the general public. Public universities deal with the provision of teaching, research and communities services. In Nigeria, Universities are grouped with tertiary education. Tertiary education according to National policy on education (2013) tertiary education as Tertiary Education is the education given after Post Basic Education in institutions such as Universities and Inter-University Centres such as the Nigerian French Language Village, Nigeria Arabic Language Village, National Institute of Nigerian Languages, institutions such as Innovation Enterprise Institutions (IEIs), and Colleges of Education, Monotechnics, Polytechnics, and other specialized institutions such as Colleges of Agriculture, Schools of Health and Technology and the National Teachers' Institutes (NTI) (NPE, 2013). The university education is the highest ranked tertiary education and described by Adewale & Taiye 2018, Bamiro, 2012); Startup (1979) as a system that deals with educating and transmitting knowledge to deserving students and scholars by participating in those activities in the local and international arena that enhance the common good and well-being of all mankind in the sense that they play important roles in modern society and are seen as crucial national assets in addressing many policy priorities. University provides an important platform for knowledgeable people to meet in patterned ways to engage in teaching, research and rendering service.

The goals of Tertiary Education which include the universities shall be to: Contribute to national development through high level manpower training; provide accessible and affordable quality learning opportunities in formal and informal education in response to the needs and interests of all Nigerians; provide high quality career counseling and lifelong learning programmes that prepare students with the knowledge and skills for self-reliance and the world of work; reduce skill shortages through the production of skilled manpower relevant to the needs of the labour market; promote and encourage scholarship, entrepreneurship and community service; forge and cement national unity; and promote national and international understanding and interaction (NPE, 2013).

Ogunode (2020) opines that the realization of the universities' goals and objective depends on effective administration and planning. Administration is key to the development of university education in Nigeria. Adewale & Taiye (2018) posits that administration can simply be referred to as the complex process of formulating and implementing policies for the attainment of public good. Educational administration as a field of study in public administration is the management of any organisation or institution having the purposes connected with the education of the groups of individuals forming that organization. Adewale & Taiye (2018), Kupoluyi, (2011) observed that University administration is, therefore, the scientific approach to the management of human and material resources such as ICTs, to achieve the goals and objectives of the universities.

2.1 Concept of University Administration

University administration is the application of the universities resources to realize the objectives of the Universities. University administration is the systematic use of resources within the university system to coordinate and implement programme of the university towards the realization of the university goals. University administration is the process of arranging the various human and materials resources of the university and using them effectively and efficiently to the actualization of the goals of the universities.

The objective of University administration include: to achieve the objectives of the university, to organize the human and materials resources for the actualization of the university's objectives, to supervisor the human resources of the university, to ensure implementation of university's programme and planned, to ensure effective coordination of all the university' resources, to ensure instructional resources are provided adequately for instruction in the universities, to ensure effective planning of curriculum for effective teaching, to ensure students' needs are provided, to ensure effective allocation of financial resources to implementation of university' programme, to ensure accountability in the system and to mobilize resources for the management of the universities (Ogunode & Jegede 2020).

3.0 Application of ICT for Universities Administration

There are many definitions of information communication technology. For instance, Adebayo (2013) defined information and communication technologies (ICTs) as the technology that supports activities involving the creation, storage, manipulation, communication of information using microelectronic and telecommunications tools such as laptops, computers, computer networks, Internet digital printers and mobile technology that are used by the administrator to record, store, process, retrieve and transmit information (Adewale & Taiye 2018, Koko & Koelane, 2013). Oyedokun, Oyewumi, Akanbi, and Laaro, (2018) observed that ICT covers any product that is capable of storing, retrieving, manipulating, transmitting or receiving information electronically in a digital form. The term ICT is also used to refer to the convergence of audio-visual and telephone networks with computer networks through a single cabling or link system.

Information and Communication Technologies is use for the administration of universities. Both academic, non-academic staff and students use Information and Communication Technologies to

support the administrative, academic and learning programme. Information and Communication Technologies aids effective administration of educational institutions in many ways. Maki (2008) submitted that information and communication technology plays a vital role in supporting powerful leadership and efficient management and administration. Thus ICT occupies a very central place in modern educational management and administration of the schools in terms of strategy, policy development and implementation, financial effectiveness and customer satisfaction. These could become possible with computerized information management systems and modern methods of communications. Yusuf (2005) agrees that the computer-based tool is used for the processing of information and communication needs in the universities that tallies with the objectives of the Federal Government of Nigeria on information technology that are well articulated in terms of making the use of ICTs mandatory at every level of education (Yusuf, 2005).

Orji (2011) pointed out that as high-performance organizations, educational institutions may be interested in having an effective and efficient multi-user integrated management information system that is aimed at creating an environment which allows for the development of the full potential of the schools resources which will become more useful to the society. Here, the school resources may include teachers, counselors, non-teaching staff members, students and non-human resources like libraries, laboratories, school farms and other extra-curricular equipment. If these school resources are made to become ICT incline and compatible, there exist tendency of grooming people who would ever be relevant and competitive in our modern society. Thus ICT is ever important in the administration of schools because of its relevance in all aspects of the school.

Adewale & Taiye (2018) and Okoli, (2007) opined that Universities are functionally required to handle large volume of data that are processed so as to provide information for decision-making as well as meeting the information requirements of the various stakeholders such as students, parents, alumni, government, information community and the general public. Fisseha (2011) observed that information and communication technologies unlock the door of education systems. This indicates the growing demand and increasingly important place that ICT have received in education. Educational institutions are under increased pressure to do and optimize management through the use of innovative technologies. This is because ICT provide greater opportunity for educators, teachers and students to adjust learning and teaching to current educational needs or policies. Thus schools are indubitably compelled to give appropriate response to this technical innovation in order to remain relevant in the society.

Kpolovie, 2010a and Tomie, (2014) submitted that ICT has disentangled the problem of the task of the university and polytechnic lecturers with the current state of severe shortage of academic facility and staff facing our tertiary institutions. ICT could be leveraged through video conferencing so that students on various campuses pursuing the same or similar academic programs could be connected at the same time to benefit from a lesson which they lack lecturers. The ICT is use to provide the administrative functions and management functions in the university system which include teaching, researching, security services, health services, financial services, counselling services, maintaining services and academic services. Maki (2008), who notes that ICT activities relate to the management of university administration through the personnel administration of students, resources, finance and general administration. Magni, (2009) observed that ICTs help in providing a good communication system in the university system by providing timely information to all concerned. Hasan et al, (2007) opines that the integration of ICTs into general administration has brought about increased efficiency and optimal resource utilization.

Information communication technology is use by the academic staff, non-academic staff and students for implementing academic programme and learning programme. For the academic staff, Information and Communication Technologies is use for preparation of lesson plan, preparation of note, e-

marking, e-evaluation, e-supervision and e-feedback. The lecturers in tertiary institutions use ICT for: teaching and research with additional administrative assignments. ICT adoption has the potentials of lessening the administrative duties. In teaching and learning in a university system, information and communication technologies offer numerous opportunities in the higher educational system (Kpolovie, 2010a; 2016). The integration of ICTs into this process enhances the overall admission activities of universities by making it more accessible to many (Kwaku & Obeng, 2004).

For non-academic staff, Ogunode, Babayo, Jegede & Abubakar (2021) lists the services of the non-academic staff in the higher institutions in the country include security services, library services, administrative services, maintenance services, legal services, medical services, cleaning services, planning services, financial services, etc. All higher institutions depend on these services to realize their goals while Iwuoha, (2018) pointed out that the non-academic departments in a university system consist of the registry, physical planning, academic planning, bursary, library, school clinic, exams and records center, security, transportation unit, ICT center among others. Ogunode, Babayo, Jegede & Abubakar (2021) posits that the non-academic staff of the universities uses ICT mostly to carry out official works. ICT is used in the security unit to collect data, and print school identity cards. ICT is used in the offices for administrative purposes that include typing documents, sending and receiving emails, and preparation of reports. In establishment and Registry, laptop, computer system others ICT facilities are used for storage of staff data-based, sending of memory, transferring of staff information and data from office to office. ICT facilities are used in the office of the Registrar for the printing of appointment letters, termination of appointment, typing of official documents, and storage of data in the office.

For students, Information and Communication Technologies is use for e-learning, e-checking of result, e-examination and e-registration of courses. Adeyemi & Mary (2013) opined that ICT-driven education is electronic mode of knowledge sharing and transmission, which may not necessarily involve physical contact between teacher and student. The concepts "computer-aided teaching" and "computer- aided learning" have given birth to computer-aided instruction, which represents a combination of both teaching and learning. Access to instruction through the internet is flexible, ensures broad viability and availability of educational opportunities. It is cost effective system of instruction and learning, materials can be accessed irrespective of time and space (Jegede, 2002).

Adeyemi & Mary (2013) observed that the Information and Communications Technology (ICT) is the technology that has brought excitement to teaching, learning and research. It has become a major educational technology. In its simplest form, it can be used to prepare and reproduce handouts or make presentations of learning materials as slides in lecture rooms. At a higher level, ICT could be used in such instructional modes as e-learning. ICT platforms serve as the powerful tool for extending educational opportunities, provide remote learning resources and offer a steadily expanding range of new services that have major economic consequences for the standardisation of information in universities (Nwafor, 2005)

4.0 Challenges of ICT Deployment for Universities Administration

The utilization of Information and Communication Technologies in the University system have come to stay. In Nigeria, there are many challenges preventing effective use of Information and Communication Technologies for university administration. This challenges include: inadequate funding of ICT programme, inadequate ICT facilities, poor computer literacy of administrative staff, unstable power supply, unstable internet services, poor implementation of ICT policies and high cost of maintaining ICT facilities and poor maintenance culture among Universities Staff

4.1 Inadequate Funding of ICT Programme

Inadequate funding is a problem affecting effective deployment of ICT facilities for universities administration in Nigeria public universities. Ahaotu & Ogunode (2020) submits that inadequate funding is one of the greatest problems facing the administrators of higher institutions in Nigeria. Higher institutions administrators do not have access to adequate funding for effective running and administration of the institutions under their care. Government funding of higher education in the country have been inadequate for decades. The funding of education is shared among different levels of government and supplemented by funds from other sources such as business, community organizations and levies charged. The revenue collected through fees constitutes an insignificant proportion of the revenue of the institution. Fund allocation has not been much during the last decade. The poor funding of higher educational system in the country has rendered the higher education system incapacitated. The higher education system has not had the financial resources necessary to maintain educational quality in the midst of significant enrolment explosion. Due to poor funding of the universities, many universities cannot afford to provide adequate ICT's facilities in their schools. There is also a major challenge which is funding, and this issue opposes the procurement and utilization of ICT in Nigeria universities education. Ogunode, Adamu & Ajape (2021) and Ogunode, Abubakar, Abashi, Ireogbu, Longdet (2021) observed that the funding fund of ICT programme in the Nigerian public universities is responsible for poor development of ICT programme.

4.2 Inadequate ICT Facilities

Inadequate ICT facilities is another problem preventing the effective use of information and communication technologies for administration of universities in Nigeria. Many public universities in Nigeria do not have adequate ICT facilities like computer, printers, faxing machines, photocopiers, binders, and projectors to use for administrative functions. ICT facilities are used for storage of information, sending and receiving mails and typing of documents. This problem is attested to by Ade (2013) and Oyedokun, Oyewumi, Akanbi, and Laaro, (2018) concluded that it is unfortunate that many universities in Nigeria do not have adequate ICT facilities like computer system, laptops, printers etc for their admin staff to carry out official functions. Adavbiele, (2016) submitted that very few of Public higher institutions in the country are capable of meeting the ICT needs of their staff and students. Adavbiele, (2016) did a study and found out that factors limiting the adoption and use of ICT in the Universities: low access to ICT facilities in my university, Non possession of personal computer and some essential software hinder the use ICT in my study, Problem of poor reception (uploading and downloading of documents/files act as hindrance), Lack of consistent and affordable electricity supply discourages the use of ICT in my University, Health related problems associated with the use of computer like eye strain and heat exposure discourage me on the use of ICT, Inability of my university to meet the capital and running cost of establishing both the internet and intranet facilities, Problem of resourcing issues like class size, students and teacher preparation for the new modes of learning and teaching and for the use of associated technologies and pedagogical issues like the need to re-design courses for different delivery modes hinders me on the use of ICT

4.3 Poor Computer Literacy of Administrative Staff

Poor computer literacy is another problem preventing effective utilization of ICT for administrative functions in the Nigerian universities. Many non-teaching staff, lecturers and students in the Nigerian universities are not computer literate. The high rate of computer illiteracy in the university system is affecting the level at which admin staff, lecturers and students used ICT facilities to support teaching, learning and administrative functions. Adomi and Anie (2006) analyzed the computer skills of professional librarians at Nigerian universities. Their findings showed that librarians were not highly computer literate. Emmanuel, Umoh & Emmanuel (2014) observed that more than 80% of respondents demonstrated lower academic achievement (amongst botsh faculty and students) when

compared with their counterparts in the West where ITC usage and integration has existed for decades; the causes of this are not difficult to understand. A chronic absence of ICT instructional materials, ineffective policy implementation and a lack of other resources (infrastructure) to aid teaching and learning are responsible for the marked disparities. Oyedokun, Oyewumi, Akanbi, and Laaro, (2018) listed among other problems constraints to ICT skills acquisition in the universities to include lack of technological know-how on ICT.

4.4 Unstable Power Supply

Unstable power supply is a major challenge to effective application of ICT for administration of universities in Nigeria. Nigeria as a developing country is having power challenge. The Nigerian government cannot boast of ensuring twenty hours constant power supply across the country. Presently, the total power generation for the country is below ten thousand megawatt. The problem of unstable power supply is affecting the entire educational institutions especially the universities because the various programme of the universities require constant power supply. Electricity is needed to deliver teaching in the lesson hall, electricity is needed to carry out research and electricity is also needed to administrate the schools. ICT's facilities depend on constant power to function well without stopping, once power is not stable, ICT facilities functions less. Krubu and Osawaru (2011) revealed some factors hindering the impact of ICT in Nigerian university libraries as lack of search skills, epileptic power supply, expensive software and hardware, and the huge amount of money spent to fuel generators.

4.5 Unstable Internet Services

Unstable internet services is also another problem limiting the effective usage of ICT facilities for universities internal administrations. Internet services is very poor in many states in Nigeria. Many areas communities and cities have not been fully cover with internet services and this is affecting the internal administration of many universities. As a non-teaching staff in one of the Nigerian universities, in many occasion, we have to stop official work due to poor internet services. Official documents meant to be sent via online to other universities due to poor internet services were not able to be sent that day. Jagboro (2003) and Umoh & Emmanuel (2014) gives reasons for the low level of utilisation of ICTs in the university and these include low level of connectivity among other factors. (Emmanuel, Umoh & Emmanuel 2014, Obasanjo 2012) also observed that Nigerian schools are faced with epileptic nature of Network System for browsing and carrying out of research work by students. Adavbiele, (2016) discovered that that there is a gap between the university teachers and students and ICT usage in classrooms and many university lecturers and students have to go to commercial cyber cafés in town before they have access to a computer that is internet connected.

4.6 Poor Implementation of ICT Policies

Poor implementation of ICT policies in the Nigerian public universities accounts for the poor employment of ICT for universities administration in Nigerian public universities (Ogunode, Okwelogu, & Olatunde-Aiyedun, 2021; Olatunde Aiyedun, Ogunode & Eyiolorunse Aiyedun 2021). Adavbiele, (2016) cited Okhiria (2007) noted that National Universities Commission (NUC) in Nigeria has prescribed that there should be at least one computer to every four students and one PC to every two lecturers below the grade of lecturer I, one PC per senior lecturer and one notebook per reader/ professor. NUC has gone further to establish e-learning platforms fitted with twenty smart boards in twelve Federal universities for the promotion of the use of ICT in teaching and learning. Majority of the Nigerian universities have not achieved this recommended system ratio for their faculties, though some have made giant or notable strides in campus wide area networking and e-learning course deliveries. The poor implementation of these policies is frustrating the development of ICT in the universities. Adeosun, (2010) carried out a study that showed that lack of ICT resources and poor infrastructure prevents full implementation of ICT in Nigerian tertiary institutions. The

poor implementation of ICT policies in the Nigerian tertiary institutions is preventing many students from using ICT effectively for their students.

4.7 High Cost of Maintaining ICT Facilities

The cost implication required for maintaining ICT facilities is high and this makes many school administrators to limit the time allocation for internet services within the universities environment. This action limit the academic and student access to the use of computer for school activities. Kupoluyi, (2015) and Bolaniran and Ademola (2004) submits that the challenges of 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 inability of many Nigerian teachers to be computer-literate. Olatunde-Aiyedun, Eyiolorunse-Aiyedun, & Ogunode, (2021) and Oyedokun, Oyewumi,; Akanbi, & Laaro (2018); Emmanuel, Umoh & Emmanuel (2014) observed that high Cost of Computer Equipment. The exchange rate of dollars, Euro, Pound and Nigerian currency (Naira) hinder schools with poor turn over in school fee payment and Parents Teachers Association contribution's in the purchase and supply of computer system in Nigerian schools. Some private schools go into higher purchase method (hp) to acquire computer system for their computer laboratory.

4.8 Poor Maintenance Culture among Universities Staff

Poor maintenance culture among users of ICTs in the universities is also responsible for why many universities don't use ICTs effectively school administration. Many ICTs facilities have been damaged and spoiled due to poor maintenance habit of users within the public universities. Emmanuel, Umoh & Emmanuel (2014) cited Oketunji (2000), discovered a positive relationship between prior experience with ICTs, attitude, anxiety and poor maintenance cultures of computer laboratories and Academic Performance of students, lacks of well-equipped computer laboratories, epileptic nature of power supplied. Due to poor maintenance culture of the staff and operators of ICT facilities virus find their ways 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. Emmanuel, Umoh & Emmanuel (2014) and Vikas (2008) pointed out that there are thousands of virus variations, most fall into one of the following six general categories, each of which affect the computer system differently; Book sector virus, file virus, macro virus, multipartite virus, polymorphic virus and stealth virus. Also worm and Trojan Horse like a virus, is a program that harms the computer and destroys data stored in it. Poor Maintenance Cultures. Every computer system as a sequence of booting (starting) and shutting down (putting off). If the computer operator fails in the process of carry out the proper sequence, it may corrupt the operating system and can even cause damage to the hard disk which is the major storage device in a computer system (Emmanuel, Umoh & Emmanuel, 2014). There are other articles and studies on barriers to ICTs usage in the University system.

5.0 Way Forward

For effective utilization of ICTs for universities administration, the following recommendation were made: adequate funding of ICT programme, adequate ICT facilities in all offices, training and retraining programme for administrative Staff and teaching staff, implementation of all ICT policies in the universities, subsidizing the cost of ICT facilities staff and educational institutions, imbibing good culture of ICT maintenance, ensure stable power supply and ensuring stable and quality internet services

- a) The government should increase the funding of university education. This will enable school administrator purchase more ICT facilities for offices uses. The availability of adequate ICT facilities in the universities offices will aid effective administration of the schools.
- b) More ICT infrastructural facilities should be provided in all the public universities. This will aid effective administration of universities.
- c) The National Universities Commission and the school administrators should come up with programme to ensure all teaching and not teaching staff in the Nigerian universities are given the training and retraining programme on Computer. This will aid effective ICT usage for administrative purpose.
- d) The government should implement all ICT policies involving provision, training and supervision of ICT facilities in all the universities. This will enhance the utilization of ICT for administrative functions by teaching and non-teaching staff.
- e) The government should subsidize the price of ICT facilities for educational institutions especially the universities. This will make the universities to acquire more ICT facilities and use them for administrative purposes.
- f) Government should employ ICT professional to maintain or format and install updated antivirus such as Norton antivirus, Mc Afee, Smart Cop programmes to check the computer virus.
- g) The government should provide the energy companies with financial aids to enable them to improve the quality of service they are providing for the consumers. This will help to stabilize the electricity supply in the country generally and as well as that of our universities.
- h) The government should strengthen the internet companies with loan facilities to enable them to improve on the infrastructural facilities. This will help to improve the internet services in the country in general and universities in particular.

6.0 Conclusion

This paper discussed the challenges hindering effective deployment of ICT for universities administration in Nigeria. The paper identified inadequate funding of ICT programme, inadequate ICT facilities, poor computer literacy of administrative staff, unstable power supply, unstable internet services, poor implementation of ICT policies and high cost of maintaining ICT facilities and poor maintenance culture among Universities Staff, Adequate funding of ICT programme, adequate ICT facilities in all offices, training and retraining programme for administrative Staff and teaching staff, implementation of all ICT policies in the universities, subsidizing the cost of ICT facilities staff and educational institutions, imbibing good culture of ICT maintenance, ensure stable power supply and ensuring stable and quality internet services.

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