Role of ICT in the Teaching and Administration of Higher Education in Nigeria: A Review

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ABSTRACT

Information and Communication Technologies (ICTs) have been widely deployed in most of the universities in Nigeria. Researches shown that the integration of ICTs in higher education have reduced the complexity of the administration and enhance the overall administration of higher education. ICTs increase the flexibility of delivery of education so that learners can access knowledge anytime and from anywhere. ICTs also influence the way students are taught and how they learn and better prepare the learners for lifelong learning as well as contributed to the industry. The application of ICT to administrative system of higher education alleviate the problems facing in the administration of student admissions and tracking, financial management, data distribution, teaching, learning and research, staff appraisals, general administration, security, etc. Therefore, this study review some related study on the role of ICT in the administration in higher education. The study discussed the benefits of ICT to both teaching and administration and highlighted some of the significance role of ICT in the governance of higher education. Moreover, the study explained the challenges facing the e-administration in Nigerian universities and remedies to unravel the problems. Finally, the study discussed the significant advantages of ICT services over the traditional services in Nigeria higher education.

Keywords: Amazon, CD ROM, E-Administration, Higher Education, ICT, LMS

1. INTRODUCTION

Information and Communication Technology (ICT) has been conceptualized by many scholars from different perceptive. According to Imhonopi and Urim (2012), ICTs are modern technologies that facilitate information gathering, processing, transmission and storage and comprise hardware and software components that can be put to heterogeneous use through digitalization connecting individuals and institutions over wide swathes of a geopolitical area. In other words, ICTs cover Internet service provision, telecommunications equipment and services, information technology equipment and services, media and broadcasting, libraries and documentation centres, commercial information providers, network-based information services, and other related information and communication activities (Garai, 2005). Hence, it is an engine for growth and tool for empowerment, with profound implications for education, change and socio-economic development (Ikenna, 2015). Higher education is generally understood to cover teaching, research and extension. Higher education is the source or feeder system in all walks of life and therefore supplies the much-needed human resources in management, planning, design, teaching, and research (Shrivastava, Raizada and Saxema, 2014). Scientific and technological advancement and economic growth of a country are as dependent on the higher education system as they are on the working class.

Development of indigenous technology and capabilities in agriculture, food security and other industrial areas are possible because of our world- class higher education infrastructure (Shrivastava, Raizada and Saxema, 2014). Higher education also provides opportunities for lifelong learning, allowing people to upgrade their knowledge and skills from time to time based on the societal needs (Shrivastava, Raizada and Saxema, 2014).

ICT increases the flexibility of delivery of education so that learners can access knowledge anytime and from anywhere. It can influence the way students are taught and how they learn as the processes are now learner driven and not by teachers (Hattangdi and Ghosh, 2008). This in turn would better prepare the learners for lifelong learning as well as to contribute to the industry. There are different kinds of ICT products that are available and used in education for different purposes such as teleconferencing, email, audio conferencing, television lessons, radio broadcasts, interactive radio counseling, interactive voice response system, audiocassettes and CD ROMs (Sharma, 2003; Bhattacharya and Sharma, 2007).

Today, ICTs which includes laptops wirelessly connected to the Internet, personal digital assistants, low cost video cameras, and cell phones have become affordable, accessible and integrated in large sections of the society throughout the world (Hattangdi and Ghosh, 2008). It can restructure organizations, promote collaboration, increase democratic participation of citizens, improve the transparency and responsiveness of governmental agencies, make education and health care more widely available, foster cultural creativity, and enhance the development in social integration (Kozma, 2005). It is only through education and the integration of ICT in education that one can teach students to be participants in the growth process in this era of rapid change (Hattangdi and Ghosh, 2008).

According to Hattangdi and Ghosh (2008), ICT can be used as a tool in the process of education in the following ways:
1.	**Informative tool:** It provides vast amount of data in various formats such as audio, video, documents.
2.	**Situating tool:** It creates situations, which the student experiences in real life. Thus, simulation and virtual reality is possible.
3.	**Constructive tool:** To manipulate the data and generate analysis.
4.	**Communicative tool**: It can be used to remove communication barriers such as that of space and time (Lim and Chai, 2004). The following mediums are used for the delivery and for conducting the education process:
    1.	**Voice** – Instructional audio tools that include interactive technologies as well as the passive ones.
    2.	**Video** - Instructional video tools that include still images, prerecorded moving images, and real-time moving images combined with audio conferencing.
    3.	**Print** – instructional print formats that include textbooks, study guides, workbooks and case studies (Bhattacharya and Sharma, 2007; National Programme on Technology Enhanced Learning, 2007**).**

ICTs also allow for the creation of digital resources like digital libraries where the students, teachers and professionals can access research material and course material from any place at any time (Bhattacharya and Sharma, 2007; Cholin, 2005). Such facilities allow the networking of academics and researchers and hence sharing of scholarly material. This avoids duplication of work (Cholin, 2005). Use of ICT in education develops higher order skills such as collaborating across time and place and solving complex real world problems (Bhattacharya and Sharma, 2007). It improves the perception and understanding of the world of the student. Thus, ICT can be used to prepare the workforce for the information society and the new global economy (Kozma, 2005).

ICTs have always influenced the evolution of the society and have a consequence on the nature of administration. ICT enhanced existing social, economic and political interactions and even introduced new forms of interactivity between

the people and the government. This interactivity is in both a social and technical sense, is the channel that allows information dissemination amongst administrator and sharing between management and administrators (Ikenna, 2015). Access to information is both a consequence and   driver of the digital revolution. Efficient and effective administration, rest on the pillars of knowledge and recognition of this set of knowledge by the decision makers (Ikenna, 2015).

Digitization of this entire set of knowledge within a network which links every individual including the decision makers gives freedom to everyone to access and make use of this knowledge paving the way for digital governance (Ikenna, 2015). ICT-enabled administrators, therefore includes ICT induced changes in the running and management of the university and more importantly changed induced in the way staff interact and participate in the administration of the university (Ikenna, 2015).

E-administration is changing the power of equation based on access and control to information and knowledge (Ikenna, 2015). A more informed administration is in a better position to understand and exercise its rights and e-administration will lead to reduction in knowledge gap on issues bordering on administration (Ikenna, 2015). Digital administration will ensure that staff are no longer passive in the discharge of their duties instead would have a potential to play a decisive role in deciding the kind of services they want and structure which could best provide the same (Sharma, 2010).

At this juncture (E) which stands for Electronic emanated from ICT and as such is the engine that propels change and development (Ikenna, 2015). Administration is an authoritatively coordinated process for the achievement of group objectives (Obasi, 2007). Authoritative, because there must be some form of legal or social parameters indicating the structural and other relationship of persons engaged in administration. In the same vain, Hornby (2012) is perceived administration, as activity done in order to plan, organize and successfully run a business, school/or other institution, a process or act of organizing the way that something is done.

According to Edem (2006), administration involves planning activities which aim at the fulfillment of the goals of a particular organization or institution. It calls for the ability of the administrators to make the right decisions to fulfill the required goals in the university system or setting therefore, administration has been extended as a service activity or tool through which the fundamental objectives of the institutional process may be more optimized efficiently when allocating human and material resources as well as to make the best use of existing resources (Liverpool and Jacinta, 2013). However, the integration of ICT into administration of the university system will enhance quality assurance and transformational development (Ikenna, 2015).

Most of the universities in Nigeria are not incorporated some essential components of the electronic administrative structure into e-administration of university management system. For instance, memos/mails are expected to be distributed on-line but instead they are dispatch to the university community in a whisker (Ikenna, 2015). Through, the use of ICT, transcripts, attestation letter, verification and confirmation of results were done on-line but some universities are still operating some of these operations manually. School fees payment via e-transact, course registration and to a large extent exams is administered online by (CBT) Computer Base Test and this enable parents to assess their wards performance in school (Ikenna, 2015). On management staffing, from recruitment exercise to appraisal, electronic assessment makes it more transparent, result oriented and faster (Ikenna, 2015). Laxity and truancy, is also checkmated electronically using Biometric Verification Machine (BVM). Installation of CCTV to check and control crime in the university community is a welcome idea.

In teaching, learning and research e-platform has the answer, in other words electronic system has a lavishing package in the administration of university system (Ikenna, 2015). Projectors are used in teaching and learning while search

engines like Amazon, yahoo, goggle, hotmail etc are used in research. E-libraries are also in place to make research meaningful and useful. Data base are created in all units and departments of the University for Banking Vital Information, so as eliminate the idea of sorting files and searching for a particular float to eternity without success. Till date it is a surprising thing that about 70% of our Nigerian universities still operate analogue even in the administration of post university Jamb exams (Ikenna, 2015).

2. REVIEW OF RELATED STUDY

Ahmad (2011) in his paper "Effective Educational Management: An Implementation of ICT in Administration of Higher Education Institutions" states that the use of ICT in educational management will benefit for analyzing the data quickly and accurately quick, decision making, provides the power to the Administrators for efficient management of education and institution, reduces the burden of Teachers, available at lowest total cost of ownership, provides information at the door steps and reduces the Right to Information Applications. He says that **"**the government is now more concerned about the paradigm shift in education system. Now there is a buzz word of 'Quality' of education everywhere. But we cannot revamp the education system without making the administration of institutions effective and efficient. And this can only be done with the usage of technology i.e. ICT in the educational management". Meenakumari and Krishnaveni (2008) in their study "Transforming Higher educational institution administration through ICT" have identified a comprehensive set of functional areas of e-administration. The study revealed that demographic factors do not have a major impact on e-administration in higher education institutions. It is also evident from this study that integration of ICT into knowledge administration for the teaching–learning process is more in comparison with Research Methodology. Computers can be used extensively for educational administration.

Adeyemi (2011) studied the impact of ICT on effective management of universities in south-west Nigeria. The findings of this study revealed that information communication and technology have significant impact on the effective management of universities in south west Nigeria. From the responses it found that ICT has not been effectively used in the management of the universities. This suggests that information communication and technology is a critical variable in the effective management of the universities. Due to the shortage in power supply the universities in Nigeria are not ready for technological development.

Bhardwaj and Singh (2011) in their study of "Automated Integrated University Examination System" reveals that the meaning of computerization is limited to just typing or surfing web; full potential of ICT has not been explored by many universities. ICT is very useful tool to have transparency, reliability and efficiency in university examination system. There are endless possibilities by integrating ICT with examination system. Automated Integrated Examination System will ensure efficiency and effectiveness in the examination system and render convenience of online queries by cutting down time and cost and breaking down geographical barriers, thus bringing a sea change in the existing manual examination system. Ahmed and Jibia (2013) in a research paper "Application of Information Communication Technology (ICT) and Records Keeping In Schools" revealed that the roles that records play in school administration demand that they must be kept prompt, sincerely and safely. This may provide reliable and timely data to educational managers and policy makers. They concluded that "they provide information that would enable all stakeholders such as banks, industries and other employers of labour make informed investment decisions, project future needs for their products, plan for expansion, recruitment of staff, explore potential markets, design products and predict growth". It was found that lack of proper record keeping, dishonesty, and other malpractices are negatively affecting the accuracy in the field of education and of course in other fields of our national happenings.

A study on "Usage of ICT for Information Administration in Higher education Institutions" by Krishnaveni and Meenakumari (2010) has identified a comprehensive set of functional areas of Information administration. There is a

clear integration of ICT for managerial or information-based administration in higher education institutions. Their study reveals that demographic factors do not have major impact on Information administration in higher education institutions. All the functional areas identified have an influence on Information administration. This reveals that increasing the usage of ICT on these functional areas enables the enhancement of overall information administration in higher education institutions in global competitive environment.

Asiabaka (2010) in his study on "Access and Use of Information and Communication Technology (ICT) for Administrative Purposes by Principals of Government Secondary Schools in Nigeria" investigated the access and use of information and communication technology for administrative purposes by Principals of Government Secondary Schools in Imo State, Nigeria. Findings revealed that majority of the Principals never used the broadcast/audiovisual and telecommunication/computer technologies for administrative purposes. Furthermore, findings also showed that majority of the principals used print technology for various administrative purposes. The study therefore recommended that needs assessment be carried out to facilitate development and deployment of ICT in secondary schools. It also recommended that the government should look into the issues of funding of education in general and ICT in particular.

Mutagahywa (2012) in her paper "The Role of ICT in University Governance in Tanzania" studied about the governance activities using ICT in universities of Tanzania. She revealed in her paper that the Universities are using ICT for student admission and records, tests/examination results and transcripts, human and financial resources and management of various assets. The highest impact of ICT on university governance is in this area of administration. She recommended that many ICT applications in HEIs should be directed at improving the quality and capacity of management information systems to support strategic decision-making and policy implementation, stimulate and facilitate free flow of information through the university and to respond to the needs and demands of students for better and increased access to university services and information through the web. Data warehousing technologies can be used to discover trends and provide hidden information that eases managers" decisions.

Adebayo (2012) concluded in his paper "The Impact of Application of Information and Communications Technology (ICT) in the Administration of Polytechnics in Ogun State, Nigeria" that information and commutations technology have significant impact in the administration of polytechnic in Ogun, State Nigeria. The impact were found to be relevant to senior academic & administration officers of polytechnics in ICT providing solutions to specific problems of administration, ICT enhance qualitative and quantitative. ICT encourages competency of administrators in Decision-making in the administration of polytechnic. It also guarantees effective administrative practices of human and material resources; ICT has capacity to handle quality of data for processing with fastest speed. Pyla (2012) in her paper "ICT as a Change Agent for Higher Education and Society" identified that ICT in administration of educational institutions play a very important role.

It simplifies the administration tasks by reducing the paper work and replaces the manual maintenance of record keeping to electronic maintenance of records which helps in easy retrieval of any information of students, staff and general with in a fraction of seconds can access the required information. For student administration ICT helps to maintain the student's personal profile, academic track record, placement participation, student alumni record student assessment etc. And it helps in student learning activities like assignment uploading and course material downloading, attending quiz &online test and preparing classroom and project presentations and access the information for career enhancements, attendance record in some institutions biometric attendance facilities, communicating academic details of students to parents via mail and sending text message, availability of time tables and course schedules in electronic form, etc.

For staff administration ICT helps in maintaining the staff personal profile like personal details, pay scale, grade, performance record common for teaching and nonteaching staff and for teaching administration ICT plays a pivot role

in assessment of teaching performance , research work , preparation and presentation of learning materials, duties and responsibilities etc. For general administration ICT helps in office administration and managerial administration like maintaining financial records of the institutions social networking with other institutions, companies and agencies for business transactions and dealings, issue notifications, facility of fee payments on online, scheduling of examinations, and allocation of e-hall tickets to students" online student admissions process and communicating people for events and programs etc.

Onyije and Opara (2013) studied in the paper "Information and Communication Technologies (ICT): A Panacea to Achieving Effective Goals in Institutional Administration" and identified the use of ICT for institutional administration in order to improve the efficiency in Organization of Information, Computation and Processing of Paper Work, Enhancement of Effective Communication, Enhancement of Planning, Improvement of Monitoring and Managed Instruction. They concluded in their paper that ICT is needed for institutional administrators to function efficiently and the institution to effectively pursue its academic excellence. Several measures are necessary to improve the use of ICT in our higher institutions.

3. ICT IN TEACHING AND ADMINISTRATION

University faculties that use computers in teaching are now taking advantage of the power of the computer in manipulation of words and symbols. Introduction of eLearning or on-line learning is also on the increase in universities (Mutagahywa, 2012). However the role of ICT in teaching and learning is more pronounced in institutions which have adopted Learning Management Systems (LMS). LMS generate and manage various student support services and products such as course outlines, digitally recorded classroom material, discussion groups, laboratory assignments, lecture notes, live lectures for later viewing and re-viewing, links to specific websites, on-line tutorials, supplementary readings and virtual office hours for teacher student consultations (Mutagahywa, 2012). Virtual library and open course ware allow students to get content at no or low cost instead of acquiring expensive text books, reference materials or journals. On-line content has in fact allowed institutions to co-own content which they can use when and if a particular faculty who created it leaves the institution (Mutagahywa, 2012). In general terms ICTs have been credited with improving quality, widening access and cutting costs in the teaching function.

Universities are using ICT in managing students' admission and records, tests/examination results and transcripts, managing human and financial resources and management of various assets (Mutagahywa, 2012). The highest impact of ICT on university governance can be felt in this area of administration when institutions will start using more ICTs for better planning, setting standards, effecting change and monitoring results of core functions of the University (Mutagahywa, 2012). Many ICT applications in HEIs should be directed at improving the quality and capacity of management information systems to support strategic decision-making and policy implementation, stimulate and facilitate free flow of information through the university and to respond to the needs and demands of students for better and increased access to university services and information through the web (Mutagahywa, 2012). Consultations and accountability can easily be facilitated by online discussion forums and mailing/SMS lists with staff and students. Extensive use of the Intranet will enhance the collegiality feeling by giving access to minutes/records of decision making organs to all staff affected by those decisions; and at the same time allowing senior managers to have access to background information and the thinking behind issues they are requested to make a decision on. Various Management Information Systems are deployed in Universities to support strategic decision making. The data generated/captured through the data warehouse by these systems will be used to discover trends and provide hidden information that eases managers' decisions. The data warehouse acts as a hub, to facilitate the exchange of information between systems and therefore serves as the institutions information infrastructure.

Questions like what is the quality of education offered by a particular HEI can only be adequately addressed through the use of data warehousing and data mining technologies (Mutagahywa, 2012).

4. BENEFITS OF ICT IN EDUCATION TO THE MAIN STAKEHOLDERS

According to UNESCO (2002), the benefits of ICT in education to students, employees and governments are:

Students:
1. Increased access
2. Flexibility of content and delivery
3. Combination of work and education
4. Learner-centred approach
5. Higher quality of education and new ways of interaction

Employees:
1. High quality, cost effective professional development in the workplace
2. Upgrading of employee skills, increase productivity
3. Development of a new learning culture
4. Sharing of costs and of training time with the employees
5. Increase portability of training

Governments:
1. Increase the capacity and cost effectiveness of education and training systems
2. To reach targets groups with limited access to conventional education and training
3. To support and enhance the quality and relevance of existing educational structures
4. To ensure the connection of educational institutions and curricula to the emerging networks and information resources
5. To promote innovation and opportunities for lifelong learning

Benefits of ICT in Administration
According to Ikenna (2015), the benefits of ICT to the administration in higher education include:
1. ICT reduces spending and increases interest earning; reduction in costs incurred by providing services can be reduced by use of internet.
2. ICT promote decent, efficient and effective service delivery which is characterized by transparency and accountability in the various units and departments of the institution.
3. ICT promote effective and efficient service delivery
4. ICT check crime wave, admission racketeering, extortion, student result upgrade or mutilation and certificate forgery.
5. ICT promote transparency and accountability in the service delivery.
6. ICT enables university administrators in processing relevant data for management and the governing bodies, agencies for decision making towards quality assurance and transformational development.
7. ICT enhances the overall admission process in the university system; by making it more accessible.
8. ICT helps in producing a good communication system in the university community and beyond.
9. ICT provides timely information to all concerned staff and student. This could be for internal purposes or external purposes.

5. SIGNIFICANCE ROLE OF ICT IN THE GOVERNANCE OF HIGHER EDUCATION

According to Mutagahywa (2012), the significant roles of ICT in governance of higher education include:
1. Increasing access of University community to processes of making policy/rules/procedures and to existing policies/rules/procedures.
2. Interaction between University management/administration with internal and external stake holders.
3. Increasing transparency and accountability in budgetary and financial management, revenue mobilization and expenditure.
4. Monitoring performance of teaching/research and various projects.
5. Simplification of various University processes.

Benefits of e-Governance in Higher Education

The benefits of e-governance in an educational sector are improved efficiency, increase in transparency and accountability of educational administrative activities convenient and faster access to services, and lower costs for administrative services. According to Ranjeeta and Nishtha (2013), the multi-faceted benefits of e-governance can be described under these points:

Benefit to university
1. (i) Centralized information access from anywhere
2. (ii) Increase in student enrollment ratio.
3. (iii) Provide quality e-services, e-participation,
4. (iv) Increase clearness
5. (v) inventive teaching tools
6. (vi) Improved decision making, Private Public Participation
7. (vii) less paper work
8.

Benefits to students
9. (i) Increase participation in education affairs
10. (ii) Personalized login for each students
11. (iii) extensive saving in time cost & efforts
12. (iv) Information & transaction services
13. (v) Job opportunities
14. (vi) Social connectivity for collaboration
15. (vii) Students can access virtual lectures &Seminars.
16. (viii) Students can solve their problems like- examination queries, result verification etc.
17. (ix) Students can submit feedback to university.

6. CHALLENGES FACING E-ADMINISTRATION IN NIGERIA

According to Ikenna (2015), the challenges facing the e-administration in Nigerian universities is as follows:
1. A major challenge of e-administration is cyber security and data protection. At the moment there is lack of appropriate legal framework to provide comprehensive cyber security and data protection in Nigeria.
2. Low level of IT complaint among stakeholders in the University system is not just possible challenge but a debilitating factor to the implementation of electronic administration in Nigerian University system and their willingness to embrace the change.
3. There is also a growing concern that e-administration is dependent on IT vendor as most of the e-administration projects in most universities are out sourced to the IT vendor. This option is tasted on most universities either because, lack of ICT development skills within the university community or outsourcing is felt to be more cost efficient.
4. Cost is another challenge to the introduction or adoption of electronic administration in the university system. A complete shift from (PB) paper base (analogue) to (CB) computer base or electronic administration is very expenses.
5. Non interaction between the government, public and institutions and the amount of feedback from and to the citizens is very poor.

Remedies to the challenges facing e-administration in Nigeria
Ikenna (2015) recommends the following remedies for the problems facing the e-administration in Nigerian universities:
1. To tackle the security challenges in the administration of university in the country the ICT units has to be conscious of their web site and web masters, issue e-mail address and password to staff of the university. But in all, quick passage of the following bills (i.e. computer security and critical information infrastructure protection Bill 2005, cyber security and information Agency Bill 2008, Interception and monitoring Bill 2009, and the Telecommunication Bill 2010) by the National Assembly will go a long way in providing adequate/legal framework for data protection in Nigerian university system.
2. There is need for training and evolvement of key players in the University system in the phase of e-administration implementation. Thus, more collaboration between NITDA and Universities in coordinating the necessary training in the Nigerian Universities is recommended.
3. There should be establishment of ICT unit to curb the problem of over dependent on the external IT vendor in e-administration project implementation.
4. The university management must purchase and upgrade to proper and modern trend computer hardware and software, install new technology, train and retrain personnel on the use of new technology and provide continued financial support for maintaining the systems.
5. There should be synergy between the university management, ICT unit, Registry, council and senate. E-administration aims at bridging the gap and creating a feedback platform.

7. SIGNIFICANT ADVANTAGES OF ICT SERVICES OVER TRADITIONAL SERVICES IN NIGERIA HIGHER EDUCATION

The online methods enable more effective education and offer significant advantages over traditional services (Ranjeeta and Nishtha, 2013):

1. **Provide E Services**: ICT improve the delivery of services to students, faculty by providing services like enrollment, examination, result, feedback, requests for documents, requests for certificates, issuing admit cards and ID cards, employment etc.. The system provide timely alert to colleges through SMS /Emails. E-administration provides new ways of communicating to the students, imparting education and organizing and delivering information and services.

2. **Improved education system**: The use of ICT in education sectors improve education, improve information, service delivery, encourage student participation in the decision making process, making administration transparent and effective and give universities a new channel of educational unemployment. Also, the system can obtain feedback from industry and students to modify course curriculum if deemed appropriate by the authorities. This will allow all the lesser performing colleges to reduce the gap with better performing institutes. It will be help in the betterment of the higher education in the country and increase the number of employable students.

3. **Innovative Teaching Tools**: The new technologies offer vast opportunities for progress in all walks of life with the introduction of new technological initiatives the structure of higher educational institutions has changed. The changing role of lecturers, the changeable learning environment and the design of e-Learning facilities all contribute to a potentially more flexible organizational structure of higher education. The future delivery of education will be based through eLearning technology providing lecturers with superior teaching tools. The online methods enable more effective education and offer significant advantages over traditional teaching methods. This has been possible by technological implementation based environments such as bulletin boards, virtual lectures and e Libraries and video conferencing. E-learning environment can support communication with classmates and lecturers.

4. **Private Public Participation**: almost all e-government projects have found it convenient to involve different private agencies for different tasks through public-private-partnership (PPP) arrangements. These tasks include design and development of application software, population of data and content in the regional language, procurement and installation of networking and computer systems, deployment of software and delivery of services.

5. **Centralized Information**: ICT has provided electronic information infrastructure to simplify service delivery, reduce duplication, and improve the level and speed of service at a lower cost. The centralized information approach of e-administration keeps all information at one place in electronic form. This approach of making information secure prevents it against any theft or leakage.

8. CONCLUSION

The advent of ICT has provided a platform for effective and efficient service delivery electronically. The integration of ICT to education affects the delivery of education by promoting flexibility to learning in such a way that learners can access the lesson contents in regardless of time and geographical barriers. ICTs influence the way students were taught, how they learn and enable development of collaborative skills as well as knowledge creation skills (Hattangdi and Ghosh, 2008). Similarly wider availability of best practices and best course material in education, which can be shared by means of ICT, can foster better teaching. E-administration is being embraced as a means of better service delivery to both the university community and the general public (Ikenna, 2015).

However, ICTs have not fully integrated to the teaching and administration of Nigeria higher education, though, some universities have automated their universities administrative system but there are still some important features which are not embedded in the system. Therefore, management of the higher education institutions should makes sure that they include all the important features in their university administrative system so as to enable them meet up with the international global standard.

This study reviews the role of ICT in the teaching and administration in higher education. The study discussed the benefits of ICT to both teaching and administration and highlighted some of the significance role of ICT in the governance of higher education. Furthermore, the study explained the challenges facing the e-administration in Nigerian universities and remedies that can be use to lessen these problems. Conclusively, the study discussed the significant advantages of ICT services over the traditional services in Nigeria higher education. Panacea

9. RECOMMENDATIONS

The following suggestions are recommended:
1.   Nigerian universities should integrate emerging technologies such as mobile technology, virtual world, social networking, cloud computing, etc into their programs and strategies.
2.   Higher education institutions (HEI) should identify specific role of ICT that will enhance research capacity and provide adequate infrastructures and capacity building.
3.   HEI should deployed data warehousing and data mining technologies across the higher education sectors
4.   Management of the universities should advocate for the advent of mobile computing and broadband telecommunication networks that will enable the university stakeholders have access to digital resources at anytime and anywhere.
5.   Government should support by enacting favourable legislative and updated amendment for maintain standards in the education process and improvement in the related field.

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