

Problems And Prospects Of Using Information And Communication Technology For Record Keeping In Tertiary Institutions In Nigeria

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Abstract

The rapid changes in technology led to a revolution in Information and Communication Technology (ICT). This poses new challenges and opportunities to all levels of educational institutions. Academic and non-academic staff in tertiary institutions need to be computer-literate if competencies in record keeping and management have to be upheld. Information and Communication Technology (ICT) is one of the most prominent and efficient tools devised for record keeping and management. It advances knowledge and skills necessary for quality education in tertiary institutions. This paper reviews the concepts of ICT and the importance of using it for record keeping. It highlights the nature of tertiary institutions in Nigeria, and the need for record keeping in tertiary institutions. The paper also identified the problems facing the usage of ICT facilities for record keeping and proffered solutions that could enhance record keeping in tertiary institutions. The paper concludes that ICT facilities are very imperative in tertiary institutions for record keeping and management.

Keywords: Problems, Prospects, Information and Communication Technology, Record Keeping, Tertiary Institutions.

Introduction:

In this age of globalization there is a shift in global development agenda and the Nigerian government is introducing some reforms in our educational system with a view to repositioning it in line with the vision of Information and Communication Technology (ICT) (Adamu in Ubogu, 2011). ICTs are computer based tools used to meet with the Information and Communication needs of individuals and organizations. They comprise computer hardware and software, network and several other devices (video, audio, photography, camera, etc) that convert information, images, sound, motion, among others into common digital form (Milken Exchange on Education Technology, 1999). Oliver (1999) sees ICT as the science that investigates the properties and behaviour of information, the force governing the flow of information and the means of processing information for optimum accessibility and usability. The process includes the origination, collection, storage, retrieval, interpretation, dissemination and use of information.

ICT involves the use of hardware, software, networks and media for the collection, storage, processing, transmission and presentation of information (voice, data, text, images) as well as related services (World Bank, 2007). It is a broad term that has to do with the harnessing of process, the methods and the product of electronic communication related technologies and other related resources in today's knowledge driven society, for enhancing the productivity, the spread and efficiency of set programme activities geared towards the achievement of clearly defined goals (Obanya, 2002). ICT is an eclectic application of computing, communication, telecommunication and satellite technology (Yusuf, 2005). Therefore, ICT can be defined as an electronic device for managing and processing information with the use of soft and hard wares to convert, store, manipulate, protect, transmit, manage, control and retrieve information for the enhancement and productivity of personal and organizational activities.

The Nature of Tertiary Institutions in Nigeria:

Tertiary institutions play essential roles in human resource development and promote high quality education capable of offering clear directions in most endeavours designed for purposes of quality living. They help in creating, supporting and propelling knowledge-driven economic strategies, and the empowerment of the citizens (Umo, 1999).

Tertiary institutions have been described as parastatals which award professional and non-professional certificates. They are involved in providing higher education opportunities. In the 19th century, Nigerians were benefiting from British and American Universities. However the first University College was built in 1948. Following series of complaints because of highly limited admission opportunities, the Nigerian government established five full-fledged universities within four years of independence. These were followed in the 1970s and 1980s by more universities including both federal and states. Added to these were some colleges of education, polytechnics and the Nigeria Defence Academy that award degrees. Since independence, it has been a steady growth from five Universities in 1962 to thirty-six in 1992 (Akpochofo, 2005).

In this present dispensation, individuals and organizations have been given the go-ahead to establish private tertiary institutions provided they comply with the standards. One is, therefore, not surprised that tertiary institutions have proliferated the country with 117 universities, 64 colleges of education and 43 Polytechnics as at 2011. This increase in tertiary institutions, also calls for the provision of ICT facilities for record purposes.

The Need for Record Keeping in Tertiary Institutions:

The need for technological innovation has led to a revolution in the development of technological facilities that are applicable to keeping and management of school records. Making use of ICT for record keeping and management will go a long way in raising the standard of school records anywhere in the world. Educators are fast realising the need for using computer for the keeping and management of school records. This would be convenient to both administrators and academic and non-academic staff in tertiary institutions. Records and record keeping constitute the life wire of organizations (Egwunyenga, 2006). It would be very difficult to plan and administer any organization such as the school effectively if records are not kept and managed properly. School records are documents, books, diskettes and files which contain information on what goes on in the school (academic and non-academic activities), school personnel, students as well as other school resources such as instructional materials (Olagboye, 2004).

Record keeping and management ought to be taken as a vital responsibility by school authorities because of the indispensable role records play in the effective day-to-day running of the school. In order to make decisions on both short and long term policies, school authorities rely on information that are on records. However, most school authorities do not have a good culture of record keeping. The few records that are kept are usually not properly stored, thus creating the problem of retrieval to users when needed. The few school authorities that have adopted the electronic record-keeping practice in the record management system of their institutions have risen above such problems of storage and retrieval, as ICT affords the opportunity to have a quick and easy view of all the records on school activities. Hence, by means of modern data storage facilities like computers, microfilm, CD-Rom, cassettes, e-mail, collaboration software and hardware, technological advancement had contributed to the effective storage and management of school records. The use of ICT for school record keeping and management gives an overview of the number of students that registered, accurate information on students' fees payment status, and a comprehensive database of staff, students and instructors with just a click.

Due to the expansion of schools, it is essential that computerization takes place and a total overhauling of the existing ICT system be undertaken for easy record keeping and management. ICT has the potentials for not only ensuring effectiveness and efficiency in teaching-learning process, but for also easing the administrative duties of record keeping and management. Being aware of the significant role of information and communication technology in our lives, especially in our educational activities, school authorities should be wise enough to use ICT in supporting record keeping and management. Presently, records of most tertiary institutions are kept manually and, with the passage of time, vital records and information are lost due to the rise in the number of school activities. A lot problems have been identified from manual record keeping and management practice. They include lack of skills in the interpretation of scores from assessment instruments, lack of skills in records and preparation of reports and shortage of experts in record keeping. For any school system to engage in satisfactory record keeping and management activities, information and communication technology must be applied in its operational system. This is because human beings can make mistakes. However, with the help of these modern electronic devices, the mistakes will either be eliminated or reduced to its barest minimum.

In the light of the foregoing, this paper will examine the following:

- Types of records kept and managed in tertiary institutions.
- Problems of using ICT facilities in record keeping and their solutions.
- Prospects of using ICT facilities for record keeping and management in tertiary institutions.

Types of Records Kept and Managed in Tertiary Institutions:

Records kept and managed in tertiary institutions are classified as management records, administrative records, reference records and students records. Management records are records of meetings, procedures, decisions and resolutions kept as important reference materials through which institutions keep track of changes in their procedures, practices and to know the state of transparency of their activities in the past and present. They also stand as the basis for determining what should be done in the future. Administrative records include admission records, personnel records and physical resource records. Admission records are permanent records showing students particulars from the first day of admission. They help to keep track of the students enrolment. They are a source of reference on every matter relating to when a student came into the institution, course of study, possible date of graduation, etc. Personnel records provide information about the employment and duty records of both academic and non-academic staff members. These records contain detailed personal information of staff (in terms of age, gender, qualification, previous experience, appraisal forms, certificates), detailed description of tasks to be performed by staff in accordance with the employment conditions of service as well as staff disciplinary committee files. Physical resource records are records of tangible assets such as classrooms, offices, laboratories and workshops as well as the equipment and furniture in them (Salau, 2005; Oyedeji, Salau & Oluwalola, 2008).

Reference records are policy records which must be possessed by the institutions. They include government policies, decisions of governing council and procedures on funding and moral codes (Daramola, 1995). Student records include the personal data of students as at the time of admission, matriculation number, date/year of admission, department/course of study, degree in view, mode of entry, letter of recommendation/attestation, name of course adviser, academic records (transcripts, examination scripts), social records, and students disciplinary committee file.

Problems of Using ICT Facilities in Record Keeping and their Solutions:

Application and services of Information and Communication Technology (ICT) are integral to any meaningful development in the education sector in all respects including record keeping. Thus the efficiency of employing ICT systems in record keeping may be seemingly difficult if the basic challenges of ICT are not addressed. Oshodin and Idehen (2007), identified poor installation of ICT related facilities, irregular electricity/power supply and poor maintenance culture, as problems facing ICT usage. Other problems facing the use of ICT in record keeping as adapted from Emetaron (2001), Ibadin (2001), Osundina (2007), Otakhor (2007) and Ogunlade (2008) are as follows:

- *Lack of Basic and Adequate Infrastructures/Resources:*
The non-existence of basic and adequate physical facilities such as accommodation space for computers with internet connectivity, electric generators and adequate furnitures pose great problems in the usage of ICT for record keeping.
- *Lack of ICT Technicians and Personnel:*
There is shortage of expertise that can handle the installation, operation and maintenance of ICT facilities. These areas are essential to the application of ICT to record keeping and management.
- *Inadequate Funding/Financial Crisis:*
Information and Communication Technology (ICT) facilities are not within the reach of the average Nigerian due to the high cost of acquiring them. This is posing a barrier to easy restricted individuals access of these facilities for record keeping purposes. Financial resources form a key to the successful implementation and integration of ICT in record keeping and management. The current level of funding of tertiary institutions by their owners and the decrease in budgetary allocation to the education sector is a major area of constraint to the provision of ICT facilities for record keeping and management.
- *Lack of Basic Education and ICT Skills:*
This may pose a problem to record keeping since many academic and non-academic staff who ought to be using ICT facilities are not computer literate and, therefore, fail to maximally enjoy the benefits offered by ICT in record keeping and management. Also many of the academic and non-academic staff have conservative attitudes and still maintain their old ways of doing things and resist change.
- Interruption of ICT facilities by electricity and computers network failure during record keeping.
To actualize effective utilization of ICT facilities and skills in record keeping, the following solutions are proffered:

- The institutions' authority should make orientation programmes available to both academic and non-academic staff on how to use ICT facilities for record keeping.
- There should be adequate supply of electricity and computer networks for record keeping.
- Seminars and workshops on the use of ICT for record keeping should be organized by school authorities for both academic and non-academic staff involved in record keeping.
- There should be budgetary allocations by the government for the procurement of ICT related equipment and facilities in tertiary institutions for record keeping.
- There should be free and compulsory ICT series for both academic and non-academic staff by providing them with practical and functional knowledge of the computer, the internet and associated areas of ICT for record keeping.
- There should be full automation of school records. This will certainly enable institutions to meet their legal responsibilities. It will also aid their administrative efficiency (Olubusuyi 2008).
- Information and Communication Technology related equipments and infrastructure should attract little or no importation tariff. Local software developers should be encouraged.

Prospects of Using ICT Facilities for Record Keeping:

Tertiary institutions are centre for excellence, places where people are trained to become professionals who contribute the knowledge and skills acquired to national development. The institutions also inculcate in students proper values that make for the survival of the society as a whole. Many people who undergo training in these institutions are victims of manually kept information. They have experienced one form of set back or the other due to improper record keeping. For example, because students' scores are not securely stored for easy retrieval and use when the need for them arises, some students have had to carry over courses they had passed previously. Some students even had to do extension on courses they already passed but whose scores were discovered to be missing due to faulty record keeping and management. Directly or indirectly, such unsavoury incidents could ultimately engender underdevelopment one way or the other.

It is, therefore, important to fully apply ICT to record keeping in tertiary institutions. This will enhance individual, institutional and national development tradition. Also, energy and time used on manual record keeping will be conserved; mutual confidence between academic staff, non-academic staff and students will be enhanced, and good judgment based on facts and figures will prevail. ICT will also facilitate the preparation for and issue of transcripts to graduates who wish to further their education along a given professional line. At present officers who are in charge of preparation of transcript, sometimes, find it very difficult to prepare them because of scores that cannot be found in their records. But the use of ICT holds out a bright prospect of filling the vacuum created by manual record-keeping. The use of ICT could also facilitate the keeping of accurate records in the areas of examination, staff recruitment and promotion, publishing, and students enrolment and admissions.

Conclusion

Education the world over, is being redesigned to fit more into the electronic age for the purpose of efficiency. Information and Communication Technology is a powerful tool for enhancing quality education in tertiary institutions. This paper has highlighted the fact that tertiary institutions need ICT facilities for record keeping, especially in contemporary times when greater emphasis is being placed on industrial and technological development. It has also discussed the concept and importance of ICT facilities for enhancing record keeping in tertiary institutions. The problems and prospects of ICT facilities for record keeping were also identified. It is therefore, imperative that tertiary institutions provide requisite emerging technologies for effective record keeping and management in their domain.

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