ICT INTEGRATION FOR SUSTAINABLE DEVELOPMENT OF NIGERIAN ACADEMIC LIBRARIES : ISSUES AND CHALLENGES

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ABSTRACT

State that effectiveness of library services now largely depends upon the Information and Communication Technology (ICT), the libraries that have the necessary infrastructural capabilities can tap for their development. The integration of ICTs for library services presents enormous challenges and opportunities to librarians, information professional and users. Presents a relatively detailed issues and challenges of the impact and use of ICTs for sustainable development of Nigeria library services in the context of globalization. It is hoped that when libraries are fully ICT compliant, it will increase access, improve skill and services, offering new learning experience to both librarians and students, encourage resource sharing with other institutions and reduce the handling and use of fragile or heavily used original materials among other reasons.

Introduction

Libraries are repositories of knowledge, they are duty bound to acquire, process, preserve and disseminate information from whatever source. Hence, there is the need for such information to be

kept, preserved and made available in a more convenient and accessible format. Over the years, libraries have been burdened with the problems of space, accessibility and preservation. ICT integration for sustainable academic library services is becoming a common request among academic and research institutions, libraries are responding to this request by attempting to make text and image of interesting materials available to a wider and virtual audience (Akintunde, 2003).

The future of libraries is being shaped today by emerging technology that is transforming the way information is created and disseminated. One indicator of the future of libraries is the push to provide increasing amount of information in electronic format. Traditional libraries are being and would continue to be converted into new flavors of digital or virtual libraries. Today, we have electronic library (e-library) and virtual library which provide access to electronic books and journals, online references, web-resources, web-catalogues etc. ICT is a powerful tool that would link library with libraries in the world and facilitate the ongoing revitalization of the information acquisition and dissemination process. According to Ojo (2005) ICT evolved from the fusion of three components to distinct information, communication and the computer technologies to what has been described as Information Age. In line with the above, Hawkins (2002) noted that, knowledge and information has become the most important currency for productivity, competitiveness, and increased wealth and prosperity.

ICT in libraries can be understood as the application of digital equipments to all aspects of library work. Akintunde (2004) "emphasizes the use of computer and other technologies such as telephone to process, transport, and transfer voice and other data singularly or mixed with least interference or distortion of content".

Today, the concept of virtual libraries referred to variously as digital library, electronic library, community network, or simply as library without walls made possible by ICT has become the in-thing that no library that worth its salt can ignore. It is called 'virtual' because in a good electronic wide area network library, the user enjoys the euphoria of being in distant libraries and yet has not physically moved. The whole universe of the global information super highway has become human resource and heritage, which all that have the necessary ICTs infrastructure capabilities can tap for their development.

Therefore, librarians and patrons must therefore be aware of the potential and limitations, as well as skilled required for the use of library ICTs, librarians must be able to assist library users to search for and find high quality information in a quick and effective way. Despite these opportunities, and benefits, there is no doubt there are a lot of challenges facing ICT integration for global library services in Nigeria Universities at this century.

In Nigeria, the relationship between the development of ICTs penetration and use for library services and its diffusion into library service is dependent upon governmental and management polices (Olulobe, 2006). ICTs are indispensable and have been accepted as part of contemporary world especially in the industrialized societies, in fact, culture and societies have adjusted to meet the challenges of the knowledge age. Unquestionably, ICTs has impacted on the quality of library services to teaching, learning and research in all discipline. Therefore, ICT integration for library service provides opportunities for users to communicate with one another more effectively during formal and informal teaching, studying, and learning process (Yusuf, 2005). In Nigeria, changes in higher education and globalization are provoking a radical change in university libraries, within the past half-decade or so. There has been a dramatic adoption of ICTSs in Nigeria libraries and this has led tremendously to the globalization of library services in the country.

ICT and Library Services

The term ICT is used to describe the ability to access information using telecommunications based Internet resources. It provides the ability to create, organize, manipulate and access information from remote locations across the globe in a matter of seconds. ICT incorporates a range of technologies used to support communication and information. ICT includes both networks and applications; it also includes fixed wireless satellite telecommunications and broadcasting networks. The well known applications are the Internet, databases management systems and multimedia tools. By implication, a holistic understanding of ICT necessarily includes consideration of telecommunications polices, information policies and human resources development policies. ICT integration for library services is a diverse set of technological tools and resources used to communicate and to create, disseminate, store and manage information. Lawson, (2003) argues that the ICT sector is a heterogeneous collections of industry and service activities including information technology equipment and service, telecommunication equipments and services, media and broadcast, internet services provision, libraries, commercial information providers, network based information services and related professional specialized services Aina, *et al.* (2010) define ICT as "the use and application of computers, telecommunications and microelectronics in the acquisition, storage, retrieval, transfer and dissemination of information to a wider and dispersed audience.

ICT and Nigerian Academic Libraries

The importance of information infrastructures and network such as LAN, virtual libraries and other virtual structures in accelerating the globalization of library services and attendant transformation of library practices in the country cannot be over emphasized. Academic libraries in Nigeria are at its best not to be left behind in this new trend. One of the objectives of libraries is to disseminate and provide access to its materials, this includes thesis and dissertations. The efforts of the Nigerian

university librarians towards these steps to integrate ICTs into various library operations are hereby acknowledged. Some academic libraries have been making concerted efforts to make records, catalogue and text available in digitalized form to its clients using various ICTs tools.

The library achievements in this direction so far include, the establishment of digital library acoustically designed with air conditioning in most Nigerian university libraries, procurement of quality hardware and soft ware resources, Catalogue of documents, text materials and special collections, inclusion of ICTs to the general studies (use of library) on the university curriculum, provision of uninterrupted power supply system, and provision of library website. (Idowu, 2009).

Cognizance of the opportunities provided by developments in information dissemination and exchange made possible by ICT, some libraries in Nigeria have made efforts to digitize their collections to make it available to the world knowledge (Uboegu, 2009). For instance, recently some university and research libraries in Nigeria have registered with AGORA (Access to Global Online Research in Agriculture). A researcher in any of these libraries can access relevant research information from the AGORA database. With the existing cooperation between the AGORA publishers and other database providers or publishers (e.g. CAB, AGRIS, HINARI, BLACKWELL, ELSEVIER, etc.), it is possible for researchers to have access to them through AGORA from any of the registered libraries.

The need for ICTs integration for library services today cannot be over-emphasized because of the need for a traditional library to fit into the train of information and communication technology (ICT) as a means of globalizing academic libraries in Nigeria. In the same vein librarians and users need training not only in computer literacy but also in the application of various kinds of libraries educational software and tool for learning and library processes. Furthermore, they need to learn how to integrate ICTs into how information is being sourced and retrieved in the library. Therefore, library users proficiency skill is crucial using ICTs and its associated devices because ICTs are tools that on one hand can facilitate users training and on the other hand help them to take full advantage of the potential of technology to enhance user learning (UNESCO, 2003).

Correspondingly, ICTs have introduced a new era in traditional methods of library services, studying, teaching and offering new learning experiences to both librarians and students. Hence, Nigerian academic libraries environment should take full advantage of this capability to provide easy access of information, since technologies enable the visualization of library material in an innovative and realistic manner using ICTs. ICTs integration according to Akintunde (2004) includes:

- Library management and administration

- Processing of library materials

- Developing on-line resources
- Accessing on-line resources
- Provision of regular library services to user
- Inter-library cooperation and lending (Collaboration) video conferencing etc.

According to Idowu, (2009) "Integrating ICTs into library services users find more information at minimal cost and in less time" For instance, users of library in Nigeria can now easily find out any information concerning any book in the Library of Congress in United States of America within a couple of minutes without leaving the confines of their library building". The negligible fact is that ICTs has become indispensable tool to libraries in the provision of timely information to users and in fact, to the progress of librarianship as a profession, in which academic library must not be an exception. This therefore underscores the need for academic library to be ICT compliant, as ICT has already begun to exert massive transformation of libraries services in developed countries. In Nigeria, Academic libraries should not give the impression either that they do not know the capabilities and potentials of the ICTs for library operations or that they do not need electronic library that is ICT compliant to improve their services for effective and adequate information acquisition, dissemination and retrieval processes.

Issues in ICT Integration

Improving the quality of education through the diversification of content and methods and promoting experimentation, innovation, the diffusion and sharing of information and best practices as well as policy dialog are libraries management strategic objective. The integration of information and communication technologies (ICTs) in Nigerian university libraries have become tools and had a revolutionary impact on how we see the world and how we live in it. This phenomenon has given origin to the contemporary and advances in our ways of life. ICT is having a revolutionary impact on library services and methodology. However, this revolution is not widespread and need to be strengthened to reach large percentages of the population.

In a complex society like Nigeria, many factors affect ICTs integration and its use for library services, so an interdisciplinary and integrated approach is very necessary to ensure the successful development and implementation of ICTs in Nigeria libraries, (Mac-Ikemenjima, 2005). In Nigeria, the need for well qualified ICT skilled librarian has gained pre-eminence, it is considered that ICT education is a means of not only providing the librarians with the necessary skills and knowledge of ICT needed to adequately carry out their librarianship job, but as well as for professional growth (Osunde & Omoniyi, 2005).

ICTs proficiency among library users is the process of training that deals with the art of acquiring professional competencies and professional growth. It is an essential exercise that enhances the skills of using library ICTs devices and operations. Therefore, an effective library ICTs education programmes is a pre-requisite for library users which leads to a good level of confidence of ICTs integration to both librarians and users as a result of which library ICT integration for library service is coordinated effectively and professionally (Lawal, 2003). Before adopting ICTs integration for library services the following steps is considered:

A — Is the project user driven?

— Opportunity driven?

— Preservation driven?

— Revenue driven?

B — Do the library have the skills, the money, the capacity, and the technical infrastructure? (UNESCO, 2002).

Question to Ask

- Why do you want your library to be ICT complaint?

- Who is your audience?

- Do they have the required skill to handle ICTs tools?

- Who owns the materials and equipments?

- Who will be responsible for different stages of the project?

- How will you provide access to ICTs tools and equipments?

- How will you preserve and maintain the ICTs equipments and materials?.

Many Nigerian librarians and library users have been unable to find effective ways to use technology in their libraries or any other aspects of library services for their teaching, learning and research purpose in life. The possible explanation for this lack of success by patrons and librarians is that the use of technology based library services has not been encouraging and librarians are not well trained in using ICTs in handling library services as a means for educational sustainability (Olulobe, 2006). Notwithstanding, the specifications in the National Policy of Education by the Federal Government of Nigeria (1998-2004); Nigeria as a nation came late and slowly into the use of ICT in all sectors of the national existence more especially in library service and attendant transformation. This is as a result of chronic limitations brought about by economic disadvantages and government policies.

These factors have direct consequences on the nation's educational development. In a recent study conducted by the Global Information Technology (2005), the report used the Networked Readiness Index (NRI), covering a total of 115 economics in 2005-2006, to measure the degree of preparation of a nation or community to participate in and benefit from ICT development. Nigeria was rated 90th out of the 115 countries surveyed. United States of America topped the list, followed by Singapore, Denmark, Iceland, Finland, Canada, Taiwan, Sweden, Switzerland, and the United Kingdom and so on.

Also, Nigeria was ranked 56th out of 104 Countries surveyed in 2004 (Global Information Technology, 2004). This shows a decline in Nigeria preparedness to participate in and out ICT development globally. Fundamentally, the slow access to basic ICT equipments, low internet connectivity and computers and the inadequacies in the use of audio visual materials and equipments including films, slides, transparences, projectors, global charts, maps, bulletin board, multimedia projector, smart board, Digital Camera plus programmed material, information retrieval systems and instructional television, library education programs are barriers to the effective and professional development of librarians and library users in Nigeria (Ololube, 2006). Therefore, administrators and trainers need to make ICT an integral part of library education to provide a clear demonstration of how the use of ICTs tools can address the personal and general concerns of library services in Nigeria.

ICT Challenges for Library Services

The first challenge is the demand for Multi-Channel Learning Opportunities: Berg and Voger (1997) stated that dynamics for today's world requires a new approach to learning rather than tinkering with current library service practices aiming at improving the situation, they reasoned, we should approach the current trend of ICT deployed into library service from a completely different perspective. The need to learn how to learn and to provide multi-channel learning opportunity through a variety of flexible delivery mechanisms should form the basis of this new perspective of library service to its numerous patrons irrespective of place, space and time by providing such opportunity for users given the trends of library toward more open society and global economics.

Larson (2003) observes that "our ability to generate and collect digital information continues to grow faster than our means to organize, manage and effectively use it. However, the library is still expected to provide the following:

- Provide connections to local, regional and global network through a functional telephone and international service provider (ISP);

- Order books, journals, magazines from book stores worldwide and to read reports and reviews on-line;

- Provide online catalogue, indexes and data bases full text electronic resources'

- Provide materials for students, academics and staff through interlibrary loan and other resources showing arrangement through purchase, donation, collaboration and subscription;

- Provide ICT infrastructure with the state of the arts hardware and software, and sufficient bandwidth and responsive network management at multiple levels, from the institutional level upwards;

- Provide professional support to facilitate through and accurate use of all library resources;

- Access to worldwide library material and service to the community and widely dispersed learners among others.

The second challenge is the Intranet and Internet connectivity for library services. Idowu and Mabawonku, (1999) describe connectivity, simply as the global interconnection of computer networks. The network makes it possible for information stored in the major computers (host) connected to it, to be accessible by others users irrespective of the distances separating them.

Another challenge is the Development of Electronic Library in all the Nigeria academic libraries where users access information that reside solely in electronic format or computing network irrespective of physical location of the information.

Another major challenge is training and retraining programmes among librarians and user education, since technology becomes obsolete so easily, it is therefore imperative that training and re-training should be done as a routine in order for librarians to cope with innovation and advancement in ICT for library services initiatives. Other challenges are:

- Inadequate funding

- Inadequate power supply

- Inadequate ICT facilities

- Lack of users' education and training.

- Inadequate infrastructural facilities

Funding is Another Challenge

Funding is critical to any library initiative, especially ICTs and its associative devices, they are very costly in terms of hardware, software, and personnel. The rate of adaptation or adoption of ICT to library services has so far been largely defined by the supply of funds in most of Nigerian academics libraries apart from the attitudes of librarians and the management. Nigerian Libraries that are about

making some significant changes from the manual to ICT compliant according to Akintunde 2006 are funded by external grants i.e. Ahmadu Bello University, University of Ibadan, Obafemi Awolowo University, University of Jos and University of Port-Harcourt libraries. The University of Lagos has a 120 – seater with complete electronic computer reference library, fully furnished and donated by a mobile telephone company, the type that should be a model. Lagos State University is at its best again as its library called Fatiu Ademola Akesode Library has a separate 100-seater e-library for undergraduates and another 20-seater virtual library for postgraduate students and academic staff respectively at the main library. Also, a state of the art 150 seater e-library was donated by the Lagos State government in 2012 to Taslim Olawale Elias (Law) library and recently a 50 – seater e-library was donated by Universal Service Provision Fund (USPF) in 2013 to the University main library. Apart from donors, funding by government (Federal and State), which has been the sponsor of about 75% of libraries has been dwindling and quite unreliable in the last few years. However, for private universities, there appears to be some stability as some good attention is given to libraries. Babcock University (BU), Bowen University (BU), Redeemers University (RU) and Covenant University (CU) have begun in little ways to commit fund to the implementing of ICTs in their libraries.

Academic libraries are "customized" built for their respective institutions 'with space and appropriate facilities as listed in the design brief. The implication of this is that all Nigeria academic libraries including the newer ones have no ICT customized structures. Re-design, reconstruction and modifications are being made in the libraries that are developing ICT today. Lines for electrical and Network cables should be provided, space for services and switches must also be provided. There should be provision for purely online public access catalogue (OPAC), electronic mail services, teaching laboratories as well as laboratories for library patrons to browse and do their research, teaching and learning. Space for electronic mail service and on-line public Access catalogue should be clearly marked out as well as space for seminar, video conferencing and gaming. The furniture in the libraries should suit patron needs to work both independently and in groups. There should be space for instance, on the reader's table for computer power cables and network cables to be plugged in. Easy Chairs for patron relaxation during study should be provided. The walls of the libraries should also be provided with network outlets and sockets for plugging in of computer power cables.

Conclusion

Over the years, the application of technology to teaching and learning has taken different formats. Nowadays, the internet has gained more popularity among students, teachers, educational administrators, and the members of the society at large. Constantly evolving terminologies to describe various forms of education i.e., e-learning, flexible learning, network learning, on-line learning, and virtual learning, distance learning, and so on continue to evolve. Affirmed also is the

adoption of the new technology (ICT) for library services which has opened up different options for educational services, pedagogy, methodology and learning paradigms with which librarians and library services must contend with, if they must remain relevant in the discharge of their duty.

Recommendations

It is therefore recommended that, library being the nerve-centre of any academic organization for information processing, storage, retrieval and dissemination is charged with such responsibilities of making information available in any format both print, non-print and electronically to the patrons, wider and dispersed learners irrespective of time, space and geographical location at this digital age. Also, the library management of academic institutions of learning should promote technological development so as to invest more in the latest advancement of ICT that will promote library services. Based on the above, it is also recommended that:

1. All academic libraries in Nigeria must provide users access to library ICTs tools and electronic data bases (Internet), and to ensure that information from database flow from Nigerian institutions, to the global database for accessing through the internet.

2. The library management of academic institutions of learning should promote technological development; (ICTs) this will enable lecturers and students to subscribe to e-libraries as well as the improvement of personal computer (PC) networks and general electronic infrastructures.

3. Library management should continue to mount pressure on organizational management to invest more in the latest advancement of ICT that will promote library services. Additionally, there is need for the institutions to investigate alternative and independent means of access to information highway or internet for teaching learning and research purposes through such means as satellite communications.

4. There is also the need for academic institutions to define clear policies and strategies in relation to information communication technology (ICT) for their library services on the need to cater for large students and lecturers' population and computer literacy program among others.

5. Librarians who know how to organize information in useful way should create and maintain (a) a clear categorization of information sources (b) Provision of cross reference to information sources, and (c) a clear and constant navigation structure.

6. Academic librarians should embark on the creation of computer based information system that are based on their library collections and connected to internet.

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