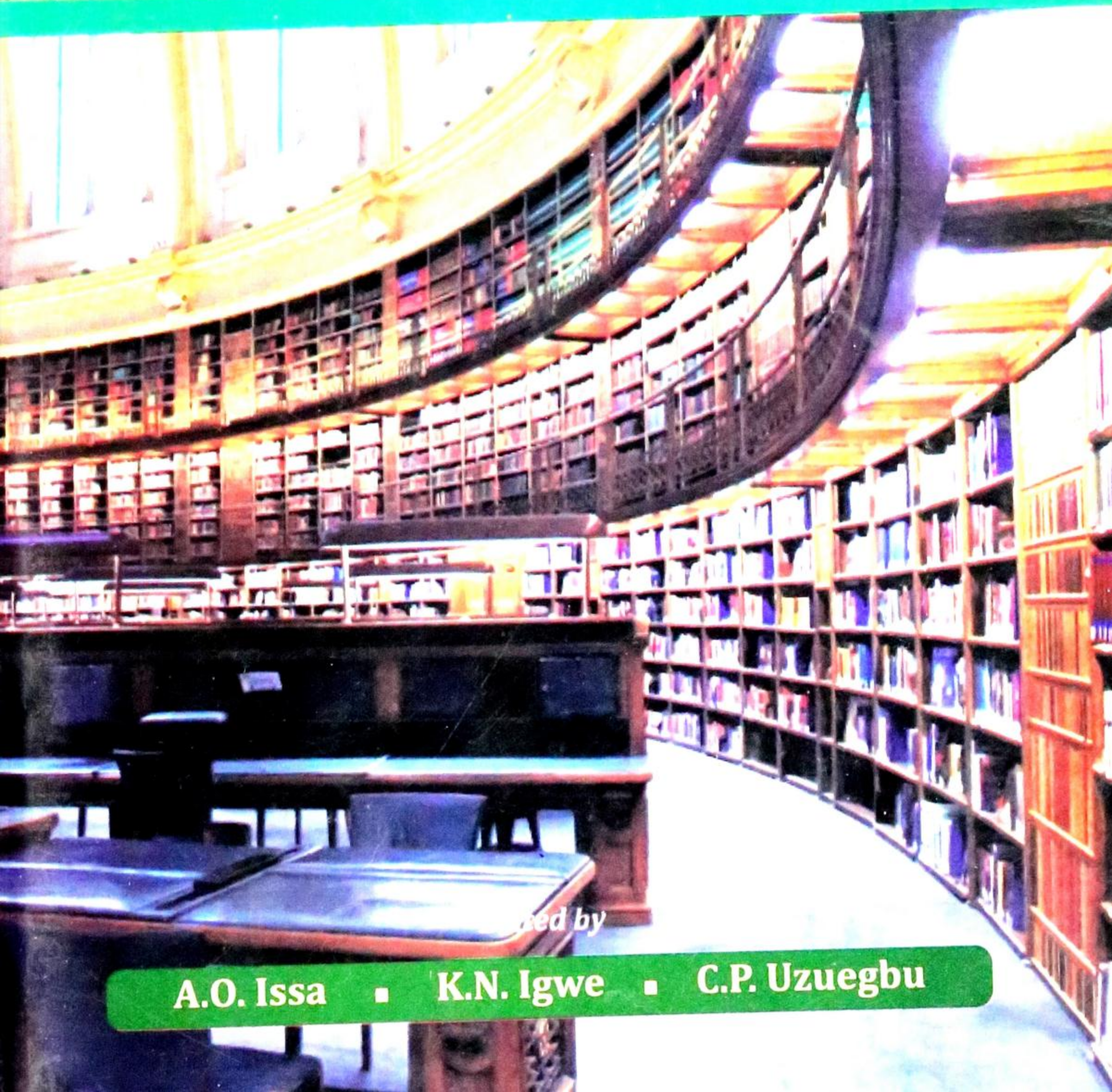


# Provision of Library and Information Services to Users in the Era of Globalisation



Edited by

A.O. Issa ■ K.N. Igwe ■ C.P. Uzuegbu



## **CHAPTER TWENTY**

# **E-Library and Information Services for the Transformation of Tertiary Education in Nigeria**

By

**A.O. ISSA**

**B.B. AMUSAN**

**S.A. OLARONGBE**

**R.B. AKANGBE**

### **Introduction**

Tertiary education in Nigeria has not been the same in the last two decades or so. A lot of transformation and reformation has taken place over the past ten to fourteen years. This is evident in the rapid increase in numbers of public and private tertiary institutions available in the country. Over the past decade, Nigerian higher institutions have been ranked higher on the African continents, but have not been doing well in competing globally due to certain challenges that face tertiary education in Africa. This reveals a gap that needs to be filled by taking necessary steps in putting Nigerian tertiary institutions at the forefront in the international scholastic arena.

Similarly, the recent escalation in the demand for and the use of electronic information resources by information users has opened another paradigm for information professionals globally. The era of e-resources and services comes with its various concomitant challenges. As pointed out by Osunade and Ojo (2006), the technologically-savvy 21st century information users prefer information that best gratify their information needs and thus, prefer on-the-go remote accessibility to various information resources through their mobile or portable digital devices. In this era of social media (web 2.0), the library needs to respond to this evolving challenges by providing open access to electronic resources and designing complementary information services that best match the users' information needs.

Therefore, this chapter examines the current situation obtainable in the Nigerian tertiary educational sector and academic libraries, the imperatives of using e- library and information services to academic development with special



emphasis to the tertiary sub-sector, as well as means of transforming the tertiary education in Nigeria through e-library and information services delivery.

### **Tertiary Education and Academic Libraries in Nigeria: The Status Quo**

As pointed out by Ojedokun (2007), tertiary education is expected to equip students with varieties of technical skills, access to numerous types of accepted knowledge sources, critical thinking capacity, cultural and civil values and beliefs, as well as certification in scores of different disciplines. With the rapid increase in the numbers of Nigerian academic institutions (especially, the entrants of private higher institutions into the Nigerian educational system), the sector has become more competitive and several measures have been taken to bring among the continental and global best higher institutions. Academic institutions are mostly known for their teaching, learning, research and community development activities. However, if these aims are to be achieved, the institution needs to put all resources together in a coordinated form to meet her objectives. To this end, information is seen as a major tool for planning and decision making and a potent mechanism for transformation if accessed and used effectively.

Academic libraries in this chapter refer to libraries attached to institutions of higher learning such as universities, polytechnics, mono-technical colleges or colleges of education, serving the teaching, learning and research needs of students and staff. Academic library is a *sine qua non* in any tertiary institution to experience the desired development or transformation. It serves as a means of communication between knowledge and people. Academic libraries engender the kind of needed transformation in the educational sector as it provides the informational input necessary to propel the desired development through effective teaching, learning and research, which are the major objectives of any higher institution.

Academic libraries face certain challenges. One of the fundamental problems that face academic libraries in Nigeria is their difficulty in launching themselves into or registering their presence to the global information superhighway, by automating their collections and services to be remotely accessible. Academic libraries in Nigeria are mostly hybrid. Hybrid libraries are defined as libraries with both "conventional" print based and digital collections. One of the persisting problems facing Nigerian academic libraries, as several researches have shown, is dwindling budget and insufficient funding. With the way Nigerian academic libraries are funded, one could not expect them to function in high capacity and launch various cutting-edge user services that are ICT-driven and also to maintain and sustain such.

Similarly, no library in Nigeria has come up with any Library Apps, unlike what is obtainable in many academic libraries in the developed countries. Library Apps enable libraries to function effectively and to enable users to access library



collections and services remotely from their mobile devices. More so, there have been no records of any Nigerian academic library that offer real time electronic reference service (i.e through electronic means such as e-mail, chat, Web forms, etc.) not in person or over the phone.

National Virtual Library (NVL) by the National Universities Commission is another welcome development in transforming the tertiary education in Nigeria and was opened in 2002. It is a digital library that offers resources, which include electronic books, journals, films, videos and maps on different fields of study. According to Omoniyi (2006), NVL "was to serve as an avenue for making books and journals published by Nigerian scholars around the world available on-line to their users". The library also has a section with links to foremost Nigerian newspapers. According to National Universities Commission (2008), the goal of the e-library is to ensure easy accessibility to the highest and latest publications in any field to facilitate teaching, research and learning. However, there is still room for improvement in making the electronic contents of the library more or directly accessible, not necessarily obtaining username and password from their respective University Librarian.

Similarly, more electronic resources should be uploaded especially reference materials and journals. In the same vein, Obafemi Awolowo University and University of Ibadan have started digital library projects to assist their staff, learners, researchers, as well as distant learners. Ugwu and Ekere (2010) also state that the University of Nigeria, Nsukka has also implemented a digital library project, which was commissioned in 2009.

Library users are the most important components of any library. Therefore, libraries need to assess users' needs and how they want to be served. Most 21st Century library users are technology-savvy and are moving at par with the global technological trends; as such they preferred to be served with information in electronic format, that best gratifies their information needs and mostly "ready-made", rather than being provided with a flood of information that need to be read through before selecting the most relevant. Another concept that is always mentioned is resource sharing and online cooperation among Nigerian academic libraries, but it could arguably be stated that in effect, it is not practiced in Nigeria. There is no common platform or network where Nigerian academic libraries can share information resources.

Many academic libraries in Nigeria can only boast of a well decorated website, but not information gateway or portals where users can access and read their collections online. Similarly, many academic libraries are yet to make their collections available online or remotely accessible, not even library catalogue. Some acclaimed automated libraries in Nigeria still fall in this category. Some major academic libraries use offline library software to handle their in-house operations and not for users services. A shocking observation made was that



some academic libraries in Nigeria have computer sections, which they (wrongly) refer to as e-library; whereas, it is only a terminal in the library for accessing the Internet. E-library and electronic information services are still in an embryonic stage in Nigeria, and which best described the level of e-library and services integration in Nigerian academic libraries as being experimental, though fast developing, if not for lack of fund and expertise, and reluctance on the part of some library staff.

## E-Library

E-Library (electronic library) is a convergence of digital or electronic information resources and services provided in an organised form to meet the information needs of users through a network or facilitate remote accessibility. The term "e-library" has always been used synonymously with "digital library", "universal library", "future library", "virtual library" and "library without wall". Cotter and Koehler (2002), quoting Digital Library Federation, describe libraries or digital libraries as "organisations that provide the resources including the specialised staff, to select, structure, offer intellectual access to, interpret, distribute, preserve the integrity of, and ensure the persistence over time of collections of digital works so that they are readily and economically available for use by a defined community or set of communities". Badhusa (2001) also define e-library as set of electronic resources and associated technical capabilities for creating, searching and using information and also as "an organised database of digital information objects in varying formats maintained to provide unmediated ease of access to a user community".

Mishra and Srivastava (2008) also defines e-library as a "computer based information systems for acquiring, storing, organising, searching, distributing and displaying digital materials for end of access, designed and constructed as to be capable of attaching or being attached to a network". One major distinguishing feature of e-library is that of remote accessibility. Users are usually elsewhere than the information they want. It also works irrespective of time or language of the user. E-library offer wide range of electronic collections through which a user can access. According to Cotter and Koehler (2002) common to e-library is that:

- (1) they can all be searched,
- (2) they can all be accessed from anywhere, and
- (3) they can all be copied using electronic means without error.

It should be noted that electronic library is not the same as automated libraries. Electronic libraries contain electronically stored documents while automated libraries (which may or may not be also electronic libraries) use automated search and retrieval systems, for example OPACs. Similarly, e-library is different from the Internet. E-libraries contain a clearly pre-defined, selected



and organised electronic information resources; using the Internet or similar networks to function, with a targeted community of users. The Internet contains unorganised information that are poorly indexed with or without targeted users.

### **Advantages of E-library**

E-library offers a wide range of merits. These include:

- **Diminishing of geographical boundary:** E-library facilitates remote accessibility of resources, thereby diminishing geographical boundary and inaugurate an era of “death of distance”.
- **Ease of accessibility:** e-library offers an ideal search mechanism or retrieval tool for locating relevant information materials faster among thousands of information resources in the database.
- **Continuous integration of print and electronic resources:** e-library also facilitates continuous integration of digitized as well as born digital resources into the system

### **E-library Resources**

Varieties of information could be found on e-library. These are known as e-resources and include:

- e-books
- e-journals
- Library catalogue
- Maps
- Index
- Abstract
- Encyclopaedia, dictionary, yearbook, handbook and other reference sources
- Multimedia files etc

There are basically two types of e-resources that are available. These are the:

- **Born digital:** These are e-resources that are originally created in electronic/digital formats. They include e-books or e-journals mostly in PDF format as well as multimedia files. Born digital resources are easier to integrate into the e-library system.
- **Digitized resources:** These are mostly printed resources or objects that are converted to digital or electronic resources through the use of dedicated optical scanners such as flatbed scanner, document or rotary scanner, 3D scanner, hand-held scanner and book/planetary scanner accompanied with OCR (Optical Character Recognition) software.



Digitized resources are very difficult to process and a lot of time and financial resources are wasted converting them to digital materials.

### Requirements for e-Resources Management

For proper electronic resources management, Tiwari (2011) posits four major requirements namely:

- **System requirements:** Hardware and software are required for managing an e-library resources
- **Networked environment:** There is need for a functional network to facilitate ease of access to the resources
- **Facility for content creation:** There is need for facilities to create contents to be integrated into the e-library resources. These include scanners and OCR software.
- **Information storage and retrieval (ISR):** A storage device is needed for preserving the resources for future usage as well as providing retrieval tool for locating needed resources.

### Information Services

Information services are library services that are aimed towards providing users with the right information needed to accomplish a task or for decision making or reduction of uncertainty level. There are basic information services expected of an ideal academic library. These services are geared towards supporting the objectives of the parent institution- teaching, learning and research. Among these services are:

- Selective Dissemination of Information
- Current Awareness Service
- Document delivery
- Resource sharing
- Information repackaging
- Reference service
- Database search
- e-mail alerts
- SMS alerts
- Instant messaging
- VoIP
- Social Media
- Ask A Services (e.g. Ask A Librarian, Chat with Librarian, Talk to Librarian, i-Librarian)



**E-libraries and e-services** are required in tertiary institutions so as to:

- cope with increasing demand for e-resources and services;
- improve existing library services and to facilitate provision of new services;
- improve the quality of research by providing global access to current information materials;
- promote independent learning and life-long learning;
- provides basic information needed by the entire academic community in Nigeria and beyond;
- improve quality of teaching and learning by providing information necessary for such activities;
- facilitate unrestricted and remote access to variety of information materials;
- enhance faster and effective information service delivery, as dictated by the nature of contemporary information age;
- enhance users' satisfaction;
- manage/handle information explosion;
- increase and enhance information circulation, accessibility, storage and retrieval;
- save time of researchers as they can search through thousands of information resources in a database to pick the best relevant ones within few minutes; and
- facilitate sharing of information resources between cooperating libraries.

### **Challenges of E-Library and Information Services in Nigeria**

There are several challenges militating against E-library development and effective information service delivery among Nigerian academic libraries, preventing the transformation of the sector due to the strategic/key position that they occupy in the tertiary education system. Some of these challenges are:

- **Reluctance in Accepting Changes:** This is perhaps one of the major problems we are facing as librarians and information professionals in this 21st Century. Most of us are reluctant to accept and adapt to changes that are currently obtainable or keep track of ever-changing information seeking behaviour of library users. Librarianship has been a field that adopts and functions through the present technology. From ages, librarianship has been busy with organizing recorded knowledge, irrespective of media, and making such readily available for use (Lerner,



2009). Librarianship cannot divorce itself from the current technology. If this statement is true to some extent, therefore 21st Century academic librarians must accept and adapt to changes and opportunities that abound through ICT revolution. The future belongs to those who adapt to changes and are able to respond to it.

- **Access-related Problems:** Electronic resources require certain hardware and software applications for it to be accessible. Non availability of software requirement to download open-access articles hinders its usage. Some e-resources are in “.pdf” and require Adobe Reader or similar “pdf” reader for it to be read. Similarly, Flash player may be required to access some multimedia files. The major issue here is that there is not yet a universally acceptable standardization on electronic resources.
- **High Cost of Digitizing:** Digitizing printed materials consumes a lot of financial resources and time. Therefore, most libraries back out of digitizing project because of the high cost of procuring hardware and software necessary for such activities as well as cost of maintenance. Tiwari (2011) points out that the high cost of developing hardware, software and data collections has created very strong monopolies or monopoly-like conditions, pushing up the cost further higher.
- **Free Versus Fee Issue:** Printed materials need to be digitized for it to be archived into the e-library database. Computers and other ICT's need to be bought and payment for licences of electronic resources and the use of the telecommunication systems or Internet service provision must also be made. Then, who is to pay? This development has generated waves in some quarters that users should pay or be charged for these “value added services” or electronic services.
- **Inadequate Expertise:** Up till now, we still do not have enough Library ICT experts. Most of the ICT related courses we took in our various Library schools only equip us with basic ICT skills, not enough to meet up with the contemporary challenges in the work environment, as expected in the 21st Century. Tiwari (2011) also points out that the way some library's organisation are developed, serves as great hindrance to development of e-library: non availability of full time highly skilled computer professional in libraries and lack of proper coordination between in-house and external computer professionals constitute as hindrances.
- **Librarians/ICT Expert Competition:** Librarians are different from ICT experts and we should not try to compete with them. It is true that we adopt ICT as a tool to enhance our profession and service delivery, but in



reality, we cannot build effective information systems without adept knowledge from experts, as we do not take all those Programming courses.

- **High Cost of ICT Facilities and Bandwidth:** Accessing Internet is still expensive in Nigeria. Although, most tertiary Institutions in Nigeria, through their academic libraries now provide free or subsidized Internet services for their students, but the students still find it expensive to access the Internet from their mobile devices or remote areas. Similarly, high cost of ICT facilities always discourage some institutions from investing in total library automation, of which e-library is part of.
- **Lack of ICT Skills on the Part of Staff and Users:** A major skill that 21st Century librarians need to possess is adept ICT knowledge. This is found incumbent as a result of unprecedented changes that characterized this century in term of ICT. However, due to apathy and reluctance to accept changes, coupled with other problems, some library staff still do not possess basic ICT skills that could enhance their job performance. Although, most 21st Century information users are technology savvy, but do not possess basic skills of searching through database.
- **Inadequate ICT Facilities and Services:** Researches have shown that some libraries do not have enough ICT facilities and electronic users' services to satisfy their dynamic 21st Century information users. This may be associated with the high cost of the facilities and maintaining electronic services (Utulu, 2008; Orakpor, Ezejiofor and Nwana, 2010).
- **Frequent Technological Obsolescence:** This is a major challenge that we face, not only in Nigeria, but also globally. Technology develops so rapidly that what is considered a latest model today may be declared outdated tomorrow. The problems of migrating or upgrading to newer versions consume time and waste a lot of financial resources which discourages many libraries from embarking on such projects. Worpole (2004) points out that "for many young people in Japan, the personal computer is already a matter of history, as it is rapidly replaced by the mobile phone. In such a world, more and more people (particularly the growing proportion of over-60's) may choose to rely on the collective provision of ICT, rather than risk wasting money on domestic equipment which may be technically superseded very quickly".
- **Lack of Maintenance Culture:** Nigeria is a society that prefers corrective maintenance to preventive maintenance. We do not take proper care of our resources until they are broken down or stop functioning, which will cost higher than preventive maintenance.



- **Sustainability:** Closely associated to the problem of maintenance is the problem of sustainability. It is always difficult to sustain certain services or facilities due to unforeseen challenges that may arise, or lack of proper maintenance among the library staff. Research have shown that many libraries cannot sustain their services or ICT facilities beyond few period of time due to some of the following:
  - System failure
  - Lack of proper training and skills on the use of facilities
  - Inability to secure fund for further system maintenance
  - Frequent power outage
  - Apathy on the part of library staff to communicate library services to users
  - Inability to contact software vendors to correct or upgrade software to recent version (Lomax, 2003 and Ogbonyomi, 2010).
- **Inadequate Finance:** This has perhaps become one of the persistent problems that face most academic libraries in Nigeria (emphasis on Public institutions). The way academic libraries are funded in Nigeria; one can only expect them to function in a very low capacity, compared with their counterparts in developed nations.

## Transforming Nigerian Tertiary Education through E-Library and Information Services

Education is a complex system which consists of several sub-systems that function together to achieve a common goal, namely: academic excellence and educational development for larger societal transformation. Academic libraries, as part of the overall educational system, have certain functions to perform through e-library development and effective information service delivery for desired transformation in the tertiary education sector to be realised. Therefore, for total transformation of the Nigerian tertiary education sector through e-library and information services, certain measures need to be taken which include:

1. **Library Apps:** It is evident that majority of students and researchers today prefer electronic sources of information to the traditional printed books or using Internet resources rather than the physical library materials. It could arguably be stated that up till now, there is no Nigerian Library that has come up with any Library App. Hundreds of Apps are developed on a daily basis to ease the use of mobile devices for information sharing or others. With the increasingly use of



mobile devices like smartphones, i-Pads etc, the need for and the use of mobile Apps will be on the increase. Therefore, Nigerian academic libraries need to develop Library apps that could be downloaded and installed on mobile devices. This will avail the users to access library resources, services and staff on the go, and easier than before. Such Library Apps may contain modules such as: Users' registration; Library catalogue; Enquiry; Chat with librarian; Read books/journals and Search Library.

**2. E-Reference Service:** One of the major users' services academic libraries offer is reference service. Therefore, adopting ICT to perform this crucial service is tantamount to efficiency and effectiveness. Electronic reference service will avail the users to have round-the-clock access to the library remotely. A digital reference service generally comprises the following elements:

- the user of the service,
- the interface (e-mail, web form, chat, video conference, etc.),
- the information professional, and
- electronic resources (including electronic or CD-based resources, web resources, local digitized material etc.), as well as print resources (Berube, 2003).

**3. All Nigerian Academic Libraries Network:** For effective transformation of tertiary education in Nigeria, I propose that all academic libraries in the country should have a common platform/ network through which they can collaborate or share resources and offer electronic resources for real time access. This common platform may be code-named NALNET (Nigerian Academic Libraries Network). Library network is a common feat in advanced countries. Library networks such as DELNET, CALIBNET, INFLIBNET facilitate sharing of online resources. Networking of libraries is necessary to:

- Allow efficient management of resources
- maximize the utilisation of existing information resources
- provide speedy sharing of and access to different information resources
- save fund and avoid unnecessary duplication-

**4. Using social media to publicize library materials:** Social media such as Facebook, Tweeter, Linked-in, WhatsApp etc are increasingly in use among most information users in the 21st Century. Internet researches have shown that most Nigerian youth log on to social media at least five times daily. Therefore, publicizing available library resources on social media will avail library users the opportunity to know what a library has in her online database to access such collection from remote terminals.



**5. Full automation of academic Libraries:** I equally propose that all academic libraries in Nigeria should be fully automated. This should be total automation of resources, services and in-house routines. Digitisation section should be established in the library to convert printed documents to e-resources that will be integrated into the e-library. Similarly, arrangement should be made for outsourcing any automated service that it cannot handle in-house.

**6. Frequent e-mail, IM, SM and SMS alerts:** Academic libraries in Nigeria should equally endeavour to launch various cutting-edge services such as e-mail, Instant Messaging, Social media and SMS alerts. These services are very useful in accepting reference queries from users and for responding to their queries. It is equally useful for the library to update or keep their users abreast of newly available information or development in their fields or research areas. This could also be accompanied with Ask A services (e.g. Ask-a Librarian, Chat with Librarian, talk to Librarian, i-Librarian etc.). **Ask Services**, also called "ask-a-librarian" service, "chat with librarian" etc. is any of the reference services from libraries intended for remote users to receive help from a librarian via live, online chat from office, home or any other place outside the library, via the Internet or other remote networks. Ask Services is now a major component of electronic reference service, as it facilitate Live Chat with remote / online librarians who can give ready answer to users or take their questions and forward answers to given (usually) e-mail address. Some ask service consist of a user query form which the information seeker has to complete, consisting of his name, valid e-mail address, reference query(ies) and latest time information is needed etc.

**7. Adequate Funding:** Developing and maintaining an electronic library is capital intensive, likewise maintaining an electronic information services. Therefore, there is need for the parent organisation of respective academic libraries to adequately and promptly fund the e-library project of each academic library for them to sustain such development.

**8. More ICT Facilities:** As pointed out above, researches have shown that one of the problems that militate against ICT development in academic libraries is inadequacy of ICT facilities. Therefore, there is need for procurement of enough ICT facilities (hardware and software) for library users to be served effectively and equally for the e-library project and electronic information services to be fully beneficial.

**9. Maintenance and Sustainability:** Proper maintenance of facilities is required for the electronic services offered by academic libraries to be sustained indefinitely. Resources must be made available for proper maintenance and sustainability.



**10. More Collaboration between Library and ICT Experts:** Librarians and ICT experts need further collaboration in building formidable information systems that will serve the users effectively.

**11. Training:** LIS trainees should be trained in line with what is currently obtainable; in term of current technology which is a major drive for efficient service delivery. As librarianship depends on the present technology to function, therefore, LIS trainees must be trained in line with the current global trend in the profession, putting in mind imminent changes that may unfold from time to time. Similarly, LIS curriculum must be modified to accommodate these changes and enough ICT facilities must be provided in all our Library schools to cater for the training. LIS trainers must also be educated and re-trained on hands-on ICT skills for them to impart necessary skills into the trainees which are hoped to take charge of the system after graduation. Lawal (2009) states that as libraries in Africa are adapting to changes brought about by the application of ICT. Therefore, librarians and information professionals do not only need to adapt to these changes, but also required in-depth and structured training/ education for them to function effectively in an ICT-driven library environment.

## **Conclusion**

With ICT and information gateway and other online systems, users are directly interacting with information systems, thereby diminishing the roles of library staff as intermediaries. Therefore, librarians need to work out modalities to develop information systems that are easy to use, train users on ICT and information searching skills, develop systems like “auto-complete” that will assist users to complete and frame their search/query keyword and work on building a complete information system rather than serving as pointer to other information on the net. As long as information still need to be organised and refined and/or tailor-made to suit individual information need, librarians will still be relevant. All that need to be done is for us to move in line with the contemporary technology to enhance our performance and service delivery.

For effective transformation of the tertiary education system in Nigeria through e-library and information services, academic librarians are expected to be:

- Technologically savvy
- Have passion for research
- Possess people skills, etc.
- Proficient in web authoring tools
- Experienced with developing mobile applications and/or gaming technology



- Experienced in using social networking applications for library services
- Able to work with dynamic web contents and digital media
- Able to design and implement innovative information services
- Strongly committed to information literacy (Albert S. Cook Library (2012)).

These skills will enable them to function effectively in the competitive 21st Century information arena for effective tertiary education transformation and to launch higher institutions in Nigeria into a world class.

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