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### Changing Roles of Librarians in An Electronic Environment: The Case Of Academic Libraries

#### Abstract

*The importance of e-learning is growing in higher education in Nigeria and has its merits of flexibility, convenience and the ability to work in any place where Internet connectivity is available and at one's own pace. The need for providing electronic information services to the library user is growing and becoming very important in Nigeria just as information and communication technologies are changing every day and growing at an exponential rate. The impact of web-based e-learning and teaching environment has affected every aspect of academic library services, thus providing new opportunities and challenges to the librarian to be fully involved in the knowledge society, including electronic and multimedia publishing, internet-based information services, global networking, web-based digital resources, etc. The emerging challenges of procuring and providing access to electronic information resources demand that librarians shift their role from traditional librarians to information scientists by learning and applying new skills to understand the evolving technologies to manage knowledge society. The above statement calls for training and retraining of librarians to enable them acquire necessary skills to set up and manage e-libraries and provide effective and efficient access to myriads of information that will provide lifelong learning skills to Nigerians. This paper discusses the future expected changes in academic libraries, trends and challenges facing librarians and the changing roles of librarians in an e-environment.*

**Keywords:** E-learning environment, E-library, Academic librarian, ICT, Technology challenges

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#### t1.1 Introduction

We live in a world that is changing rapidly due to technological innovations. In the fast changing information environment where new media and information communication technologies (ICTs) are

spreading innovations in developing as well as developed nations, spurring new business model and unleashing new opportunities, libraries have to anticipate and adapt the changes to preserve their central role of providing public access to information. This

makes libraries and librarians to be struggling to maintain their traditional roles. It has become imperative to integrate this new technology into the library services, while still retaining the traditional roles of librarians. Libraries have the opportunity to seize the information society revolution to strengthen their role in society and recognized as an agent for development and the inclusion in developing and developed nations alike. It is essential to re-evaluate the core competencies of librarians in this electronic environment where knowledge and information are delivered in a fast paced mode.

Information has always played a very important part in human life. The academic library is the lifeblood of higher institutions and as such can benefit tremendously from the facilities provided by the ICT. The library can be transformed into a new information services unit, proving electronic cataloguing, electronic online public access catalogue, electronic acquisition and serials control, electronic inter-library loan and electronic circulation functions. However, many of the libraries in higher institutions in Nigeria and other African countries are yet to take advantages of the facilities of modern ICT due to lack of funds (Ogunsola & Aboyade, 2005). It is based on this premise that this paper examines the changing role of librarians in an electronic environment.

## 2.1 Review of Related Literature

The academic libraries function to collect, process, disseminate, store and utilize information to provide services to the academic community. In virtually every higher institution of learning the library occupies a central position. In its placement and prominence the academic library conveys its integral role in supporting higher education's core missions of teaching, learning and research. The librarian is a person who looks after the storage and retrieval of information. He is usually a

professional, trained and educated to deal with information in a wide variety of formats and settings (WordQ cited in Khan & Bhatti, 2012). The librarian helps the users to navigate the internet and evaluate information effectively. He offers a helping hand for users to find out the required piece of information and to use it for personal and professional purposes. Due to the advent of information and communication technologies (ICTs) which comprise the Internet, World Wide Web, the proliferation of online catalogues, etc., the roles of the librarian have changed. Presently, he is more efficient and has new roles to play as intermediary, facilitator, and end-user trainer/educator, web organizer and designer, researcher, interface designer, knowledge manager/professional and sifter of information resources (Rao & Babu, 2011, cited in Khan & Bhatti, 2012). Librarian should be knowledgeable in a variety of information sources and follow the new trends and advancement in computers, media and publishing (Career Overview, 2011).

The evolving information and knowledge-based economy, coupled with the advancement in technology has resulted in the need for substantial changes to be made in the strategic and operation levels in organizations. Librarians are being swept along the current of rapidly changing technology. While continuing to provide the traditional library and information services, librarians must now develop new skills and assume new roles that are necessary to support technology-based services. Librarians involved in collection development duty can also be involved with providing access to digital resources without actually "owning" the resources. In the same vein, circulation/reference librarians should have knowledge and skills in accessing online resources to assist the remote access users. In fact, technology has its impact in every act of library operation, adding several new challenges to librarians in achieving their

goals of providing excellent information services. Fulfilling this enhanced mission can be difficult, as most libraries are not positioned for rapid change (Cargil & Webb, cited in Lapuz, 2005).

## **2.2 Characteristics of Electronic Environment**

With the change of the learning environment, there arises a new way of learning – electronic learning which is now making great changes in the content and methods of learning which will bring about a revolution of learning. Electronic learning refers to computer enhanced learning and covers a wide set of application and process such as web-based learning, computer-based learning, virtual classroom and digital collaboration. E-learning is comprised of four elements namely: a learner, an instructor, technology, including a computer, and information or skills to be learned (Deng & Rung, 2007).

E-learning is important to learners because it offers a new way to learn at anywhere and at anytime once an internet connectivity is available and at one's own pace. Learners can obtain abundant resources of learning content through the internet, intranet/extranet (LAN/WAN) and CD-ROM, etc in the digital environment of e-learning. E-learning is, a self-directed learning which gives prominence to self-determination of learning. Learners can get information needed as much as possible through internet according to one's own characteristics and the content of e-learning in the process of learning. The information needed for e-learning may include multimedia data or files, learning materials, electronic books, courseware, application programmes, electronic mail, bulletin board system (BBS), Usenet, mailing list, etc. which form the resource bank of learning and will be increasing day by day on the computer's hard drive until it becomes necessary and exigent

for learners to manage and utilize them for proper and efficient learning (Deng & Rung, 2007).

The need for providing electronic information services to the library user is growing and becoming very important in Nigeria just as information communication technologies are changing every day and growing at an exponential rate. Electronic library will help societies to make information available, raise the quality of information provided and increase its diversity. The impact of web-based e-learning and teaching environment has influenced every facet of library and information services in academic libraries and providing need opportunities and challenges to the library and information professional for involvement in the knowledge based society including electronic and multimedia publishing, internet-based information service, global networking, web-based digital resources, etc (Tharmaraselvi, 2009).

## **2.3 Traditional Roles of Libraries**

The literature on library and information services shows that libraries began as storehouses, in which books were more or less preserved and utilized and where librarians worked as custodian with little or no interaction with users. Librarians only served the users by locating and giving books to them without any encouragement to use the library on their own. Then there was a shift as a result of information communication technology which has changed the trend in service tremendously.

Nowadays, libraries and librarians play an important role in providing access to information, organizing it and helping users to access the information needed. This information services have become a key element for libraries. The interest of library user is to get the information needed within a given timeframe possible and accurately. Libraries are organized collection of

monographs, periodicals and other sources of recorded information, which commonly includes catalogues, directories that provide factual information and indexes which help users to find information in other sources (Mayega, 2008). In the last few years, libraries also provide access to information in e-formats such as CD-ROMs, World Wide Web (WWW) and online databases.

Libraries have served as intermediary between the information producers (authors)/publishers and the information users. Libraries acted as clearing house of products for the information producers (whose products are procured for the library) which in turn, serving as efficient instrument makes the information available to the user, the limited set of relevant information source out of the entire universe of publications. The library becomes selective filter and quality instruments, making available to users only those publications that are relevant and sufficient to the end-users. Mayega (2008) summarized the traditional roles of the library as follows:

- **Selection:** Choosing and acquiring information resources available in the market place, based on user needs and quality standards.
- **Storage:** Maintaining the availability of publications through short-term as well as long-term storage and preservation.
- **Services:** Making information resources available through facilities and procedures for onsite use, circulation, and loan from other libraries.
- **Support:** Providing guidance and assistance to users, including the development of support system such as catalogues, user education and information services.

Presently, there has been a shift in the role of libraries and librarians from a clearing house of products and a service centre for

printed publications towards becoming an intermediary for traditional resources and for networked services based on digital information resources. These resources appear in a variety of formats which could be printed, audio, video multimedia and electronic which may or may not be owned by the library.

## 2.4 Changing Roles of Librarians in an Electronic Environment

The dynamic nature of library and information service has resulted in fundamental changes to the roles and responsibilities of librarians. The environment in which academic libraries operate today is changing and consequently the academic library is changing to provide the competitive advantage for the parent bodies. The success of today's academic libraries depends on their ability to utilize information and knowledge to better the needs of the academic community. This requires the academic librarians to reappraise their functions, expand their roles and responsibilities to effectively contribute and meet the needs of large and diverse academic libraries. The librarian needs to acquire some skills through rigorous training and re-training and regular application of ICT tools to any aspect of library operations in either sequential or sporadic manner and as fast as possible. This calls for considerable discussion about the spectrum of skills and knowledge required of the new information professional (Fisier, Halian & Patridge, 2005). Discussing professional competencies, Dakshinamurti & Braaksma (2005) citing Libutti (1999) assert that they include: assessment and inquiry competencies; instructional competencies; technological competencies; scholarly competencies; and social competencies.

In the same vein, Farkas (2006) listed some skills which the new librarians (should

possess) to include basic technology competencies such as:

ability to embrace change; comfort in the online medium; ability to troubleshoot new technologies; ability to easily learn new technologies; and ability to keep up with new ideas in technology and librarianship (enthusiasm for lifetime). Higher level competencies expected of 21<sup>st</sup> century new librarians according to Farkas (2006) include:

- project management skills;
- ability to question and evaluate library services;
- ability to evaluate the needs of all stakeholders;
- vision to translate traditional library services into online medium;
- critical of technologies and ability to compare technologies; and
- ability to sell ideas/library services.

It is worthy of note that librarians and other information professionals could contribute to the knowledge role and responsibilities by having the right competencies and skills. One may be tempted to ask some fundamental questions such as to the extent and ways the academic libraries are likely to change and what roles librarians are expected to play in the changing information environment.

In an attempt to answer the questions, one has to realize that the future constitute an age of transformation for libraries in general and academic libraries in particular. At the first part of this century, academic libraries confronted and still confronting the need to re-conceive and reconstruct the means by which they support the faculty and students in research and learning. Now the business of libraries as Todaro (2007) put it, can be understood as one component of a rapidly evolving, almost wholly transformed environment in which information is proliferating at heretofore unimagined rates

and in which the ability of academic libraries to deliver authenticated and reliable information is continually challenged by new technologies. In the 21<sup>st</sup> century libraries, librarians are expected to thrive in the digital environment where they will be actively involved in the acquisition, application, use and implementation of new technologies in their organization with their new skills and competencies to fit with their changing roles. The 21<sup>st</sup> century library is an era of innovative technological development in libraries (Uzohue & Yaya, 2016). They stated that there is a problem of information overload and the information professionals are needed more to filter, disseminate and share actionable information with users.

### **3.1 The Library and Information Professionals in the 21<sup>st</sup> Century**

The evolving information and knowledge-based society has led to a climate of tremendous change in academic library services globally. The information revolution and the web-based knowledge available have created new challenges to these traditional professional ethics. The impact of web-based e-learning and teaching environment has affected every aspect of academic library services, thus providing new opportunities and challenges to the librarian to be fully involved in the knowledge society, including electronic and multimedia publishing, internet-based information services, global networking, web-based digital resources, etc (Thamaraiselvi, 2009). Continuing, he stated that the emerging challenges of procuring and providing access to electronic information resources demand that librarians shift their role from traditional librarians to information scientists by learning and applying new skills to understand the evolving technologies to manage and provide quality on-line information service to the knowledge society. We shall discuss the vision, challenges and

expected roles of librarians in the digital era.

### 3.2 Vision of the Library and Information Professionals

In order to provide the best access and services to our esteemed library clientele, libraries and librarians have to use the ever-changing technology. Electronic information creates challenges to the library community at its very foundation, as the library moves away from the traditional paper-and-print formats to the delicate world of circuits and connectivity. Thamaraiselvi (2009) summarized the steps essential for future vision of the academic library which the professional should take to achieve the necessary information transformation and to face the digital information need of the user:

- The vision of the future academic library professional must be to create a world class networked global library and information centre to provide web-based quality information service to the user in time in the e-learning environment.
- The librarians must change the library environment as pathways to high quality information in a variety of electronic media and information sources.
- Library professional must assert their evolving roles in more pro-active ways, both in the context of their academic institutions and in the context of increasing competitive markets for information dissemination and retrieval.
- The vision for the 21<sup>st</sup> century librarian must offer electronic teaching and learning both to guide and beckon the library profession as education leaders. They should shape the library programme and serve as a tool for library media specialists to use to shape the learning of students in the academic institutions.

Apart from home and work place where learning, inspiration and entertainment take place, libraries have outstanding potential as the third place. Thus, it is very important for the academic libraries to change their environment, structure and interiors in line with the digital information needs of the patrons. Librarians should utilize the opportunities created by e-learning to the user in global level to access a variety of digital information sources through a range of appropriate World Wide Web technology.

### 4.1 Challenges of the Librarians in the ICT Era

Librarians have the responsibility to select and organize resources and educate users how to retrieve and exploit them, as well as preserving the information regardless of the format or technology it appears. New tools of information communication technology have absolutely changed the role and responsibilities of librarians. The librarian in adapting and adjusting to these changes faces some problems and challenges. Thamaraiselvi (2009) posits that the future academic librarians faces the challenges of the future academic needs of the user in the e-learning environment is:

- ❖ to provide electronic access to all relevant information and integrate it is on networks across the world;
- ❖ to create a new physical library premises with computer network facilities, abandoning the old concept of library as a storehouse; and
- ❖ to develop new standards and skills for the profession to meet user needs in a proactive way.

He further stated that in the present digital era the most pressing and pervasive issues and challenges faced by LIS professionals in providing digital information services to the knowledge society include:

- ❖ new generation of learners;

- ❖ copyright;
- ❖ privacy/confidentiality;
- ❖ online/virtual crimes and security;
- ❖ technology challenges;
- ❖ manpower;
- ❖ collection of digital e-resources;
- ❖ organizational structure;
- ❖ preservation/archival of digital e-resources; and
- ❖ lack of clarity in vision.

The reports of some studies on problems encountered by librarians in the digital era are given below. Ademodi & Adepoju (2009) found out that shortage of computers and computer skills among library professionals impede librarians in academic libraries in Ondo and Ekiti States of Nigeria from effective operation in the electronic age. It recommends that funds should be made available for training and procurement of ICT infrastructure in Nigerian universities. The study of Adomi & Anie (2016) also revealed non-possession of high level computer skills and little use of computer and technology among librarians in Nigerian universities as challenges faced, recommending the organization of in-house computer training programmes for librarians and provision of enough computers in the libraries. Khan & Bhatti (2012) reporting a study by Hashin & Kokhicar (n.d) lists essential trends for new era librarians to include a vision towards information and knowledge rich society, globalization of information, integrated and widespread ICT applications, growth of electronic/internet resources, role of digital/electronic/virtual library, access role replace custodian role, strategic alliances, partnership and collaborations, librarians new management knowledge and skills, specialized knowledge and skills in library and information management, trend to develop digital contents to facilitate access. It was conclude that new era librarian will become a guardian of digital information and

digital librarians with newly acquired skills can play a meaningful and leading roles role in the networked information society of the millennium.

The continual changes in the work environment have raised considerable discussion among employers; amongst LIS educators and within the professional associations about the alignment between the academic curriculum and the needs of employers. Brine and Feather (2002) stated that so far as the academic curriculum is concerned there is probably general agreement about the broad scope of knowledge and understanding which the new entrants to the profession needs to acquire. LIS educators propose a wide range of competencies, knowledge areas, topics or modules for their centres which include social informatics, knowledge management, information managements, information economics, information resources development, IT applications, information systems, networking, virtual library, management of information organizations, human resources development, information organization, information retrieval, collection and access management, professional ethics, etc (Myburgh, 2003), Raju (2003) and Tedd (2003). First and foremost are the skills in information and communication technology. To identify and define the key skills and knowledge specific to the newly emerging modern day LIP have therefore become a critically important issue for the profession as a whole.

#### **4.3 The Way Forward**

The function of a library has always been to guide the users to information, providing members of an academic community with tools to make thoughtful inquiry. This has given way to an era in which both the production and consumption of information far exceeds the ability of the

library to contain.

It is clear that information management is taking several turns towards avoiding the four walls of libraries thereby presenting a new approach to the accessibility and consumption. As Wada (2014) puts it, library professionals are being offered opportunities of taking advantage of ICT facilities to advance in their efforts to making the clientele connected to the information in the cloud by utilizing computers and its associated gadgets. Corroborating, Yuvaraj (2013) opined that the world is in information economy transaction where information acquisition, moderation and dissemination is much like “information-in-the-box” and the question of “where and with whom” is more of a mirage.

The changing role of library professional implies a set of updated skills required for facing the challenges created by the latest web technologies in the e-learning environment. The emphasis will shift from electrical skills in the library to communication facilitation, training and management skills. Despite that technology presents the librarian with ethical challenges, the librarian would be ready for the role of information professional in the connected networked world and they need to acquire skills that can be contributed to the success in their new roles (Umah, 1998). Some necessary actions librarians must take in order to achieve the expected transformation and remain relevant as vital forces in the academic community include the following: (Todaro, 2007; Thamaraiselvi, 2009).

- **Leadership Role:** The challenge for libraries, their leadership and staff, to recast their identities in relation to the changing modes of knowledge creation and dissemination and in relation to the academic community they serve. Librarians should provide leadership and expertise role in the design, development, and ethical management of knowledge-

based information systems in order to meet the information needs and obligations of the patron or institution. Now, many virtual libraries have been created and managed by various institutions and organization for e-learning and teaching professionals. In the future, we expect the virtual library to be the organization that identifies, selects, negotiates for and provides access to an incredible range of information resources on our behalf. The transition occurring in the production, dissemination and retrieval of information provide opportunities for academic libraries to lead their institution in pursuing new modes of academic research and productivity. Thus library professionals should enrich their management skills to play leadership role in the digital future, for organizing, managing and disseminating e-learning to users.

- **Role as Proactive Information Professional:** Libraries must assert their evolving role in more active ways, both in the context of their institutions and in the increasingly competitive markets for information dissemination and retrieval. The librarian should move from that of a passive intermediary role responsible for guiding patrons to appropriate resources, towards that of a much proactive professional role which includes analyzing and repackaging information, content information management systems and institute digital repository management systems. We must enter the contentions to advance in the market for information services and become active contestants in the race for financial support or full increasingly to the periphery of strategic vision of their institution.
- **Role of Librarians as Masters of Web:**

Librarians are becoming masters of the web so as to face the challenges of the virtual learning environment in institutions of higher learning. In this respect, they create a website for their library so as to make it easier to share with others what they know. They should create electronic pathfinders and front-end search tools, online tutorials and instructional web pages which assist library users to perform best searches and access needed information. Websites should be linked on specific subjects and users led to these sites as start-point for retrieval of related and relevant information.

- Libraries must evolve from institutions perceived as the domain of the book to institutions that users clearly perceive as providing pathways.
- Library professionals must proceed beyond a mindset primarily of ownership and control to one that seeks to provide service and guidance in more useful ways, helping users find and use information that may be available through a range of providers, including libraries themselves in electronic format.
- Maintenance and updating of skills and competencies of LIS to meet the changing roles and new tasks required education and training needs through continuing professional development (CPD). This has to be addressed by both the library manager and the library schools. Library schools should teach students to develop a strategy for continuing their education after graduation, how to develop skills for learning new technologies and how to develop a strategy for troubleshooting technologies. Students should be taught how to sell library services and new ideas to stakeholders, practical evaluation skills, project management skills, HTML

skills and other technology skills. In fact, before graduation they should have acquired basic internet and search skills to enable them meet up with the emerging roles.

Library and information science schools still face some challenges in trying to provide appropriate and sustainable solutions for improving curriculum and skills that will support development in all ramifications. The deployment of ICT in LIS schools in Nigeria is hampered by the numerous problems that bedevil the country namely unstable political culture, and chaotic social cultural environment, with low productivity and low capacity utilization, low industrialization, poor infrastructure, unemployment, underemployment, and pervasive poverty, high rate of illiteracy, insecurity, poor reading culture, poor information environment etc which leads to underfunding and poor motivation of staff etc (Disco, 2009).

Library administrators have to organize from time to time training course, seminars, workshop, conferences in addition to formal continuing education programmes such as sponsorship to further studies to obtain additional professional qualification. This will enable the practicing librarians to acquire and develop new knowledge, skills, competencies and attitudes to meet with the challenges of the new roles. Competent librarians must often seek out learning opportunities, be self-motivated and have plans for professional development that includes attendance to conferences, seminars and workshops, online courses, joining professional fora and association to understand the importance of keeping with technology and willing to adapt and explore the opportunities the new technology brings.

Professional library association needs to support and provide a variety of learning opportunities, playing an important role in the

development and delivery of both generic and specific-skill-based courses. They have to ensure that the contribution made by LIPs is clearly visible and acknowledged as critical success factor. This will require considerably more coordinated approach to skill acquisition, development and CPD involving educators, practitioners and professional association.

### Conclusion

Change by its nature is unpredictable, inconstant, not optional and often unmanageable. An effective organization need to acknowledge this fact and accept that the success of an organization depends upon their ability to predict and control change in some ways. Libraries are integral part of the society that surrounds it. Librarians need to recognize the changes that have already taken place in libraries and to be aware of the ways in which broader societal change are affecting libraries. They need to realize the advantages of mass delivery of library services in the digital age.

Library and information agencies required staff with innovative ideas and vision to create and sustain valued, effective services to patrons, and to contribute to the success of an organization. Career-long learning is therefore integral to professional success, and individual professional development needs to be supported through a combination of education, personal achievement and work-based opportunities. There is considerable and continuous need for new knowledge and skills training in the electronic information age to keep pace with information technology revolution, best obtained through short courses, workshop. Database search knowledge and general e-resources are areas where librarians need high demand for training.

The evolving change occurring in technology in research, teaching and learning afford the opportunity if libraries and

librarians can respond to changes in proactive and visionary ways. Library professionals of today must be active contenders in the race of relevance, regard and resources. They must have strong technical skills and an ability to identify specific areas in which technology can advance the institution in fulfilling its academic mission.

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