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## Emerging Challenges in the Provision of Electronic Information Services on the African continent : The Role of Librarians

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## **Emerging Challenges in the Provision of Electronic Information Services on the African Continent: The role of Librarians**

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### **Abstract**

Librarians are presently operating electronically in this 21st century and there is a changing role of professional librarians in the academic libraries. Information services are therefore, provided electronically to meet the information needs of thousands of users at a go. The enormous advantage it has is the ease with which the delivery of information is being carried out around the world. Nevertheless, some challenges seems to confront the effective provision of the electronic information services. Literature was reviewed on the electronic information services, provision of electronic information services by professional librarians in African continent and emerging challenges of electronic information provision services in African continent. It also examines the role of the professional librarians as information professionals in the era of information technology. The paper concludes by presenting the way forward on how electronic information services can be improved in the African Continent.

**Keywords:** Emerging Challenges in the provision of electronic information services, role of librarians and information services, African Continent.

**Word Count: 143**

## **Introduction**

The emergence of Information Communication Technology across the globe has created opportunities for every profession, the librarians are no exception. Librarians work are more sophisticated, require more skills, attention and much more demanding. Aside the traditional role of selecting, acquiring, organizing and dissemination of information services, Librarians provide electronically information services to their clientele through electronic tools such as the internet, electronic databases, e-mail and OPAC. Arua (2018), posited that librarians need to integrate new technologies to library services and that libraries are beneficiaries of the transformation introduced by technologies. With the advent of ICTs the world has become a global village focusing on IT related resources that can facilitate access to electronic information resources. The emergence of ICTs such as computers, internet and e-mail, social media have opened opportunities to global library and information services which traditional library cannot provide, (Egunjobi and Awoyemi (2013).

Library service in the digital age are located in the space, opening hours and closing are no longer relevant, library users can access services beyond their country and continent and users in thousands can access the same material in different location without any problem. The library with the support of librarians provide array of services with electronic tools and millions of users can use a particular material in different location at the same time. ICT innovation has attracted the African leaders to support their vision to come out of poverty and for economic growth of the continent (Sahle, 2016).

Electronic information service according to Stojanovsk and Papić is assurance of information needed by users, awareness of users about available information resources and educating users through information literacy so that users can independently find needed information in the library. Igwe and Onah (2013) described some of the electronic information services in libraries to be catalogue based service, open access catalogue provides access to

catalogue through computer terminal, reference service through e-mail, subject gateways, frequently asked question (FAQs). Other services provided by libraries are bibliographic service, electronic database provide unique search features such as searching on multiple criteria, e- current awareness service using e-mail, CD-ROM to keep users up-to-date through listserv, weblog, e- newsletter and document delivery service such as ingenta, biomed net, OCLC, science direct and e- journals, interactive tools like chat rooms, virtual reference desk, ask-me, ask a librarian and audio- visual service.

There are enormous benefits ascribed to e-information services, however, there are challenges inhibiting the provision of optimal service by librarians. According to Ugwu and Onyegiri (2013) in their study attributed challenges of e-information service to poor funding, lack of policy for e-resources and lack of ICT skills by staff and users of the library and recommended more budget to the library, there should be e-resources policy like we have collection development policy separate from general policy of the library. ICT infrastructure be improved, creation of institutional repositories by libraries, few libraries have adopted the idea of having institutional repositories in Africa. In most of the countries that make up the Africa continent such as South Africa, Kenya, Ghana, Togo, and Nigeria and that issue of institutional repositories are not well explored.

There are numerous literature on electronic information service and challenges of providing information service to users of libraries across the globe, but few studies have been done on challenges of e- information service in Africa as a continent. Preference for electronic information resources is the convenience attributed to it, access is everywhere, in the office, at home, in the library, hotel, eatery, dormitory, easy storage, easy retrieval, convenience of sharing among users, easy maintenance and small space, however, many of the libraries in Africa find it difficult to enjoy some of the opportunities in ICTs due to low budgetary allocation to libraries and weak internet service Arua (2018).

### **Purpose of paper**

Electronic information services in the present ever changing information environment has taken a new shape, as a result library professionals are encountering both opportunities and challenges. According to Ajie (2019) information technology has introduced many changes in the

way information is identified, procured, processed and disseminated to library clientele. Libraries and information centers are witnessing new paradigm shifts. These shifts include:

- Transition of information sources and systems from paper to electronic media.
- Complexity in information needs of highly demanding clientele.
- Increase in the cost and quality of information.

Being that library clientele are of diverse population and they clamour for the currency of information. This paper therefore seeks to find out the role of professional librarians with the emerging challenges in the provision of electronic information services and to also to provide way forwards on electronic information services improvement in the African continent.

## **Literature Review**

### **The Continent Africa**

Africa is the world's second largest and second most populous continent after Asia with 1.3 billion people account for 16% of the world 's human population. It consists of 54 countries and two unrecognised countries and has about 1250- 3000 native languages, most of these countries were colonized and had suffered a lot of setback in the past. Sahle (2016) citing World Bank Group Africa is advancing in the use and spread of Information Communication Technologies from using mobiles for commerce, check health information, education and socializing, the Continent with a growing demand bigger than that of the United States and European Union.

### **Electronic Information Services provision by Librarians**

Moghaddam (2009) is of the view that as information technologies, information systems and information networks have been developing. This century has also witnessed a dramatic change in users 'information seeking pattern. Byamugisha (2010) adds that the patrons' expectations for a distance service delivery across library services have increased; patrons have come to expect a wide variety of automated push and or pull services from libraries and from a distance. Nigerian academic libraries in the 21st century are gradually changing to fit into their clients' information seeking patterns. The situation has brought about the establishment of digital libraries to compliment traditional ones. This is evidenced in the attempt to digitize library resources to cater for the information needs of new generation users that is, the 21st century library users who exhibit much dexterity in using new sources and new technologies.

Electronic information service is the optimal use of electronically held information resources and the advantages are better access to wider range of information, value for money, time saver, potential to provide 24/7 access without large staff, total stock access without missing any, equal access to stock by users, eliminate multiple purchase nonetheless, cost and skills are major setback in providing electronic information services. In line with this assertion, Baro, Eze and Nkanu (2012) noted that the ICT skills needed range from computer skills, knowledge of technologies, library automation and management software, online database searching, online cataloguing experience, information retrieval, word processing and desktop publishing skills, and webpage design and maintenance skills.

For effective electronic information services provision, Baro, et al (2012) reported the training of library and information science (LIS) professionals in Kenya, Kavulya (2007) stressed the need for information professionals to be equipped with a variety of ICT skills such as webpage construction, database design, Internet searching, and information retrieval. A major setback in information systems and database development and management in Africa has been the lack of adequately trained manpower (Nwagwu, 2007).

Ndinoshho (2010) described Electronic Information Service (EIS) as the internet, E-mail, E- databases and OPAC, he investigated the use of EIS by undergraduate Nursing students at the University of Namibia's Northern Campus and observed that librarians in the university are not active in imparting skills on the students to use EIS rather students relied on their colleagues and lecturers access the EIS in the library. EIS is the provision of service by librarians electronically, such as e-reference service, searching or surfing the internet and browsing.

### **The impact of Internet, OPAC and E-Databases on Electronic Information Service in Library**

IFLA (2003) stated the impact of technologies as a mechanism to revolutionise the technical processes of delivering services such as shared catalogue, self - issue and return system, security measures, expansion of the range of materials collected and made available to users and ability to reach users regardless of geography, the library without wall has become a reality.

The Internet is one of the EIS in libraries. The Internet was first introduced by the US Department of Defence in 1960s for research by the Advanced Research Project Agency called ARPANET. The Internet is interconnectivity of computer networks that use TCP/IP internet

protocol suit to link several billions computers worldwide consisting of computer networks of public, private, institutions, government and academic. The Internet contributing to EIS in libraries by delivering information to users. Sahoo and Sharma (2015) described internet as information superhighway and a tool meeting the information requirements of the users of libraries in a timely manner.

Aliyu (2015) stated that with the aid of internet, literature searching has been converted from a rather tedious task involving sorting through card catalogues or printed indexes to a stimulating, interactive process using online connection to remote databases often located thousands of Kilometers away. According to Ajibero (2001) cited by Aliyu (2015), OPAC is a detailed holding of a particular library or group of libraries or a database and to which users have direct access. OPAC allows any member of the library's public to search the catalogue database in order to see if the library holds a particular work to be informed of its location and if the catalogue system is integrated with other housekeeping operations, to be told whether or not the item is currently on loan. Since the systems are user-friendly, OPAC has encouraged use of library resources.

### **Provision of Electronic Information Services by Professional Librarians in African Continent.**

The emerging trends of electronic information services in the African countries today and in libraries emaciate as result of information technology. The industrialised world is creating virtual libraries because of the high value placed on the availability of information, while the socio-technical condition to sustain virtual libraries does not exist in most African countries in general. The role of librarians in the provision of electronic information services is not negotiable and more or less indispensable. Librarians need to be more sophisticated and skillful in providing EIS. Though they still engage in the traditional routine operation of acquiring, selection, acquisition. Cataloguing and dissemination of information resources.

With the advent of ICTs, there are more opportunities, roles and responsibilities for librarians to meet the needs of their users, learning new skills such as negotiating license agreements, understanding evolving technologies, providing online information services to the users in time. Computer has been a major tools in the discharge of e-information service (Vishwaarma, 2015). According to Emezie and Nwaohiri (2013), the librarian of the 21st century

is changing with the changing environment which is a consequent of ICT. Moghaddam (2009) noted that one of the vital elements of success and dynamism is specialised human resources viz librarians. LaRue, Galston, Huber, Johnson and Long (2012) firmly believes that the library's most powerful asset is its professional staff. According to him, librarians have the power to change lives and build community- but to do this, they have to leave their desks, leave their buildings and show the community what a powerful tool they are. To this extent, the librarian of the 21st century is no longer one that sits behind the reference desk answering mere reference questions but rather an active marketer who sells the library's products and services to his community at every opportunity. He packages current information sources and delivers on point. This strategy serves as his bait to attract clients and by doing so; he according to Tanawade (2011) — fixes the idea in their minds that the library is source of incalculable value."

Aliyu (2015) citing Abdullahi (2008) that the adoption of ICT in libraries requires the librarian to be versatile in three areas of skills: technical skills, managerial skills and ICT Skills. Therefore given the current situation whereby ICT are being continuously updated or introduced and traditional formats are being replaced or supplemented by digital formats, there is the need for continuous and regular training of librarians. Therefore, Nwagwu (2007) recommended training of database professionals and experts, database quality and standardization, coordination and cooperation, computer programming and related activities. Ukachi (2010) pointed out that for librarians to function effectively and efficiently in the 21<sup>st</sup> century, they must possess the following skills, information literacy skills, ICT skills, training skills, they should be able to embrace change, unruffled in the online medium, able to troubleshoot new technologies, have advocacy skills and enthusiasm to learn new ideas and new technologies.

According to Ikhemuemhe (2005), if librarians are to continue to make substantial contributions as information disseminators, they will have to understand and exploit ICT infrastructure and emerging technologies in delivering services to their clientele. In repositioning the academic library for effective information service delivery, the roles of the 21<sup>st</sup> century librarian will include: advocacy, social media, mobile phones, information packaging, reference service and partnership. In the word of Baro, e al (2012), professional development opportunities can help librarians put theoretical knowledge into practice, and apply generalized concepts to specific responsibilities such as being able to deliver e-services. The library profession has become aware of the need for continuous training, because of the increasing variety of information formats

and the increasing dependence on automated systems. Academic libraries, by virtue of being in the business of providing information and retrieval services, are intimately tied to the constant and rapid technological changes characterizing the information age; therefore, the role that training can play in human resource development, especially in the e-library environment, is inestimable and unquantifiable.

A study by Uutoni, Yule and Nengomasha (2011) in Baro, et al (2012) on electronic governance and hybrid libraries in Namibia stated that librarians need to intensify their orientation programs by offering computer literacy programs on how to search online catalogues, electronic resources and Internet search engines. For librarians to remain relevant in this digital age, Atta-Obeng (2010) reported that the Kwame Nkrumah University of Science and Technology, Ghana will continue to equip its personnel with current skills in information delivery through continuous professional development, to enable them to satisfy the demand of users. Similarly, Lwehabura and Stilwell (2008) also reported on the need for training for librarians in Tanzanian universities, and asserted that librarians should be given long and short-term training opportunities so that they can upgrade their knowledge and skills in various issues pertaining to their profession, especially training in various aspects of ICT.

### **Emerging Challenges of Electronic Information Services in African Continent**

There are numerous challenges facing libraries and librarians in the provision of electronic information services. The lack of ICT personnel in libraries generally has been reported in a number of publications (Omekwu, 2006; Baro, 2010; Kavulya, 2007). To this effect, Sen in Abubakar (2010) observed that with the advent of computers, the nature of libraries has changed dramatically and that it is imperative to note that an attitudinal change that occurred among university librarians early in the 21st century, when developments in the publishing world provided information resources in electronic formats call for managerial skills to properly managed e-resources in university libraries as a result of the recent challenges facing electronic information services.

Ironically, university libraries in Nigeria seem to be lacking behind in this dispensation. Aleraiye (2005) in Nwosu, Ifeka and Ejedafiru (2013) lend credence to this when he observed that electronic resources are just emerging in libraries especially the academic libraries where automation has reached an advanced stage. Above all, the pervasive growth of the Internet and the

world wide web has created opportunities for a wide variety of electronic resources which are fast becoming the dominant medium of scholarly communication, and which no one library can acquire alone (Bozimo, 2011). Writing on the assessment of information literacy skills among librarians in Delta State University, Abraka, Nigeria, Alakpodia (2010) reported that librarians are handicapped with the new trends in librarianship.

Electronic resources such as e-journals, e-books, image collections, etcetera are online resources which required subscription for accessibility and adequate use. Most libraries in African subscribe to online resources with the aid of Information and Communication Technologies to update library in order to provide adequate services to their clientele. But in most case, funding has been recognised as a major challenge for the adequate electronic information services provision. Poor funding of African libraries has serious effects on information sharing and services provision. Onokerhoraye (2007) collaborated this when he observed that the declining financial resources available to Nigerian universities, coupled with the expansion of enrolment, virtually all universities in Nigeria have been at a standstill in terms of new construction and capital development.

As a result Oladele (2008) noted that the issue of funding inadequacy or the lack of it for most libraries on the continent is a major inhibition to their membership of the mainstream global libraries. The attendant implication is the further widening of the digital divide between Africa and the rest of the world. Most of these libraries are under-funded as much as budgetary disbursements are irregular. The consequent result of this state of affair is that most of the libraries are unable to discharge their obligations to their patrons in a most effective and efficient manner due to low capacity to package and disseminate information beyond their physical boundary.

Studies by Behera and Singh (2011) and Balangue (2012) identified the emerging challenges of electronic resources collection and management in libraries as the problem of user training, technological up-grading, financial constraint, IT skill manpower, perishable citation: online, if website changes, Universal Resource Locators (URLs) citations disappear, authentication, etc. Similarly Dhanavandra and Tamizhchelvan (2012), observed insufficient bandwidth which usually leads to network fluctuation and sometimes slow speed in the process of downloading resources. Yu and Breivold (2008) identified that there is lack of perpetual access to e-resources and that a majority of e-resources is licensed for a limited time. Thus, at the end of the license period, if the selector decides to cancel the subscription, it results in a loss of access to the

content. It is critical to check access to the resource on regular basis and follow up with the provider in the case of loss of access, which requires special staff having technical skills and knowledge (Nwosu, Ifeka and Ejedafiru, 2013).

Nwosu, Ifeka and Ejedafiru (2013) study on challenges of electronic information management in Nigerian University libraries found out that insufficient computers, financial constraints, non-availability of antivirus software, epileptic power supply, poor capacity building for librarians were the challenges of electronic information management in Nigerian University libraries. Thanuskodi (2012) studied the electronic information service in Anna University with emphasis on duration and extent of use of EIS in library and the challenges encountered in using EIS which were lack of knowledge of terminology, limited number of computers, information not updated, system not user friendly, access to limited information, staff of library need to acquire more skills and have knowledge of new technologies. These include among others things, lack of adequate finance, poor technical skills, erratic electricity power supply, lukewarm attitude of users, political instability, geographical isolation, inadequate infrastructure, and corruption as observed by Asukwo (2009) and Abubakar (2004).

Ndinoshho (2010) in his study on the use of electronic information services by undergraduate Nursing students at the university of Namibia's Northern campus, described electronic information service to be use of internet, Online public Access Catalogue (OPAC) e – databases are not properly used due to the following challenges, shortage of computers, unreliable internet connection, lack of time to access EIS and lack of skills by both the library staff and their users.

### **Way forward on Electronic Information Services improvement in the African continent**

Nwosu, Ifeka and Ejedafiru (2013) opined that as more information sources available to university libraries are born digital and publicly accessible by library users through the internet, the relative importance of the management of electronic information, personnel or organisation also increases tremendously. This makes the management and retrieval of information from large quantities of electronic sources all the more important to all academic libraries in Africa. Having identified the challenges faced by the twenty-first century academic librarian due to changes in roles from traditional to digital resources, Ross and Sennyey (2008) lamented that unless we are

prepared to embrace this opportunity and train present and future librarians for the competitive digital environment, librarians' skills will become increasingly redundant.

On the methods of coping with the emerging challenges in the provision of electronic information services, it is suggested that librarians should be involve in continues training, workshops, research and internet update. Library authorities should create conducive environment for librarians and users to excel in technology enhanced library settings.

## **Conclusion**

Professional librarians are saddled with the responsibility of electronic information services provision to meets users information needs. The electronic information resources is significant to users and they are provided electronically and they are an issue of concern to librarians. For librarians to be able to effectively provide these services they required ICT skills. Librarians in Africa are more affected by technology compared to librarians in the developed countries because of factors like budgets, human resource and electronic gadgets that are lacking. Libraries in Africa in particular must have their activities well-articulated and organised. They must have ICT policies in place as a way forward. Librarians need to brainstorm on possible approaches in integrating ICT in the libraries rather than without any view.

## **Recommendation**

To further compliment the way forward on electronic information services improvement in the African continent, the following recommendations are put forward:

- Critical decision have to be made to rescue libraries from the current state of dreams into real activities with a vision. Therefore a call is being made for a policy from which planning becomes effective and realistic. African librarians consequently need to have strong consortia guided by policies and guidelines to influence standardisation and continuous accessibility of both formal and informal electronic resources to at least meet user's needs.
- To reach out to a large number of users in use of electronic information services throughout the Africa countries, the virtual library project must be taken serious and enhanced because it is a technological way of bringing together the resources of various libraries and information services in one place, so that users can find what they need quickly and easily. Being that the virtual library is an enhanced access to national and International library and

information resources for teaching, learning, research and pleasure via the digital technology thereby making Africa a tune and active member of the global village policy.

- For effective electronic service delivery, the following technologies need to be integrated into the information environment:- Computing technology , such as mainframe computers, microcomputers, microchip technology, Artificial Intelligence, Software technology etc. Telecommunication technology; Audio technology, teletext, videotext, telephone, fax (facsimile transmission), voice mail, motion picture, E-mail, teleconference etc. Broadcasting technology, Broadband and Satellite technologies etc. Microelectronic / micrographic technology; CD – ROM,Hard Disk , Flash technologies etc. Reprographic technology; printers,scanners photocopiers etc.
- Libraries should continue to grasp the opportunities presented by the application of new technologies to revolutionise the technical processes required to deliver services. Such as shared cataloguing, whereby many libraries will share the task of preparing catalogue records so that duplication of effort is avoided. Self-issue and return systems, and security measures. This will allow the expansion of the range of materials collected and made available, together with the ability to reach users regardless of geography.
- Professional librarians in this 21<sup>st</sup> century should try to embrace these new technologies through retraining, retooling and then adopt new strategies which would improve information services delivery that would meet international best practices.

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