

# Challenges of Twenty-First Century Academic Libraries in Africa

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## **Abstract**

*Twenty-first century academic libraries worldwide have fundamentally transformed in the past two decades. Most traditional library services have been transformed to e-library services. Some of the notable major developments in the academic libraries include online scholarly communication, mobile technologies, social mediation application, digital curation and preservation. To fit into this new information landscape, academic librarians have assumed new roles. The purpose of this paper is to highlight the recent trends in academic libraries, changing roles and skills of academic librarians and discuss the challenges faced by librarians in academic libraries in Africa. The paper also offers recommendations to overcome some of the challenges. This paper is based on desktop review of relevant literature and the authors' views. The findings reveal the major challenges in academic libraries in Africa as: chronic financial constraints and inadequate basic infrastructure, insufficient ICT infrastructure, poor library and information science curricula, slow acceptance of open access resources, resistance to change, and difficulty in the*

*importation of books and journals. It is hoped that the findings of this study would help policy makers, administrators and other key stakeholders to develop effective strategies to address them. In addition, the findings are significant to academic libraries and librarians that are planning to transform to modern academic libraries.*

**Keywords:** Twenty-First Century Academic Library, Paradigm Shift, Recent Trends, Challenges in African Libraries, Africa.

## **Introduction**

Academic libraries are established to "support the mission of their parent institutions to generate knowledge and people equipped with knowledge in order to serve the society and advance the well-being of mankind" (Raja, Ahmad and Sinha, 2009). Primarily because of the information and communication technology (ICT) revolution and changing education systems, academic libraries have to continuously evolve as academic institutions change. However, the situation in academic libraries in Africa is different, as most of these libraries are not able to evolve at the same pace as their counterparts in developed countries. University libraries in many African countries are facing a difficult time, mainly resulting from rapid erosion of funding for books and journal subscriptions, staffing difficulties and a loss of the recognition as centres of academic scholarship (Echezona and Ugwuanyi, 2010; Hoskins and Stilwell, 2011; Willemse, 2002; Rosenberg, 1998).

The purpose of this paper is to examine the recent trends and issues in academic libraries and identify the major challenges academic libraries are facing in Africa. The paper is organised into the following sections: recent trends in academic libraries, new roles of academic librarians, new skills and

competencies for academic librarians, challenges in academic libraries in Africa, conclusion and recommendations.

## Recent Trends in Academic Libraries WorldWide

Literature review reveals the major recent trends in 21st century academic libraries as: integration of ICTs, increased focus on research data management, curation and preservation, scholarly communication, use of mobile technologies, patron-driven e-book acquisition, game libraries, virtual shelf-browsing, use of social media applications, new kinds of engagement with faculty and students, learning commons. They are discussed in subsequent sections of this paper.

### Integration of Information and Communication Technologies (ICTs):

Technology continues to drive much of the futuristic thinking within academic libraries (ACRL, 2012). The New Media Consortium (NMC) Horizon Report (2012) identified the following recent trends driving educational technology: ubiquitous learning (for example, people's expectation to be able to work, learn, and study from anywhere and anytime); adoption of cloud-based technologies; students' collaborative projects relying on wikis, Google Docs, Skype, and Dropbox; education paradigms shifting towards online and hybrid learning and emphasis on student-centered learning (Johnson, Adams and Cummins, 2012). The 2014 New Media Consortium (NMC) Horizon Report grouped trends accelerating technology adoption in academic and research libraries into three categories, namely:

- (1) **Fast Trends:** Driving technology adoption in academic and research libraries over the next one to two years (increasing focus on research data management for publications; and prioritization of mobile content and delivery);
- (2) **Mid-Range Trends:** Driving technology adoption in academic and research libraries within three to five years (evolving nature of the scholarly record, increasing accessibility of research content); and
- (3) **Long-Range Trends:** Driving technology adoption in academic and research libraries in

five or more years (continual progress in technology, standards, and infrastructure; and rise of new forms of multidisciplinary research).

Libraries are increasingly sharing digital resources through online public access catalogues, federated searching, scholarly web portals, and web-scale discovery systems in order to provide greater access to the available electronic resources. Examples of such services include online public access catalogues (OPACs), online databases, e-books and digital libraries, institutional repositories, subject portals, online and virtual reference services, electronic interlibrary lending, access to open access information sources, Frequently Asked Questions (FAQ) databases, security systems, electronic circulation systems, media marketing, and learning commons.

### Increased Focus on Research Data Management, Curation and Preservation:

Research data are critical to the scientific and economic development of any society. Owing to increased focus on research data management, there is growing availability of research reports through online library databases, which is making it easier for students, faculty, and researchers to access and build upon existing ideas and work. Archiving the observations that lead to new ideas has become a critical part of disseminating research reports in form of audio, video, and other media and visualizations (Johnson et al, 2014). Better data management can lead to better research because it saves time in the long run, helps fulfil grant requirement; enables adherence to open data policies; enhances appropriate data privacy while minimising the risk of data loss; ensures long-term preservation and availability of scholarly contributions, and allows facile use and re-use of research data (Ludwig and Wagner, 2015). Hence, many academic libraries today offer curation and preservation services. For instance, at Johns Hopkins University, the library's digital curators create the intellectual data model that enables digital objects to be organized and programmed (CLIR, 2008).

**Scholarly Communication:** Scholarly Communication is the process of conducting research and sharing the results from creation, to dissemination,

to preservation of knowledge, for teaching, research, and scholarship (Purdue University Libraries, 2015). New scholarly communication and publishing models are developing at an ever-faster pace, requiring libraries to be actively involved or be left behind (ACRL, 2012), thus presenting significant challenges for academic libraries. Since information seekers are able to access any type of information using worldwide web applications, modern librarians also advocate for sustainable models of scholarly communication.

**Use of Mobile Technologies and Prioritisation of Mobile Content and Delivery:** Mobile devices are changing the way information is delivered and accessed (ACRL, 2012). Integrated mobile platforms are being used to search library catalogues, contact librarians, access information and maintain patron account information, place holds on e-books, and directly download and read library e-books (Thomas, 2012; Johnson, Adams and Cummins, 2012).

**Patron Driven e-book Acquisition:** Patron-driven acquisition (PDA), also known as demand-driven acquisition, allows patrons to select and purchase e-books for the library collection without staff mediation (Walters, 2013). PDA of e-book licensing aims to avoid spending on thousands of books that are not used in the library, and offers opportunity to have a much larger collection of books at lower cost (Kolowich, 2011; Esposito, 2011).

**Game Libraries:** Games in education system are gaining increased importance. As a result, some academic libraries have already included games in their collections. For example, University of California Santa Cruz has an impressive collection of video games available for check-out along with consoles and games within the library (Salter, 2015).

**Virtual Shelf-Browsing:** Virtual Shelf browser is an interactive tool that allows users to browse shelves and items online such as physical stacks (Kenney, 2012; Giardini, 2015). At Columbia University library, Virtual Shelf Browser allows researchers to browse the catalogue as if all of the items, including titles that are at offsite or online, were arranged by call number on a single shelf.

Library catalogue records can be browsed by choosing "Show" or "Full Screen" (Witte, 2015).

**Application of Social Media:** Social media are playing a significant role in academic libraries through various forums, and are enabling provision of library services such as current awareness, networking, community interaction and engagement, education, library promotion, outreach, and knowledge creation (Jain, 2013). For example, the most popular social media platform, Facebook, is increasingly being used for marketing libraries and information centres in several ways. If time is limited, Facebook can be populated via other platforms such as Twitter feedback, the library calendar and a library Blog. OPAC search can be embedded on the Facebook page for ease of library users (Potter, 2013).

**New Kinds of Engagement with Faculty and Students:** Digital scholarship provides new opportunities for collaboration between faculty and librarians. Libraries have faculty-like expertise that is valuable in many areas of scholarship, curricular, co-curricular, and social experiences (ACRL, 2010). For example, some American academic libraries are using instructional games to promote information literacy competencies among students.

**Learning Commons:** As higher education approach has changed from a teaching paradigm to a learning paradigm, there is an emphasis on student learning outcomes. In response to the users' changing needs, academic libraries have come up with new types of digital learning spaces, popularly known as learning commons, to make learning dynamic and learner-centered (Forrest, 2012).

### **New Roles of Academic Librarians**

To fit into the above new trends, academic librarians are undertaking new roles. Based on the literature (Belzile, 2010; Heidorn, 2011; Kenny, 2012; Anyangwe, 2012; Giarlo, 2013; Charney, 2014; Cox, Verbaan and Sen, 2015), the new roles can be summarised as follows:

- Knowledge managers and knowledge workers;
- Instructional partners in learning spaces;
- System librarians;
- Content producers and disseminators;

- Curriculum developers;
- Technology savvy/experts by training in both using and training in new technology and implementing a variety of digital web-based projects, initiatives and infrastructures;
- Research supporters by offering advice on funding sources, conducting literature reviews, carry-out bibliometrics and impact measurement, bibliographic software training, advocacy for open access and/or institutional repository, advice on copyright issues and advice on archiving of research records, etc.;
- Supporting studies, not just storing books;
- Effective marketers;
- Knowledge gatekeepers as subject experts;
- Networkers and knowledge brokers;
- Data managers and data curators in eScience (taxonomies, metadata, Dublin Core and others);
- Good researchers both for personal and professional development;
- Web designers;
- Blended librarians; and
- Faculty liaison to provide support and training to academic staff for teaching, research and learning activities and facilitate communication between the library and the faculties to fulfil their academic requirements.

### **New Skills and Competencies**

According to Belzile (2010) and Jain (2013), to accomplish the new roles, academic libraries are continuously striving to equip themselves with the following main skills and competencies:

- Latest ICT skills;
- Digital data management and curation skills;
- Effective communication skills;
- Multi-media marketing skills;
- General management and leadership skills;
- Creativity and long term vision;
- Analytical and lateral thinking abilities;
- Cultural diversity and adaptability skills;
- Multimedia collection development skills;
- Change management skills;

- Information/digital literacy skills;
- Effective communication and interpersonal skills;
- System building and database developing skills;
- Blended librarianship skills;
- Partnerships and networking skills;
- Ability to prove library relevance to institutional administrators; and,
- Intercultural competencies.

### **Challenges in Academic libraries in Africa**

As already discussed, mainly due to advancement in ICTs, academic libraries world-wide are continually remodelling their services completely. However, owing to numerous challenges, most academic libraries in Africa still lag behind in coping with new information environments, and are, therefore, not keeping pace with the developed world. The major challenges are discussed below:

**Financial Constraints:** Most African academic libraries are confronted with chronic financial problems, which is the key to all other resources including information resources, technological resources, human resources and material resources, staff training and continuous professional development (Willemsse, 2002; Christian, 2008; Canada, 2009; Otando, 2010; Adetoro, 2010; Hoskins and Stilwell, 2011; Ubogu and Okiy, 2011). High inflation rates further worsen the financial problems. Hence, often librarians are not adequately trained to keep abreast with the latest trends in modern academic libraries. Also, there is difficulty in the importation of books and journals from abroad due to inadequate funding. According to Abubakar (2011), difficulty in the importation of books and journals from abroad is one of the setbacks in academic libraries in Africa hindering the accessibility of information to library users.

**ICT Related Challenges:** ICT has confronted academic libraries in Africa with numerous challenges as discussed below:

- *Inadequate Infrastructure:* Academic libraries in Africa have poor infrastructure such

as poor Internet connectivity (Emojorho, Ivwighregweta and Onoriode, 2012; ITU and UNESCO, 2015; Internet World Stats, 2015), poor electricity supply (Adetoro, 2010; Palumbo, 2014), erratic Internet services, lack of hardware and software and non-availability of the ICTs (Abubakar, 2011), and high cost of Internet connectivity (Echezona and Ugwuanyi, 2010).

- *Poor Internet usage:* Out of the 54 African countries, only ten countries have an access rate that is higher than the worldwide Internet usage rate of 45.0% (Madagascar, 74.7%; Mali, 72.1%; Malawi, 70.5%; Morocco, 61.3%; Seychelles, 54.8%; Egypt, 53.0%; South Africa, 51.5%; Mayotte (FR), 49.5%, Kenya, 47.3%; and Tunisia, 46.2%). There are great disparities between rural and urban areas, with the former experiencing very low Internet penetration (Rheingold, 2000; Fuchs, 2005; Fuchs, 2008; Echezona and Ugwuanyi, 2010; Nkanu and Okon, 2010; Van Dijk, 2006).
- *Low ICT literacy levels:* ICT literacy among academic librarians in most libraries is still at the peripheral level (Umeji, Ejedafiru and Oghenetega, 2013; Abubakar, 2011; Ugwuanyi, 2009; Emmanuel and Sife, 2008). Lack of ICT skills makes it difficult for library professionals to be innovative and creative and to ensure sustainable management and maintenance of ICT services in libraries.

**Inadequate Library and Information Science Curricula in African Library Schools:** The improvement of the LIS curriculum remains a challenge (Adeya, 2001; Odini, 1999; Aina and Moahi, 1999; Thapisa, 1999; Kigongo-Bukenya, 2003; Minishi-Majanja, 2004; Ocholla, 2003; Moahi, 2006; Manda, 2006; Ngulube, 2006; Kamba, 2011).

**Challenges of Open Access:** Owing to numerous impediments such as inadequate funding, inadequate advocacy and associated misconceptions, lack of Open Access policies, intellectual property, copyright issues and a lack of adoption of Free and open-source software (FOSS), slow uptake of Open Access content recruitment problems, lack of incentives, unawareness of Open Access benefits

and complexity of new scholarly communication models (Ramcharan and Dawe, 2006; Christian, 2008, Otando, 2010; Gbaje, 2010; Obuh, 2013). Only 132 institutional repositories are available in Africa (OpenDOAR, 2015).

**Resistance to Change:** Some academic librarians in Africa still resist changing to e-world (Wawire and Messah, 2010; Lwoga and Questier, 2014; Lwoga, 2014). Consequently, only few university libraries in Africa have embraced the use and application of Web 2.0.

## Conclusion

It is apparent from the ongoing debate that information environment is changing continually. Therefore, academic libraries and librarians are re-inventing themselves to fit into new teaching, learning and research environment to support the core business of their parent institutions. However, most academic libraries in Africa are not keeping pace with the ever changing developments. The major challenges are: chronic financial constraints, inadequate ICT infrastructure and skills, slow uptake of Open Access, challenges of new scholarly communication models, resistance to change, and poor local publishing industry resulting into lack of local content and heavy dependency on foreign content.

## Recommendation

To overcome some of the challenges, the authors propose the following recommendations to improve library services in academic libraries in Africa):

- Governments should formulate national information policies to import books and other information materials at subsidised price to make information accessible.
- Governments should also formulate ICT policies to make ICT tools and technologies more affordable to citizens.
- Parent institutions should make it their priority to provide adequate resources to academic libraries including finance, ICTs infrastructure and adequate staff training to equip librarians with desired skills and competencies to serve 21st century library users.

- Bandwidth management should be incorporated into the institutional objectives of African universities.
- Formulation of a clear vision, strategy and policies on ownership of research output, Institutional Repository contents, quality standards, intellectual property/copyright issues and other matters related to publishing open access research.
- Continuous training for library staff including use of web 2.0/Social Media applications.
- Promotion of library cooperation and innovative services
- Devising comprehensive promotion policy to publicise and market the benefits of Open Access to the faculty, students and all other stakeholders.
- Provision of local content through institutional repositories by digitising local contents.

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