

The Emerging Role of Librarians in the Management of Digitised Academic Libraries in Nigeria

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Abstract

The next generation of digital libraries are multimedia-based; thus, their success depends on the skill of digital librarians who have been trained to work with cutting-edge technologies. A symbiotic human-machine guru, the digital librarian serves as the information superhighway's custodian and operates as the universal digital library, the global digital library, or both. The purpose of this paper is to emphasize the tasks and duties performed by digital librarians during content delivery, navigation, and browsing. For the management of digital information systems, it envisions professional education and training for digital librarians. The article also emphasised the difficulties in setting up and running a digital library such as accessibility, planning, information retrieval as well as conservation and preservation of resources.

Keywords: Digitisation, Digitised Libraries, Information and Communication Technologies/ICTs, Librarians/Digital Librarians, Management.

Introduction

The notion of "digitalization of libraries," also known as "library automation" or "library computerization," emerged as a result of the use of information technologies to libraries' operations. Changes in information gathering, storage, organisation, access, retrieval, and dissemination brought about by advances in library digitization have made delivering library services simple, effective, and efficient. It is believed that librarians, information scientists, and libraries are responsible for managing information from its birth (Shanthakumara, 2018). The fundamental elements of the information cycle include the creation, searching, selection, organisation, preservation, repackaging, dissemination, and storing of information. Librarians and information scientists are trained to be professionals in these areas. Gupta, Kumari and Negi (2007) noted that because university libraries are in a competitive environment, they are starting to realize that knowledge management is a massive and mostly untapped resource spread throughout the library.

The library community has experienced significant social, economic, educational, and institutional change over the past ten years. In order to escape the assault of information overload, information and communication technology (ICT) applications in social relevance, accountability, diversity, and globalization must be addressed. In the twenty-first century, libraries are making unique efforts to serve all industries in academics, research, and other vital fields associated with development. Although the ICT revolution has greatly aided in serving users, it also brings with it a number of pressures that call into question the very function of libraries. In organising and sharing digital information, ICT is essential. Due to the abundance of information on the World Wide Web (www), it has greatly advanced information collection construction and web-based services, but it has also expanded the duties of librarians (Shanthakumara, 2018).

The majority of information is currently created in digital formats. The desire for information in electronic form is shared by nearly all parties involved in the knowledge generation process. Libraries needed ICT-skilled librarians and a digital librarian to administer the digital information resources. Currently, one of the responsibilities of librarians and other information workers is to provide global network access to documents. Since the dawn of time,

libraries have employed various methods to give electronic services to users, ranging from Dr. S.R. Ranganathan's Librachine to the modern digital repositories (Hulser, 1997). This has transformed the fundamental idea of librarianship. In order to develop future services in libraries, librarians must build on this foundation and are making an effort to do so by utilizing new technology.

Digitisation of Libraries

Because of the demand for quick and simple access to knowledge, the idea of digital libraries as we know them today has developed over time. In plain English, digitization is the process of transferring printed items from traditional libraries into electronic formats so they may be stored and accessed on computers (Witten and Bridge, 2003). Digitization is the process of converting a document's contents from hardcopy to electronic or machine-readable form. It goes beyond simply converting analogue materials to digital format and also involves organising the digital content into a navigable format for better access, preservation, and distribution of the digital content to the intended audience (Agbo, 2015). Digitization is the process of turning a physical object into an electronic replica or the process of converting analogue instructional materials into digital ones (Yaya and Adeeko, 2016). The entire process includes choosing intellectually valuable source materials and transferring them to the computer so they may be viewed both locally and remotely over the internet. Digitization is the process of breaking down information into its component bits.

The process of making collections of historical and other materials accessible online is known as digitization. It has been the standard practice among Nigerian libraries as they strive to make their materials and services visible to a huge audience at once while continuing to be relevant in the current trends and era. A digitized library, according to Sreenivasulu (2000), is one that has a sizable collection of machine-readable data files, elements of the emerging national information infrastructure, numerous online databases and CD-ROM information products, computer information storage devices on which information is stored, and computerized networked library systems. In this era of digital information, which includes electronic technology, the rise in popularity of the internet, and the phenomenal expansion of CD-ROM products, digital libraries provide access to a wide variety of multimedia information,

including movies, speeches, images, and photos as well as sounds, text, and more. The number of web, CD-ROM, and other digital information sources is skyrocketing, and the infrastructure for accessing information gets better almost every day. Multimedia and artificial intelligence will be crucial in creating the next generation of digital libraries. Sreenivasulu (2000) added that due to the multimodal character of digital libraries, the efficient, economical, and extensive dissemination of essential information in digital information systems calls for the usage of digital librarians (DLs). The introduction of digital libraries has created a wide range of opportunities and challenges for the digital librarian.

Digital librarians are valuable resources who can improve the usability and usefulness of digital libraries. The functionality for information, elicitation, planning, data mining, knowledge mining, digital reference services, electronic information services, representation of information, extraction of information, and distribution of information, coordination, searching particularly CD-ROMs, online, internet-based www, multimedia access and retrieval, are all combined by a digital librarian who manages and organises the digital library. The ultimate purpose of a DL is to facilitate electronic publishing as well as access to information just-in-time to key needs of end users. The computer-held digital material, including abstracts, may be easily accessed thanks to the distinctive and dynamic function played by the digital librarian. Adeleke and Olorunshola (2010) underline that for libraries to operate effectively in the modern day, they must adopt a more proactive approach to ICTs, allowing the manual procedures and processes to give way to digitization and a computer-driven environment.

Current Trends in Libraries

Inclusivity: There is a lot of interest in books about diversity, equity, and anti-racism, and libraries are giving these works to encourage inclusivity. These books aim to overcome the pervasive racial difference and to raise awareness about social justice. Many Michigan State University librarians are advocating for the diversity of academic library collections in 2021. They are promoting social justice and purging the academic community of racism, sexism, and homophobia. To ensure that more students can identify themselves within collections, librarians at the University of Kent have urged for the "decolonization of courses." A digital library thus

promotes education, as well as the empowerment of underrepresented voices and academic equality.

Open Access: Open access content is highly sought-after right now and is actively marketed to make sure that everyone who needs it can find it and access it. Authors are hesitant to publish open access works, nevertheless. Nevertheless, as the digital world develops, it is anticipated that the shift toward open access content will quicken.

Changing Nature of Education: The digitalization of resources became increasingly significant with the abrupt shift to online learning. Now, librarians can seamlessly adapt to the digital world by integrating their reading list into the library's collection. It also enables you to create and distribute educational seminars. An instructional session on eBook and video streaming licensing is being developed by librarians at the University of Central Florida and is intended for librarians and academic staff. It aids teachers and librarians in adjusting to online and hybrid courses.

Media Literacy: Due to the epidemic and virtual classrooms, libraries are now buying eBooks instead of physical books because they are more convenient and more readily available. The Rebus Foundation's Assistant Director, Zoe Wake Hyde, claims that access to digital libraries and their resources has increased library involvement.

Effects/Benefits of Digitisation of Libraries

As a result of the need for countries to protect and make available their cultural legacy in order to fully participate in the global information and knowledge economy, the term "digitalization" has recently become quite common in library and information jargon (Agbo, 2015). According to Raval (2013), digitisation can substantially ease the burden of library workload, preventing stress and tiredness brought on by workers who are routinely overworked. In addition to enabling the library to deliver effective services and ushering in a new era of bibliographic control, it also grants local and global access to necessary databases. When utilized to support operations and services, learning, teaching, and research, library digitization has made it quick and simple to obtain pertinent, accurate, and up-to-date information from both distant and nearby databases.

Libraries make use of ICT infrastructures for a variety of purposes, including purchasing books and serials, sending money, cataloguing and classifying items, providing reference services, user-focused services, document delivery services, web 2.0 interactive sharing, and bibliographic services. This guarantees that these services are provided in the shortest period of time possible, saving both users and the library time (Ramzan and Singh, 2009). With the use of digitization, Africa might become a global producer of indigenous knowledge and information rather than a consumer of knowledge from abroad, preserving our cultural legacy. Therefore, digitisation paves way for the accessibility of local information resources and the internationalization of local content (Agbo, 2015). It provides access to any library materials that were previously inaccessible owing to a lack of visibility while also increasing a library's worldwide visibility.

Library resources are saved for future use thanks to digitization. The possibility of materials being lost in the future is significantly reduced by digitization. Old manuscripts, academic papers, photographs, maps, government documents, and other historical records that contain sensitive information are preserved for as long as they are required. For instance, distributing high-quality photographs digitally and electronically will solve the wear-and-tear issues. Even while it is crucial to preserve these papers digitally, it is important to remember that they should not be used in place of the original records. Therefore, despite the availability of digital copies, original pieces of information must be properly preserved (Bekele, 2002). Digitization promotes both the localization and globalization of foreign and local information resources. It lessens the difficulties of information storage, which has been the bane of efficient manual preservation and storage of information items in libraries in underdeveloped nations due to poor information storage (Ezeani and Ezema, 2009). Traditional libraries have storage capacity restrictions, but digital libraries have the ability to store considerably more data because they don't need a physical location to house it. The storage issue is solved by digitization (Tiwari, 2007). Therefore, digitization provides the chance for information to be accessible to everyone, ensures the preservation of sensitive and rare documents, ensures the preservation of materials from our cultural heritage, reduces the need for physical space and storage, and promotes collaboration and knowledge creation.

Accordingly, the following advantages of library digitisation were outlined by Akidi, Okogwu, and Uzoagba (2017):

- i. Ensures effective and efficient resource preservation and conservation
- ii. Secures the library's resources
- iii. Enhances library services for patrons
- iv. Making room in the library
- v. Increases the accessibility of a library's collection by increasing the visibility of libraries around the world.
- vi. Saves cost, and
- vii. Increases the ease of data recovery during and after a natural disaster.

Need for a Digital Librarian?

To manage their digital knowledge resources, emerging worldwide digital libraries or global digital information centres necessitate the creation of a new professional title: digital librarian. Digital librarians are essential for the successful and efficient management and service delivery of the enormous digital libraries that are emerging as knowledge warehouses. The following can be inferred about the function of digital librarians (DLs);

- i. Create digital collections, establish and expand digital libraries, and manage the digital libraries.
- ii. Arrange digital information and knowledge
- iii. Make available digital data from the computer-held digital data.
- iv. Offer electronic information services and digital reference services.
- v. Digital Librarians offer services that provide knowledge mining from new knowledge warehouses
- vi. Takes care of the responsibilities related to widespread digitization, digital storage, and digital preservation
- vii. Provide universal access and retrieval of digital knowledge, ultimately access to all
- viii. Select and acquire e-books, e-journals and databases etc., catalogue and classify digital documents and digital knowledge; and organise digital knowledge and information resources.
- ix. Provide 24/7 digital reference service to users within campus and off campus.

- x. Digitisation and preservation of cultural heritage.
- xi. Provision of creative commons licence to support reuse of data, and electronic publishing works while Provide discovery and accessibility information resources at the global level.
- xii. Use of social media to engage conversation with users such as blogging/WordPress platform to current issues.
- xiii. Provide outreach programme facilities, and conduct training/orientation programmes to enhance the usage of digital library.
- xiv. Deterring plagiarism through anti-plagiarism tools.

The Emerging Roles of Librarians in Managing Digitised Libraries

In order to meet user expectations, library professionals are currently actively involved in developing digital collections and services, virtual reference services, research support, and free access to information anytime, anywhere. The evolving functions of librarians in the digital age are described by Senthilkumar (2010) as negotiator, navigator, facilitator, educator, entrepreneur (marketing library services), information filter, etc. Singh (2017) examines how the reorientation of digital library services toward mobile devices has changed the roles of librarians. In digital libraries, bringing users and information together is a basic function of DLs. The correct set of tools can be utilized in creative ways to address a wide range of issues and opportunities in information access technology and quicker access. (Kikuchi, 1996 cited in Yaya & Adeeko, 2016).

Here, these roles are explained in further detail:

Collection Developer and Manager:

To give library customers a well-balanced collection, librarians at libraries carry out the main duties of collection development in both print and electronic versions. In a digital setting, collection development now includes choosing what should be digitized and how it should be made accessible to users for free. Reading materials can be ordered and received as part of the acquisition process. However, as users on and off campus have 24/7 open access to born-digital information resources, librarians are interacting with them more and more.

Institutional Repository (IR) Manager:

When it comes to offering high-quality higher education, librarians are essential. The amount of information being produced is rising quickly. Librarians build up and develop

institutional repositories in their respective universities and higher education institutions. Libraries should enhance their research and academic systems by carefully and diligently setting up an institutional repository in light of advances in knowledge and the use of ICT. Librarians must take on the crucial function of an IR manager in order to administer the IR in an open access setting.

Digital Library Administrator:

Using technical implementation, installation, and customisation of open-source software for digital libraries, collecting metadata, usage reports, and conserving digital information, librarians build up and develop digital libraries in the digital age. Digital librarians oversee the rules governing digital content, internet protocol advocacy and licenses, as well as user education for the academic and research sectors.

Content Manager:

By creating subject gateways, digital libraries, and library web pages to enable quick access to digital information resources and services, librarians serve as content managers in the digital environment. Creating a website for 24/7 information resource and service delivery on user mobile devices is another aspect of librarians' evolving roles.

Websites Designer:

The librarian's job while building a library website is to make it engaging and informative so that all relevant information is included and the end user is satisfied. When creating a website, a librarian's tasks include providing details about the library and its services, including their locations, staff members' names and contact information, library policies and services, an interface to the library's online public access catalogue (OPAC), e-books, e-journals, user guidelines, etc.

Training Organiser and Trainer:

At their universities or institutions, librarians might serve as training coordinators and instructors. In universities, librarians occasionally plan conferences, author workshops, and training sessions for academics, researchers, and students. Additionally, librarians offer researchers and students ICT-based training, technical assistance, anti-plagiarism skills, reference management skills, discovery of Electronic Theses and Dissertations (ETDs),

referencing and citation skills, knowledge of how to convert documents to different formats, creation of softcopies of PhD theses in accordance with standard format, etc.

Developing Collaborative e- Resources:

With collaborative libraries and global resource sharing, digital librarians develop cloud computing services. The digital librarians foster a culture of cooperation for the exchange of resources in a networking setting. The shared resources are particularly beneficial for meeting user needs in an economical manner.

Researcher Advocates:

In the digital age, librarians have always provided research scholars with access to current research resources as well as education, training, and help through research support services. Additionally, support for researchers and other users using Reference Management Tools (RMT) to manage research to improve the calibre of research works. In their new role, librarians should work to help aspiring researchers by guiding them through the steps of conducting in-depth research.

University Coordinator:

The introduction of ETD (Electronic Theses and Dissertations) submission processes, preventing plagiarism, and setting up ETD repositories at academic institutions are all important tasks that librarians currently perform. The library personnel can assist researchers and educators with their research projects, impart referencing knowledge, and generally facilitate on-time ETD submission. In the digital age, librarians have taken on the new, difficult task of running the ETD Repository to enable Open Access to content from throughout the world. Today, librarians also go by the title of ETD Repository Managers.

The Policy Maker/ Intellectual Property Rights (IPR) Issues Councillors:

An institution's plagiarism policy, an ETD repository setup policy, a copyright and fair use policy, a library usage policy, an acquisition policy, etc. can all be created by librarians in a significant way. The IPR concerns are currently under the supervision of librarians, who also provide in-person training sessions and a workshop module for teachers, students, and researchers on copyright-related topics. These activities are specifically related to the educational environment. The ethical use of copyrighted materials in academic and research endeavours is

made clear to researchers. This understanding of IPR enables researchers to fairly use a portion of a published original source inside their work for literature reviews without needing to ask for permission in advance.

Social Media Communicator:

In order to facilitate faster and more effective information delivery, many librarians have set up social media accounts on Facebook, Twitter, Instagram, Flickr, LinkedIn, blogs, and WhatsApp on behalf of their libraries for business purposes. By doing so, they can reach users anywhere and at any time using the social media approach, and they can provide timely information services to academic and research communities to fulfil the fourth law of library science, "Save the time of readers," (Rangnathan, 1931).

Development of Digital Library App:

Librarians have tried to create a digital library app enabling access to digital library resources on their mobile devices and smartphones in an effort to increase the use of library collections and services in the digital world. To put India's greatest library repository at your fingertips, the National Digital Library (NDL) of India recently created and produced a smartphone app. On the Google Play Store, the NDL App is freely accessible. Users of this app can access information on any device and from any location.

Navigation, Browsing and Filtering:

Future navigation would likely support quick information retrieval and navigation, as well as integration with human-assisted knowledge retrieval from the networked cosmos. Digital reference services, electronic information services, and filtering them from digital information sources are all areas of expertise for the digital librarian.

Multimedia Search and Indexing:

In addition to the usual indexing and retrieval methods, a multimedia digital library additionally needs summarization and sub-document indexing methods.

Knowledge and data mining:

To identify consumers' unmet information needs and uncover knowledge from digital libraries, the digital librarian will need to have a basic understanding of data mining.

Unsupervised learning methods like clustering, composite term discovery methods, etc., are helpful for this.

Search and Retrieval Co-ordination:

To create information queries that are relevant to the search system, the digital librarian must possess thorough understanding of the retrieval engines and indexing structure.

Challenges in the Management of Digitised Libraries

The challenge for libraries, according to Yee (2012), is to have a pool of qualified staff members who are prepared to take on newly emerging roles and responsibilities in the digital environment.

Choosing the right software

There are numerous factors to take into consideration while selecting the best software for a library. If a library has enough money, it can choose to utilize licensed or proprietary software, which must be paid for before access and permissions are granted, or open-source library management software like KOHA, NewGenLib, etc. The digital librarian must consider a number of things after deciding to use licensed software, including post-installation support, data migration, support for multiple operating systems, flexibility, standards, the software's effectiveness, reliability, customizability, vendor warranty of a software, etc (Indrák and Pokorná, 2020) at the same time suggesting that a DL can work with other experts who have successfully implemented open-source library management software if that is what is chosen. A few factors should be taken into account in this situation as well, including data migration concerns, speed, OPAC capabilities, and standards like Z39.50, MARC21, and RFID compatibility.

Lack of financial support

Every library's budget is highly important. Lack of funding won't be an issue if a library has a stable financial position and is not dependent on outside investors. But this is not the situation in the majority of libraries. Not all libraries receive consistent funding; other libraries don't receive even the bare minimum. Automation of that library becomes an impossible undertaking when the administration of the library fails to develop a proper plan to solve this issue.

Lack of skilled professionals

Placing the right person in the right position is one way to ensure that an organisation succeeds in its daily operations. In the case of library automation, this means that librarians with experience in digitisation and extensive knowledge of ICT and library automation software should be hired to manage the digital library (Raval, 2013). A complete lack of digital librarians and a resistance to retraining current personnel characterize the majority of libraries. A library's current staff members should be trained to take over the automation project if experienced specialists cannot be hired to complete it. As a result, the library needs more dedicated professionals and the right individual to inspire current librarians to continue their education.

Accessibility

The digital library may be difficult for users to access for a variety of reasons. These obstacles may be brought on by an abundance of information, a badly designed user interface, inaccurate information provided by the digital library, or difficulty using digital resources (Indrák & Pokorná, 2020). The collection of digital libraries is expanding minute by minute as a result of the tremendous proliferation of information. In addition, no search engine can index all of the material on the web to make it simple to obtain a specific piece of data, making it more difficult to retrieve pertinent data from this vast information repository. Unskilled users now find it difficult to get the data or document they require. The majority of publishers offer their content online, with the opportunity for visitors to access the entire text only after paying a set sum of money. Users need the librarian's assistance at this point to find the necessary information. Sood (2017), was of the view that due to budgetary restrictions, it is highly challenging for libraries to obtain information from online fee-based repositories, especially in underdeveloped nations where libraries are discouraged from doing so due to the high cost. Budgetary restrictions can therefore prevent consumers from accessing the necessary academic communication. Libraries must deal with this difficulty to make use easier by creating policies or procedures to subscribe to these resources so users can access them remotely.

Information retrieval

Information Retrieval (IR) is the key problem for every digital library, according to Fox, Goncalves, and Kipp (2002). They continued by saying that indexing code is also crucial for information retrieval. The usage of any digital library must therefore be constantly evaluated

from the perspective of the consumers. The use of social networking and semantic web technologies is prioritized in order to increase the efficiency of the use of digital libraries. They contend that the digital library's bookmarking feature has the potential to significantly alter the digital library landscape.

Planning

Bhattacharya (2013) claims that creating a digital library requires a large expenditure in both the digitization of their current collection and the purchase of digital resources. While creating any digital library, there are numerous difficulties that must be taken into consideration. The goals for creating a digital library must be determined by library professionals, as well as the software that will be best for achieving those goals, the resources that need to be digitalized, the technical requirements of the software required to provide seamless access to the digital library, and the best way to secure the content uploaded in the digital library. The copyright concerns (intellectual property rights) associated with material digitization should be known to library professionals, and they should also be aware of how user-friendly and accessible a digital library is.

Preservation and conversion of information

Sharma and Vishwanathan (2001) claim that administering a digital library presents a number of difficulties, including the fundamental transition from analogue to digital, upkeep of the equipment used in the digitisation process, and adherence to standards, rules, and protocols for information interchange. Along with preventing unauthorized usage and updating new technology, translating content written in local tongues other than English could be difficult. Therefore, before beginning any project involving a digital library, codes and standards must be taken into consideration.

The use of standards and protocols with regard to digital library architectures, collections, metadata formats, interoperability, indexing, etc. that are required to create an effective digital library is a key issue, according to Shiri (2003), who also outlined some key challenges associated with identifying content that needs to be converted into digital formats.

Conclusions

Due to the benefits and drawbacks of library digitization, libraries must make room for patronage and physical collection expansion. Utilizing digitisation technology can help libraries

make the most of their holdings and keep up with the expanding user base. The main advantage of digitization is increased productivity, which allows readers to spend more time reading the materials rather than waiting in lines or being distracted by other activities. One of the main goals of any academic institution's digital library is to promote free flow of information. Users should be made aware of the availability and accessibility of digital resources by librarians. The coolest benefit of library digitization is that it can reduce labour and time requirements while also reducing the risk of book theft. It can enhance services and the calibre of the library cleaning tasks while conserving energy and equipment.

A library's digitization is not a simple task for people without much experience with it. Effective digitalization in a library requires a certain set of abilities. In order to handle digital information resources and services, the 21st century has created a demand for librarians who are highly versed in ICTs, or "digital librarians." ICTs have made it possible for libraries to automate maintenance tasks and provide users with information services in a cost-effective and efficient manner. In order to offer 24/7 digital information services to users on a global scale, librarians today manage ICT-based infrastructures that include computers, servers, mobile devices (smartphones, tablets, and notebooks, among others), networks (intranet, Wi-Fi, 3G/4G, the cloud), mobile applications (web apps, QR codes, and mobile OPAC), digital communication (Blogs, Instant Messaging, Twitter, e-mail, etc.), and resource sharing. Additionally, librarians today play important roles in managing institutional research data and offering research support services, both of which improve the calibre of upcoming research.

Inferentially, the practise of librarianship with knowledge in digital technologies is crucial for a digital librarian to succeed, followed by new cutting-edge technology to administer the digital resources and services in the libraries. The multifaceted tasks that librarians play make it feasible for libraries to survive in the era of Google and other information provider giants.

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