DIGITAL ERA AND LIBRARY SERVICES: WHAT SHOULD LIBRARIANS DO?

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Abstract

Librarians are professionals trained in the acquisition, organization, retrieval, preservation and dissemination of information resources. Librarians also offer helping hand for users to find the required piece of information and to use it for personal and professional purposes. With the coming of the digital era, a lot of information and communication technologies are being introduced in to the libraries. These technologies are very helpful in effective management of the library resources, services and user's needs. However, it has come with so many implications for the librarians, who are the library managers. Hence, the librarians need to adopt to remain relevant in this digital era or risk being displaced by other players in the highly competitive information industry. This paper therefore, examines factors demanding for adoption of digital environment in library operations; advantages of technologies in library; some of the library technologies in the digital era that the librarians need to adopt to in the digital library environment, major challenges faced by the librarians in adopting to the technologies; and the implications of the new technologies in the library. The paper then, concluded that librarians have to redesign their positions to meet the evolving needs of users in order to remain relevant in this digital era. To this end, the paper suggests among others that the librarians should master how to use the web; act as resource person for information products; and possess technology skills. These could be achieved through constant training of librarians through organised workshops, conferences, seminars and lectures that are centre mostly on information and communication technologies and their applications to library operations.

Keywords: Digital Era, Digital technologies, Library Services, Implications, Librarians.

Introduction

The word library is derived from the Latin word "libraria" meaning a book place. It originated from the word "liber" which means, book (Rajat, 2017). A library can be described as: A room where books are kept; Collection of literary documents or records kept for reference or borrowing; A depository built to contain book and other material; A building that houses a collection (Dayal and Malviya, 2016). From all these understanding of what a library looks like, a library in a broad sense can be described as collection of information resources in print

or in other forms that is organized and made accessible for reading or study (Rajat, 2017). A library could also be seen as a collection of sources of information and similar resources, made accessible to a defined community for reference or borrowing (Khot, 2014). It provides physical or digital access to material, and may be a physical building or room, or a virtual space, or both (Dayal and Malviya, 2016). A library's collection can include books, periodicals, newspapers, manuscripts, films, maps, prints, documents, micro-form, CDs, cassettes, videotapes, DVDs, Blue-ray Discs, e-books, audio-books, databases, and other formats (Khot, 2014).

Libraries are established in educational institutions to meet the information needs of users – students and staff. These libraries include libraries in Universities, Polytechnics, Colleges of Education and secondary/primary schools. The roles of these libraries are to effectively support the institutions to attain the key functions of teaching, learning and research services. These institutions are responsible for the creation of middle and higher-level manpower for national development. The extent to which these institutions are able to effectively accomplish this task depends largely on how well the libraries are stocked with relevant information resources, services and ability to satisfy users' need (Narasappa and Kumar, 2016).

Librarians are professionals trained in the skills of acquisition, organization, retrieval, preservation of printed documents, dissemination of information and guide the users in searching the required information (Rayapudi, Ramesh and Irrinki, 2021). Librarians also offer a helping hand for users to find their required piece of information and to use it for personal and professional purposes (Rajat, 2017).

With the coming of the digital era, a lot of information and communication technologies are being introduced in to the libraries (Emmasiegbu and Anaehobi, 2021). These technologies are very helpful in effective management of the library resources, services and user's needs. However, it has come with so many implications for the librarians, who are the library managers. Hence, the librarians need to adopt or find a way to cope with the new technologies being introduced in the library, if he/she is to remain relevant in this digital era (Sarasvath and Giddaiah, 2012). Therefore, librarians are facing new challenges, new demands, new expectations and a variety of information services from users. They are now to be more acquainted with the skill of handling new technologies related to acquisition, processing, storage and dissemination of information.

Following the introduction of the new technologies in the library today, librarians, besides gaining the professional knowledge in library and information science, they should have the knowledge of information technology and its application in library operations and services, both in theory and practice. This paper therefore, examined factors demanding for adoption of digital environment, advantages of technologies in library, some of the library services in the digital world librarians need to adopt in the digital library environment, the major challenges faced by the librarians in the digital library environment, implications of the new technologies in the library for librarians and library services. The paper also discussed the way forward.

The Need for Adoption of Digital Technologies in Library Services

Digital technologies are very useful in managing library resources and services. However, their adoptions into the library are usually very challenging. Nevertheless, there are certain factors that encourage the continuous adoption of the technologies despite the challenges they poss. Some of the challenges are highlighted bellow:

1. Information explosion: there are a lot of information resources in circulation; hence there is the need to find efficient ways to manage them. This can only be achieved through adoption of technologies

2. Dwindling Library budgets/ Poor funding: due to poor budgetary allocation to libraries; there is the need for libraries to adopt technologies in order to strive.

3. Escalating cost of printed documents: due to high cost of paper materials today, most libraries have resorted to the use of soft copies in their correspondences.

4. Changing demands of users: user's needs are very dynamic. For instance, most users today, prefer electronic documents than the hard copies. Hence libraries must adopt technologies to satisfy this user's changing needs.

5. Changes in digital environment: we are now in digital era. This implies that most of the available information resources are in digital format. Hence, libraries must adopt computer technology if they are to remain relevant.

6. Information and Communication Technology (ICT) revolution: with the manifestation of ICT in every sphere of life in the society today, libraries have no option than to adopt technologies in order to satisfy it users.

7. Explosive growth and usage of web resources: most scholarly resources are now on the web. Therefore, libraries must acquire technology (Internet) if they are to retain their patrons. Need of new generation users: younger generation of users today, often prefer the use of technologies to manage information resources. Therefore, libraries need to adopt technologies in order to satisfy them.

8. Strategic alliances, partnership and collaborations: due to the fact that libraries today share resources in order to satisfy the ever-increasing needs of users, they need to adopt technologies for effective strategic alliances, partnership and collaborations.

9. Interactive virtual learning environment: since, users prefer to access the library resources from anywhere, there is the need for libraries to adopt virtual technologies in order to retain their users (Maria, 2019).

All these factors mentioned above have contributed greatly in one way or the other in encouraging the adoption of technologies in managing information resources in the library. The most important ones are the dwindling library budget due to inadequate funding of libraries, and the escalating cost of printing materials/documents in the markets, today (Loganthan, Seker, Kasirao, 2015).

Qualities of Technologies that Encouraged its Adoption in a Library Setting/Advantages of Technologies in Libraries

The advantages of information technologies in the library can never be overemphasized. They are useful in almost all the sections of the library. They make library services efficient and easy to manage (Ramesh and Doraswamy, 2018). However, some of the qualities of the information technologies that encourage its introduction into the library operations include:

- It gives faster access to holding of libraries: Internet is a good example in this situation.

- Library resources can be accessed at any time, 24/7: Online public access catalogue is a good example in this case.

- No physical boundaries to the library: Examples in this case include e-resources, internet, OPAC, etc.

- It ensures optimumum utilization of the library resources: Examples here include OPAC, e-resources, library networks, etc.

- It helps in the security of the library's collection: Examples here include Radio Frequency Identification (RFID) technology and Bar-coding technology. They are the latest technology being adopted in modern libraries to prevent theft of the library materials.

- It creates Online learning environment for distance learners: Examples here are computer and internet services.

- It saves the time of users as well as library staff: Most ICT are designed to save the time of the users. For instance computers, OPAC, E-mail, e-resources, etc.

Digital Technologies and Library Services Librarians Need to Know How to Use in the Digital Library Environment. The aim of every library world-over is to satisfy its users need. In order to achieve this objective, most library managers seek to adopt ways or techniques that will be convenient for library users in managing information. Hence, any technique/technology that has ability to offer more efficient services to the library users are often acquired and used in rendering services to the users (Khot, 2014). This objective is the main reason why information technologies are applied to library services. Hence, these technologies highlighted below are being adopted, today in library operations or services

1. RFID Technology: RFID (Radio Frequency Identification) is the latest technology being adopted in modern libraries to prevent theft of the library materials (Dayal and Malviya, 2016). Radio frequency identification is a term used for technologies utilizing radio waves for identifying individual items automatically. It is a fastest, easiest, most efficient way to track, locate and manage library resources (Sharma and Vishwanathan, 2001). It is further used in the libraries for automatic check-in and check-out circulation process and also in stock management. RFID is very similar to bar codes. Developments in RFID technology continue to yield larger memory capacities, wider reading ranges, and faster processing. Hence librarians must possess the necessary skills to use this important technology, considering its versatility when adopted in managing library collections and services.

2. Internet: Internet has become information super highway and opened the floodgates for scholarly communication. Internet is truncated version of inter-networking, which refers to interconnecting two or more computer networks. Internet is described as a

worldwide network of computer and people. It is an important tool for global on-line services. The emergence of Internet offers very high bandwidth, which will widen the scope for information processing and dissemination as never before. Internet connects universities, colleges, schools and other educational institutions for information sharing and exchange. Access to information through Internet has changed the total scenario of librarianship. Therefore, it is important that librarians should acquire all the necessary skills to use the internet for effective service delivery (Naik and Horakeri, 2017).

3. Computer technology: The dramatic development in the information transmission process in every field of human endeavour has been made by the widespread and use of computer technology. Computer can be referred to as the backbone of ICT application. In virtually all ICT applications, the computer is interfaced with other devices in order to function effectively. Due to the wide use of computer in our everyday life, including library, it is imperative that librarians should acquire the requisite competence and skills to operate computers for effective services delivery (Nwokedi, Nwokedi, and Amkpa, 2017).

4. Library management software package: Software consists of the step-by-step instructions that tell the computer what to do. In a University Library, the most common computer software are library automation software, database management software, antivirus software and application software (Nwokedi and Amkpa, 2016). Many software packages for various applications in the field of library and information services and management are CDS/ISIS, SOUL, LIBSYS, KOHA etc. used for automation purposes. In order to effectively carry out library automation or manage library resources and services effectively, librarians must possess the library management software packages skills.

5. Library website: A library website provides a library with a space in the net to tell its story to its community. This technology can be used to showcase the library resources and attract users to the library (Bekele, 2002). Hence, library professionals should possess the necessary internet skills to manage the library website.

6. Database services: A database is an organized collection of related data for one or more purposes, usually in digital form. Libraries provide access to a variety of bibliographical databases and full-text resources that are typically organized to model

relevant aspects of reality, in a way that supports processes requiring the information. Databases could be online or offline and it requires one to possess a fair knowledge of computer and internet technologies to be able to gain access to the databases (Fox, Gonçalves, and Kipp, 2002).

7. Institutional repositories: An institutional repository is an online archive for collecting, preserving, and disseminating digital copies of the intellectual output of an institution, particularly a research institution (Bekele, 2002). For a university, this includes materials such as journal articles, both before (pre-prints) and after (post- prints) undergoing peer review, as well as digital versions of theses and dissertations. Librarians should be able to manage Institutional Repositories in their institution.

8. Teleconferencing: Teleconferencing is a generic term that denotes the combined use of telecommunications and electronic technologies as an alternative to in-person meetings (Bekele, 2002). Librarians should be able to use this technology to reach out to distant users.

9. Video conferencing: Video conferencing is a method of holding conferences by transmitting and data communication networks, so that participants can both see and hear each other (Sreenivasulu, 2000). It is convenient and less expensive for conducting a conference between two or more participants situated at different remote locations. This technology is used extensively in virtual conferences and seminars. The librarian could use this technology in conducting library literacy training and seminars for many distant users at a time

10. Video-text services: Video-text is a newer technology, but as in the on-line information retrieval, the information is stored in computer files and accessed through a telecommunication link. Video-text is any system that provides interactive content and displays it on a visual device, typically using modems to send data in both directions (Shanthakumara, 2018). This technology is also very good for interacting with library users. Therefore, librarians should adopt it in interacting with distant users.

11. Voice mail: Also known as voice message or voice bank is a computer-based system that allows users and subscribers to exchange personal voice messages. Voice mail acts like a telephone machine that digitizes the incoming voice message and store for retrieval later. It is an alternative system of e-mail. This technology could be used to

interact with library patrons by dropping messages for the users (Indrák and Pokorná, 2020). Therefore, it is imperative that librarians should adopt to the use of the voice mail in dealing with users.

12. Web technology: The World Wide Web (WWW) is a client server based, distributed hypertext, and multimedia information system on the Internet (Dayal and Malviya, 2016). Web technology is very important in managing information across the internet. Since, the librarians are information managers, it is very important for them to know how to use the web technology.

13. Chat services: Online chat may refer to any kind of communication over the Internet, which offers an instantaneous transmission of text-based messages from sender to receiver (Dayal and Malviya, 2016). In Libraries, it can be used for online reference service and real time consulting service. Online chat may be used for point-to-point communications as well as multicast communications from one sender to many receivers. Librarians need to know how to use this technology to interact with their users in dealing with users needs/ reference services.

14. Bar-coding technology: A bar-code reader (or bar-code scanner) is an electronic device for reading printed bar-codes. Using bar-code equipment's for circulation and stock verification is becoming more common, efficient and time saver (Shanthakumara, 2018). Therefore, Librarians need to understand how it operates because it is now being introduced into libraries as a form of security.

15. Bulletin board service: A Bulletin Board System, or BBS, is a computer system running software that allows users to connect and log in to the system using a terminal (Dayal and Malviya, 2016). Once logged in, a user can perform functions such as uploading and downloading software and data, reading news and bulletins, and exchanging messages with other users, either through electronic mail or in public message boards. This service can be used to reach out to library users. Hence, librarians need to know how to use it for the purpose of reference service

16. CAS and SDI Services: A selection of current-awareness services (CAS) in the form of Table of contents' (TOC) alerts, List of new arrivals of journals and Books, Press Clippings, Research Digest, including Abstracting and Indexing Service are now used by libraries to reach out to users. Selective Dissemination of Information (SDI) refers

to tools and resources used to keep a user informed of new resources on specified topics (Dayal and Malviya, 2016). Librarians should adopt to use of computers and internet services to be able to carry out CAS and SDI effectively in this information and communication technology Era.

17. Document scanning services: Scanner is useful for scanning text, image and content pages of books and providing great help for establishing digital and virtual library (Nwokedi, Samuel and Amkpa, 2016). Librarians should be able to scan documents. This is very important in developing institutional repository and also in preservation of library documents.

18. Electronic books: The elements that are considered important for the use of E-books in an academic library are the Content, Software and Hardware Standards, Protocols, Digital Rights Management, Access, Archiving, privacy, market, pricing and features (Khaisar, Ali, and Sunil, 2019). Electronic books (e-Books) enable users to quickly retrieve and access specific research material easily, quickly, and effectively (Sarasvath, and Giddaiah, 2012). Hence, librarians need to know how to acquire and manage electronic books for effective service delivery to library users.

19. Electronic document delivery services: Libraries are implementing ICT based inter-library lending system using electronic networks to deliver copies of journal articles and other documents in digital format mainly in Portable Document Format (PDF)] to library users' desktops (Nwokedi, Samuel and Amkpa, 2016). Hence, librarians should be able to render electronic document delivery services especially in conducting inter library loans.

20. Electronic journals: Electronic journal may be defined broadly as any journal, magazine, newsletter or type of electronic serial publication which is available over the internet and can be accessed using different technologies such as World Wide Web, Gopher, ftp, telnet, e-mail or listserv (Sood, 2017). Many publishers who offer subscriptions to print journals, sometimes also offer subscription to the electronic version of the journal free of charge. Some of the publishers who are providing e-journals include Emerald Elsevier, Kluwer, Springer, High wire, John Wiley, etc. Electronic journals are usually carrying latest information. Hence, librarians should be very conversant with its acquisition and monitor its usage for effective service delivery.

21. Electronic mail (E-mail): This is commonly and widely used with the internet facilities. E-mail is very useful for sending messages to and from remote areas with enhanced network. Further, it is also useful in various aspects of library environment. Thus, it may be stated that e-mail may play a significant role in information dissemination services (Nwokedi and Amkpa, 2016). Hence, librarians should be able to use the E-mail services to interact with library patrons for effective service delivery.

22. Electronic resources: The e-resources on magnetic and optical media have a vast impact on the collections of university libraries. The commonly available electronic resources are accessed electronically through traditional Medias like CDROMs, or through Internet as electronic journal, online database, e-book, or in the form of OPACs, blogs, wikis, podcasts, etc. Ability to use the electronic resources is very crucial because most of the latest library resources are available on electronic format (Singh, 2017). Hence, librarians must learn how to acquire, use and manage e-resources for effective service delivery.

23. Indexing and abstracting services: An indexing and abstracting service is a service that provides short forms or summary of documents and assigning of descriptors for referencing documents. These days, technology is used in indexing and abstracting services (Sharma, and Vishwanathan, 2001). Hence, librarians need to acquire the necessary requisite skills to adopt technologies in indexing and abstracting services in the library.

24. Networked electronic information resources: Libraries are providing their users with access to networked information resources, i.e. databases, electronic scholarly journals, encyclopaedias, public government information, etc., provided by various publishers or suppliers (Shanthakumara, 2018). Library professionals should be able to utilize this technology for the benefit of the users.

25. Networking technology: The important function of network is to interconnect computers and other communication devices so that data can be transferred from one location to another instantly (Sharma and Vishwanathan, 2001). Networks allow many users use materials held by a library or group of libraries. It is a computerized library catalogue available to the public. Most OPACs are accessible over the Internet to users all over the world. This technology is very vital for the users to gain access to the library

collections. Hence, library professionals should be able to use this technology for the benefits of the users of the library.

26. Online readers' advisory services: Libraries are implementing Web based versions of readers' advisory services and reference services. It helps to find the right information/reading material for the right person at the right time and provide the best information that matches their needs, interests, and reading level (Indrák, and Pokorná, 2020).). Librarians should be able to adopt to this technology to enable them interact with their patrons online and subsequently satisfy their information needs.

27. Storage technology: Optical disc storage technology is the most recent computer technology to enter the library community. CD ROM developed in 1985 has ability to store various media such as text, graphics and animation, video clips and sound files. Digital video disk or digital versatile disk (DVD) is the next generation of CD. The main feature of DVD is the compression technology and storing data on multi-layer sides, stores 17GB data is currently the only credible true multimedia format (Sreenivasulu, 2000). This technology is very useful for library services. Therefore, librarians should learn how to use this technology particularly in storing information resources.

Major Challenges Faced by the Librarians in Adopting to the New Technologies

Technology can offer many opportunities for enhancing your library services, such as improving access, efficiency, quality, and engagement. However, technology can also pose many challenges, such as requiring new skills, equipment, policies, and security (Dayal and Malviya, 2016). For example, you may need to learn how to use new software or platforms, acquire or upgrade your devices or systems, develop or revise your guidelines or standards, or protect your data or privacy. To cope with technology trends, you need to stay updated, be flexible, be creative, and be collaborative (Dayal and Malviya, 2016). However, some of the major challenges librarians faced by adopting the new technologies in the library include among others:

1. Low level of acceptance of the new Technologies: As of today, the technology has not percolated to the required level, to make the digital libraries acceptable as conventional libraries with printed documents. This factor has a lot of implications for continuous adoption of technologies into libraries.

2. High cost of digitization with dwindling library budget: The major problem of digitization is that it is very expensive to undertakee with the poor funding of libraries, today (Rajat, 2017). This implies that acquisition of technologies into the libraries will be greatly influenced by the dwindling library budgets.

3. Difficult and Complex Pricing in Digital Environment: Pricing of information in the digital world is very complex. Ownership gives way to licensing, pay per use, etc. All these are complex and require one that is versatile in law with internet skills to effectively adopt in this situation.

4. Plagiarism and Copyright Laws: Copyright law has been infringed or violated in digital environment due to lack of control over content access and reproduction of multiple copies of digital media. These laws are difficult to maintain or avoid in the digital environment. Hence, it is a very crucial matter for effective service delivery in libraries today.

5. Technological Obsolescence (Outdated): The major risk to digital object is not only physical deterioration, but technological obsolescence of the devices (hardware and software) to read them, for instance floppy-diskette technology is gradually being phased out. It means that information in this technology may not be accessible, with time (Kiriri, 2018).

6. Dependence on Technologies and constant Training of Users: Digital libraries are mostly dependent on suitable telecommunication link and computer system for proper utilization and information transfer, these libraries depend much on suitable technology and training of end users in handling of variety of retrieval software and search strategy. All these demand for more funds which makes cost of adopting new technologies in the library very high.

7. Preservation of electronic information: Archiving and preservation of electronic information may be one of the most challenging of all tasks. The digital storage media such as hard disks, tapes and floppy discs have a very short life span due to rapid technological obsolesces. This implies that there will be frequent transfer of information resources to the current preservation/storage media in circulation. This frequent transfer, require additional funds on the poor library budget, skills and time.

8. Staff training and development: The eight challenge librarians faced is pursuing professional development and growth. Professional development can help librarians improve their knowledge, skills, and competencies, as well as their career prospects and satisfaction. However, professional development can also be challenging, as it may require time, money, motivation, or opportunities. For example, one may need to attend courses or workshops, read books or journals, join associations or networks, in order to update his knowledge. To achieve professional development, librarians need to set their goals, identify gaps, seek feedback, and explore their options. Hence, staff training and development require additional funds on the poor library budget.

New Technologies In Library Settings: Implications And Way Forward For Librarians

With the coming of the new technologies in to the libraries, the responsibility of the librarians have increased in terms of packaging and repackaging of information, electronic publishing, advising and guiding users on how to identify relevant electronic sources, etc (Panand Das, 2012)). In such a new environment it will be very difficult for the librarians to decide what should be organized and how to organize the collection etc. Thus, librarians have to change themselves and acquire more skills and additional roles. The way forward for the librarians in this digital era, are highlighted below:

1. Librarians Should Master how to use the Web   Librarian should have knowledge of designing, developing, launching and maintaining of digital content and assess, evaluate, recommend and test various methodologies policies and standards for utilizing computer software in the process of creating and preserving digital collections and resources (Sharma and Vishwanathan, 2001). This knowledge is important for the librarians to be able to render effective service delivery in this digital era.

2. Librarians Should Act as Resource Person for Information Products: Librarians have to accumulate all the relevant information from various resources on the different aspects that are of his/her scholar's interest or in the interests of the organization, with which he/she is associated. Before collecting information, he/she has to put into consideration the following aspects for the end product, which they have to offer:

   - It must be according to requirement of its users.

   - It must be equipped with powerful, easy to use, intelligent search engines.

- It must have attractive user interfaces.

- It must be reasonably priced.

- It must allow access from, and delivery to the user's workstation.

3. Librarians Should be Proactive Information Professional: The modern trend is for the librarians to take-up more proactive professional role which includes analyzing and repackaging information, content information management and institutional digital repository management (Hase, Gaikwad and Jadhav, 2021). The librarian should be able seen to be active in providing information resources in both physical and digital formats to the users in any institution/organization.

4. Librarians Should Possess Leadership/Managerial Qualities: One major role of librarian is to provide leadership and expertise in the design, development, and ethical management of knowledge-based information system in order to meet the information needs and obligation of the patrons. He should enrich his management skills for organizing, managing and disseminating e-literacy to users.

5. Librarian Should Possess Technology Skills: Librarian is involved in information gathering, storage, retrieval and dissemination on one hand and on the other hand the computer specialists who supports the library and informational professionals in this endeavour. For successful implementation of Digital Library, it is essential that librarians are well trained and possess requisites knowledge and skills in this respect (Devi, 2019; and Ramana, 2006). Technology skills means those skills which are required to handle information technology and its other related fields such as computer operations, telecommunication media, creation of online database, designing of websites, searching information from internet etc.

1. Skill of Using Internet Skills of handling different computer communication networking architectures and systems i.e. LAN, MAN, and WAN as well as using of internet and other library related networks like INFLIBNET, CALIBNET, DELNET etc are required for a modern library professional working in IT environment to tackle the problems and challenges raised in building and maintaining a digital web-based library (Sharma and Vishwanathan, 2001). This implies that the librarian should be adequately knowledgeable in computer and internet operations.

2. Skill on Computer Communication Networks Efficient resource sharing and dissemination of information is possible only with the proper computer networking skills. Therefore, the library and information professionals should have the knowledge of network protocols like TCP/IP, UDP, HTTP, FTP etc (Hashim, 2012).

3. Technological Tools Using Skills: Digital library environment means the advanced application of information technology on the library. Hence, librarians should have to be familiar with necessary skills to handle information technology products, particularly, physical handling of gadgets, telecommunication products, data and file management, word processing, generation of reports, etc. (Pan and Das, 2012)

4. Librarians Should Acquire Information Retrieval Skill: Librarians should have the professional technology skills required to apply information technology for effective service delivery. This involves collection and organization of data in electronic form, indexing techniques, selection and evaluation of sources, searching techniques, and updating techniques (Fox et al, 2002). The librarians should be in a position to help its diversified user community by providing retrospective searches, ready reference services, bibliographic service, selective Dissemination of Information Services, retrieval of information from the net, etc. Akpan, Agam, and Bassey, 2018)

5. Librarians Should Possess Traditional/Basic Skill: Basic library skill includes those basic skills, which are necessary for running/operating a general traditional library. Skill for classification and cataloguing of document, method of indexing and abstracting, preservation, etc. are also required for the librarian working in the digital environment.

6. Librarians Should Possess Communication Skills Librarians should be able to act as the mediator between information users/seekers and the information resources or information providers. Hence, librarians should have the skill to:
   - Communicate the value of library service to decision makers, staff and users.
   - Communicate clearly and respectfully with customers and colleagues.
   - Demonstrate active listening skills with customer and colleagues.
   - Effectively negotiate with publishers, customers, management and vendors.

7. Librarians Should Possess Preservation Skill Like in the traditional library, the librarian in a digital library should have the preservation skill for the E-Resources. They should have the knowledge of cryptography, firewall, and different anti-virus software for prevention and preservation of E-Resources (Shanthakumara, 2018).

After Adopting Various Competencies, Librarians Should Be Able To:

• Effectively utilize information technologies in the library settings
• Create online learning environment for users
• Managing digital information resources in the library with ease
• Develop and manage institutional repositories effectively with ease
• Offering digital/virtual reference service effectively with ease
• Help in information literacy training skills for the library users
• Promote access to open access with ease
• Promote marketing of library resources and services effectively with ease.

Conclusion

Change is a basic natural phenomenon which often occurs with time and development. Information technology is rapidly changing the world at every sphere of societal life including library. Technology can offer many opportunities for enhancing library services, such as improving access, efficiency, quality and engagement. However, technology can also pose challenges such as acquiring new skills, equipment, policies, security and funds. The new tools of information technology have absolutely changed the role and responsibilities of librarians. In the Digital Library Environment, librarians are now facing many complex challenges posed by the rapid revolutionary advances in Information and Communication Technology. Therefore, librarians have to redesign their positions to meet the evolving needs of users. To achieve this objective, librarians need to adapt to the new practices and new technologies, manage change, and improve performance to face future challenges of knowledge society. If not librarians may gradually and systematically lose their position as top information managers to other stakeholders in this highly competitive information and communication technology era, often referred to as digital era.

Way-Forward

Based on the fact that the librarians are information providers and managers in academic institutions and other organizations, with the presence of ICTs in libraries, the following

suggestions among others were made on how to reposition the librarians to be able to cope in this digital era:

1. Librarians Should Master how to use the Web
2. Librarians Should Act as Resource Person for Information Products
3. Librarians Should be Proactive Information Professional
4. Librarian Should Possess Technology Skills
5. Librarians Should Possess Preservation Skill - particularly for electronic resources.

In order to obtain the above attributes, the librarian should adopt the following technique.

1) Librarians should attend more conferences, workshops, seminars and meetings that are centre on the use of Information and Communication Technology (ICT) in acquisition and management of information resources. In this regard, the librarian should be able to make sacrifices by paying from his/her pocket to register and attend such conferences/workshops, if need be, since most institutions, today in developing countries are complaining of inadequate funds.

2) Librarians should adopt self-development through reading and searching the internet for latest developments on ICTs and how to apply them to library services. This implies that the librarian should develop itself by reading text books, journals and searching the internet for internet resources that are centre on ICTs. Through self-reading, the librarian may also acquire some relevant skills on the use of ICTs

3) Joining associations and groups that are focused on discussing and addressing issues concerning ICTs and its applications to information management in libraries. Examples include Nigeria Library Association (NLA): Information Technology section and Academic Libraries sections.

4) Discussing with colleagues and ICT experts that are experienced on the use of ICTs for acquisition and management library resources. 5) Librarians can also update their knowledge on ICT by enrolling for short courses on ICTs, online.

Due to the fact that libraries are better managed through the use of ICTs, institutional priorities should shift towards supporting innovative approaches to information access and services for effective information service delivery by exposing their librarians to latest trends on ICTs. To

this end, there is the urgent need for institutions to sponsor the training of the librarians, who are the institution's information managers, through organized workshops, conferences, seminars and discussions that are centre on ICTs and its applications to library services.

References

Akpan, B. B., Agam, B. M., & Bassey, S. A. (2018). The Future of E-books in Our Contemporary World. *Journal of Advances in Library and Information Science*, 7(3)

Bekele, S. (2002). The Role and Impact of the Digital Library on Capacity Building in the Developing World. *The International Information and Library Review*, 34(2), 129-137.

Dayal, R., & Malviya, R. N. (2016). Library profession is becoming more challenging in technological age. Presented at national seminar at MM Engineering College, Mulana-Ambala, 229-233

Devi, B. M. (2019). Online Databases as a Tool for Research: A Study among Science Research Scholars at the University of Kerala. *International Journal of Information Dissemination & Technology,* 9(4), 202–206. Available at https://doi.org/10.5958/2249- 5576.2019.00039.6. (Accessed on 17/09/2022)

Emmasiegbu, M., & Anaehobi, S. E. (2021). Challenges to the Use of Electronic Databases by Lecturers in Government-Owned University Libraries In Anambra State, Nigeria. Library Philosophy and Practice, 0, 1-16. 5224. Available at https://Digitalcommons.Unl.Edu/Lib philprac/5224 (Accessed on 15/09/2022)

Fox, E. A., Gonçalves, M. A., & Kipp, N. A. (2002). Digital libraries. In Handbook on Information Technologies for Education and Training, 623-641. Springer, Berlin, Heidelberg.

Hase, V. L. Gaikwad, M. N., & Jadhav, Y. G. (2021). Online Databases Backbone for Teaching and Research: Case Study of Rajarambapu Institute of Technology, affiliated to Shivaji University, Kolhapur, Maharashtra (India). Library Philosophy and Practice (e-journal). 6873. Available at https://digitalcommons.unl.edu/libphilprac/6873 (Accessed on 18/09/2022)

Hashim, L. (2012). Preparing New Era Librarians and Professionals: Trends and Issues. *International Journal of Humanities and Social Science. Journal of Humanities and*

Social Sciences, 2, 7, 151-155.

Indrák, M., & Pokorná, L. (2020). Analysis of digital transformation of services in a research library. Global Knowledge, Memory and Communication, 70(1/2), 154-172. https://doi.org/10.1108/GKMC-09-2019-0118

Khaisar, M., Ali, R., & Sunil R. (2019). User's Satisfaction on Library & Information Resources, facilities and Services: A Case Study in Vidyavardhaka First Grade College, Mysore, Research Gate, 1-21.

Khot, N. (2014). Changing role of library professionals in the ICT environment. Presented at 59th ILA International conference, IIT Rookie, 95-98.

Kiriri, P. N. (2018). "Service delivery: the perceptions of users' of library services in a private university in Africa". *European Journal of Multidisciplinary Studies,* 3(4). Available at: https://www.ejmds.kiriri.pdf.

Maria, I. E. (2019). "A Pilot Study on Awareness and Use Library Services among Postgraduate Students in Nigeria". Library Philosophy and Practice (e-journal), 2283, available at: https://digitalcommons .unl.edu/libphilprac/2283.

Loganathan, G, Seker, K., & Kasirao, V. (2015). Technological skill for LIS professional in digital era. *International Journal of Library and Information Science*, 4(3), 65-69.

Naik, R., & Horakeri, M. (2017). Changing Role of Library Professionals in the Internet Era: Trends, Opportunities and Challenges. http://dliskud-over-blog.com/article-36027362.html

Narasappa, K. C., & Kumar D. (2016). ICT skill for LIS professional in digital environment. *International Journal of Research in Library Science*, 2(2), 55- 58.

Nwokedi, V. C., Nwokedi, G. I., & Amkpa, S.A. (2017). Effects of browser competence and use on information service delivery by librarians in university libraries in south-east zone of Nigeria. *International Journal of Academic Libraries and Information Science*, 5(1), 19-26.

Nwokedi, V. C., & Amkpa, S. A. (2016). Effects of internet searching competence and use on information service delivery by librarians in university libraries in south-east zone of

Nigeria. *International Journal of Academic Libraries and Information Science*, 4(10), 271-276.

Nwokedi, V. C., Samuel, N., & Amkpa, S. A. (2016). Effects of e-mail competence and use on information service delivery by librarians in university libraries in south-east zone of Nigeria. *International Journal of Academic Libraries and Information Science,* 4(10), 277-282.

Pan, I., & Das, S. (2012). Digital Library: Pragmatic Approach. Prova Prakashani; Kolkata. P 25-26.

Rajat, A. (2017). Importance and role of libraries in our society. *National Journal of Interdisciplinary Studies*, 2, 2456 - 1681

Ramana, P. (2006). The Changing Role of Librarian in a challenging Dynamic Web Environment. International Convention CALIBER, 4th. Gulbarga, February 2-4, 2006. INFLIBNET Centre; Ahmedabad. P 171-178.

Ramesh, B., & Doraswamy, N. (2018). Use of Electronic Information Resources by Faculty of Engineering College Library - A Study, PEARL. *A Journal of Library and Information Science*, 12(2), 137-143.

Rayapudi, S., Ramesh R., & Irrinki, M. (2021). "Evaluation of the Library Services and Facilities among KLEF-Guntur and KLEF- Hyderabad". Library Philosophy and Practice (e-journal), 4974

Sarasvath, P., & Giddaiah, D. (2012). Changing Roles of the Librarians in theVirtual/Digital Era. *SRELS Journal of Information Management*, 49(5), 445-500.

Shanthakumara T. N. (2018). Library Automation in Academic Libraries Problems and Solutions.https://www.researchgate.net/publication/329364658_Library_Automation_ in_Academic_Libraries_ Problems_and_Solutions

Sharma, R. K., & Vishwanathan, K. R. (2001). Digital Libraries: Development and Challenges. *Library Review*, 50(1), 10-16.

Singh, B. P. (2017). Re-Orientation of Digital Library Services with Mobile Devices: The Changing Landscape. ICSDLP- Proceedings. Luck now, India, 21-23 November 358-

370

Sood, S. (2017). Technological trends and Library services in the digital era at AC Joshi Library, Panjab University, Chandigarh. *Library Progress (International)*, 37(2), 213-221.

Sreenivasulu, V. (2000). The role of a digital librarian in the management of digital information systems (DIS). *The electronic library,* 18(1), 12-20. role-DL-DIS.pdf (rclis.org).