University of Nebraska - Lincoln Digital Commons@University of Nebraska - Lincoln

Library Philosophy and Practice (e-journal)

Libraries at University of Nebraska-Lincoln

2018

Information Technology and the Future of Librarianship

Emmanuel Omeiza Momoh University of Ilorin, momohomeiza8@gmail.com

Follow this and additional works at: http://digitalcommons.unl.edu/libphilprac



Part of the Scholarly Communication Commons

Momoh, Emmanuel Omeiza, "Information Technology and the Future of Librarianship" (2018). Library Philosophy and Practice (ejournal). 2079.

http://digitalcommons.unl.edu/libphilprac/2079

INFORMATION TECHNOLOGY AND THE FUTURE OF LIBRARIANSHIP

Momoh, E.O.
Department of Library and Information Science,
University of Ilorin, P.M.B 1515, Ilorin, Kwara State, Nigeria
Author's e-mail: momohomeiza8@gmail.com

Abstract

There is a growing concern by scholars in the field of library and Information science on the way technology is gradually taking over certain jobs performed by librarians and Information professionals. This may be the reason why many of the scholars have submitted that the discipline of librarianship may cease to exist in a couple of years if nothing is done to solve the problem.

In the light of this, this article seeks to identify ways in which technology has taken over certain aspects of the field of librarianship with the aim of proffering solutions and identifying other means in which the 21st century librarian can make himself relevant especially with the current dearth of employment opportunities.

Keywords: Information technology, Libraries, librarians and librarianship

Introduction

In centuries gone by, librarians were seen as keepers and custodians of books. This perception also affected the image of the library, this was because many people saw the library as a room with stacks of books where individuals particularly students who wanted to read beyond the scope of what they were taught in class found shelter. No wonder, the field was regarded as library science and not library and Information science or library and Information technology as we have it recently.

The invention of computers by Charles Babbage and other technologies such as printing press by Johannes Gutenberg gave a face lift to libraries, librarians and librarianship in general. As a result of this, many people from other disciplines began to minor in librarianship having seen the hidden potentials in the field.

Libraries also in an attempt to respond to change and growth based on the fifth law of librarianship introduced the use of computers and other technologies into their day-to-day operations. Therefore, operations such as acquisition, cataloguing and classification etc shifted from the manual method to the automated method. The introduction of technology also brought about the development of certain concepts such as e-resources, e-libraries, digitalization etc.

However, Since the world generally operates on the principle of double-sidedness, there is a growing concern that technology has taken over the activities of librarians. This situation seems worrisome because, in the next century, librarians may find themselves losing their grounds in the current job market. In his opinion, Galeon (2017), citing Stephen Hawking opined that intelligent machines are taking over jobs. He further noted that it may only be a matter of time before humanity is forced to

leave the earth in search of a new home. He puts the time frame for this as 30 years but with recent happenings it seems the time frame is less than what was proposed.

Methodology

This study is based on the review of primary and secondary literature such as journals, internet articles, conference proceedings and seminar papers.

Conceptual Framework

Technology

Technology is the application of techniques, systems, processes and skills to solve complex human challenges and problems. Fernald (2014) defined the term as the "Ability to convert society's resources (labor and capital) into output (goods and services that we value)". In his own view, Thiel (2014) defined the term as "any new and better way of doing things".

Arthur (2009), sketches out three out three conceptions of technology which are:
1) "Technology as a means to fulfill a human purpose. As a means, a technology may be a method or process or device... Or it may be complicated... Or it may be material... Or it may be nonmaterial. Whichever it is, it is always a means to carry out a human purpose."

- 2) "Technology as an assemblage of practices and components."
- 3) Technology as the entire collection of devices and engineering practices available to a culture."

In the field of librarianship, any process or technique that makes library operations faster is known as information technology. Information technology can be defined therefore as any form of technology that speeds up the rate at which information is created, edited, disseminated and stored for future usage.

In other perspectives, the term could be defined as the application of computers and other devices such as emails, printers, faxes and scanners in the acquisition, processing and storage of information.

From a scholarly perspective, information technology can be defined as recently it is stated by Tan et al. (2009) as application of Information and Communication Technologies tools including computer network, software and hardware required for internet connection.

Technology and Libraries

The changes brought about by advances in technology with particular reference to information technology have been so extensive that it is difficult to assess their total effect, but is clear that libraries are in the state of fundamental transformation. The influx of information technologies in library and information management has created divergent schools of thoughts. One school of thought aligns itself with the short run

perspective, while the other school of thought aligns itself with the long run perspective.

The short run perspective believes that the application of information technology in libraries has made library operations easier, faster and more efficient. The short run perspective also believes that the application of information technology also eliminates drudgery and repetitive work.

Although, the long run perspective believes all the assumptions of the short run perspective, however it differs in its own view because it examines the human factor. A task performed by 5 individuals in the manual approach are now been carried out by just an individual in the automated approach.

Components of ICT in Libraries

Although information technology is a standalone concept, there are other components associated and conjoined with it. Islam and Islam (2006) have identified some of these as follows:

- 1. **Software technology**: this has to do with the development of computer programs that could aid library operations. Softwares used in library operations include: Microsoft packages, tinlib, Alice for Windows etc.
- 2. **Media usage and development**: this has to do with managing information resources available in digital formats such as CDs, projectors, microfiches etc.
- 3. **Artificial intelligence**: this entails the development of machines to emulate human qualities such as learning, reasoning and teaching.
- 4. **Microchips**: these are technologies that contain silicons and other electronic components. They are usually used to protect and secure library materials from been stolen.
- 5. **Workstations**: these are specialized computers that help to distribute large amounts of data from a central source known as a server to other computers within the same network.
- 6. **Emails and hypertext**: e-mails (electronic mails) are messages sent over the Internet. They are usually used for current awareness and selective dissemination of information.

Hypertext on the other hand is links which serve as pathways to other sources of information.

Uses of Information Technologies in Libraries

Information technologies perform a variety of functions. These include the following: **Cataloguing and classification:** the invention of information technology has made the process of organizing knowledge faster. The introduction of computer had made it easier for the formation of Union catalogues.

Indexing and Abstracting services: in the place of the manual system of capturing important keywords in a document, computer programs are now been used to perform

this tasks. All that has to be done is to import the document into the software and the essential keywords are highlighted.

Database Management: database management softwares are been employed to manage user information. Instead of the manual system of capturing the particulars of library users, databases are now been created to capture it.

Current Awareness Service: this service has to do with creating awareness about library products and services. It entails bringing to the notice of library patrons new materials available in the library. The invention of information technology has made this system earlier because library users no longer have o be present physically before they know materials available in the library. But e-mails can now be sent by library staff to them. This makes them access library materials right from the comfort of their homes.

Benefits of Information Technology in Library services

Without mincing words, information technology has aided the growth of libraries in many ways. Reiterating the importance of ICT to library services, Mosuro (2000) has this to say:

"Over the years, advances in the area of IT have offered Library and Information Centres more efficient ways of acquiring, organizing, storing And disseminating information. New Information Technologies are becoming an integral component of and have the potential of changing the status quo of libraries and librarianship. Computers as well as other information technologies have come to play prominent roles in information management. It is unthinkable that any academic library can function effectively without the appropriate use of IT."

Vijayakumar and Vijayan (2011) have listed some of the benefits to include the following:

- 1. Collaboration and creation of library networks
- 2. Reduction of staff workload
- 3. Round the clock access to library services by users.
- 4. Efficient and effective service delivery to library clientele
- 5. Access to unlimited information from different sources
- 6. More up to date information
- 7. Availability of information in different formats

Notwithstanding all this, there are some challenges associated with the use of information technology in libraries. These challenges have been listed by Vijayakumar (2011) to include the following:

1. **Insufficient funds for maintenance ICT equipments:** the cost of maintaining some ICT equipments are too expensive and are beyond the scope of library budgets. Libraries must therefore seek other means of generating additional revenue to maintain some of these equipments. Additionally, lobbying and advocacy should be carried our frequently in order to create funds.

2. **Unemployment**: this is one of the core challenges of information technology. Because many libraries are shifting from the manual method to the automated method, many library staff are been laid off. Because responsibilities performed by 10 individuals are now performed by just a single machine operated by an individual. This has led to an increase in the rate for unemployment especially among young and agile librarians.

However, certain jobs are beginning to emerge as a result of the invention of information technologies. This is to say that librarians especially those of the younger generation need not entertain any fear as regards employment.

Randniecki (2013) listed some of these as follows:

- 1. Website management
- 2. Information literacy and instruction
- 3. Social media/web 2.0
- 4. Technology assessment
- 5. Development of online instructional materials

Librarians who want to be gainfully employed must harness the skills necessary for sustenance. These skills include: social media analysis and marketing, blog management, programming and coding using Java and HTML.

Conclusion

From the foregoing, this article has been able to identify the nexus between information technology and its impacts on the field of librarianship. However, in order to ensure that the field of librarianship does not go into extinction, all hands must be on deck. Apart from that, the following must be put into place in order to bridge the identified gaps:

- 1. Libraries must constantly train their staff to be IT compliant. This will reduce the rate at which their jobs are given to other individuals not within the purview of librarianship. These include database management, web design, software management and installation.
- 2. Librarians in training must be exposed to entrepreneurial opportunities in the field of library and Information Science. Such opportunities include indexing and abstracting, research assistance, research analysis, database management etc.
- 3. Librarians must not depend on only what they learn in school. Their tentacles of knowledge must spread to other disciplines. Librarians should be "Jack of all trades, master of All". In essence, they should have certain amounts of knowledge on all discipline of human endeavor.
- 4. Leveraging of information retrieval skills. Librarians must constantly update their information retrieval skills. The skills of yesterday might not suffice for today's challenges. Since information management is one that gets complex day-by-day, librarians must update their skills and be able to sieve the "wheat "from the "shaft"

and it will make librarians knowledge creators rather than knowledge consumers. This will help to increase the value of libraries, librarians and librarianship altogether

5. Effective lobbying and advocacy is necessary in order to raise funds to maintain information technologies.

References

- Arthur, W.B. (2009). "Zero to One: Notes on How to Build the Future"
- Fernald, J. (2014). "*Technology and the American Economy: Or, What's the New Normal*". Paper presentation at policy conference, Federal Reserve Bank of San Francisco.
- Galeon, D. (2017). "The Point of no Return".

 <a href="https://www.weforum.org/agenda/2017/11/why-stephen-hawking-thinks-ai-might-replace-humans?utm_content=bufferb8243&utm_medium=social&utm_source=facebook.com&utm_campaign=buffer.
 Retrieved February 24, 2018.
- Islam, S. & Islam, N. (2006). "Information and Communication Technology (ICT) in Libraries: A new dimension in Librarianship". Asian Journal of Information Technology, 5(8): 809-817.
- Mosuro (2000). "Potential Impact of New Information Technologies on Libraries and the Library User, Library Automation for the Information Age: Concepts, Technologies and Strategies".
- Randniecki, T. (2013). "Study on emerging technology librarians: How a new library position and its competencies are evolving to meet the technology and information needs of libraries and their patrons". Retrieved from http://creativecommons.org/licenses/by/3.0/
- Tan, K. S., S. C. Chong, et al. (2009). "Internet-based ICT adoption: Evidence from Malaysian SMEs." Industrial Management and Data Systems 109(2): 224-244.
- Thiel, P. (2014). "Zero to One: Notes on How to Build the Future".
- Vijayakumar, A. & Vijayakumar, S.S. (2011). "Application of Information technologies in Libraries: an overview".

 International Journal of Digital Library Studies, Vol 1, Oct-Dec. 2250-1142.

