Impact of Digitization of Libraries on Research and Teaching in Indian Universities

*Seema Yadav, **Suman Lata Yadav and ***K. L. Mahawar
*Ph.D. Scholar, BabaSaheb Bhim Rao Ambedkar University, Lucknow (U.P.) INDIA; E-mail: seemayadav865@gmail.com
**Assistant Librarian, G.B. Pant University of Agriculture & Technology, Pantnagar-263145 (Uttarakhand) INDIA; E-mail: slylibrary@gmail.com
***Head, Department of Library and Information Science, Babasaheb Bhimrao Ambedkar University, Lucknow (U.P.) INDIA

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Abstract

In the era of ICT education system in the Indian universities is changing very fast. Digital technologies, digitization and online information resources have made fundamental changes in teaching and research of universities in India. The most important component of a digital library is creation of digital contents. The information content of a digital resource includes any electronic media, database of journals, articles and abstracts etc. Universities libraries have taken up as a challenge of modernization of libraries to develop the machine readable catalogues and machine readable full text databases to provide the accessibility to full text document to the users. Agricultural information users are agricultural scientist, faculty researchers, students, extension workers, farmers and policymakers. Another important aspect of information resource is library digitization. Digitization is a powerful tool which is transforming education and research through digitalization of libraries in Indian universities. The present paper focussed on the role of digitization of Indian universities and its impact on research and education.

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Key words: Digital Libraries, Digital Content, Education and Research, University libraries.

1. Introduction

Today is an information age and a tremendous flow of information is emerging in all fields throughout the world. Digital technologies, digitization and online information resources have made fundamental changes in teaching and research of social sciences in India. The most important component of a digital library is its digital collection. The information content of a digital resource includes any electronic media, database of journals, articles and abstracts etc. As such, it has become very difficult to manage the information manually due to the exponential growth of literature. The problem of providing timely information is not due to lack of information but the way in which it is handled to enable the users to fulfil their needs. Digital technologies have enhanced the variety and accessibility to library collections and services to break the barriers of location and time.

Digitization is a modern way for preservation of documents with the help of information Technology. As it has become a very essential one, now-a-days it can be noted it is much more essential for manuscripts and periodical publications. The term digital technology is used to describe the use of digital resources to effectively find, analyse, create, communicate and use information in digital context. It encompasses web 2.0 tools, digital media tools, programming tools and software applications.

Due to advance digital technologies today the libraries are shifting their role from the custodian of traditional information resources to provider of service-oriented digital information resources. E-journals,

CD-ROM databases, online databases, e-books, and web based resources and varieties of electronic media are replacing the traditional resources of libraries.

Digital technologies are also influencing the way researchers work and the research that can be done. Researchers are needed the most recent and up-to-date information and they must be aware of latest developments in their field. In order to use the growing range of digital resources the researchers must acquire skills necessary to exploit them.

2. Impact of Digitization

Digital library developments in India began rather slowly in mid- 1990s and have gathered momentum at the turn of the century. Libraries of S&T organizations have developed a number of digital library initiatives. Present time witnessed the advances in IT (Information Technology) and its various applications. Information and communication technology (ICT) have opened new ways to access essential content and provide new services and scholarly information. ICTs have made dynamic changes in the structure and functioning of the library and information centres in the present era of information environment. Traditional library system has been transformed into e-learning and virtual learning system. Libraries, being storehouses of data and information expressed in a fixed form such as books, have always availed of the advantages provided by technological innovations in storing and dissemination of knowledge. The digital technology directly affects the working of a library in several ways. The most important feature of such a digitization procedure is to create digital contents because without creating contents in digital forms, libraries will not be able to provide services in electronic formats. It brings the resources nearer to the benefit of users. The digitized information can be used in numerous ways to overcome the barriers of communication. The digitization of library and information centre resources has its roots in library automation but at the same time not all resources of a library need to be digitized. There is no doubt that some libraries have been developed themselves in digitized form in India and world as well.

In a digital library all the information is stored in digital form and can be easily accessible to users with the help of local networks or computers. In other ways, a digital library is viewed as an electronic form of information. And the complete information is available to users in digital form and we can term this paperless library. In this connection a digital library has been defined by Digital Library Foundation (DLF) (1999) as "Digital libraries are organizations that provide the resources, including the specialized staff to select, structure, offer intellectual access to interpret, distribute, preserve the integrity of and ensure the persistence over time of collection of digital works so that they are readily and economically available for use by a defined community or set of communities".

In other words a digital library is a library which provides digital materials and services. Digital materials are different items that are stored, processed and transferred via secondary devices and networks. Among the LIS fraternity, the terminology 'digital libraries' refers to different things, such as digitization, access to consortia resources, creation of institutional repositories, automated library services and library websites. However, to generalize the term 'digital libraries' for any ICT-based activity or resource in the library is inappropriate.

Digital libraries may be considered as centre of large amount of information available in digital forms in different formats access through the permission of electronic networks.

A digital library may have the following salient features like:

1. Information stored in digitized format and at the same time many users can access the information.
2. It is an Omni present library and library can access from a remote place.
3. Digital library has the capacity to apprehend considerable amount of information in a considerably smaller place.
4. It reduces the time for retrieving the documents.
5. It has ability to accommodate multilingual content. Cross language information retrieval is possible.

3. Role of the University Libraries

Communication and telecommunication revolution contributes a lot and easily affordable mode in the growth of exchange is the single most important factor in the growth of digital library. The ease of ICT has made a significant shift in the information use paradigm from the need to know basis to that of information being available when and where you need it. It also helps to avoid massive replication of information and has shrunk the world for one to imagine a global library. The global network of telecommunication provides a very cost effective global library.

Role of librarian is to provide different types of information services from the available library collection and these services may be contents created in separate shape and size suitable for users. The amount of information is exploding in an exponential manner that it is difficult to find the specific information at specific place; therefore, creation of digital contents will be an integral part of any library resources. These contents may help to support to teachers and researchers of a particular organization or any educational institutions (Arora, 2001). Contents means knowledge of anything and everything contained as information and is available both in conventional and nonconventional form.

A long term budget is required to create and effective management of digital contents. Then it is necessary to collect different types of information on different aspects of the digital contents. Then these contents need to be stored in the form of files and database. The contents already created need to be navigated through the web pages with the related links to make the contents to be accessed and distributed over a network system (Bearman, 2007).

The creators of digital libraries have to be knowledgeable about the all the encompassing aspects involved in digital library creation and management. There is an urgent need to start training programme in the creation and management of digital libraries is essential to educate and impart skill sets to library and information professionals so that purposeful digital libraries may be created in the right direction (Arora, 2003).

Sood (2014) described "Digital library environment in changing scenario: Users survey of digital library, Panjab university, Chandigarh" and found that the primary purpose of using digital library among respondents is for their research work and for preparing notes and writing papers. The majority of users use digital library for internet search followed by e-journals and e-books. Chauhan and Mahajan (2014) stated that "Use of UGC-Infonet-E-resources by social science academics in Indian Universities: An Evaluation study." And they concluded that UGC-Infonet has positive impact on users with respect to the availability of scholarly literature and usage and 85% of the respondents believe that the UGC-Infonet digital library consortium has made an impact on improving the quality and quantity of social science research in India. Khan and Khanam (2014) studies that social science and arts faculty members are having substantial awareness of modern web services like e-mail, chat, blog, and news groups and frequently using these for teaching and research. Lihitkar and Manohar (2014) showed that IIT libraries in India using modern concept like web 2.0 tools for providing library services to its users. Baikady and Mudhol (2013) done studies on computer literacy and use of web resources on medical faculty and students revealed that majority of respondents (51.1%) possessed average computer literacy. They also found with their study that both faculty members and postgraduate students are almost equally skilled in the use of web resources.

A case of Ankara University was done by Turan and Bayram (2013), they discussed that the student use internet for their assignments. Digital library is not yet placed as their first priority. Main reasons are that they do not know how to use digital library and students find their own resources sufficient for their research. Singh (2011) in his paper "Globalization of information sources and services" described that in the era of globalization the libraries are upgrading their services by digitizing their resources for online use. Bar-Ilan and Fink (2005) conducted study on "Preference for electronic format of scientific journals of science library users at the Hebrew university and showed that more than 80% of the respondents frequently use and prefer electronic format, irrespective of their rank or age.

Many Indian libraries have taken up the challenge of modernization to develop digital contents and digitization for efficient use of library resources. Digital library development in India has been ignored

from last several years that are a serious issue to be address. Many Indian universities are trying to digitize their books and journals to provide efficient digital services to their users.

Digital technology is a tool developed with the help of a set of technologies. Modern digital technology has much influenced every fibre of society including education system. Now days, this area of research has more important due to vast advancement of modern technology , increasing dependency on digital technology and changing scenario of modern education. The emerging trends of digital technology and its applications explore the opportunity to make more efficient the functions and services of library and information centres.

As digitization initiatives have picked up momentum in the country, there is a need to make uniform national policies and procedures for creation and management of digital libraries. However, there has been no clear policy on creation and management of digital library in India. To facilitate policy makers, there is need to conduct studies related to chart out standardization requirements, examine interoperability and copyright issues, and outline classification of documents and other related other issues (Jain and Babbar, 2006).

India is considered the second most culturally, linguistically and genetically diverse geographical country after the African continent. According to the Census of India, there are a total of 122 languages, out of which 22 languages are included in the Eighth Schedule to the Constitution of India. Clearly, India has rich information resources in languages other than English and at present, it is seen that the digital library activities are more focused on information resources in the English language (Arora, 2004). It is essential to expand digital library activities to include Indian language documents and consequently, technologies need to be developed to integrate such resources consistently with existing digital libraries or new digital libraries in multiple languages in different universities libraries of India.

4. Conclusion

Many Indian libraries have taken up the challenge of modernization to develop digital contents and digitization for efficient use of library resources. Digital library development in India has been ignored from last several years that are a serious issue to be address. There is a need to amend copyright legislation to suit the electronic environment. Many university libraries have taken initiatives to hold workshops on digital libraries and digital technologies. Other important areas on which Indian studies have been limited or totally missing are digital rights management, digital library security, content management, business and pricing model and policy studies. Surprisingly pricing model does not exist in India. With several digital library initiatives reported, it will be useful to have a survey of the digital libraries in India to understand the present status of the digital library initiatives. This assumes importance because the few studies on Indian digital library initiatives are primarily based on information available on websites or from other published sources. This area is also of equally importance for assessing the existing digital libraries and creating highly user-centric digital university libraries in India. Digitization changed the scenario of research and education in Indian universities, which is very much helpful for research students and readers.

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