



Challenges and Issues in Digitalization of Libraries

Dosapaty Vasu

**Department of Library and Information Science,
TKR Institute of Management and Science,
Meerpet, Hyderabad, Telangana – 500097, India.**

ABSTRACT:

Virtual library, electronic library, library without walls and digital library are synonymous to each other. The digital libraries concept comes into existence in the 21st century. 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 collections of digital works so that they are readily and economically available for use by a defined community or set of communities. The present study discusses about the digital library, its challenges and issues using digital library. With the advancement of information and communication technology, the rate of information explosion increases exponentially.

Key Words: Digital libraries, intellectual access, information and communication technology.

INTRODUCTION:

A library is more than a pile of books. A library adds value to information resources by organizing them and making them available. Additionally, a library serves distinct sets of stakeholders: communities of frequent, casual, and potential users. Unlike museums, it is seldom the materials in libraries that attract people but rather the ideas carried by the materials, the conceptual structures that support access, and the community of stakeholders who use the library. Because books and other physical information resources and people occupy physical space, libraries have evolved complexes of buildings, rooms, and mobile spaces in which books and other materials and people come together.

These spaces are manifestations of the library as place. Place, however, is more than physical space – just as a home is more than a house. Places are defined by functions and communities, just as are libraries. Places are as much about ideas and states of being as they are about physical space. This physical-conceptual continuum [1-4] parallels what we mean by libraries: places that marry physical space with intellectual space, to link people to ideas and to each other. These fundamental characteristics of libraries – systematic access to information resources, the ideas represented by those resources, and sets of human stakeholders – also extend to digital libraries. Library digitization [2] is nothing but the conversion of physical media of the library, i.e. books, periodical, articles, etc., into digital format (0 and 1 bit). Bits are the fundamental units of information in a computer system.

Flexibility is one of the chief assets of digital information. As a result, libraries have been constantly facing the problems of space, escalation in the cost of books and journals, budget shrinkage, inability to provide multiple copies and most important is retrieval efficiency of user being endangered for want of information. The digital library contains digital representation of the object found in it. Digital library is popularly viewed as an electronic version of a library. To some extent, it simply means computerization of traditional libraries. According to Larson, defined the digital library as global virtual library - the libraries of thousands of “networked electronic libraries.”

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Networked electronic libraries describe the collection of various library resources to the network so that any user can access the resources anytime in anywhere. According to the American Digital Library Federation, 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. The definition of a digital library can be given as a set of characteristics are as follows. The digital library is a collection of services, collection of information objects, supporting users with information objects, organization and preservation of those objects, availability directly or indirectly, and electronic/digital availability. The primary objective of digital library is to improve the access as well as it also includes the cost saving, preservation, keeping pace with technology and information sharing. A main benefit of digital library is to preserve rare and fragile objects by enhancing their access to multiple users simultaneously. There are several reasons for libraries to go for digitization, but the prime reason for the digitization [5] is the need of the user for convenient access to high quality of information. Other important considerations for the digital library are quality preservation, multiple referencing, wide area usage, archival storage, and security measure. Digital collection, associated technology, and its work/services are the important characteristics of digital library. Stand-alone Digital Library, Federated Digital Library, and Harvested Digital Library are mainly three types of digital libraries are exist.

II.DIGITAL LIBRARIES CREATIONS:

One of the largest issues in creating digital libraries will be the building of digital collections. Digital imaging is an inter-linked system of hardware, software, image database, and access sub-system with each having their own components.

Tools used for the digital library include several core and peripherals systems like hardware (such as scanners, computers, and data storage), software (image capturing and editing), network (data transmission), and display/printing technologies [3], [10]. Some of the important points to be considered in developing a digital library are as follows: a. Digital collection – There are essentially three methods of building digital collections:

- (i) Digitization, converting paper and other media in existing collections to digital form
 - (ii) Acquisition of original digital works created by publishers and scholars. Example items would be electronic books, journals, and datasets.
 - (iii) Access to external materials not held in-house by providing pointers to websites, other library collections, or publishers' servers.
- b. Access to external digital collection - The digital libraries can obtain access permission to digital collection provided by external sources like institutions, resources of the libraries, electronic journal through on-line access like Elsevier, ACM, etc., which provides their journals on-line through websites. c. Access to digital information available on the web - WWW is the repositories of information and one of the important services of the internet. www.edoc.com, mel.library.mi.us, www.inflibnet.ac.in, etc., are the important portal sites or gateways that provide access to electronics resources. In this respect, we can say that digital libraries can provide access to electronic resources through library home page. d. Conversion of print to digital - Mainly scanning and use of OCR programs and re-keying of data are the two important methods for converting the print to digital resources. Some of the technical requirements of the digital image processing [6] include hardware (computer, scanner, input/output devices), software (image capturing, data compression/decompression), network (for transferring information for resource sharing), and display technologies.



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All the above components are the important machines and tools needed for digitization. Witten and David (2003) defined Digitization as the process of taking traditional library materials that are in form of books and papers and converting them to the electronic form where they can be stored and manipulated by a computer. Ding, Choo Ming (2000) has elaborated the works of Getz (1997), Line (1996) and Mckinley (1997) on the advantages of digitization. They maintained that:

- i. Digitization means no new buildings are required; information sharing can be enhanced and redundancy of collections reduced.
- ii. Digitization leads to the development of Internet in digitalized based libraries. As Internet is now the preferred form of publication and dissemination.
- iii. Digital materials can be sorted, transmitted and retrieved easily and quickly.
- iv. Access to electronic information is cheaper than its print counterpart when all the files are stored in an electronic warehouse with compatible facilities and equipment.
- v. Digital texts can be linked, thus made interactive; besides, it enhances the retrieval of more information.

In the light of the following advantages, it is natural today to find more information being digitized and uploaded into the Internet or Compact-Disc Read Only Memory (CD-ROM) in order to be made correspondingly accessible globally [7].

There are three main needs for digitization; two or all the three of them may apply to your digital library project.

- i. To preserve the Documents: That is to allow people to read older or unique documents without damage to the originals.
- ii. To make the documents more accessible: This is to serve the existing users better; e.g. to allow the users to search the full text of the documents or to serve more users than envisaged in remote

locations, example, more than one person at a time.

- iii. To reuse the documents. It means to convert documents into different formats; for example to use images in a slideshow and to adopt the content for a different purpose.

Digitizing documents can take a lot of time, effort and money. Smith (2001), narrated the following reasons that should be considered before going into digitization.

III. VARIOUS MYTHS AND CHALLENGES OF DIGITAL LIBRARIES DIGITAL LIBRARY: MYTHS

The internet is the digital library Digital library may be networked or not. If it is networked, any users can access the resources timely. In such a situation one can say that Internet is the digital library. The myth of a single digital library or one-window view of digital library collections Many users can access the resources of the digital libraries simultaneously under the networked environment. Digital libraries will provide more equitable access, anywhere, anytime In networked condition, digital libraries will provide more equitable access for providing the right information to right user at right time. Digital libraries will be cheaper than print libraries As cost is concerned, resources available in digital collection is more best than print libraries. Digital library challenges Creating “effective” digital libraries pose serious challenges for existing and future technologies. The integration of digital media into traditional collections will not be straightforward, like previous new media (e.g., video audio tapes), because of the unique nature of digital information, which is less fixed, easily copied, and remotely accessible by multiple users simultaneously. Some specific challenges are resource discovery, digital collection development, digital library administration, copyright and licensing, etc., library of congress specified various challenges for building an effective digital



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library, which are grouped as broad categories as follows. Building the resource a. Develop improved technology for digitizing analog materials b. Design search and retrieval tools that compensate for abbreviated or incomplete cataloging or descriptive information c. Design tools [8] that facilitate the enhancement of cataloging or descriptive information by incorporating the contributions of users. Interoperability a. Establish protocols and standards to facilitate the assembly of distributed digital libraries. Intellectual property a. Address legal concerns associated with access, copying, and dissemination of physical and digital materials. Effective access a. Integrate access to both digital and physical materials b. Develop approaches that can present heterogeneous resources in a coherent way c. Make the national digital library useful to different communities of users and for different purposes b. Provide more effective and flexible tools for transforming digital content to suit the need of end users. Sustaining the resource.

IV.DIGITAL LIBRARY ADVANTAGES AND DISADVANTAGES

Advantages The advantages of digital libraries as a means of easily and rapidly accessing books, archives, and images of various types are now widely recognized by commercial interests and public bodies alike. Traditional libraries are limited by storage space; digital libraries have the potential to store much more information, simply because digital information requires very little physical space to contain it. As such, the cost of maintaining a digital library can be much lower than that of a traditional library. An important advantage to digital conversion is to highly increased accessibility to users. They also increase availability to individuals who may not be traditional patrons of a library, due to geographic location or organizational affiliation [9].

Some advantages are as follows:

➤ No physical boundary: The user of a digital library need not go to the library physically; people from worldwide can gain access to the same

information, as long as an Internet connection is available.

- Round the clock availability: A major advantage of digital libraries is that people can gain access 24/7 to the information, i.e., users can access the information anytime provided the proper network connectivity.
- Multiple accesses: The same resources can be used simultaneously by a number of institutions and patrons.
- Information retrieval: The user is able to use any search term (word, phrase, title, name, and subject) to search the entire collection. Digital libraries can provide very user-friendly interfaces, giving clickable access to its resources properly.
- Preservation and conservation: Digitization is not a long-term preservation solution for physical collections but does succeed in providing access copies for materials that would otherwise fall to degradation from repeated use. Preservation and conservation of data in the digital library are one of an important issue.
- Space: Whereas traditional libraries are limited by storage space, digital libraries have the potential to store much more information; simply because digital information requires very little physical space to contain them and media storage technologies are more affordable than ever before.
 - Added value: Certain characteristics of objects, primarily the quality of images, may be improved. Digitization can enhance legibility and remove visible flaws such as stains and discoloration.
- Easily accessible. Disadvantages
- There are some disadvantages of digital libraries also, which are as follows:
 - User authentication for access to collections
 - Digital preservation
 - Equity of access
 - Interface design
 - Interoperability between systems and software
 - Information organization
 - Training and development.



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V.CONCLUSION:

Digitization has opened up new audiences and services for libraries, and it needs to be integrated into the plans and policies of any institution to maximize its effectiveness. Digitization is a complex process with many crucial dependencies between different stages over time. Utilizing a holistic life-cycle approach for digitization initiatives will help develop sustainable and successful project. Libraries around the world have been working on this daunting set of challenges for several years now. The library/information center has to overcome the inhibitions and look ahead for the betterment of information services to the user community by successfully adopting the digital technology - the need of the hour and keep pace with world. It seems that the days may not far when the whole world would have digital libraries interconnecting all libraries to meet the academic and research needs within the short time. However, before digital libraries took over the library and information network, the country's archives laws needs to be changed to meet the current challenges in the areas of copyright protection of data and prevention of corruption of data.

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