



IMPACT OF DIGITAL LIBRARIES IN SOCIETY

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Abstract

This paper talks on digital library as the concept that stored information digitally and made accessible to users through digital systems and networks, but having no single location. The paper also talks on the, analogous to a library as a storehouse of information, but has a virtual existence in the digital spaces. Digital library is essentially a fully automated information system with all resources in digital form. Many views of digital libraries stem from what libraries currently do. Traditional libraries collect, organize, provide access to, and preserve objects in their collections. A library collection may include books, magazines, journals, theses, dissertations, manuscripts, audio-visuals, maps, etc. The flexibility of digital technology allows it to handle new kinds of object efficiently. A unique characteristic of a digital library is that it is a collection of material organized for access by the users of the electronic documents. The material is in digital form and may consist of or incorporate various media, such as photographs, video, sound recordings, as well as text and page images. The paper concludes by highlighting the challenges of information explosion and information technology revolution leading to the emergence of electronic information era. The paper also make some recommendations, that library should adopt with new technology in this information revolution era by providing easy access to their information needs of its diverging users.

Keywords: Digitization, Digital, Libraries, Traditional Libraries, Technology

Introduction

The term "digital library" was coined relatively recently and is used to describe distributed access to collections of digital information. The terms "electronic library" and "virtual library" are sometimes also used. However, there is still considerable debate about the definition of a digital library because the term may

mean different things to different groups. For example, sometimes it is used to refer to the content or collection of materials ("a digital library of historic photographs"), whereas at other times it refers to the institution or service provided ("the digital library provided electronic reference") (Teper, 2011)

A unique characteristic of a digital library is that it is a collection of material organized for access by the users of the electronic documents. The material is in digital form and may consist of or incorporate various media, such as photographs, video, sound recordings, as well as text and page images. Access is provided through search engines that search the actual text of the materials, or more formal cataloging. The users for whom the digital library is intended are a defined community or group of communities. They may be scattered around the world, or may be in the same geographical location but wish to access the information from off-site. (Pymm, 2016)

According Greenstein, (2012) sees a digital library as a [library](#) in which collections are stored in digital formats (as opposed to print, [microform](#), or other media) and accessible by computers. The digital content may be stored locally, or accessed remotely via computer networks. A digital library is a type of information retrieval system. A digital library has a number of advantages and problems not found in a traditional library. Most digital libraries provide a search interface which allows resources to be found.

A physical library must spend large sums of money paying for staff, book maintenance, rent, and additional books. Digital libraries may reduce or, in some instances, do away with these fees. Both types of library require cataloging input to allow users to locate and retrieve material. Digital libraries may be more willing to adopt innovations in technology providing users with improvements in electronic and audio book technology as well as presenting new forms of communication such as wikis and blogs; conventional libraries may consider that providing online access to their OP AC catalog is sufficient. An important advantage to digital conversion is 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.

These resources are typically [deep web](#) (or invisible web) resources since they frequently cannot be located by [search engine crawlers](#). Some digital libraries create special pages or [sitemaps](#) to allow search engines to find all their resources. Digital libraries frequently use the [Open Archives Initiative Protocol for Metadata Harvesting](#) (OAI-PMH) to expose their metadata to other digital libraries, and search engines like [Google Scholar](#), [Yahoo!](#) and [Scirus](#) can also use OAI-PMH to find these deep web resources. A distinction is often made between

content that was created in a digital format, known as [born-digital](#), and information that has been converted from a physical medium, e.g. paper, through [digitization](#). It should also be noted that not all electronic content is in [digital data](#) format. The term [hybrid library](#) is sometimes used for libraries that have both physical collections and electronic collections.

Digitization and Digital Library

As defined by Reitz (2008), digitization is “the process of converting data to digital format for processing by a computer. In information systems, digitization usually refers to the conversion of printed text or images (photographs, illustrations, maps, etc.) into binary signals using some kind of scanning device that enables the result to be displayed on a computer screen.” She also defines digital library as the “library in which a significant proportion of the resources are available in machine-readable format (as opposed to print or micro-form), accessible by means of computers”. One of the primary methods of digital collection building is digitization. Digitization is an electronic process of converging information from an analog format to the digital format. The Analog-to-Digital conversion means the transformation of continuous variable signal into the discrete variable signal. The process of digitization involves the scanning of the materials to be digitized. The scan images are collected in various standard formats like JPEG, MHEG, MPEG, HYT etc. depending upon the type of documents to be digitized. Optical character recognition technology is needed to transform the scanned image into hyper-text document. The primary method of digital collection building is digitization. Digitization is also a high-speed data transmission technique. It is the conversion of any fixed or analog media (such as books, journals, articles, photos, painting, maps, microforms etc) into electronic forms through scanning, sampling or rekeying by using various technologies. Digitization provides solutions to traditional library problems such as conservation, preservation, storage, space, multimedia documents, remote access to information collections, and acquisition of original digital works created by publishers, agencies and scholars, access to external materials not held in-house by providing pointers to websites, other library collections and publisher’s servers.

The digital libraries store, organize and disseminate digital contents. These contents are created either through digitization of existing printed materials and media documents, or through re-keying/re-composing of existing printed materials and media documents, or through creating new documents in digital formats. The first kind of documents is known as digitized documents, and the

later kind of documents is known as born digital documents. The digitized documents are stored either in image formats or in text formats. If the original documents are available in European languages such as English, French, German and Spanish, the optical character recognition (OCR) software can automatically convert them into searchable digital text format, where qualitative OCR conversion rate is much higher.

Characteristics of Digital Libraries

Digitization has benefits beyond improved accessibility. Institutions can protect originals from excessive handling and repeated copying; digitization can be a preservation strategy for the institutes (Marcum, 2016).

Collections: Digital library collections contain fixed, permanent documents. Not only those current libraries have more dynamic collections, but digital environment will enable of quick handling and/or ephemeral information.

Technology: Digital libraries are based on digital technologies. The underlying assumption is that the digital libraries will contain only digital materials, may be wrong. It is likely that both digital and non-digital information material will have to coexist.

Work: Digital libraries are to be used by individuals working alone. There is work oriented perspective focusing on group of information analysts, work being done and the documents and technologies that support it.

Trans bordering of information: Breaking the physical boundaries of data transfers within and outside the countries. It is viewed that the support for communications and collaboration is as important as information seeking activities.

Types of Digital Libraries

Academic repositories

Many academic libraries are actively involved in building [institutional repositories](#) of the institution's books, papers, theses, and other works which can be digitized or were "born digital." Many of these repositories are made available to the general public with few restrictions, in accordance with the goals of open access. Institutional, truly free, and corporate repositories are often referred to as digital libraries. [Institutional repository](#) software is designed for archiving, organizing, and searching a library's content. Popular open-source solutions include [DSpace](#), [EPrints](#), [Digital Commons](#), and [Fedora Commons](#)-based systems [Islandora](#) and [Samvera](#)
Digital archives

[Archives](#) differ from libraries in several ways. Traditionally, archives were defined as:

1. Containing primary sources of information (typically letters and papers directly produced by an individual or organization) rather than the secondary sources found in a library (books, papers, journals, and so on)
2. Having their contents organized in groups rather than individual items. Whereas books in a library are cataloged individually, items in an archive are typically grouped by provenance (the individual or organization who created them) and original order (the order in which the materials were kept by the creator)
3. Having unique contents. Whereas a book may be found at many different libraries, depending on its rarity, the records in an archive are usually one-of-a-kind, and cannot be found or consulted at any other location except at the archive that holds them

The technology used to create digital libraries has been even more revolutionary for archives. Since it breaks down the second and third of these general rules. The use of search engines, Optical Character Recognition, and metadata allow digital copies of individual items (such as letters) to be cataloged, and the ability to remotely access digital copies has removed the necessity of physically going to a particular archive to find a particular set of records.

Impact of Digital Library to Society

A digital library is a collection of resources in organized electronic forms which are available on the Web and can be updated on a daily basis. Depending on the type of library, users can have access to different multimedia resources such as e-Books, e-Textbooks, e-Journals, audios and videos. With the rapid development of digitalization, the role of the library has changed. This transformation to digital has benefitted users in many different ways.

Ariadne (2018) suggest five benefits of digital libraries to the society as follows:-

1. A heightened amount of choice
Digital libraries give **access to multiple contents with a potentially infinite number of resources** and selections at hand. The main limit for traditional libraries is represented by physical space: books consume a lot of it and people often have to walk round in search of a particular material. Thanks to Internet and cloud storage, digital libraries overcome this limitation, expanding students' horizons in learning. **They can access an enormous amount of knowledge and share contents** with others, facilitating the expansion of education.

2. Building a heritage for the next generation

Online libraries **help the scientific society** since they act as a reservoir for the storage of important research data, information and findings. For a very long time, the physical records of scientific studies and researches had to live with a critical issue: they were destroyed or lost. But today, thanks to digital libraries, **the online copies of studies and researches can be protected and collected** to create a virtual heritage of information for the coming generations.

3. Instant access to educational content

As long as an Internet connection is available, **digital libraries are accessible anywhere and at any moment** using a simple technological device, such as a PC, a tablet or even a smartphone. This means students can consult online books, images, videos and all the other educational contents **without having to wait and go to the nearest physical library**. They can do it in a formal environment, for example at school, or they can relax at their homes getting an instant access to the information they need.

4. Fighting against deterioration

The digital storage of books and, above all, audios, **solve the problem of deterioration**. In traditional libraries, audio cassette tapes and vinyl records are shared among a lot of students posing the problem to stand a large number of playing's. Fragile photographs or ancient documents have to resist several handovers and consultations, with the risk of being subjected to breakages or other damages. Thanks to the digitizing of materials, it is possible **to access contents how many times a student needs**, using formats (mp3, digital images, online textbooks, etc.) which are definitely much safer to use.

5. An easier information retrieval

Over the years, digital libraries have developed a range of search features – such as Boolean and proximity operators, truncation, etc. – that facilitate the access to information and data collections, allowing students to perform sophisticated searches for a variety of queries.

Thanks to **intuitive search engine technologies** – for example, ranking or automatic term expansion even novice users can start using digital libraries accomplishing their searches independently. And the most encouraging thing is that, as the digital collections grow larger, the level of sophistication of these searching features increases exponentially.

Conclusion

The information and communication technology has changed the complexion of today's libraries on a large scale and we are amidst in information explosion and

information technology revolution leading to the emergence of electronic information era. Rapid advances in information processing, storage and communication technologies have revolutionized the role of worldwide libraries in disseminating information services to their users. As a result, libraries are facing new challenges, new competitors, new demands, new expectations and variety of information services from users tailored to their wants and needs. Libraries around the world have been working on this daunting set of challenges for several years now. They have created many digital library initiatives and projects, and have formed various national schemes for jointly exploring key issues. With several years' accumulated experience, the initial enthusiasm surrounding the development of the digital library has been replaced by sober second thought. Librarians have discovered that, with a few exceptions, making a business case for digitization and investments in digital technology is more difficult than first envisioned, especially given the technical and legal constraints that must first be overcome. As with most other technical developments in libraries over the years, we will have to move forward in small, manageable, evolutionary steps, rather than in a rapid revolutionary manner.

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