Digital and Physical Libraries- the Earth and Venus of Information Sciences

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Abstract

Digital libraries and physical libraries are the Earth and Venus of information sciences. Earth and Venus, sometimes called planetary twins, share similarities in matter, mass, and materials. Digital libraries and physical libraries also have similarities in matter (what is in the collection?), mass (how much is in the collection?) and materials (what materials are available for information retrieval?). Yet, Venus rotates backwards, and physical libraries are only open for limited periods of time, whereas like Earth, digital libraries are open twenty-four hours a day. Who are the inhabitants of the digital and physical libraries? Is planet digital library better than planet physical library? The answer to this question lies in the circumstances of the information retriever. An information retriever can be a person who is disabled, suffers from social anxiety, or lives in a rural community that doesn’t have a local library. Digital access for these types of information retrievers is the equivalent of walking into a physical library. Digital libraries are more appealing because of convenience, but there are tangible benefits that traditional libraries offer, such as a grand reading room or touching a book, or a helpful librarian. No one should dismiss the tactile power of a physical library. Therefore, it is not a matter of which library is better, but a question of which library suits the needs of the information retriever.

Keywords: digital library, physical library, information retriever, librarians

Digital and Physical Libraries- the Earth and Venus of Information Sciences

According to the article *A library or just another information resource? A case study of users’ mental models of traditional and digital libraries* (Makri et al., 2007, p. 433) a case study found that a user's understanding of the libraries they work in, and hence of what they can do in those libraries, is encapsulated in their “mental models” of those libraries. Participants regarded both traditional and digital libraries as having an element of hierarchical organization (Makri et al., 2007, p.436). Many information retrievers believe that physical and digital libraries are organized in the same matter, which will result in similar search results for the users. Information organization does not put the digital or physical library in a disadvantage comparison. However, there are benefits to each library, depending on the information retriever.

# Benefits of digital libraries

The article Perceptions of Students Regarding Effectiveness of Online Digital Perceptions of Students Regarding Effectiveness of Online Digital and Traditional Libraries After Covid-19 (Ullah et al., 2022. pp.3-4) list some key benefits of digital libraries.

## The first important point is that while using a digital library the reader may not need to go physically to the library but no need for physical presence in the library and the reader may get benefit from the digital library without any restrictions of physical presence.

## The second important point is that there are multiple ways of accessing the library. The readers have multiple ways of access to get updated information while using any digital library for study purposes.

##  The third important point is that like the traditional library concept the use of digital library use is easy for readers as compared to the traditional library in which the reader may go to the library and get a hard copy of the books required for the reader.

## The next important point is that of conservation and preservation in light of the importance and benefits of the digital library.

##  One of the most important points is that while using the digital library there is no limitation of space for readers but rather the readers may have no problem with space which we may see in a traditional library.

## However, like the other benefits, one of the most important features of a digital library is time in a traditional library there is a specific time for readers to come and complete their study, and then after the specified the readers may not be allowed to use the library while in the digital library there is no specific time for readers but the readers may use the digital library without any restriction of time but may get benefits from it.

##  *Information Pathways and information retrieval and storage*

What are the fundamental differences between traditional libraries and digital libraries? The differences are storing and accessing information. Here is a listing of the key differences according to the article *Difference Between Digital Library and Traditional Library* (Ashikuzzaman, 2023*)*. The distinction between a Digital Library and a Traditional Library lies in their fundamental approaches to acquiring, storing, accessing, and disseminating information. Here are some key differences between the two:

| **Aspect** | **Digital Library** | **Traditional Library** |
| --- | --- | --- |
| Nature of Resources | A Digital Library primarily consists of digitized and electronically formatted resources. These include e-books, online journals, multimedia content, databases, and other digital materials. | A Traditional Library houses physical materials such as printed books, manuscripts, newspapers, magazines, maps, and other tangible items. |
| Access and Availability | Digital libraries offer remote and global access through the Internet, allowing users to retrieve information from anywhere at any time, provided they have an Internet connection. | Access to resources is limited to physical presence at the library’s location during its operating hours. |
| Search and Retrieval | Advanced search algorithms enable efficient and precise searching for specific information within digital libraries, often resulting in quicker and more accurate results. | Users rely on catalog systems, library classifications, and manual browsing to locate materials, which can be time-consuming and may require assistance from librarians. |
| Interactivity and Engagement | Digital libraries may offer interactive features like annotations, multimedia integration, and social sharing, enhancing user engagement and collaboration. | While physical libraries provide a serene environment for focused reading and research, interactions are often limited to face-to-face discussions with librarians or fellow patrons. |
| Preservation and Sustainability | Digital materials can face challenges related to technology obsolescence, file formats, and digital preservation, which require ongoing efforts to ensure long-term accessibility. | Physical materials require preservation techniques to prevent deterioration but generally have a longer lifespan than digital formats. |
| Physical Space and Resources | Digital libraries require minimal physical space, as resources are stored electronically, reducing the need for extensive storage areas. | Traditional libraries demand substantial physical space to house and organize their collections, which can lead to spatial constraints. |
| Cost and Accessibility | Digital libraries can be cost-effective for storage and distribution but may involve digital infrastructure, licensing, and access expenses. | Traditional libraries have costs associated with building maintenance, physical storage, and printed materials. |
| Learning Experience | Digital libraries offer dynamic and customizable learning experiences through multimedia integration and online tools. | Traditional libraries offer a tactile and immersive experience, physically engaging users with books and artifacts and fostering a sense of historical connection. |

### The affect of digital libraries on librarians

We examined how digital libraries affect information retrievers and now is the time to also look at how digital libraries affect librarians. Did digital libraries change the traditional role of librarians in the physical library? Virtual Reference Service is examined in the article Librarians’ Perception Towards Virtual Reference Service (VRS): Innovation and Knowledge Cluster Use Case Innovation and Knowledge Cluster Use Case *(Sinhababu & Kumar, 2021). VRS or digital reference service (DRS) have been adopted in* many countries because of digital technology, while still offering Traditional Reference Service (TRS). The study in the article found that quick ready questions could be handled by VRS while, detailed research questions were better handled by TRS. The main goal of VRS is to make information retrievers aware of the library services and to think about the library as a place.

# Are digital libraries better than traditional libraries?

# Fifty-seven percent of Great Britan adults said no, according to article *Digital services 'are no substitute' for traditional libraries* (2022). The article discusses a 2021 survey of participants about why they use the library. Some survey participants stated they wanted to come to the library for books, having a quite place to go to, needing books for archives or book swaps. Libraries are often a place people go to escape from loneliness, attend a program, or they want to check out physical materials. Just being able to sit in a library is very important for some people. However, the article found digital use of the library increased by 11 percent in 2020-2021 before the pandemic. The discovery of audiobooks and free downloads of magazines were a revelation from some library users. Yet, most users still prefer to utilize a traditional library.

Library Anxiety

 Distance and online learners may suffer from library anxiety. Students may find the library overwhelming. Often, students are not clear about the resources or services the library provides. Students may suffer from embarrassment because they feel they should know how to use the library. (Theiss, 2022) The solution is to encourage or require student to participate in library instruction, or take a library tour. Also ensuring a welcoming library space will help relieve anxiety (p. 163) Reducing anxiety for online learners would include virtual training events, game designed digital learning objects, or post recorded workshops on the library website. (p. 164)

 ***Virtual Hospitality***

How can a digital library convey hospitality if no one is there to greet a user in person? Derrida challenges contemporary understandings of hospitality, resisting both simple definitions of complacent welcome as well as economic definitions of transaction. Instead, he draws on the aporetic etymology of the term, recognizing that hospitality is ultimately derived from the Latin hostis, a word which translates to friend and enemy, host and guest This ‘notion of home’ is necessary for Derridean hospitality, and exploring the home through printed and virtual books opens space to examine library hospitality in physical and virtual environments. Libraries can show hospitality online by offering digital library accessibility and assessment, digital civics, human computer interaction, information ethics, and critical theory in ways that blur disciplinary boundaries. (Mestre, 2022).

 **Libraries in the Digital Age**

Libraries have been faced with challenges since the inception of libraries. Libraries evolving in the digital age is just another progression the library has undertaken. Libraries are under threat from under funding, book bans, intellectual freedom threats, and politics. Libraries will continue to survive despite these threats.

But libraries have endured for centuries because each generation has reshaped the library in its own image, with new intellectual agendas and new buildings that reflect the priorities of the community and the day. As libraries [today embrace redesigns](https://www.nytimes.com/2021/07/04/arts/design/Stavros-Niarchos-Foundation-Library-review.html), making room for computers, meeting spaces, culinary learning centers and coffee shops to serve their patrons, they are following in a long tradition of adaptation, from the first medieval libraries that chained their books when visitors surged, to 19th-century libraries that had to make new space for women and children. (der Weduwen & Pettegree, 2021)

 **The Smart Library**

The digital presence in libraries is still managed by humans. However, human librarians must coexist with technology and smart technologies. Otherwise, the decrease in the usage of traditional libraries will continue. What is the best way to combine traditional with technology? Using big data is a way to transition a traditional library to smart services, smart people, smart place, and smart governance. (Adetayo, et al, 2021, p.8-9) The smart library keeps the traditional library relevant for users and beneficial to librarians through use of RFID and reader services. Encouraging patrons to become familiar with library use is a way of becoming a smart group. Finally, a smart place is a place librarians learn to utilize their buildings and equipment.

 **24-hour access**

Making physical collections accessible remotely can go a long way toward providing access for people who can’t make it to the library. Whether it’s securely storing holds for 24-hour access or making portions of a collection available at offsite locations through a vending machine or an automated small branch, improving access outside traditional library hours can help underserved patrons take advantage of their library. (Smith, 2019)

Traditional libraries using vending machines, or automated branches is a great way to recognize not everyone can make it to the library during regular hours. An automated branch can help people who live in rural communities have access to library materials.

 **Giving the Traditional Library a facelift**

“Across the country, library attendance has declined 21% from 2009 to 2019. But borrowing has actually increased; it's just moved online, as collections have shifted from physical to digital material. That's caused libraries to shift their thinking in terms of what might bring people through the doors.” (Sunday Morning) Traditional libraries have made strides to get library users back into the physical library. Many libraries have done things like maker spaces, or book clubs. Some libraries have converted their spaces into music rooms. Libraries offer laptops and tablets for check out. Holding community events at libraries is another way traditional libraries have tried to increase foot traffic. Academic libraries are using informal learning spaces.

Academic libraries, long heralded as sacred spaces for deep reflection and quiet study, witnessed a dramatic shift away from the communal toward the sociocollaborative when the learning commons model became commonplace. Tied to the digital revolution, which greatly reduced the need for close proximity to physical collections, librarians and administrators replaced spaces once filled with books with student-centered social spaces, replete with comfortable furnishings and coffee shop environments.1 The success of these spaces, measured by the drastic increase in gate counts of the libraries in which they were built, resulted in a devaluing of quiet spaces that was fueled by assumptions regarding students’ learning needs in the twenty-first century. At the same time, the success of these new library spaces likely contributed to the more intentional development of commons spaces in campus locations well outside the library.2 These new informal learning spaces (ILSs) are overtly derivative of the modern socialness at the root of the learning commons model, thus raising questions of how students navigate this increasingly homogenous learn. (DeFrain, et al, 2022. P.1)

 **Digital Library shortcomings**

There are some users that the digital library cannot serve, such as blind or visually impaired users. Traditional libraries can provide materials and equipment for these users. The American with Disabilities Acts ensures equal opportunity for these valued users. The Southwest Wisconsin Library System has a section on their website which covers users with vision impairments, and large print books or hearing devices. The site also provides reference points for librarians. [Disability & Special Needs – Southwest Wisconsin Library System (swls.org)](https://www.swls.org/disability-special-needs-resources/)

Equitable digital libraries are also important. The inclusion of materials that reflect the community, or inspire intellectual curiosity is very important. Libraries don’t own digital content and it is licensed, which is expensive and has legal ramifications. Digital preservation is also important and the need to work on preserving cultural history is in peril. (Smith, 2023)

 **Traditional Libraries of today**

Reference services cannot be underestimated. Traditional libraries are still good sources of information for patrons. Computers can provide many answers, but the library will provide the right answer. Libraries of today offer access, inclusiveness, and community place. Many people don’t have internet access, so physical libraries are still a place to get access to wi-fi. Fitness classes, meditation workshops, employment fairs, and educational workshops. Services like these are beneficial to young people, the homeless, retirees, and the community at large. (Bartlett, 2020)

 **Digital Libraires of tomorrow**

 What is cloud computing?

The cloud image is often accustomed represent the web.. Cloud computing is now commonly used to describe the delivery of software, infrastructure and storage services over the web. Users of the cloud will like different organizations delivering services related to their information. software and other computing needs on their behalf, without the need to own or run the standard physical hardware (such as servers) and software (such as email) themselves. Cloud computing is that future stage inside the evolution of the cyberspace , it provides the means through which everything — from computing power to computing infrastructure, applications and business processes---are often delivered to you as a service where and whenever you need them. (Akbar Kutty, 2019, p. 3)

 **How did we get here?**

ERIC and OPAC are early examples of digital libraries.

A **digital library** (also called an **online library**, an **internet library**, a **digital repository**, **a library without walls**, or a **digital collection**) is an [online database](https://en.wikipedia.org/wiki/Online_database) of digital objects that can include text, still images, audio, video, [digital documents](https://en.wikipedia.org/wiki/Digital_document), or other [digital media](https://en.wikipedia.org/wiki/Digital_media) formats or a [library](https://en.wikipedia.org/wiki/Library) accessible through the [internet](https://en.wikipedia.org/wiki/Internet). Objects can consist of [digitized](https://en.wikipedia.org/wiki/Digitization) content like [print](https://en.wikipedia.org/wiki/Printing) or [photographs](https://en.wikipedia.org/wiki/Photography), as well as [originally produced digital](https://en.wikipedia.org/wiki/Born-digital) content like [word processor](https://en.wikipedia.org/wiki/Word_processor) files or [social media](https://en.wikipedia.org/wiki/Social_media) posts. In addition to storing content, digital libraries provide means for organizing, searching, and [retrieving](https://en.wikipedia.org/wiki/Information_retrieval) the content contained in the collection. Digital libraries can vary immensely in size and scope, and can be maintained by individuals or organizations.[[1]](https://en.wikipedia.org/wiki/Digital_library#cite_note-1) The digital content may be stored locally, or accessed remotely via computer networks. These information retrieval systems are able to exchange information with each other through [interoperability](https://en.wikipedia.org/wiki/Interoperability) and [sustainability](https://en.wikipedia.org/wiki/Sustainability).[[2]](https://en.wikipedia.org/wiki/Digital_library#cite_note-2)

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  **Conclusion**

The first library began over 150 years ago. Traditional libraries are the blueprint for digital libraries. In an ideal world everyone would make use of both types of libraries. However, based on who you are and your circumstance, a digital library or traditional library may be the best fit for you. The main thing is for these libraries to continue to coexist and support one another.

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