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Digital Libraries as a Social System

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The BETH (European Library Association) conference 2023 was a place for the BETH member librarians to gather together to discuss the challenges we faced and how we overcame these problems. Many presentations talked about the importance of digitisation projects and collaborative efforts between libraries in electronic resource systems and provisions.

Matti Myllykoski from Helsinki University Library, Finland, has been warning us for the last couple of years that in libraries in his country, their print collections are shrinking, and e-collections are growing at an exponential rate. This is, of course, not a unique case. The Bodleian Libraries, University of Oxford, has had an 'e-first' policy since 2019, prioritising e-acquisition for reading list materials (Bodleian Libraries n.d.). This change is driven by user behavioural trends, themselves accelerated by COVID-19, as millions of ordinary library users all over the world prefer to search the web at their fingertips to find information to solve their problems digitally.

It has become critical for libraries to keep pace with the rapid development of electronic information sources, new technologies and equipment, and the accessibility of social media services as information tools, in order to survive in a new user-driven, participatory, personalised online realm. Libraries are left with no choice but to adapt and stay connected to the rapidly changing world of digital technologies. With more and more library materials available digitally, whether they are digitised or digitally born, most libraries provide electronic resources at some level. Libraries are increasingly expanding the digital part of their service or digital library regardless of whether through acquisition of new e-resources or by digitising their existing collections.

During the conference, I was particularly interested in the presentation of 'Integration of Religion Culture and Society in the Library in Tomislavgrad' by Vinko Šarac. He explained how he enabled providing his library service with cultural, religious, and social programmes. This practice can also be applicable to the digital environment hence the digital library as a social system.

Definition of Digital Library

First, the definition of the digital library should be examined. What is a digital library? Arnepalli and Rao (2020, 1) defined the digital library as 'an information retrieval system rather than an information service' but not all see a digital library, as they did, as a simple computerised system.

Van House (2003, 272) clarified that 'the digital library is not simply a new technology or organisational form but a change in the social and material bases of knowledge work and the relations among people who use and produce information artefacts and knowledge.' Schatz (2002, vii) also understood the importance of digital libraries in society in her earlier work, claiming that 'as the Internet itself becomes increasingly part of the structure of the world, so will the process of creating useful digital libraries become a critical part of society' (Schatz 1997). She explained that previous generations of the internet were concentrated on the technology itself by transmitting data from one machine to another correctly, but today the focus has shifted to searching documents across many collections over the internet (Schatz 2002, vii). In other words, 'consideration in sociology becomes equally important' as well as the advancement of technology, because 'the development of an information-retrieval system is determined largely by technology but the deployment is determined largely by sociology' (Schatz 2002, vii).

From these definitions above, we can extract two important components for the digital libraries: technologies of the internet and web, and community-based society. These two aspects, technology and society, are so closely knitted that it is hard to think of them separately in the digital environment as technology needs users. Pang

(2012, 86) explained that 'one cannot fathom a digital library without considering the social interactions driving its development, sustainability and use' hence digital libraries are essentially social in nature.' Van House et al (2003, 3) explained that 'technology creates linkages among information resources, groups, and individuals that have never existed and could not have existed before.' No wonder Van House et al defined digital libraries as 'sociotechnical systems- networks of technology, information, document, people and practices' (2003, 1) as they are built upon technologies and society. Therefore, they have a role to play as a social system.

Role of Digital Libraries

The user-generated, sharing, and personalised web technologies allow the digital library to play a role in society in the following aspects: preservation of knowledge; democratising information access; education and lifelong learning support; and communication and collaboration platform and community building.

Preservation of Knowledge

By digitising historical and cultural documents, digital libraries play an important role in preserving knowledge for future generations as repositories of digital information. This function is essential in maintaining the continuity of cultural heritage and scholarly research. They digitise and archive historical documents, manuscripts, images, and artefacts, ensuring that these invaluable resources are protected from physical deterioration and loss. Also, this digital preservation makes cultural and historical materials accessible to a wider audience, fostering a greater appreciation and understanding of diverse cultures and histories.

Additionally, digital libraries often collaborate with cultural institutions, museums, and archives to expand their collections and provide more comprehensive access to cultural heritage. This collaboration enhances the visibility and reach of cultural treasures, promoting global cultural exchange and understanding on the international scale.

Democratising Information and Its Access

With digitised materials and various e-resources, digital libraries contribute to modern society because one of the most profound impacts of digital libraries is the democratisation of information. By making vast amounts of knowledge universally accessible online, digital libraries break down traditional barriers to information, allowing people from different socioeconomic backgrounds, geographic locations, and educational levels to access the same resources. Digital libraries help to level the playing field, providing equal opportunities for education and research, and encouraging informed decision-making. This widening access bridges the gap in information disparity and supports educational equity, enabling students and researchers from diverse backgrounds to have high-quality information and resources. This inclusivity is particularly crucial in developing regions where access to physical libraries and educational materials is limited.

Education and Lifelong Learning Support

By providing access to diverse learning materials, digital libraries empower individuals to pursue lifelong learning and research paths. This autonomy in learning encourages a culture of curiosity and innovation, essential for adapting to the ever-evolving demands of the modern workforce. In a rapidly changing world, continuous learning is essential for personal and professional development. Digital libraries offer a wide range of resources, from academic journals and e-books to online courses and multimedia content, catering to learners of all ages and interests.

For example, libraries can promote digital literacy to users, especially to those who are less familiar with the digital environment. As Gross (2012, 2) pointed out, library and information services have 'evolved from providing information to enabling literacy and creating learning communities'. At the RL:EU (Connecting Libraries EU Resources) conference 2024 in Lisbon, Portugal, many libraries demonstrated their successful projects during the Living Library session. These librarians actively engaged in user training and education of digital literacy, recognising the importance of upskilling users' digital competencies, developing critical thinking

skills, evaluating information sources, and leveraging digital technologies for learning and research. This is a crucial social role for the library; being involved in an age where information is overloaded but often unreliable, to help users navigate the digital landscape safely and effectively.

Communication and Collaborative Platform and Community Building

It is extraordinary how the vast range of communities, individuals, and corporations are sharing information on the Internet nowadays. Facebook, Flickr, YouTube, X/Twitter, Instagram, Wikipedia and blogs are based on open communication and the sharing of information in social media communities. As users can communicate, interact, and collaborate via a vast number of freely available web tools, they participate in a revolutionary way to digital libraries. Cohen (2007, v) confirmed this, stating 'Libraries make collections available via open, personalised, interactive services that encourage such activities as content creation, editing, commenting, annotating, bookmarking, rating, and tagging by users.' There are many ways for libraries to practise this with technologies such as 'faceted browsing, relevancy ranking, subject or tag cloud, and various social options' (Cohen 2007, v).

Therefore, one of the most significant contributions of digital libraries is their service as hubs: they offer collaborative platforms, facilitating the exchange of ideas and knowledge among users. Advanced digital tools and technologies enable users to annotate texts, share insights, and engage in collaborative research. These interactive features transform passive consumption of information into active participation, enhancing the overall learning experience.

Furthermore, through virtual events, discussion forums, and collaborative projects, they provide platforms for social interaction and community building. These activities of common interest foster a sense of belonging and collaboration and interaction among users, enhancing the social fabric of communities. Through forums, discussion boards, and social media integrations, they enable knowledge sharing and collective problem-solving.

All these functions are often tightly intertwined in digital libraries, integral to the information needs of contemporary society.

For example, the simplest thing to allow users to be engaged in is to write book reviews or to tag a book or article title in the library discovery tool, to aid both themselves and others. Indeed, SOLO from the University of Oxford offers such a tag option.

More complicated collaboration efforts can also be initiated by libraries. The National Library of Australia (NLA) led an excellent user participatory digitisation project, the Australian Newspaper Digitisation Programme, in collaboration with Australian State and Territory Libraries. The NLA made available a new service which provided free online access to selected out-of-copyright Australian Newspapers. It reported in its online publication that it 'provided users of the newspaper service with the option of 'improving' the electronically generated text and sharing their revised version with other users. So popular has this activity become that, as in October 2009, users have corrected over 6.8 million lines of electronic text in over 310,000 articles' (National Library of Australia 2010). The newspaper digitalisation project was, therefore a collaborative effort.

Another of the most successful curations of user-instated digital collections is by an ABTAPL (Association of British Theological and Philosophical Libraries) member library, the Oxford Centre for Methodism and Church History Library. They have built a digital collection of British Methodist Buildings by allowing users to send in their own images. They now hold over 11,000 images, both current and past, of Methodist church buildings on their website (Oxford Centre for Methodism and Church History n.d.).

These collaborated efforts demonstrate an exemplary case of a library as a sociotechnical system. The library initiated the project. Their communication was effectively advertised via social media and formed a dedicated community of users who were willing to participate and send their own images or take new images for the library. As Pang says, 'With social media, the potential value of information resources in digital libraries is heightened, as social media brings users together to create, use, evaluate and share information resources' (2012, 88). The library organised and curated these materials then made them available freely as a digital collection via their website. The initiative was library-driven but user participation

enabled it to succeed, creating a digital collection for the library and capturing history without much expense (both funding and time). This shows that the technologies are useful for the digital library to be in contact with the user community in increasing communication: such benefits occur as harnessing the power of the crowd by user participation, offering web community space for sharing and enhancing accessible service and marketing and advertising.

Impact of Digital Libraries on Society

The influence of digital libraries extends beyond individual users, shaping societal structures and norms in various ways:

Bridging the Digital Divide

Bawden and Robinson (2010, 244) cited Sturges and Gastingier's idea that information and digital literacy is considered as a human right. Whereas the digital library is trying to provide rich, current, and easily accessible collections of digital literacy in every possible way, this fundamental ethical idea speaks volumes. The digital library should have serious consideration in its responsibility for the quality and quantity of equality in information provision as the social system.

'Equality of access to information is often cited as a fundamental value of the information sciences and disciplines' (Bawden and Robinson 2010, 244). Despite the wealth of information available, 'the paradox of choice, the pressure of too much information and the inequitable nature of access have led to concerns about information overload, information anxiety and the digital divide' (Bawden and Robinson 2010, 245).

One thing we should not forget is that the principle of the library is still based on the ethical and social values of the library to society regardless of its format, digital or physical. Otherwise, there is no difference between commercial information

providers and libraries. It is not only limited to books and monographs for the traditional library to give worth and justification to the existence of the library, but rather social practices, which have assigned their dissemination and preservation. The same can be said of the case of the digital library. Service to the public and social responsibility should not be overlooked by engaging in problems which have been brought in with the changes in the new wave of information flow through the web. By developing a digital collection or library in our theological libraries, we will bridge the digital divide, offering openings to the underserved, and those who do not have, whether it is digital library skillsets or accessibility to certain opportunities or resources. This inclusivity promotes social equality and economic development.

Enhancing Research and Innovation

The ability to quickly search and retrieve relevant materials accelerates the research process and allows researchers to stay current with the latest developments in their fields. Researchers benefit from the extensive resources and tools available in digital libraries, which increases the pace of scientific discovery and technological innovation. Digital libraries are indispensable tools which offer access to a vast array of academic publications, data sets, and primary sources. These resources are crucial for conducting thorough and comprehensive research so digital libraries significantly enhance the research process for researchers. Open Access initiatives via digital libraries can also advance further the dissemination and impact of research.

Furthermore, digital libraries promote interdisciplinary research by providing resources from various fields of study in one accessible platform. This fosters collaboration and innovation, as researchers can easily explore and integrate knowledge from different disciplines, leading to new insights and advancements.

Cultural and Social Transformation

Digital libraries contribute to cultural preservation and dissemination, supporting diverse voices and perspectives. They empower marginalised communities by providing platforms for expression and advocacy.

Challenges

Despite their numerous benefits, digital libraries face several challenges. Ensuring equitable access to technology remains a significant issue, as digital divides persist in many parts of the world. Additionally, the sustainability of digital libraries depends on continuous funding and technological advancements, which can be uncertain. Moreover, issues of digital copyright clearance present ongoing challenges: balancing the need for open access with the rights of content creators requires careful policy formulation and implementation. Addressing these issues requires collaborative effort amongst stakeholders, including policymakers, technologists, and information professionals.

Conclusion

Digital libraries are more than just digital repositories. As we move further into the digital age, the importance of digital libraries as integral components of our social infrastructure cannot be overstated. They are dynamic social systems, integrating technology, human interaction, and information resources to serve the evolving needs of society. They have a multifaceted role in democratising information access, fostering community engagement, and supporting digital literacy; lifelong learning and driving innovative research underscore its significance in the digital age. By serving as collaborative platforms and adapting to technological advancements, digital libraries will continue to address current challenges and expand their impact on society in shaping the future of information access and social development.

Advances in artificial intelligence and machine learning promise to enhance the personalisation and efficiency of digital libraries. These technologies can improve search algorithms, recommend resources based on user preferences, and even create adaptive learning environments. Furthermore, as virtual and augmented reality technologies develop, digital libraries could offer immersive learning experiences, transforming how users interact with information and knowledge. As digital libraries continue to evolve, they will undoubtedly play an even more critical role, becoming even more integrated into our social systems as they are essential for building an informed, connected, and innovative society.

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