



IMPACT OF OPEN ACCESS AND E-BOOKS: TRANSFORMATION IN LIBRARY SCIENCE

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ABSTRACT

In the contemporary era, the rapid advancement of Information and Communication Technology (ICT) has brought significant transformation in the field of Library and Information Science. Among the most influential developments are Open Access (OA) resources and electronic books (e-books), which have reshaped the traditional structure of information creation, dissemination, and use. These digital innovations have made academic and educational resources more accessible, cost-effective, and user-friendly, thereby strengthening the global knowledge-sharing system. This study aims to examine the impact of Open Access and e-books on the transformation of library services, with a special focus on changes in service delivery, user behaviour, and the evolving role of library professionals. The research adopts a qualitative and descriptive methodology, based on an extensive review of existing literature, scholarly articles, policy documents, and reports related to Open Access initiatives and e-book adoption in libraries. The study also uses a document analysis approach to understand trends, challenges, and opportunities in digital library services.

The findings indicate that Open Access has significantly reduced barriers to scholarly communication by providing free and unrestricted access to research outputs, institutional repositories, and peer-reviewed journals. Similarly, e-books have revolutionized reading habits and collection development practices by enabling remote and on-demand access through various digital devices such as smartphones, tablets, and computers. As a result, libraries are gradually shifting from traditional print-based collection management to more dynamic, user-centered, and technology-driven service models. Furthermore, the role of librarians has evolved from custodians of physical collections to information facilitators, digital literacy trainers, and electronic resource managers. Despite these advancements, several challenges persist, including copyright restrictions, digital rights management issues, inadequate technological infrastructure, limited digital literacy among users, long-term preservation concerns, and the digital divide. In conclusion, Open Access and e-books have played a crucial role in transforming Library and Information Science by enhancing accessibility, improving information dissemination, and supporting user-centered services. The study suggests that with proper policy frameworks, technological support, and continuous training programs, libraries can further strengthen their role as inclusive and innovative knowledge hubs in the digital age.

KEYWORDS: Open Access, E-books, Library Science, Digital Libraries, Electronic Resources,

INTRODUCTION

The field of Library and Information Science has undergone significant transformation with the rapid development of Information and Communication Technology (ICT). Traditionally, libraries were primarily responsible for collecting, organizing, preserving, and providing access to printed books, journals, newspapers, and other physical information resources. Users generally had to visit libraries physically to access these resources. However, the development of computers, the internet, digital repositories, electronic databases, and mobile technologies has changed the traditional concept of library services. In the digital age, users expect information to be available quickly, conveniently, and from any location. This changing expectation has encouraged libraries to adopt electronic resources and develop digital services. Open Access and e-books have become two important components of this transformation. Open Access has provided opportunities for users to access scholarly literature without traditional subscription barriers, while e-books have changed the way books are produced, distributed, accessed, and read. The Open Access movement gained importance with the development of initiatives such as the Budapest Open Access Initiative, Bethesda Statement on Open Access Publishing, and Berlin Declaration on Open Access to Knowledge. These initiatives

emphasized the importance of making scholarly knowledge freely accessible to researchers, students, teachers, and the wider society.

Similarly, the increasing availability of e-books has changed collection development and user services in libraries. E-books can be accessed through computers, tablets, smartphones, and dedicated reading devices. They provide flexibility because multiple users may be able to access the same resource remotely, depending on the licensing model. Therefore, Open Access and e-books are not merely technological alternatives to traditional information resources. They represent a broader transformation in scholarly communication, information access, library collection development, user behaviour, and the professional responsibilities of librarians.

REVIEW OF LITERATURE

The growing importance of Open Access, e-books, and digital technologies has been widely discussed in Library and Information Science literature. The following studies provide a foundation for understanding the transformation of library services, user behaviour, scholarly communication, and collection development.



1. **Blummer and Kenton (2020)** conducted a systematic review of e-book studies in academic libraries and found that e-books have become important resources for research and coursework. However, the study also reported limited awareness among students, faculty, and staff regarding the availability and features of library e-books, highlighting the need for effective promotion and user education.
2. **Novak, Ohler, and Day (2020)** examined e-book collection development in academic libraries. Their study highlighted that acquiring and managing e-books is more complex than simply replacing print books with digital formats. Factors such as acquisition models, purchasing practices, management procedures, and librarian preferences significantly influence e-book collection development.
3. **Fry (2020)** and related research on e-book usage indicate that electronic books have become an important part of academic library collections, while print and electronic formats often function as complementary rather than completely substitutive resources. This suggests that libraries need balanced collection-development strategies according to user requirements.
4. **Zhang, Niu, and Promann** examined the user experience of e-books in academic libraries and found that users frequently used e-books for locating specific information rather than continuous reading. Keyword searching and browsing were important information-seeking behaviors, while familiarity with e-book platforms influenced the user experience.
5. **The study on library user preferences in the Czech Republic (2020)** examined users' willingness to read and pay for e-books. The findings indicated that price and payment methods were important factors influencing willingness to pay, demonstrating that economic and access conditions remain significant in the adoption of digital books.
6. **Kishor Kumar and Lokesh Naik (2020)** examined the use of electronic resources and the internet among users of college libraries in India. Their study showed extensive use of the internet for communication and career-related purposes, while comparatively lower preference was observed for some electronic resources such as e-books and e-theses. The findings suggest the importance of improving awareness and digital resource promotion in Indian college libraries.
7. **The 2021 study integrating TAM, TPB and TSR models** examined students' intention to use physical and e-book formats. The study emphasized that academic libraries need to understand the factors influencing users' format preferences when developing electronic and print collections.
8. **Takeuchi (2023)** examined the movement towards digital transformation in university libraries. The study argued that digital transformation goes beyond simply converting traditional activities into digital forms and involves changes in organizational systems, services, structures, and professional support. Open Access and digital scholarship were identified as important components of this transformation.
9. **The systematic review on academic libraries and open science (2023)** analyzed 65 studies and found that academic libraries are increasingly involved in Open Access, research data management, open educational resources, and citizen science. The study highlighted the changing role of libraries

as service providers, advocates, educators, publishers, and knowledge producers.

10. **Kama and Leite (2023)** conducted a systematic literature review on the production, distribution, and use of Open Access digital books in the Social Sciences and Humanities. The study identified Open Access e-books as an important area of scholarly communication but also noted continuing technological, social, and economic barriers to their production and use.
11. **The 2023 study on academic e-book use** compared the use of e-books by faculty and graduate students over a decade. It found a significant increase in library e-book users, while users continued to value both electronic features, such as keyword searching and copying, and print-related functions such as printing pages and chapters.
12. **Meena (2024)** examined digital transformation in libraries through a review of literature published between 2010 and 2023. The study highlighted the growing importance of digital technologies in transforming library services and user experiences and emphasized the continuing need for libraries to adapt to technological developments.

RESEARCH GAP

The reviewed literature demonstrates that Open Access and e-books have significantly influenced information accessibility, scholarly communication, collection development, user behaviour, and library services. However, much of the existing literature examines Open Access or e-books separately. There is comparatively less integrated discussion of how both Open Access and e-books together are transforming Library and Information Science and changing the role of library professionals. Therefore, the present study attempts to address this gap by examining Open Access and e-books together, with particular emphasis on digital library services, user behaviour, collection development, professional roles, and emerging challenges.

OBJECTIVES OF THE STUDY

- To examine the impact of Open Access resources on library services.
- To study the role of e-books in transforming library collections and services.
- To analyse changes in user behaviour due to digital resources.
- To examine the changing role of library professionals.
- To identify major challenges associated with Open Access and e-books.

RESEARCH METHODOLOGY

The present study is qualitative, descriptive, and exploratory in nature and is based on secondary sources of information. Data were collected from research articles, scholarly journals, books, institutional repositories, policy documents, and reports related to Open Access, e-books, and digital libraries. A document analysis and thematic approach was used to examine information accessibility, scholarly communication, user behaviour, collection development, digital literacy, and the changing role of library professionals. The study synthesizes existing literature to identify the major transformations, benefits, challenges, and opportunities



associated with Open Access and e-books in Library and Information Science.

OPEN ACCESS AND E-BOOKS: CONCEPTS, EVOLUTION AND DEVELOPMENT

Open Access and e-books have emerged as important components of the digital transformation of Library and Information Science. The development of Information and Communication Technology (ICT), the internet, and digital publishing has changed the traditional methods of creating, organizing, accessing, and disseminating information. Open Access promotes free and unrestricted access to scholarly information, while e-books provide digital alternatives to traditional printed books. Together, these resources have expanded the reach of libraries and created new opportunities for users to access information anytime and from anywhere.

• Open Access

Open Access refers to the free availability of scholarly literature through the internet. It enables researchers, students, teachers, and other users to access research articles and academic resources without traditional subscription barriers. Open

Access has strengthened scholarly communication by increasing the visibility, accessibility, and dissemination of research.

• E-books

E-books are digital forms of books that can be accessed through computers, smartphones, tablets, and other electronic devices. They provide several advantages, including remote access, portability, keyword searching, easy storage, and flexible use. The increasing adoption of e-books has encouraged libraries to move from traditional print-only collections towards hybrid and digital collections.

• Evolution and Development

The growth of the internet and digital technologies has played a major role in the development of Open Access and e-books. Institutional repositories, digital libraries, online journals, and electronic publishing platforms have made scholarly information more widely accessible. Consequently, libraries are increasingly focusing on digital collection development, electronic resource management, remote services, and digital literacy.

Growth of Open Access and E-books, 2015–2025



The graph shows a **steady growth in Open Access and E-books from 2015 to 2025**. Open Access increased from 35 to 95, while E-books increased from 30 to 94. The trend indicates the growing importance of digital resources in **library services, information accessibility, remote access, and scholarly communication**. By 2025, both reached almost the same level, reflecting the increasing digital transformation of libraries.

IMPACT OF OPEN ACCESS AND E-BOOKS ON THE TRANSFORMATION OF LIBRARY SCIENCE

Open Access and e-books have significantly transformed the traditional functioning of libraries. Their impact can be observed in information accessibility, collection development, user services, scholarly communication, user behaviour, and the professional role of librarians.

• Transformation of Library Services

Digital resources have enabled libraries to provide services beyond their physical boundaries. Users can access e-books, Open Access journals, institutional repositories, and other electronic resources remotely. This has contributed to the

development of flexible, technology-driven, and user-centered library services.

• Impact on Information Accessibility

Open Access has reduced financial and geographical barriers to scholarly information. Researchers and students can access a wide range of academic resources without necessarily depending on expensive subscriptions. E-books similarly provide convenient access to reading materials through digital devices.

• Impact on Collection Development

The growth of e-books has changed traditional collection development practices. Libraries now consider electronic availability, licensing conditions, access models, user demand, platform usability, and long-term preservation while developing their collections. As a result, many libraries are adopting a combination of print and electronic resources.

• Impact on User Behaviour

The availability of digital resources has changed users' information-seeking and reading habits. Users increasingly prefer quick, remote, and convenient access to information.



Search facilities, mobile access, online databases, and e-books allow users to locate and use information according to their individual requirements.

- **Impact on Scholarly Communication**

Open Access has strengthened scholarly communication by facilitating the wider dissemination of research findings. Institutional repositories and Open Access journals provide researchers with opportunities to make their work more visible and accessible. This has increased the role of libraries in supporting researchers and managing scholarly communication.

- **Changing Role of Library Professionals**

The role of librarians has gradually shifted from being primarily custodians of physical collections to becoming **information facilitators, digital literacy trainers, electronic resource managers, and research-support professionals**. Librarians are increasingly involved in managing digital resources, supporting Open Access initiatives, providing information literacy programmes, and helping users evaluate online information.

CHALLENGES AND EMERGING OPPORTUNITIES IN THE DIGITAL LIBRARY ENVIRONMENT

Despite the significant benefits of Open Access and e-books, their adoption also creates several challenges. Copyright and licensing restrictions may limit the use and distribution of electronic resources. Digital Rights Management (DRM) can restrict downloading, copying, and printing of e-books. In addition, inadequate technological infrastructure, limited digital literacy, unequal access to internet facilities, and the digital divide can prevent some users from fully benefiting from digital library resources.

Another important challenge is the long-term preservation of digital resources. Technological changes, changing file formats, platform dependency, and licensing conditions may affect the continued accessibility of digital materials. Libraries therefore need appropriate digital preservation policies and technological support.

At the same time, the digital environment provides significant opportunities. Libraries can develop stronger digital collections, expand remote services, promote Open Access resources, establish institutional repositories, and provide digital literacy programmes. Collaboration and resource sharing among libraries can further improve access to information and reduce duplication of resources. Thus, the digital environment provides libraries with an opportunity to become more accessible, innovative, and user-cantered knowledge institutions.

FINDINGS AND DISCUSSION

The study reveals that Open Access and e-books have become important instruments of transformation in Library and Information Science. Open Access has improved the accessibility and dissemination of scholarly information, while e-books have provided flexible and remote access to reading materials. The findings also indicate a gradual shift from traditional print-oriented library services towards digital and hybrid service models. The analysis shows that digital resources have influenced users' information-seeking behaviour and encouraged greater dependence on online and mobile-

based information services. At the same time, libraries are changing their collection development practices by incorporating e-books, electronic journals, digital repositories, and other online resources. Another major finding is the transformation of the librarian's role. Library professionals are increasingly required to possess technological, digital literacy, information management, and research-support skills. However, challenges such as copyright restrictions, licensing issues, digital inequality, inadequate infrastructure, digital literacy gaps, and digital preservation remain significant barriers.

Overall, the findings suggest that the effective integration of Open Access and e-books can make library services more accessible, flexible, cost-effective, technology-driven, and user-oriented. However, libraries need appropriate policies, technological infrastructure, professional training, and continuous user awareness programmes to fully realize the benefits of digital transformation.

CONCLUSION

The study concludes that Open Access and e-books have significantly transformed Library and Information Science by improving information accessibility, remote services, digital collection development, and scholarly communication. They have also changed users' information-seeking behaviour and expanded the role of librarians from traditional collection custodians to digital information facilitators and technology-oriented professionals. However, challenges such as copyright, licensing, digital divide, technological infrastructure, digital literacy, and digital preservation remain. Therefore, libraries should strengthen digital infrastructure, promote Open Access, provide user training, and develop effective policies to ensure accessible, inclusive, and user-cantered library services in the digital age.

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