

IMPROVING THE EFFICIENCY OF LIBRARY SERVICES BASED ON DIGITAL TECHNOLOGIES

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Abstract

This article scientifically analyzes modern directions and opportunities for improving the efficiency of library services through digital technologies. It examines the impact of digitalization on library activities and highlights the advantages of electronic resources, automated information systems, and remote services. Special attention is given to the significance of innovative technologies in providing users with fast and high-quality information services. The article also discusses current challenges in improving library services and presents modern approaches to solving them on a scientific basis.

Keywords: digital technologies, library services, electronic library, information systems, digitalization, innovative technologies, remote services, information resources.

The development of digital technologies has brought fundamental changes to the activities of almost all sectors in the 21st century. As a result of the rapid advancement of information and communication technologies, traditional service systems are increasingly being enriched with modern digital solutions. This process has also led to significant transformations in the library sector. ¹While libraries were previously regarded mainly as centers for storing and providing printed materials, today they are becoming multifunctional information centers operating on the basis of electronic information resources, remote services, and innovative technologies. Therefore, the use of digital technologies to improve the efficiency of library services has become one of the urgent scientific and practical issues of modern times. The efficiency of library services refers to the degree of providing users with fast, high-quality, and convenient information services. Modern users expect to access information quickly, from any location, and in various formats. This creates a necessity for the digitalization of traditional library services. Digital technologies make it possible to manage library collections, communicate with users, provide electronic resources, and optimize information retrieval processes.

The process of digitalization involves converting printed materials in library collections into electronic formats². The main advantage of this process is the long-term preservation of

¹ R. Ganiev. *Innovative Technologies in Information and Library Activities*. – Tashkent: Fan va texnologiya, 2019.

² Agency for Information and Mass Communications of the Republic of Uzbekistan. *Methodological Recommendations for the Development of Information and Library Institutions*. – Tashkent, 2021.

information and its accessibility to a wider audience. For example, converting historical manuscripts, rare books, and scientific resources into digital form protects them from physical deterioration. At the same time, users gain the opportunity to access these materials remotely. This is especially important for researchers and students. Electronic libraries are among the important components of the modern information society. An electronic library allows users to access books, scientific articles, dissertations, and other resources through the Internet. Electronic resources reduce time and geographical limitations. Users can find and use the necessary materials without physically visiting the library. This significantly increases the speed of service delivery. The improvement of information retrieval systems plays an important role in increasing the efficiency of library services. Previously, finding the required resource required extensive work with catalogs, whereas modern electronic systems can provide search results within seconds. Search options based on keywords, author names, subjects, or publication years save users' time and facilitate easier access to information. Automation of library activities is one of the key directions of digital transformation. Automated library systems simplify processes such as collection management, book registration, user database maintenance, and statistical reporting. As a result, errors associated with the human factor are reduced, and the quality of services improves.

Remote services are another important area developing on the basis of digital technologies. Online consultations, virtual reference services, and electronic ordering systems enable users' needs to be met quickly and efficiently. The importance of remote services increased significantly during the global pandemic. Many libraries shifted to online platforms, demonstrating the promising future of digital services. The development of mobile technologies is taking library services to a new level. Through mobile applications, users can browse electronic catalogs, reserve books, and access electronic resources. This makes library services more flexible and convenient.³ The introduction of artificial intelligence technologies into library activities is also creating new opportunities. ⁴Artificial intelligence can analyze users' interests, provide personalized recommendations, and optimize search processes. For example, new resources can be recommended to users based on the materials they previously read. One of the important aspects of developing library services through digital technologies is ensuring information security. Protecting electronic databases, safeguarding users' personal information, and strengthening cybersecurity measures are among the priority tasks of modern libraries. Developing the digital competencies of librarians is also a crucial factor. A modern librarian should not only be an information custodian but also a specialist with skills in working with digital technologies. Therefore, retraining and professional development programs for specialists are of great importance. Digital technologies are also strengthening the role of libraries within the education system. Electronic educational resources, online courses, and virtual seminars are transforming libraries into centers of lifelong learning. This is especially relevant in the context of distance education.

Open scientific resources and open-access policies are becoming new directions in library services. Free access to scientific articles and research findings accelerates the development of science. Libraries play an important intermediary role in this process. There are also several challenges related to the development of library services through digital technologies. Insufficient

³ International Federation of Library Associations and Institutions. *IFLA Trend Report: Libraries in the Digital Environment*. – Hague, 2022.

⁴ UNESCO. *Digital Transformation and Knowledge Access in Libraries*. – Paris, 2021.

technical infrastructure, limitations related to internet speed, lack of financial resources, and low digital literacy among some users complicate this process. Therefore, digitalization policies should be implemented gradually and systematically. Studying users' needs is essential for improving the efficiency of library services. Modern users increasingly expect interactive, rapid, and personalized services. Consequently, libraries need to develop user-centered strategies.⁵

The development of social media is creating new opportunities for promoting library services. Libraries can use social platforms to provide information about new resources, organize virtual events, and establish interactive communication with users. As a result of digital transformation, the concept of the library itself is changing. Libraries are no longer viewed solely as places for storing books, but rather as centers for information, innovation, and knowledge exchange. This increases the strategic importance of library services. In the future, with the continued development of digital technologies, library services are expected to become even more automated, with broader use of artificial intelligence and big data technologies. Virtual reality, augmented reality, and intelligent search systems may bring user experience to a completely new level.

Conclusion

In conclusion, improving the efficiency of library services through digital technologies is one of the important requirements of the modern information society. The use of electronic libraries, automated information systems, remote services, and artificial intelligence technologies creates opportunities to provide users with fast, convenient, and high-quality information services. At the same time, the digitalization of library activities contributes to preserving information resources, expanding access to them, and supporting scientific and educational processes. In the future, the wider implementation of innovative technologies in library activities, the development of specialists' digital competencies, and the improvement of technical infrastructure will remain important factors in further increasing service efficiency.

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⁵ Academy of Sciences of the Republic of Uzbekistan. *Modern Information and Library Services and Digitalization Processes*. – Tashkent: Fan, 2020.