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Zahida Rzayeva

<https://orcid.org/0000-0003-3696-6950>

Associate Professor, Doctor of Philosophy in History, Baku State University, Faculty of Information and document management, Department of Management of Library and Information Resources, Azerbaijan, missdior.96@bk.ru

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Innovative Methods and Approaches to User Service in Modern Academic Libraries

Abstract

Academic libraries are an essential component of the environment where education and scientific research take place. These libraries play a significant role in the development of society, not only for reading and accessing information but also as centers that serve the scientific and intellectual development of students, teachers, and researchers. Innovative methods and techniques applied in foreign countries enable libraries to offer more comprehensive and user-friendly services in the modern era. These methods not only simplify the process of information retrieval but also make users' information-seeking experiences richer and more purposeful. Digital services, artificial intelligence, mobile applications, personalized services, and open data approaches ensure that libraries provide services that meet contemporary requirements. Academic libraries play an irreplaceable role in the development of education, science, culture, and social life in modern society. They are not only sources of information and knowledge but also lay the foundation for intellectual and social development. The development of library activities in line with modern times, the implementation of technological innovations, and adaptation to user needs further enhance their significance.

Keywords: *Library Service, Innovations, Academic, Information Demand, Information Service, Academic Library, New Methods and Techniques*



<https://dergipark.org.tr/tr/pub/atdd>

Modern Akademik Kütüphanelerde Kullanıcı Hizmetlerine Yönelik Yenilikçi Yöntem ve Yaklaşımlar

Öz

Akademik kütüphaneler, eğitim ve bilimsel araştırmaların yapıldığı ortamların önemli bir bileşenidir. Bu kütüphaneler, sadece okuma ve bilgiye erişim için değil, aynı zamanda öğrenci, öğretmen ve araştırmacıların bilimsel ve entelektüel gelişimine hizmet eden merkezler olarak toplumun gelişiminde önemli bir rol oynamaktadır. Yabancı ülkelerde uygulanan yenilikçi yöntem ve teknikler, modern çağda kütüphanelerin daha kapsamlı ve kullanıcı dostu hizmetler sunmasını sağlamaktadır. Bu yöntemler sadece bilgi erişim sürecini basitleştirmekle kalmıyor, aynı zamanda kullanıcıların bilgi arama deneyimlerini daha zengin ve daha amaçlı hale getiriyor. Dijital hizmetler, yapay zeka, mobil uygulamalar, kişiselleştirilmiş hizmetler ve açık veri yaklaşımları, kütüphanelerin günümüz gereksinimlerini karşılayan hizmetler sunmasını sağlamaktadır. Akademik kütüphaneler, modern toplumda eğitim, bilim, kültür ve sosyal yaşamın gelişmesinde vazgeçilmez bir rol oynamaktadır. Akademik kütüphaneler yalnızca bilgi ve enformasyon kaynağı olmakla kalmaz, aynı zamanda entelektüel ve sosyal gelişimin de temelini oluşturur. Kütüphane faaliyetlerinin modern zamanlara uygun olarak geliştirilmesi, teknolojik yeniliklerin uygulanması ve kullanıcı ihtiyaçlarına uyarlanması kütüphanelerin önemini daha da artırmaktadır.

Anahtar Kelimeler: Kütüphane Hizmeti, Yenilikler, Akademik, Bilgi Talebi, Bilgi Hizmeti, Akademik Kütüphane, Yeni Yöntem ve Teknikler

Introduction

One of the primary functions of academic libraries is the collection of information and its dissemination to users. By providing students and teachers with various types of publications, scientific articles, textbooks, bibliographic data, and other resources, they stimulate the development of scientific research. Innovation plays a crucial role in the development and operation of academic libraries. Modern libraries utilize technological innovations to offer more effective and comprehensive services in the fields of education and scientific research. This not only makes information retrieval easier but also enhances the user experience, making it more interactive and satisfying. The application of innovation ensures that libraries adapt to contemporary demands and creates an essential foundation for their future development. Modern libraries are information centers that offer multifaceted services and adapt to the needs of users. Their functions are not limited to the collection and storage of information; they also offer interactive and flexible services that meet the demands of the modern era. The development of libraries, the application of innovation, and user-centered approaches ensure that they will be even more important and effective in the future. Technological innovations — digital services, virtual libraries, and e-books — make the services of modern libraries more accessible, flexible, and innovative. These technologies provide users with greater freedom,

speed, and interactivity in the information retrieval process. By applying these innovations, modern libraries continue to offer more effective and user-friendly services, both academically and socially.

Innovative service methods ensure that modern libraries become more flexible, user-centered, and technologically advanced. Libraries expand and enrich their services by responding to the changing demands of their users and applying new technologies. These approaches strengthen the role of libraries in society and help them become a core component of the information society (Kushzhanov & Mahammadli, 2019b). Digital resources play a significant role in the development of modern libraries and their ability to serve users. These resources enrich users' information retrieval experiences and create great opportunities in education, research, and social activities. However, it is crucial to address the challenges associated with the use of digital resources, ensure information security, and provide user training.

1. Libraries, Types, Features and Services

Academic libraries are equipped not only with traditional book publications but also with modern technologies. Digital resources, e-books, online databases, electronic journals, and other virtual services enrich the activities of academic libraries.

The Role of technological development: Through the internet and cloud technologies, libraries provide users with the ability to access information anytime and anywhere;

E-books and open-access resources are essential, especially for remote education and scientific research. **Provision of scientific research support.** Academic libraries play a crucial role in supporting researchers' scientific endeavors. They provide researchers and academic staff with the latest publications, monographs, and research materials. At the same time, libraries play a vital role in the collection, analysis, and dissemination of scientific data.

Supporting researchers:

- Libraries assist researchers in gathering and analyzing information related to their research topics.
- They offer innovative methods and tools for information retrieval.

Cultural and social importance. Academic libraries are not limited to academic activities; they also contribute to the cultural and social life of society. Libraries contribute to society's culture by organizing various cultural events, exhibitions, literature, and arts activities (Kushzhanov & Dashgin, 2019a).

Social and cultural services:

-Libraries are open to the public and organize various educational events and activities for the community;

-Libraries contribute to the preservation and development of culture.

Public Relations and User Satisfaction. Academic libraries establish close relationships with their users and offer services that meet their needs. Personalized services provided to readers in libraries increase their satisfaction and make them more active users.

User-Centered Approach:

-Libraries continuously update their services to meet user needs;

-Personalized consultations, training, and guidance services are offered.

The Role of Innovation in Libraries. Innovation is the key factor in development and adapting to contemporary demands in the modern world. Libraries are evolving by applying new technologies and methods while preserving their traditional roles. Academic libraries, as part of this innovation flow, play a vital role in the development of education and scientific research. Innovation in libraries involves not only technology but also the application of new approaches, methods, and tools in services (Kushzhanov & Dashqin, 2019c).

The Impact of innovation on education and research. Innovation makes the services and resources offered by libraries more accessible, modern, and interactive. This leads to significant changes in the fields of education and research. The traditional role of libraries in collecting and storing information is now being replaced by digital and electronic platforms. Through the application of innovation, libraries can now provide more interactive and dynamic resources.

Digital Services:

-E-books, digital journals, and online databases allow users to access information from anywhere and at any time;

Online catalogs and search systems help users quickly and efficiently find the information they need.

-Virtual seminars, videoconferences, and online training sessions are held, enabling libraries to serve a larger audience.

Technological innovations and library modernization. Innovation is transforming the structure and functions of libraries. New technologies enable libraries to offer a broader and more diverse range of resources. The implementation of digital and cloud technologies simplifies and optimizes library operations (Kazimi, Abdullayeva & Ismayilov, 2020).

Application of technological innovations:

- *Cloud technologies:* Libraries manage resources remotely through cloud-based systems and offer 24/7 services to users, making it easier for them to access information at any time and from any place;
- *Artificial Intelligence (AI) and automation:* The use of AI technologies in libraries is expanding in areas such as automatic book finding, user behavior analysis, and data optimization. For example, AI analyzes reading habits and recommends resources that may be of interest to users;
- *Bibliographic management systems:* Libraries use digital bibliographic management systems to manage and collect data more effectively, which especially aids researchers in their work (Karabalina, Maydangalieva, Satygalieva, Ahmetalina, & Mahammadli, 2018).

Interactive and user-oriented services. The services offered by libraries in the modern era are not only traditional but also interactive and user-centered. By applying innovation, libraries offer services that respond more quickly to user demands, providing a personalized approach.

Interactive Services:

- *Chatbots and virtual assistants:* Libraries have implemented chatbots that provide 24/7 assistance to users. This technology improves user experience by providing immediate responses to their inquiries;
- *Mobile applications:* Libraries allow users to access catalogs, read books, and obtain information about resources through mobile apps. Users can also learn about seminars and events within the library through these apps;
- *Social media and digital platforms:* Libraries use social media to engage with users and inform them about updates. Through content shared on social media platforms, libraries can serve a wider audience.

Information security and digital archiving. Another critical aspect of innovation is the protection of information and digital archiving. Modern libraries apply new technologies to ensure the security of digital resources. This is also essential for protecting users' personal data (Kazimi & Mahammadli, 2021).

Information security and archiving:

-*Digital archives:* Libraries create digital archives for use by researchers and students. These archives store scientific publications, textbooks, and other important resources, making them accessible to users;

-Encryption and security protocols: Libraries use various encryption technologies to ensure the security of user data. This also helps protect personal information (Ismayilov & Khalafova, 2022b);

-Information services. Libraries provide more than just materials to users; they offer a range of services related to the retrieval, processing, and use of information;

Catalogs and search systems: Libraries provide users with easy access to resources through various catalogs and search systems. In modern libraries, online catalogs (OPAC) and databases help users find the information they need;

Information consultation services: Libraries offer users advice on searching and acquiring information, improving their ability to obtain data;

Support for education and research: Libraries play an essential role in academic teaching and scientific research. They provide necessary resources to students and researchers and offer various services (Ismayilov & Aliyeva, 2023).

Research support: Libraries provide resources for finding and processing data in research. For example, they assist in finding research articles and obtaining relevant scientific materials.

Educational services: Libraries organize various training sessions, seminars, and presentations to help students develop their information retrieval skills.

Interactive and digital services. One of the most crucial services offered by modern libraries is digital services and interactive platforms.

- *Online services:* Modern libraries offer access to online resources (e-books, journals, databases, etc.) and provide users with online consultation and advisory services;
- *Mobile apps and websites:* Libraries make it easy for users to access resources via mobile apps and websites, ensuring they can use services anytime and anywhere.

User-centered approaches. In the operations of modern libraries, user-centered approaches play an important role. Libraries apply various innovative methods to identify users' needs and offer services that meet them.

User-centered services. Libraries focus on individual users' needs and offer services that cater to their specific requirements, such as recommending tailored resources and materials (Ismayilov & Khalafova, 2023).

User feedback. Libraries continuously improve their services by collecting feedback from users.

Flexible and accessible services. Modern libraries offer flexible and easily accessible services, enabling users to access information at different times and under various circumstances.

24/7 Services. Libraries meet the needs of users around the clock through online services.

Remote services: Modern libraries meet users' needs by offering remote services without requiring physical attendance. This is especially important for users engaged in distance learning or research. The rapid development of technology has caused significant changes in library services. Libraries are enhancing user experience and making their services more efficient by employing modern technologies.

Electronic resources: Libraries accelerate the process of obtaining information by offering electronic books, journal databases, online databases, and other digital resources.

Digital Spaces: Libraries create digital spaces for users to interact with information, ensuring easier access to services.

Electronic journals and databases: Libraries provide users with numerous databases and electronic journals necessary for scientific research. For example, resources like JSTOR, Scopus, Elsevier, and PubMed are widely used in modern libraries (Rzayeva, 2023).

E-books and digital articles: Libraries offer users books, textbooks, and research papers in digital formats. E-books are provided in a more accessible and user-friendly manner and are compatible with mobile devices. Digital services ensure faster and easier access to library resources. Online catalogs (OPAC - Online Public Access Catalog) and search systems simplify the process of finding various resources.

Information search: Users can easily find desired books and other materials through online catalogs. The catalogs offer users various parameters for searching information: author, subject, publisher, etc. (Ismayılov & Khudiyeva, 2023).

Digital lectures and textbooks: Students and researchers can easily access lectures, textbooks, and additional learning materials through various online platforms.

Virtual libraries are online platforms that provide users with digital content and services, independent of physical libraries. Virtual libraries offer vast opportunities for users in both education and scientific research. Virtual libraries create digital collections, providing users with 24/7 access to these resources. These collections serve as the online version of materials available in physical libraries.

Open access resources: Virtual libraries provide open access resources, making information freely available to users. For example, Open Access projects and open science platforms (arxiv.org, DOAJ) ensure that scientific data is freely accessible.

Multimedia resources: Virtual libraries are not limited to text materials; they also include images, videos, audiobooks, and other multimedia content.

Training and courses: Libraries provide training on digital technologies, book search, and information retrieval skills (Tofiq, Oqlu & Kazimi, 2022).

Online seminars: Experts, researchers, and educators organize online seminars through virtual libraries to share information and experience with users.

Research and historical resources: Virtual libraries hold significant documents, photos, videos, and audio recordings for scientific and historical research.

Lecture and course notes: Students and teachers can access lecture notes, course materials, and additional resources from virtual libraries (İsmayilov & Məhəmmədli, 2024).

Innovative service methods and libraries' response to modern demands: Modern libraries implement innovative service methods to meet the needs of society, the education system, and scientific research. With the rapid development of technology and increasing user demands, library services have expanded. Libraries now serve as modern information centers, offering interactive and user-centered approaches, rather than just places for collecting and storing information.

Personalized information advice and training: Libraries provide one-on-one consultations and training to help users find the information they are looking for. These sessions focus on improving information search skills and teaching retrieval techniques (Rzayeva & Balayeva, 2024).

Personalized catalogs and Resource recommendations: Libraries prepare special catalogs and resources for users based on their interests.

Mobile apps and web platforms: Libraries offer users access to online catalogs, e-books, and electronic journals through mobile apps. These services allow users to access library resources anytime and anywhere.

Online library services: Libraries offer remote services to meet users' educational and research needs. The user experience is enriched with e-books, video lectures, discussion forums, and online training (İsmayilov, Mahammadli & Gasimli, 2023b).

Open data and collective collaboration: Libraries create online platforms for sharing data and collaboration. For example, webinars and discussion forums can be organized for research and student communities to facilitate discussions and information exchange (Alepper & Tofiq, 2020).

Libraries responding to modern demands. Modern libraries must rapidly adapt to technological advancements and changing user needs. Therefore, libraries apply various innovative approaches to provide services that meet modern demands in both physical and digital environments.

Digital technologies and library environment. Libraries strive to adapt to the demands of the modern era by applying digital technologies. By developing digital services and technological infrastructure, libraries enhance users' information retrieval experiences (Oqlu, Nadir & Tofiq, 2023).

Virtual Libraries and e-books: Libraries provide digital and electronic resources to make it easier for modern users to access library resources. Through e-books, digital journals, and databases, users can access the content they desire online.

Interactive and accessible services: Libraries offer interactive websites and mobile applications for users. Through these applications, users can easily access available resources, lectures, textbooks, and electronic materials.

Modern libraries expand users' information retrieval experience by offering not only traditional information resources but also digital and online databases, as well as various types of digital resources. The rapid development of information technologies requires libraries to implement new methods and approaches in organizing and providing access to information. Library databases and online resources are not only collections of books, articles, and other written materials but also offer rich data sources for modern research, education, and social activities.

Scientific and academic databases. Databases designed for scientific research are key components of modern libraries. These databases provide users with access to journals, articles, conference materials, and other academic sources (Mahamadli, 2018).

- *JSTOR:* A popular platform offering digital versions of academic articles, books, and various scientific publications. JSTOR's main feature is its broad range of academic journals.
- *ScienceDirect:* Managed by Elsevier, this platform is rich in articles, scientific journals, and books, particularly in the fields of natural and technological sciences (Rzayeva, 2024).
- *SpringerLink:* Provides researchers and academics access to various scientific journals, e-books, and conference materials.
- *IEEE Xplore:* A comprehensive database offering scientific articles and conference materials in the fields of electrical engineering, computer science, and other technology-related disciplines (Kenzhebayeva, Urmurzina & Mahammadli, 2018).

Databases related to social sciences, humanities, and law are also of great importance for modern libraries. These types of databases provide researchers and students with access to extensive and diverse sources.

- *ProQuest*: A platform offering numerous academic articles, dissertations, and other academic resources in the fields of social sciences, humanities, and business.
- *PsycINFO*: One of the primary databases in psychology and social sciences, providing researchers with extensive information on psychological and social issues (Qasimli & Məhəmmədli, 2024b).
- *ERIC (Education Resources Information Center)*: A broad database for collecting and providing information in the field of education.

Online resources are the most modern way for libraries to provide users with various content and information in digital form. Modern libraries ensure users' access to extensive databases, resources, scientific materials, and other useful sources online. The main advantage of these resources is that users can access information at any time without being restricted by physical space or time.

Open data resources are databases that are freely accessible and can be used by anyone via the internet. These resources allow users to obtain information on scientific research and various fields (Ismayilov, Mahammadli & Gasimli, 2023a).

- *DOAJ (Directory of Open Access Journals)*: An online catalog offering open-access journals. This allows users to freely access open articles from hundreds of scientific journals.
- *arXiv*: An open-access platform providing scientific articles in physics, mathematics, computer science, and other fields (Kazimi, Ismaylov, & Rzayeva, 2023).

In the modern era, the process of information retrieval is rapidly evolving. In the past, information retrieval was based primarily on keywords and defined topics, but with the development of information and technology, new approaches to information retrieval, particularly contextual information retrieval, have emerged. This approach considers not only simple keywords but also the user's requirements, intentions, situation, and other contextual factors during the search process. Contextual information retrieval enables the system to provide more accurate and personalized results (Ismayilov, 2022).

Principles of Contextual Information Retrieval. Contextual information retrieval seeks to understand the user's needs and goals. This approach aims not only to present the searched information but also to provide the most relevant data to the user. It ensures the effective use of

modern technologies in information retrieval, making the process more relevant and user-friendly (Mahamadli, 2018).

Understanding the User's Purpose. The core of contextual information retrieval is understanding the user's goals and intentions. Accurately identifying these goals allows the system to present the most useful information (Rzayeva, 2024).

Goal-oriented search. Information retrieval is based on the user's search objective and intent, not just keywords or phrases. For example, when a researcher conducts in-depth research on a topic, the system presents more detailed and comprehensive information related to that topic (Kazimi & Agamirzaev, 2021).

Contextual search and personalization of information. Another important aspect of contextual information retrieval is the personalization of information. The user's past searches, experiences, and needs play a crucial role in personalizing search results. This allows for more efficient and goal-oriented search outcomes.

Personal information history: Based on previous searches and data usage, the system presents more relevant and interesting information. For instance, if a student previously searched for historical topics, new articles and resources related to this field may be suggested in the future (Ismayilov & Khalafova, 2022a).

Information recommendation: Based on the user's search history and interests, related information and new topics may be recommended.

Applications of contextual information retrieval. Contextual information retrieval is applied in various fields, improving different types of user experiences. This approach aims to present information in an accurate, timely, and context-specific manner (Ismayilov, Mahammadli & Khudiyeva, 2022).

In Academic and Scientific Research. In academia, contextual information retrieval helps researchers and students find more relevant resources. When researchers search in a specific field or on a particular topic, the system suggests only the most relevant articles, journals, and books.

Search in the research process: Researchers using databases aim to find not just relevant keywords and journals, but also more detailed and related resources. This considers previous research, search history, and other related information.

Innovative methods and approaches applied in foreign countries. In the modern era, libraries are not limited to storing and presenting books and other printed materials. In many countries, especially developed nations, libraries apply various innovative methods and

approaches to further enhance their services and align them with user demands. These innovative approaches encompass everything from the use of modern technologies to user-centered services. Below are some of the innovative methods and approaches implemented in foreign countries:

-Digital and virtual Libraries. Digital and virtual libraries are among the most modern and widespread methods of information access. This approach provides users with access to extensive databases and resources anytime and anywhere. Many developed countries have taken significant steps in the creation and development of such digital libraries.

-Scandinavian Countries (Sweden, Norway, Denmark): In Scandinavia, digital libraries and online resources are widely accessible. For example, the "Libris" national digital library system in Sweden allows users to access various scientific and cultural resources online. In Norway, the "Bokhylla.no" digital library offers users access to e-books, articles, and other digital content.

-United States (USA): In the USA, especially in major cities, many libraries offer online digital services. For example, the New York Public Library (NYPL) and Los Angeles Public Library (LAPL) provide users with access to online resources, e-books, and audiobooks. They also offer subscriptions to various online databases and remote consultation services (Ismayilov, 2022).

-United Kingdom (UK): British libraries offer services through mobile applications like the "Library App." Through this app, users can search for available resources, access e-books and audiobooks, and get information about events and book discussions (Ismayilov, Ismayilov & Mammadova, 2019).

Australia: Australian libraries, particularly through the "LibraryThing" app, offer users the ability to track books, write reviews, and regularly receive information about new materials via mobile platforms.

Artificial intelligence and smart search in library service. Artificial intelligence (AI) and machine learning are widely used to make library services more efficient and user-friendly. AI and smart search systems help identify users' needs more accurately and present information quickly and effectively.

Japan: Libraries in Japan use AI and robotic technology to enhance customer services. For example, the "Tamagawa University Library" uses robots and chatbots to answer user queries. Additionally, AI-based systems assist users in finding the most relevant resources and information (Heydar, 2023).

Germany: In Germany, especially in large libraries like the "Berlin Public Library," AI-based information search and query response systems are implemented. These systems analyze users' searches and present more relevant results, strengthening user-centered services.

Open data and data sharing. The open data concept ensures that libraries provide not only physical books but also various open data databases and resources. Many countries apply this approach, allowing libraries to share information more broadly and provide it to users (Balayeva, 2020).

France: In France, the "Gallica" open digital library project offers users free access to various archival materials, historical books, and documents. This is also an important resource for scientific research (Məhəmmədli, 2024a).

Netherlands: The Netherlands has made significant progress in the field of open data and document sharing. For instance, the "Digital Public Library of America" project openly shares various scientific and cultural data, enabling users to easily find the information they seek (Muhammadli, 2023).

Interactive and personalized library service. Libraries are applying interactive and personalized methods to enhance users' experiences and provide services tailored to their needs. These methods play a crucial role in making information searches more efficient and improving user experiences (Bayramov & Hasanova, 2022).

Canada: In Canadian libraries, services like "Ask a Librarian" provide users with personal and interactive advice. Through these services, users can receive guidance from expert librarians on any topic. Additionally, libraries in Canada provide personalized suggestions based on users' previous searches (Mahammadi, 2024b).

India: In India, libraries offer services like "virtual tours" and "online lectures," providing users with personalized services and creating interactive experiences. These methods are particularly useful for online education and reading.

Additional Services and Events. Many foreign countries do not only meet users' needs for information retrieval but also engage them in various cultural and educational events. This helps libraries build closer relationships with the public and enables users to develop in various areas (Khalafova & Ismailov, 2024).

Sweden: In Sweden, libraries go beyond just providing books, organizing various training sessions, events, and seminars. Libraries like the "Stockholm Public Library" and other city libraries host events on various topics and offer extensive educational resources to users (Nadir & Sevda, 2022).

South Korea: In South Korea, libraries organize cultural events, movie screenings, and reading clubs. They also provide users with training in personal development and professional skills improvement.

Conclusion

In the modern era, libraries do not just serve as providers of information. They also play a significant role in education, research, culture, and social development. With the rapid development of the economy, technology, and society, significant changes and innovations are expected in library services as well. In the future, the development directions of libraries will lead to advancements in various fields, and they will offer even more innovative, dynamic, and user-centered services.

In the future, the role of digital and electronic libraries will increase even further. As the importance of physical space diminishes, it will become possible for libraries to offer their services over a wider geographical area (Balginova, Maydangalieva, Satygalieva & Mahammadli, 2018). **Global access to digital resources:** With the development of the internet and cloud technologies, libraries will expand their online resources. This will create great opportunities, especially for people living in developing countries and rural areas. The most modern digital libraries will ensure access to various types of information, including scientific articles, textbooks, audio and video materials, anytime and anywhere (Oqlu, 2021). The user base of e-books and electronic content will expand. Libraries will provide not only e-books but also interactive teaching materials, multimedia resources, and additional educational tools (Nadir & Oruj, 2022). Artificial intelligence and machine learning will further improve library operations. Information retrieval, analysis, and presentation will become more efficient and user-friendly. Libraries will use artificial intelligence to better understand users' needs. Search systems will not only present results based on keywords but will also offer more relevant outcomes based on the user's history, mood, and requirements. AI-based chatbots and virtual assistants will provide faster and more effective service to users.

Libraries will use big data to better categorize information and offer more relevant suggestions to users. This will also create conditions for more efficient library management and service organization (Qasımlı & Məhəmmədli, 2024a). In the future, libraries will focus more on user-centered services. This approach will allow libraries to offer services that take into account the individual needs, interests, and demands of users. Libraries will provide personalized information based on users' previous searches, reading habits, and interests. These services will help users find information faster and more accurately. Libraries will not only provide books and information but also offer guidance on education and personal development.

These services will be more interactive and user-oriented. The widespread use of mobile technologies and applications will provide users with access to library services anytime and anywhere. Through mobile applications, users will be able to access library services anytime and anywhere. They will be able to search for books, use electronic resources, and stay informed about library activities through these applications. Libraries will offer richer and more interactive experiences using augmented reality technology. For example, users will be able to search for books in virtual spaces, just as they would in physical libraries.

In the future, libraries will not only provide information and resources but also offer social activities and public services. Libraries will organize various educational, cultural, and social events. These events will include seminars, training, book discussions, film screenings, art exhibitions, and more. Libraries will strengthen their connection with the public and serve user groups of all ages. In the future, libraries will offer extensive opportunities for creative thinking and collaboration. For example, maker-lab centers, creative writing workshops, and collaboration projects will become more widespread in libraries (Bayramov & Hasanova, 2024). Cooperation between libraries globally will increase. Information exchange and the shared use of resources among libraries will expand. Libraries will facilitate global information exchange. Resources will be shared between countries and cultures, allowing users to benefit from a broader range of diverse sources. Libraries will support open data principles and provide users with open access to scientific data, journals, and research. One of the future perspectives for libraries is the preservation and restoration of library collections. The use of new technologies for preserving rare and valuable materials will increase. Libraries will continue to preserve rare and valuable collections in digital formats. This will also allow libraries to preserve materials from various cultures. The future development of libraries will be characterized by rapid technological advancements, changes in user needs, and the adaptation to social demands. Libraries will evolve from merely being information-providing institutions to centers with a broad range of functions that also support users' education, social development, and culture. Digital technologies, artificial intelligence, mobile applications, and personalized services will define the future of libraries, making them more accessible, dynamic, and interactive.

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