INTEGRATION OF MODERN LIBRARY SCIENCE AND INFORMATION TECHNOLOGIES

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Annotation: This article examines the impact of artificial intelligence (AI) and data analytics on modern library operations. AI technologies enable libraries to automate cataloging, improve intelligent information retrieval, provide personalized recommendations to users, and implement chatbot services. Data analytics helps in understanding user information needs, optimizing library resource utilization, and supporting scientific research. This study analyzes the benefits of artificial intelligence and data analytics for libraries, their practical applications, and future development prospects.

Keywords: artificial intelligence, libraries, data analytics, automation, intelligent search, chatbots, bibliometric analysis.

Annotatsiya: Ushbu maqolada sun’iy intellekt (SI) va ma’lumotlar tahlilining zamonaviy kutubxonalar faoliyatiga ta’siri o‘rganiladi. SI texnologiyalari kutubxonalar uchun avtomatlashtirilgan kataloglash, aqlli axborot izlash, foydalanuvchilarga shaxsiylashtirilgan tavsiyalar berish va chat-bot xizmatlarini taklif qilish imkonini beradi. Ma’lumotlar tahlili esa foydalanuvchilarning axborot ehtiyojlarini chuqurroq tushunish, kutubxona resurslaridan samarali foydalanishni ta’minlash hamda ilmiy tadqiqotlarni qo‘llab-quvvatlashga yordam beradi. Ushbu tadqiqotda sun’iy intellekt va ma’lumotlar tahlilining kutubxonalar uchun afzalliklari, ularning amaliy qo‘llanilishi va kelajakdagi rivojlanish istiqbollari tahlil qilinadi.

Kalit so‘zlar: sun’iy intellekt, kutubxonalar, ma’lumotlar tahlili, avtomatlashtirish, aqlli qidiruv, chat-botlar, bibliometrik tahlil.

Introduction

The rapid development of information technologies is fundamentally affecting the activities of libraries. Artificial intelligence (AI) and data analytics are playing a major role in automating library services, providing more flexible services to users, and effectively managing information resources. Modern libraries are no longer just institutions storing physical books, but are also becoming centers of scientific research, digital resources, and information management. With the help of artificial intelligence, libraries can perform important tasks such as providing personalized recommendations to users, improving complex information search systems, and automatically cataloging documents. In addition, chatbots and voice assistants provide users with quick advice and enable effective use of library services. Data analytics, on the other hand, allows studying trends in the use of library funds, identifying users' information needs, and further improving services. Libraries play an important role in supporting scientific research through bibliometric analysis, large-scale data processing (Big Data), and analysis of scientific publications.

This article discusses in detail the impact of artificial intelligence and data analytics on library activities, their advantages and future development trends. These technologies are expected to lead to a digital transformation of library services and expand access to information for users.

The role of information technology in libraries.
Information technology (IT) is playing an important role in the development of library and information services. While traditional libraries were limited to storing only physical books and documents, modern libraries have become digital data centers and offer a wide range of services to users. The following is a detailed description of the main roles of information technology in libraries and their impact.

Information technology is helping to improve library services in the following main areas:
Digital Libraries - Allows users to serve 24/7 through electronic resources (books, articles, dissertations). Digital libraries are electronic information systems that provide users with access via the Internet. Unlike traditional libraries, digital libraries:
Electronic books and articles - users can access electronic resources anytime and anywhere.
Multimedia databases - libraries store not only text documents, but also audio, video and interactive materials.

Full-text search engines - users have the opportunity to search directly within documents.
Database Organization - The creation and development of databases for scientific research speeds up the process of obtaining information.

Information Retrieval Technologies - Accurate and efficient search systems are being created using artificial intelligence and machine learning algorithms.
User Interaction - Communication with users is becoming easier through electronic catalogs, chatbots and virtual consultation services.
Information retrieval strategies.

The following strategies are important for effective search of scientific and academic sources:
Using keywords and tags – It is necessary to choose the right keywords in databases.
Bibliometric analysis – Used to study the impact of scientific articles and studies.
Using resources such as Google Scholar, Scopus, Web of Science – The most important resources for scientific research.
Working with Scientific Information
To increase the efficiency of scientific research, libraries provide services in the following areas:
Data storage and archiving – Long-term storage of research results.
Scientific information evaluation – Analysis of the quality of research.
Open scientific information – Widespread use of scientific information through Open Access resources.

The integration of libraries and information technologies has become an integral part of the modern information society. In the future, artificial intelligence, automated search systems and blockchain technologies are expected to further improve library and information services. Thus, librarians can provide better service to users by mastering new technologies.
The development of information technology has made it possible to automate libraries. Today,

Automated Information Library Systems help automate the following processes:

Book cataloging - all resources are entered into a database and managed through electronic catalogs.
User registration and accounting - the processes of becoming a library member and obtaining books are automated.
Electronic book lending - users can temporarily use digital books.
Data analysis and reporting - libraries can study user requirements and improve the quality of service.
Artificial intelligence and data analysis.
The application of artificial intelligence (AI) in library and information services is helping to provide better service to users. With the help of AI:
Personalized recommendations - users can use a system to recommend suitable books or articles based on their interests.
Data classification and automatic indexing - documents and resources are automatically divided into categories.
Chatbots and virtual assistants - systems for answering frequently asked questions and providing advice to users.
Electronic information search systems.
The following technologies are used in libraries to increase the efficiency of information search:
Metadata and tagging - all electronic documents are marked with certain keywords.
Bibliometric and citation analysis - bibliometric indicators are used to determine the importance and impact of scientific articles.
Scientific information platforms - platforms such as Scopus, Web of Science, Google Scholar are used to search and analyze scientific information.
Interactive services for users.
Modern libraries have become not only information repositories, but also centers of education and research. Information technologies provide the following interactive services:
Virtual libraries - the ability for users to access distance learning and information resources.
Electronic training courses and webinars - online lessons to teach the effective use of scientific information.
Interactive forums and discussions are a space for scientific discussions for researchers and users.
Information technologies are increasing the efficiency of libraries and creating convenience for users. Digital libraries, automated management systems, artificial intelligence and data security are making it possible to further improve library services. In the future, libraries will act not only as a place of knowledge, but also as a center of scientific innovation.
Artificial intelligence and data analysis in libraries
Artificial intelligence (AI) is rapidly entering many areas today, including library and information services. AI allows you to manage information in libraries, automate information search processes, and provide better service to users. These technologies not only speed up library activities, but also ensure the effective use of information resources. This article provides detailed information on how AI and data analysis are used in libraries. In the future, artificial intelligence is expected to be used more widely in library activities. The following areas are of particular importance:
Creating interactive learning experiences through virtual reality (VR) and augmented reality (AR) technologies.
Using blockchain technologies - protecting scientific publications and preserving copyrights.
Voice search systems - users will have the opportunity to search for information through voice queries instead of typing.

Fully automated libraries - SI can automate all basic library services.

Conclusion.

Artificial intelligence and data analytics are among the technologies that are fundamentally changing the activities of libraries. These innovative solutions allow you to automate the work of libraries, create convenient services for users, and effectively manage information resources. Traditional libraries have become not only places where books and documents are stored, but also modern information centers.

Artificial intelligence technologies are simplifying the provision of services to users in libraries through automated cataloging, smart search systems, personalized recommendations, and chat bots. These technologies help to further optimize library databases, speed up the search process for users, and effectively find the necessary resources. In particular, the development of semantic search systems using artificial intelligence allows for contextual understanding of data and accurate results.

In addition, data analytics plays an important role in increasing the efficiency of libraries. This technology can determine which topics users are most interested in, which resources are in high demand, and which services need to be improved. Bibliometric analysis and scholarly data analysis enable libraries to support scholarly research, provide critical resources, and optimize information resources.

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