



Impact of AI on Academic Library Services

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Abstract:

This paper aims to highlight the impact of AI on Academic library services. It is said that change is the only constant phenomenon. Like all other fields there are constant changes in library and its services too. But this time there are staggering changes in the field of library due to changes in educational system and Artificial intelligence (AI). AI is an extensively used technology in library services that can transform the best services in the era of information technology. The paper also discusses the challenges of AI.

Keywords: Artificial intelligence, Library Services, Library Management, Digital Library

Introduction:

Since ancient period to this age library has seen many transitions. Traditional library systems have been upgrade in the automation phase, but AI has revolutionized library operations and services. Now a days AI works near about in all operations of the library e.g. Collection management, Cataloguing, Classification, Housekeeping operations, FAQ, OPAC etc. This research aims to explore the role of AI in library services; it enhances the efficiency, quality, and reach of academic library services.

What is Artificial intelligence?

Intelligence has different angels or can defined in many ways in that the capacity for perception, reasoning, plogic, understanding, lanning, creativity, Adapt, learn, abstraction, self-awareness, critical thinking, and problem-solving.

Artificial Intelligence is the activity that perform with help of data and intelligence. According to IBM “Artificial intelligence (AI) is technology that enables computers and machines to simulate human learning, comprehension, problem solving, decision making, creativity and autonomy.” It is branch of computer science that develops systems capable of performing complex tasks typically requiring human intelligence, such as reasoning, learning, problem-solving, perception, and decision-making. It enables machines to process data, recognize patterns, and act autonomously.

Traditional library VS AI base library System:

Traditional library services focused on physical collection management and AI-based library services leverage machine learning. Ultimate aim is only the user satisfaction.

	Traditional Library	AI-Based Library
Library Resources	Print resources	Digital resources
Collection Organization	Manual organization	Personalized access
Library User Experience	Face-to-face interactions, Physical browsing, Tangible resources, Community spaces.	24/7 access, Customized recommendations, Smart search, Virtual assistants (chatbots).
Library Operations	Manual cataloguing, Manual Classification, Physical shelving,	Automated cataloguing, Predictive analytics, Intelligent recommendation systems.
Library Staff Role	Librarians as gatekeepers, Physical custodians of knowledge.	Transition to research support, Digital literacy training, Ethical AI guidance
Overall Experience	Physical Access and Feel	Virtual view or Access and Feel

Every Academic library has their restrictions it may be form of staff, fund, training, infrastructure, space etc., because of it many academic library has partially automated and using hybrid collection (Print and Digital). Fully use of AI in library is the challenge but some kind of modules or services definitely adoptable for academic libraries. It help library time barriers into accessibility 24/7.

AI Supported library:

Artificial Intelligence (AI) is significantly reshaping academic library services by supporting teaching, learning, and research in more efficient, personalized, and data-driven ways. AI has more efficiency & speed for making library services faster and more accurate. AI breaks down physical library and time barriers into digital accessibility 24/7 service.

Support in Research:

AI powered by different discovery tools. It has ability to understanding research intent, keywords, and context. On the basis of research input smartly it identifying relevant journals, articles, and emerging research trends more accurately and quickly.

Personalized Learning and User Services:

AI analyse the past search, keywords, and context based on users' search libraries can be recommend scholarly resources and enhance student and faculty learning experience.

Virtual Assistance:

Chatbots provide 24/7 academic support by answering frequently asked questions (FAQ), guiding users in different way.

Automation of Administrative Operations:

Library has many administrative operations e.g. Accessioning, Cataloguing, Classification, etc. AI has ability to automate administrative operations of academic resources.

Help Collection Development:

Through data analytics, Search history and usage patterns, AI can help in collection Development.

Education Help for Disability Students:

Students with disabilities can take benefit of AI technologies such as speech-to-text, text-to-speech, translation, and adaptive interfaces improve access to academic content.

Up-gradation of Academic Librarians:

AI different modules help in library services, handling routine tasks, librarians increasingly serve as advisors or information Scientist.

Help in Research Writing:

AI tools help detect plagiarism and improper citation practices, supporting ethical research and academic honesty among students and researchers.

Advantages of Chatbots in Library:

AI transforming library services by enhancing how library information is managed, accessed, and delivered. AI-powered chatbots it helps libraries to enhance user interactions, conversation, providing efficient and personalized support services to library users. It is an example how AI chatbots can help or increase user Interactions in library.

1. **Quick Responses:** chatbots can offer real-time assistance & responses to user's queries of library resources.
2. **Navigation:** complex library websites or webpage navigate by Chatbots & guide users to the right resources.
3. **Multi-lingual:** Chatbots supports multiple languages making library services more accessible.
4. **Feedback and Surveys:** Chatbots has ability to suggest areas for improvement for user satisfaction by collected feedback, surveys.
5. **24/7 Availability:** Round-the-clock availability of library resources at any time any ware.
6. **Personalized Recommendations:** as per user search history and personalized queries AI suggest relevant resources.
7. **User library Account:** Chatbots streamlining library administrative tasks for

better library services e.g. Book reserve, renew, borrowed etc.

Challenges of AI in Library:

AI in library definitely increases library efficiency, availability and use but it has some limitations as follow.

1. **Data privacy Issue:** Users data access permission can create issues.
2. **Cost & Training:** Digital Resources and equipment's like Chatbots need significant financial capacity. It is costly and its maintenance also.
3. **Staff up skilling:** Regular basis expert training needed for library staff.
4. **IPR Issue:** Digital or virtual access can create copyright issue.

Conclusion:

AI use in library is the need of time. AI isn't replacing libraries but evolving them human-centric support. AI helps libraries to shifting from physical collection to navigating digital resources. The use of AI can raises some ethical and privacy related challenges e.g. Data privacy, Intellectual property, Transparency; need strong governance, and training for professional. AI is helpful for library day to day operations also.

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