



## Role of Artificial Intelligence in Library Operations and Services: A Practical Study

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### Abstract:

Artificial Intelligence (AI) is having a bigger and bigger impact on how libraries work by helping with everyday tasks and making services better for users. Modern libraries have to handle a lot of data, give users quicker access to information, and meet their growing needs. This paper looks at how Artificial Intelligence can be used in libraries every day, with a focus on tools and apps that are commonly used. The study examines the utilization of AI-enhanced office applications, including Microsoft Excel, Word, and PowerPoint, and their functions in cataloging, technical processing, and Web OPAC services. The paper talks about how AI helps librarians with things like analyzing data, writing reports, making metadata, finding information, and talking to users. The study focuses on AI tools that are easy to get and can be used by academic and institutional libraries, rather than on advanced or expensive technologies. The paper concludes that Artificial Intelligence functions as an enabling technology that enhances the efficiency, accuracy, and quality of library services, thereby permitting librarians to concentrate on more user-oriented and knowledge-driven tasks.

**Keywords:** Artificial Intelligence, Library Operations, Library Services, Cataloging, Web OPAC, Academic Libraries

### Introduction:

Libraries have always been important for helping with learning, research, and spreading knowledge. In the past, library work was done by hand and took a lot of time. It took a lot of people to catalog, circulate, provide reference services, and keep records. As digital information and information and communication technology (ICT) have grown, libraries have slowly moved from manual systems to automated and digital ones. Artificial Intelligence has become an important technological support system for libraries in the last few years. AI lets systems do things that normally need human intelligence, like analyzing data, processing language, recognizing patterns, and helping people make decisions. AI doesn't take the place of librarians in the library; instead,

it helps them do their jobs better by making routine and repetitive tasks easier. People expect libraries today to give them quick access to information, accurate search results, personalized services, and good resource management. Librarians also have to write reports, make presentations, keep track of statistics, and write documentation on a regular basis. Artificial Intelligence combined with widely used software tools has simplified and accelerated these tasks.

This paper examines the practical application of Artificial Intelligence in routine library operations and services. It shows how AI-powered tools are already being used in academic libraries for things like office work, cataloging, and Web OPAC services. The study's goal is to make librarians aware of AI applications that are

easy to use and cheap to implement without needing a lot of new infrastructure.

### **Objectives of the Study:**

The main objectives of this study are:

1. To study the role of Artificial Intelligence in library operations and services
2. To identify practical applications of AI in day-to-day library activities
3. To examine the use of AI-supported office tools in library administration
4. To understand the role of AI in cataloguing and technical processing
5. To analyze the impact of AI on Web OPAC and user services

### **Scope of the Study:**

The present study is restricted to the practical application of Artificial Intelligence in standard library operations.

The study primarily concentrates on:

- Academic and institutional libraries
- Office and administrative functions
- Cataloguing and metadata generation
- Web OPAC and fundamental user services

This paper does not cover advanced AI technologies like robotics, deep learning models, and fully automated smart libraries. The research focuses on tools that are inexpensive, easy to get, and good for libraries with few resources.

### **Concept of Artificial Intelligence in Libraries:**

Artificial intelligence is when computer systems can act like people when they learn, reason, solve problems, and understand language. AI is mostly used in libraries as an assistive technology to help librarians manage information and provide services quickly and easily. AI in libraries can be divided into four main groups: AI-supported office applications, AI-assisted technical processing tools, AI-based search and retrieval systems, and AI-enabled user

interaction tools. Adding AI to library systems makes them more accurate, cuts down on repetitive tasks, and makes users happier.

### **Role of Artificial Intelligence in Library Operations:**

#### **AI in Office and Administrative Work:**

A lot of what libraries do is office and administrative work. Librarians do a lot of things on a regular basis, like entering data, writing reports, doing statistical analysis, writing letters, and giving presentations. AI-assisted features in office tools have made these areas much more efficient.

#### **Use of AI in Excel:**

- Automatically analyzing and summarizing data
- Finding patterns in circulation and usage data
- Making charts and tables for reports
- Finding mistakes and checking data

#### **Use of AI in Word:**

- Writing letters, notices, and circulars
- Fixing grammar and language
- Formatting documents and reports
- Making suggestions and summaries of content

#### **Use of AI in PowerPoint:**

- Automatic design and layout of slides
- Organizing content for presentations
- Making visuals better and formatting them
- Getting training and orientation materials ready

These tools, which are backed by AI, help librarians save time and do a better job with their administrative tasks.

### **AI in Cataloguing and Technical Processing:**

One of the most important and time-consuming technical tasks in libraries is cataloging. Artificial intelligence helps make cataloging and creating metadata easier. AI helps with cataloging by:

- suggesting subject headings and keywords
- helping to create metadata
- cutting down on repetitive data entry
- making bibliographic records more consistent.

AI-powered cataloging tools also help with controlling authority, supporting classification, and cutting down on mistakes. This makes the catalog better overall and makes it easier to find information.

#### **AI in Web OPAC and User Services:**

The library's main way to talk to its users is through Web OPAC. AI makes Web OPAC work better by making searches more accurate and the user experience better.

Some examples of AI in Web OPAC are search suggestions and auto-complete.

- Better ranking of search results
- Personalized suggestions based on how users act
- Virtual help through chatbots.

These features make it easier for users to find information quickly and make them less reliant on staff for simple questions.

#### **Role of AI in Library Services:**

##### **Reference and Information Services:**

AI helps reference services by:

- Giving quick answers to common questions
- Helping people find information
- Helping librarians with their literature searches

AI tools help librarians give reference services that are faster and more accurate.

##### **User Education and Training:**

AI-based tools help with:

- Making lesson plans
- Making tutorials and guides.

- Making presentations to help users get used to the system.

This makes programs that teach people how to use information better and makes users more aware.

#### **Benefits of Artificial Intelligence in Libraries:**

The main benefits of AI in library operations and services are:

- Saving time and making things more efficient
- Cutting down on repetitive manual work
- Making things more accurate and consistent
- Making users happier
- Helping people make better decisions
- Making library staff more productive.

AI helps librarians spend less time on routine tasks and more time on services that are focused on the user and the mind.

#### **Challenges and Limitations:**

Even though there are good things about using AI in libraries, there are also a number of problems that need to be solved:

- Library staff don't have the technical skills they need
- They don't want to change
- They are worried about data privacy and security
- They rely on internet access
- They don't have a lot of money

To get past these problems, we need the right training, policy support, and awareness programs.

#### **Suggestions for Effective Use of AI in Libraries:**

- Hold regular training sessions for staff
- Start with simple, cheap AI tools
- Make sure data is safe and user privacy is protected

- Slowly add AI to library workflows
- Promote collaboration and sharing of knowledge

**Conclusion:**

AI has become a key technology that helps libraries run and offer services in the modern world. Using it in the office, for cataloging, for the Web OPAC, and for user services has made things much more efficient and improved the quality of service. AI doesn't take the place of librarians; instead, it makes their jobs easier by cutting down on routine tasks and helping them make better decisions. Libraries should use artificial intelligence in a planned and gradual way, focusing on what they really need and how ready their staff is. When AI is used correctly, it will make libraries more important in the digital world.

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