



Harnessing AI Tools For Library Operations: A Focus On Book Acquisition

Ashvini N. Sutar¹, Dr. Sudhir R. Nagarkar² & Dr. Sangita G. Utekar³

¹Research Scholar, Dept. of Lib. & Inf. Sc., Shivaji University, Kolhapur.

²Librarian, Amdar Shashikant Shinde Mahavidyalay, Medha.

³MSPM's D. G. Tatkar Mahavidyalay Mangaon – Raigad.

Corresponding Author – Ashvini N. Sutar

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Abstract:

In this research paper, the authors attempt to highlight the various routine operations involved in the book acquisition section of a library and information centre and demonstrate how different AI tools and applications can be effectively utilized to streamline these operations, ensuring more efficient and satisfactory outcomes. The study aims to examine the evolving role of the Book Acquisition Section in libraries and information centres, with particular attention to how artificial intelligence (AI) tools can support and enhance its functions. Specifically, the paper identifies the key responsibilities of the acquisition process, explores the application of AI technologies, and practical examples in streamlining workflows—most notably in the book ordering process—and compares traditional manual methods with AI-powered approaches. The research highlights the benefits of integrating AI and discusses challenges of using AI in book acquisition and library operations.

The scope of the study is limited to harnessing AI tools for library operations, focusing exclusively on book acquisition. A descriptive research methodology has been adopted, allowing for an in-depth understanding of existing practices, potential applications, and the implications of AI integration in this critical area of library management.

Finally research study concludes that, AI makes the book acquisition process faster, smarter, and more user-focused while reducing workload and minimizing errors. When applied responsibly, it offers libraries a transformative pathway toward smarter, fairer, and user-centred services.

Keywords: AI Tools, Library operations, Book Acquisition / ordering process.

Introduction:

Artificial Intelligence (AI) is one of the most transformative technologies of the 21st century, reshaping how information is accessed and managed. The origins of AI can be traced back to the 1950s, with Alan Turing's seminal work on machine intelligence (Turing, 1950) and the 1956 Dartmouth Conference that established AI as a formal research field (McCarthy et al., 1956). Over the decades, AI has advanced from symbolic reasoning to machine learning and natural language processing, enabling its wide

applications today. Its impact on society is profound, spanning healthcare, business, education, and governance, where it enhances efficiency, decision-making, and service delivery (Russell & Norvig, 2021). At the same time, AI raises challenges such as ethical concerns, data privacy, and potential job displacement (Bostrom, 2014).

Within libraries and information centers, the role of Artificial Intelligence (AI) has gained considerable importance. Contemporary libraries are moving away from conventional operations and embracing digital,

user-focused services, where AI serves as a key enabler of this shift. AI technologies such as machine learning, natural language processing, and chatbots are being used to streamline cataloging, support reference services, personalize user recommendations, and optimize book acquisition and collection management.

Thus, integrating AI in library operations is essential to ensure relevance, innovation, and sustainability in the digital era.

Significance of Study:

Traditional library routine operations are often time-consuming and require significant manpower, effort, and patience to search for and retrieve results. In this paper, the authors attempt to highlight the various routine operations involved in the book acquisition section of a library and demonstrate how different AI tools and applications can be effectively utilized to streamline these operations, ensuring more efficient and satisfactory outcomes.

Aim of the Study:

1. To identify the various functions of the Book Acquisition Section in libraries and information centers.
2. To explore how different AI tools and systems can be applied to support and enhance these functions, particularly in the book ordering process.
3. To examine comparison between manual vs. AI- powered Book ordering process.
4. State benefits and challenges of harnessing AI in book Acquisition and library operations.

Scope of the Study:

This research is limited to exploring the use of AI tools in library operations, with a specific focus on book acquisition.

Research Methodology:

This study adopts a descriptive research methodology. The author reviewed relevant literature and research studies on the application of AI in library and information center operations, including seven research articles, six websites, and one book.

Literature Review:

Several recent studies have explored the integration of Artificial Intelligence (AI) in libraries, focusing on its applications, benefits, and transformative potential for library services and operations.

N. P. Waghmare et al. (2024) reviewed a range of AI tools applied in library operations and services, discussing their advantages, disadvantages, and overall impact on libraries. Similarly, Siddhi U. and Jagdale S. U. (2024) examined the implementation of AI technologies, emphasizing their potential to enhance the quality and efficiency of library services. Kalbande D. et al. (2024) conducted a research study on librarians' perspectives in India, exploring the integration of artificial intelligence in academic libraries. In the same vein, Bairagi M. and Lihitkar S. (2025), in their article ; 'Artificial Intelligence in Libraries: A Path towards Transformation,' highlighted the transformative role of AI in reshaping library functions. Nova N. S. et al. (2025) extended this discussion by analyzing how AI tools can be applied for business intelligence purposes within university libraries. Further, Rui G. et al. (2025) investigated the current adoption of AI technologies in libraries, particularly their application to patron-focused services such as

intelligent retrieval, reference assistance, guided tours, and ID recognition. Complementing these studies, Nasir M. (2024), in his article ‘Use of AI Tools in Library Operations and Services,’ explored diverse AI components and demonstrated their practical applications for improving both operational efficiency and service delivery in libraries.

Functions of the Book Acquisition Section in a Library and Information Centre:

In initial stage of study there is need to identify various functions of the Book Acquisition (or ordering) section. The book acquisition section plays a vital role in building and maintaining the library’s collection. Its key functions include:

1. Selection of Materials:

- Identifying books and other resources required by users (students, researchers, faculty, or general readers).
- Consulting book reviews, publisher catalogues, and user recommendations for informed decision-making.

2. Verification of Bibliographic Details:

- Checking author names, editions, ISBNs, publishers, and publication years to ensure accuracy and avoid duplication.

3. Budget Management:

- Allocating funds across subject areas.

- Ensuring procurement is cost-effective and within budgetary limits.

4. Ordering Process:

- Preparing and sending purchase orders to vendors, publishers, or book suppliers.
- Monitoring standing orders, subscriptions, and ongoing acquisitions.

5. Correspondence with Vendors/Publishers:

- Communicating with suppliers regarding discounts, supply terms, and delivery schedules.

6. Accessioning and Record Keeping:

- Maintaining systematic records of orders placed, pending, and fulfilled.

7. Duplicate Checking:

- Preventing unnecessary duplication of titles already available in the collection.

8. Claiming Missing Items:

- Following up with vendors in cases of delayed deliveries or missing books.

9. Evaluation of Vendors:

- Assessing the performance of suppliers based on service quality, delivery reliability, and discounts offered. (lis.academy, 2024)

A following chart provides a comprehensive overview of how Artificial Intelligence (AI) can be applied to these different functions of the book ordering section in libraries.

Chart No. 1: Functions of Book Ordering Section & AI Applications

Functions of Book Ordering Section	How AI Can Help	Examples of AI Tools/Systems
1. Selection of Materials	AI analyses circulation records, user preferences, and academic trends to recommend books. NLP scans reviews and publishers’ lists to suggest relevant titles.	Ex Libris Alma Analytics, EBSCO Faculty Select, Scopus AI Recommender, ChatGPT-based recommendation bots
2. Verification of Bibliographic Details	AI checks ISBN, edition, author details, and compares with global catalogs to avoid errors/duplication.	World Cat (OCLC) with AI search, Google Books API, Koha with plugin integrations

3. Budget Management	AI forecasts subject-wise demand, predicts usage, and helps in optimal fund allocation.	IBM Watson Analytics, Tableau AI, Alma Library Services Platform (AI-enabled budget reports)
4. Ordering Process	AI-enabled systems auto-generate purchase orders when set thresholds (e.g., user requests, new editions) are reached.	Koha ILS with AI plugins, Follett Destiny, Alma Acquisition Module
5. Vendor Communication & Evaluation	Chatbots can interact with vendors, track orders, and send reminders. Machine learning ranks vendors by delivery time, discount rates, and reliability.	AI chatbots (Dialog flow, Microsoft Bot Framework), ERP-based vendor evaluation tools
6. Accessioning & Record Keeping	AI ensures automated logging of ordered/received materials and avoids duplication	Koha, Evergreen ILS, Alma
7. Duplicate Checking	AI compares new book requests with existing catalog records.	Turnitin (adapted for text duplication), OCLC Duplicate Detection tools
8. Claiming Missing Items	AI bots auto-detect pending orders and send follow-up emails to vendors.	AI-powered Helpdesk systems (Freshdesk AI, Zoho Desk AI)
9. Predictive Collection Development	AI forecasts future book needs based on curriculum changes, enrolment data, and research trends.	Clarivate In Cites, Elsevier Pure with AI analytics, Microsoft Azure ML

Analysis of Chart No. 1:

Traditionally, book ordering section deals with material selection, order placement, vendor communication, record-keeping, and budget monitoring. These activities are often labour-intensive and prone to delays or duplication. The chart No.1. highlights how AI can transform each stage of the process, offering efficiency, accuracy, and predictive capabilities.

1. Selection of Materials:

One of the most critical functions of library acquisition is deciding which books to order. Traditionally, this relied on faculty recommendations, publisher lists, or circulation statistics. AI enhances this by analysing circulation records, user preferences, academic trends, and reviews. Natural Language Processing (NLP) can scan large amounts of publisher data and user feedback to recommend highly relevant titles.

- Example AI tools: Ex Libris Alma Analytics, EBSCO Faculty Select, Scopus AI Recommender, ChatGPT-based bots.
- Impact: Ensures that the library collection stays updated, relevant, and user-centered.

2. Verification of Bibliographic Details:

Manual checking of bibliographic details such as ISBN, edition, and author name often leads to errors or duplicate entries. AI automates this process by comparing details with global catalogues and databases.

- Example AI tools: World Cat (OCLC), Google Books API, Koha with AI plugins.
- Impact: Saves staff time and minimizes cataloguing errors, leading to a cleaner, more accurate library database.

3. Budget Management:

Managing acquisition budgets is a challenge for most libraries, especially with rising costs. AI can predict usage trends and subject-wise demand, allowing for optimal

fund allocation. Predictive analytics models help ensure funds are not wasted on low-demand materials.

- Example AI tools: IBM Watson Analytics, Tableau AI, Alma Library Services Platform.
- Impact: Financial resources are used more effectively, ensuring equity across subject areas.

4. Ordering Process:

Traditionally, purchase orders are created manually. AI-enabled systems can automatically generate orders when certain thresholds are met—for example, when user requests exceed a limit or when a new edition is released.

- Example AI tools: Koha ILS with AI plugins, Follett Destiny, Alma Acquisition Module.
- Impact: Reduces administrative delays and speeds up procurement.

5. Vendor Communication & Evaluation:

Communicating with vendors and monitoring their performance is another area where AI adds value. AI chatbots can interact with vendors, track order status, send reminders, and evaluate vendors using criteria like delivery time, reliability, and discount rates.

- Example AI tools: Dialog flow, Microsoft Bot Framework, ERP-based vendor evaluation tools.
- Impact: Improves accountability and ensures timely delivery of resources.

6. Accessioning & Record Keeping:

Once books arrive, they must be accessioned and recorded. AI systems can log items automatically into catalogues and detect duplicates.

- Example AI tools: Koha, Evergreen ILS, Alma.
- Impact: Streamlined accessioning, fewer manual errors, and reduced workload.

7. Duplicate Checking:

Duplication is a major concern in book ordering. AI compares new book requests with the existing catalogue to prevent redundancy.

- Example AI tools: OCLC Duplicate Detection, adapted plagiarism checkers like Turnitin.
- Impact: Ensures efficient use of budget and space.

8. Claiming Missing Items:

When vendors delay or fail to deliver books, librarians must follow up manually. AI bots can track pending orders and automatically send reminders or escalation notices.

- Example tools: Freshdesk AI, Zoho Desk AI.
- Impact: Saves staff effort and ensures timely resolution.

9. Predictive Collection Development:

Perhaps the most transformative AI application is in forecasting future needs. By analysing curriculum changes, student enrolment, and research trends, AI predicts what kind of materials will be required in the future.

- Example AI tools: Clarivate In Cites, Elsevier Pure with AI, Microsoft Azure ML.
- Impact: Libraries move from a reactive acquisition model to a proactive and data-driven model.

Let us see, **Practical Examples of AI integration in library information centres:**

- A **university library** using **Alma (Ex Libris)** with AI-enabled analytics identifies that engineering students borrow certain books heavily. AI then recommends newly published titles in that subject area.
- A **public library** integrates an **AI chatbot** to monitor vendor websites and

send automatic reminders for late deliveries.

- An **academic library** using **Koha with AI plugins** avoids ordering duplicate editions by verifying ISBNs with global catalogues.
- AI tools like **Ex Libris Alma, Koha with AI plugins, Scopus AI Recommender, IBM Watson Analytics, and AI Chatbots** can greatly enhance book ordering by speeding up workflows,

improving accuracy, and optimizing collection building. (https://exl-edu.com/01_Alma/Alma_Essentials/en/Acquisitions/Purchasing_Overview/, 2011); (<https://github.com/Kreablo/koha-plugin-vendor-acquisition>, 2024) ; (<https://www.elsevier.com/products/scopus/scopus-ai>, 2025); (element61.be, 2007) ; (www.ibm.com/think/topics/chatbots, 2021)

Chart 2. Comparison of Manual vs. AI-Powered Book Ordering Process:

Book Ordering Function	Manual Process	AI-Powered Process
Selection of Materials	Librarians manually review catalogues, reviews, and recommendations to decide what to purchase	AI systems analyse user data, research trends, and usage patterns to recommend relevant titles.
Verification of Bibliographic Details	Staff check author names, editions, ISBNs, and publication years to avoid errors.	AI cataloguing tools automatically validate bibliographic details and detect duplicates.
Budget Management	Budgets are allocated manually, often based on departmental requests and past spending	Predictive analytics optimize budget allocation using data-driven forecasts of future needs.
Ordering Process	Purchase orders are prepared and sent to vendors manually by library staff	Automated procurement systems generate and process orders with minimal human input
Correspondence with Vendors/Publishers	Staff communicate via phone, email, or letters to discuss discounts and deliveries.	AI chatbots and intelligent agents handle vendor communication, compare offers, and track deliveries.
Accessioning & Record Keeping	Orders and received books are recorded in registers or spreadsheets.	AI-enabled library management systems automatically update records and accession books
Duplicate Checking	Staff manually check catalogues and shelves to avoid duplicate purchases.	Machine learning algorithms detect duplicates or related editions across databases.
Claiming Missing Items	Librarians follow up with vendors for delayed or missing deliveries	AI systems automatically send reminders and track missing items
Evaluation of Vendors	Vendors are evaluated based on staff experiences and simple service records	AI analytics assess vendors using delivery performance, accuracy, and pricing metrics

Analysis of Chart 2: Comparing the Manual and AI-Powered Book Ordering Processes:

The comparison between manual and AI-powered book acquisition processes

highlights a significant shift in library operations. Traditionally, book selection, verification, ordering, and vendor management were carried out manually, requiring substantial time, effort, and human judgment.

These methods, while reliable, are often prone to delays, duplication, and human error.

In contrast, AI-powered systems bring automation, accuracy, and efficiency to each stage of the acquisition process. Selection of materials is no longer limited to subjective reviews but is supported by data-driven recommendations. Bibliographic verification and duplicate checking are strengthened through automated cataloguing and machine learning tools, reducing errors. Budgeting and ordering are optimized using predictive analytics and automated procurement systems, ensuring cost-effective decisions. Furthermore, communication with vendors, record-keeping, and tracking of missing items are streamlined through AI chatbots and intelligent monitoring systems. Vendor evaluation also shifts from subjective judgment to objective, data-based assessments.

Overall, AI enhances not just the speed and accuracy of acquisition but also the strategic decision-making capacity of librarians, enabling them to focus more on user needs and collection quality rather than routine administrative tasks.

Benefits of AI in the Acquisition Process:

1. **Efficiency and Time-Saving:** Automates repetitive tasks such as cataloguing, order tracking, and vendor communication, freeing librarians for higher-level decision-making. Hasan et al. (2024)
2. **Accuracy in Bibliographic Control:** Minimizes human errors by automatically verifying ISBNs, editions, and publication details.
3. **Cost Optimization:** Predictive analytics help allocate budgets wisely, ensuring maximum value for limited resources.
4. **Improved Material Selection:** AI systems analyse usage data, research trends, and user preferences, ensuring

acquisitions are more relevant to user needs.

5. **Enhanced Vendor Management:** AI evaluates vendors objectively based on delivery speed, reliability, pricing, and service quality.
6. **Better Record-Keeping:** Automated systems maintain real-time, error-free acquisition records, reducing administrative burden.
7. **Duplicate Prevention:** Machine learning detects duplicates across collections, ensuring resources are not wasted on unnecessary purchases.
8. **Faster Claiming of Missing Items:** AI tools send automated reminders and follow-ups, reducing delays in order fulfilment.
9. **Data-Driven Decision Making:** Librarians gain actionable insights through analytics, enabling strategic collection development.
10. **User-Centric Collections:** By analysing reading patterns and demand, AI ensures the library's collection evolves in line with actual user requirements. (Hasan et al.,2024; Mohamed et al.,2024; Jha, 2023).

Challenges of Using AI in Book acquisition and Library Operations:

1. **High Implementation Cost:** AI tools, integrated LMS, and automated procurement systems require significant investment, which may not be feasible for all libraries, especially smaller ones.
2. **Technical Infrastructure Requirements:** Reliable internet connectivity, advanced hardware, and updated software are essential, but may be lacking in some institutions.
3. **Staff Training and Skill Gaps:** Librarians may need new technical skills

to operate AI systems, interpret analytics, and manage digital workflows. Lack of training can hinder adoption.

4. **Data Privacy and Security:** AI relies on large datasets (e.g., user preferences, borrowing history), raising concerns about user privacy and data protection.
5. **Vendor Dependence:** Libraries may become dependent on commercial AI vendors, leading to issues with long-term costs, subscription models, and lack of customization.
6. **Bias and Reliability of AI Recommendations:** AI algorithms can reflect bias in the data, leading to skewed recommendations or overlooking niche subject areas.
7. **Integration with Existing Systems:** Many libraries already use legacy Integrated Library Systems (ILS). Integrating AI into these can be complex and costly.
8. **Ethical Concerns:** Over-reliance on AI may reduce human judgment in collection development, raising questions about neutrality, inclusivity, and intellectual freedom.
9. **Resistance to Change:** Library staff or stakeholders may resist shifting from traditional, human-centred workflows to AI-driven processes. (Hasan et al, 2024; Barsha & Munshi, 2024; and Aboelmaged et al., 2025)

Conclusion:

The research study ‘Harnessing AI Tools for Library Operations: A Focus on Book Acquisition’ clearly demonstrates that Artificial Intelligence is reshaping the book acquisition process in libraries by automating repetitive tasks, enhancing accuracy, and supporting data-driven decision-making. Unlike manual methods that are often time-

consuming and error-prone, AI streamlines critical functions such as material selection, cataloguing, budgeting, vendor evaluation, and record-keeping. The result is a process that is faster, more cost-effective, and better aligned with user needs.

Beyond efficiency, AI contributes to improved user satisfaction by ensuring that collections remain relevant, updated, and timely. Its integration is not merely a technological upgrade but a strategic advancement that enables libraries to become more responsive, efficient, and future-ready.

However, challenges persist—ranging from infrastructure demands and training requirements to ethical and privacy concerns. To maximize the benefits, libraries must adopt AI thoughtfully, balancing automation with professional expertise. This ensures that librarians remain central to the process, with AI serving as a powerful support system rather than a replacement.

In conclusion, AI makes the book acquisition process faster, smarter, and more user-focused while reducing workload and minimizing errors. When applied responsibly, it offers libraries a transformative pathway toward smarter, fairer, and user-centred services.

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