



Ethical Use of AI Tools in Libraries

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Abstract

The paper explores the ethical use of AI in libraries, focusing on its implications for information services, user privacy, intellectual freedom, and responsible technology adoption. Libraries play a vital role in the academic environment by supporting both faculty and students with reliable information resources and professional guidance. A key distinction between libraries and Artificial Intelligence (AI) systems lies in the human expertise, ethical standards, and evaluative practices embedded in library services. Libraries are managed by trained professionals who ensure the selection, organization, and dissemination of authentic and credible information, guided by established principles of information ethics and user needs. In contrast, AI systems provide rapid access to large volumes of information but may produce outputs that lack transparency, contextual understanding, or consistent accuracy, particularly when source attribution is unclear. Therefore, libraries remain a dependable and ethically grounded medium for information dissemination, while AI serves as a fast and convenient tool that supports, rather than replaces, scholarly learning and research practices.

Keywords: Artificial Intelligence, Libraries, Librarians, Information Ethics, AI Tools.

1. Introduction

Libraries are recognized as reliable sources of information in the education system, and librarians play a crucial role in managing and disseminating knowledge. With the rapid advancement of Artificial Intelligence (AI), the information landscape has undergone significant transformation. AI systems can generate instant responses and assist users in accessing information efficiently, contributing to their growing popularity (Dwivedi *et al.*, 2023).

However, despite these advantages, AI systems may not always ensure accuracy, reliability, or transparency due to their probabilistic nature. Therefore, human expertise remains essential in evaluating and validating AI-generated information. Librarians provide the necessary guidance to ensure ethical and responsible use of information resources (Association of College and Research Libraries, 2016).

2. Objectives

- To study about the Artificial Intelligence tools and their application in libraries.
- To suggest ethical issues associated with the use of artificial intelligence tools in libraries.
- To create awareness among library professionals about fair use of AI tools in libraries
- To discuss about the emerging challenges of using AI tools in libraries

3. AI Applications in Library Systems

- ChatGPT: useful for summaries, keywords, and subject headings in libraries
- Google Gemini is useful to book review and classification of subjects.
- AI assistance is useful to Koha, DSpace, Zotero, and Tesseract OCR in library technology-based services.
- Generative AI tools are useful to decide classification schemes, ready cataloging, define subject headings, metadata creation, and translation with OCR.
- AI library tools—AI tools to smart search, like OPAC-AI and library chatbot-AI, for ready reference librarian AI—and such an implicational AI tool may effectively work in the library

4. Ethical Use of AI in Libraries

- To Promote to Smart Use:** Recent evidence suggests that college students increasingly use Artificial Intelligence (AI) tools to complete academic tasks such as assignments, projects, and information queries. While these tools enhance efficiency and access to information, overreliance on AI may reduce students' engagement in critical thinking and independent learning processes, a phenomenon often described as cognitive offloading (Gerlich, 2025; Dwivedi *et al.*, 2023). During the teaching-learning process, educators and library

professionals play a crucial role in promoting the responsible and informed use of AI by encouraging students to search intelligently, evaluate sources critically, and verify information obtained through AI systems (Bawden & Robinson, 2009).

Furthermore, research indicates that excessive dependence on technology-based learning may limit long-term knowledge retention and the development of analytical skills, while also contributing to cognitive overload and stress (Carr, 2010; Kirschner & De Bruyckere, 2017). Therefore, educators and library professionals should guide students toward a balanced approach that combines AI tools with critical thinking, traditional learning resources, and reflective inquiry to support effective and sustainable learning outcomes.

- ii). **Promote Fair Use of AI:** It is essential to educate students about the ethical use of information, including the prevention of unauthorized use and adherence to copyright regulations. In the teaching–learning environment, instructors and library professionals play a critical role in guiding students toward responsible information practices. They help learners understand copyright restrictions, licensing conditions, and appropriate usage of different information formats, such as physical books, e-books, and digital resources (World Intellectual Property Organization, 2020). For example, students must be made aware that both print and electronic materials are protected by copyright, although their usage rights may differ depending on licensing agreements.

Similarly, educators clarify that instructional materials—whether delivered through in-person lectures or online platforms—are subject to intellectual property protection and should be used in accordance with legal and ethical standards. In the context of Artificial Intelligence (AI), promoting fair use and responsible engagement with AI-generated content has become an important ethical responsibility of library professionals. They encourage students to critically evaluate AI outputs, acknowledge sources where applicable, and avoid plagiarism or misuse of generated information (Association of College and Research Libraries, 2016; Dwivedi *et al.*, 2023). Through such guidance, educators and librarians foster academic integrity, information literacy, and ethical scholarship in the evolving digital environment.

- iii). **Provide Best AI Tools:** To promote ethical and effective information searching, educators must develop a sound understanding of AI tools across various subject domains in order to guide students toward meaningful knowledge acquisition. Teachers are required to continuously update their subject expertise alongside emerging AI technologies to remain effective in modern learning environments. In an AI-driven educational context, the role of the educator extends beyond content delivery to fostering critical thinking, analytical skills, and informed use of AI tools among students. This approach encourages learners to engage actively with information, evaluate AI-generated outputs, and use technology as a support rather than a substitute for independent thinking (Dwivedi *et al.*, 2023; Association of College and Research Libraries, 2016). Consequently, the integration of AI in education can contribute to a more interactive and dynamic learning system when guided by educators who emphasize critical understanding, ethical use, and responsible information practices.

- iv). **Library Professional Role:** Library professionals and teaching faculty are key stakeholders in the education system, playing complementary roles in supporting teaching, learning, and research activities. In the contemporary AI-driven environment, students and library users increasingly rely on AI tools for academic purposes. This growing dependence places a shared responsibility on educators and librarians to promote critical thinking and informed learning practices.

To ensure ethical and effective information searching, educators must develop subject-specific knowledge of AI tools and guide students in their appropriate use. Continuous professional development is essential for teachers to remain updated with emerging AI technologies and to integrate them meaningfully into the learning process. At the same time, library professionals facilitate access to reliable information resources and provide AI-enabled retrieval tools that support academic users.

Through collaborative efforts, faculty and librarians can enhance students' information literacy, encourage critical evaluation of AI-generated content, and promote responsible use of technology, ultimately improving learning outcomes in higher education (Dwivedi *et al.*, 2023; Association of College and Research Libraries, 2016).

- v). **Open Chat Box Service:** With the integration of AI tools, librarians can implement interactive chat-based services to assist users in verifying and refining information obtained during their search processes. AI-powered library chat systems enable real-time reference support, helping users evaluate the relevance, accuracy, and credibility of information. In addition, specialized library-oriented AI tools facilitate quick access to authentic and reliable resources by enhancing information retrieval, search precision, and user interaction. However, the role of librarians remains essential in supervising these systems to ensure the quality, ethical use, and reliability of information provided to users (Dwivedi *et al.*, 2023; Association of College and Research Libraries, 2016).

5. Challenges and Ethical Issues

i). Disinformation

Artificial Intelligence (AI) systems function as advanced information-processing tools that are trained on large and diverse datasets, including books, research articles, websites, multimedia content, and human-generated interactions. These systems are capable of providing rapid access to information across multiple domains. However, AI-generated outputs are probabilistic in nature and may not always ensure complete accuracy, reliability, or contextual appropriateness, particularly when source attribution and verification are limited (Dwivedi *et al.*, 2023).

In this context, the role of human expertise becomes essential in evaluating and validating AI-provided information. Qualified professionals, particularly librarians and educators, contribute critical judgment, subject knowledge, and ethical oversight to determine the authenticity and reliability of information. AI can therefore be effectively utilized as a ready reference and information retrieval tool, providing quick access to knowledge.

In the academic library environment, a collaborative approach between AI systems and library professionals creates a balanced model of information dissemination. This

integration ensures that information is not only accessible and efficient but also accurate, reliable, and ethically guided through human intervention (Association of College and Research Libraries, 2016).

ii). Lack of Expertise

The increasing use of Artificial Intelligence (AI) in libraries has the potential to influence core professional competencies such as cataloguing, classification, and reference services. While AI tools can enhance efficiency by automating routine tasks, excessive reliance on these technologies may reduce opportunities for librarians to actively apply and develop their domain knowledge and professional judgment. This may lead to a gradual decline in skill-based practices and critical engagement in information organization and retrieval processes.

Furthermore, the availability of ready-to-use technological solutions can shift focus away from continuous learning and experiential knowledge development among library professionals. Therefore, it is essential to adopt a balanced approach in which AI supports, rather than replaces, professional expertise, ensuring that librarians continue to develop their analytical, evaluative, and service-oriented skills (Dwivedi *et al.*, 2023; Association of College and Research Libraries, 2016).

AI adoption in libraries may affect traditional librarian competencies such as cataloguing and reference services if over-relied upon. A balanced approach is necessary to ensure that AI enhances efficiency without diminishing professional skills and expertise (Dwivedi *et al.*, 2023).

iii). Copyright Issues

One of the major challenges associated with the use of Artificial Intelligence (AI) in libraries is the management of copyright and intellectual property rights. AI systems are trained on large and diverse datasets and may generate outputs without clearly indicating the original sources or usage permissions. This lack of transparency can create uncertainty for users regarding whether the information is protected by copyright or can be used under fair use provisions (World Intellectual Property Organization, 2020; Dwivedi *et al.*, 2023).

As a result, users who rely on AI-generated content without verifying its legal status may unintentionally engage in unauthorized use of information. This raises important legal and ethical concerns in academic environments. Therefore, it is essential for library professionals and educators to guide users in understanding copyright regulations, licensing conditions, and proper attribution practices when using AI tools. Promoting awareness of fair use and responsible information behavior can help minimize the risk of copyright violations and support ethical academic practices.

iv). Privacy and Data Security

Libraries have traditionally functioned as curated repositories and trusted centers for the organization and dissemination of authoritative information. In contrast, general-purpose Artificial Intelligence (AI) systems operate on large-scale, heterogeneous datasets and may not consistently account for context-specific requirements related to privacy, security, reliability, or copyright. Although AI systems incorporate safeguards and filtering mechanisms, limitations in transparency, source attribution, and contextual understanding can create risks concerning data protection and intellectual

property (Dwivedi *et al.*, 2023; World Intellectual Property Organization, 2020).

The development and governance of AI involve multiple stakeholders, including information professionals, authors, publishers, data providers, and regulatory bodies. National and international organizations continue to establish standards and frameworks to promote ethical AI use and data security. However, implementing robust, high-security AI infrastructures requires substantial technical expertise and financial investment, which may not be equally accessible to all institutions. Consequently, while complete control over data use in AI systems may not be fully achievable, continuous efforts in regulation, professional oversight, and ethical practice are essential to ensure responsible and secure use of information in the evolving digital environment.

v). Biased Perspective

Artificial Intelligence (AI) is rapidly becoming a pervasive medium for information dissemination, offering fast, low-barrier access to knowledge across domains. As AI systems are trained on large and diverse datasets that reflect human language and behavior, they may reproduce existing biases, misinformation, or harmful perspectives present in those data. Consequently, AI-generated outputs can sometimes be incomplete, misleading, or contextually inappropriate, particularly when source transparency and critical evaluation are limited (Dwivedi *et al.*, 2023; UNESCO, 2021).

In addition, user queries and assumptions can influence AI responses, creating a feedback loop that may reinforce biased or incorrect interpretations. This highlights the importance of responsible AI use and critical engagement by users. Within academic environments, the interaction among AI systems, librarians, and users forms a mediated model of information access, where librarians play a key role in evaluating outputs, guiding interpretation, and promoting ethical information practices.

Therefore, while AI serves as a powerful and accessible information tool, its effective and safe use depends on informed users and professional oversight to ensure accuracy, reduce bias, and support responsible knowledge dissemination.

vi). Information Gap

The integration of Artificial Intelligence (AI) in library communication services has significantly transformed interactions between users and librarians. AI-enabled tools such as chatbots and automated reference systems allow users to access information quickly and independently. However, increased reliance on technology-mediated communication may reduce direct engagement between users and library professionals, potentially limiting opportunities for personalized guidance and expert interpretation. This shift can affect the development of users' information literacy and critical evaluation skills if human support is minimized (Dwivedi *et al.*, 2023; Association of College and Research Libraries, 2016).

Nevertheless, AI cannot fully replace the role of librarians, as professional expertise, ethical judgment, and user-centered services remain essential in academic environments. Therefore, a balanced approach that integrates AI tools with active librarian involvement is necessary to maintain effective communication, enhance user experience, and ensure reliable information use.

vii). Habitual Reliance

Recent studies suggest that excessive reliance on technology-based and AI-supported learning may increase users' dependency on automated systems, which can negatively affect students' critical thinking and independent research skills. This phenomenon is often described as cognitive offloading, where learners rely on external technologies rather than engaging in deep analytical thinking (Gerlich, 2025; Abidin *et al.*, 2025). Therefore, library professionals play a crucial role in guiding users toward balanced learning practices by encouraging the use of physical books and scholarly resources alongside AI tools. Such guidance promotes healthy reading habits, information literacy, and skill-based learning in the digital age. The decreased dependency of users on AI is key ethical consideration for library professionals.

viii). Continuous Enhancement System

Artificial Intelligence (AI) technologies are evolving rapidly, with new tools and applications emerging continuously. While these tools significantly enhance access to information, they may also contribute to user confusion due to information overload and unclear source attribution. This can affect users' ability to evaluate the credibility and reliability of information, particularly in digital learning environments (Bawden & Robinson, 2009; Floridi, 2014).

6. Summary

Libraries have always evolved in response to the changing requirements of the social information system, and AI is now a significant component of this transformation. The integration and enhancement of library services with AI tools are essential to support the diverse information needs of users. The ethical foundation of library services supports the dissemination of authentic and reliable information through professional human intervention, fostering a more human-oriented information environment with reduced technological dependence.

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