International Journal of Information Studies

DLINE JOURNALS

Print ISSN: 1911 8408
Online ISSN: 1911 8414
IJIS 2025: 17 (3)
https://doi.org/10.6025/ijis/2025/17/3/101-113

A Study of the Influence of AI on Library Systems Processes: A Review

Sharmila Nataraj
Senior Asst Librarian, Indus Business Academy, Lakshmipura
Thataguni Post, Kanakapura Main Rd, Bengaluru, Karnataka 560082. India
sharmilanataraj13@gmail.com

Narendra Babu
Senior Assistant Professor, Indus Business Academy, Lakshmipura
Thataguni Post, Kanakapura Main Rd, Bengaluru, Karnataka 560082. India
bv.narendra1@gmail.com

ABSTRACT

Library Systems have radically changed since the advent of artificial intelligence (AI) augmented systems. Advanced computer-based systems have increased the effectiveness of classifying, ordering, retrieving information, referring, and other standard library management activities. This paper attempts to consider the factors and interactions affecting the workings of library systems due to the introduction of AI systems. Librarianship, perhaps, finds itself in a very competitive position from AI efficiency in classifying, ordering, retrieving, and other standard tasks in library management. The paper reviews the research articles of the last 15 years in this field of studies according to CODR (Classifying, Ordering, Data recovery and Reference). It provides a coherent idea of the various factors influencing the adoption of AI in library systems. It also gives a research agenda for future research in this regard. Thus, this paper discusses AI from various fronts regarding the entry of AI in library systems and the multiple factors that influence it.

Keywords: Library Management, CODR, Artificial Intelligence, AI Applications

Received: 14 October 2024, Revised 27 February 2025, Accepted 20 March 2025

1. Introduction

There have been tremendous changes in libraries and information systems due to the advent of artificial intelligence (1). Library management has many process activities in its practice. These processes may not be limited to: 1. Classification, 2. Ordering, 3. Data recovery, and 4. Reference (2). All these processes are data-intensive, and, recently, Artificial Intelligence and Machine Learning have dramatically improved library services (3). The present study gives an overview of the research in library management, aided by artificial intelligence

and machine learning. The reviewing mechanism undertook some 60 articles covering the area of study. CODR (Classification, Ordering, Data Recovery, and Referencing) is a broader technique that served as the primary basis for classifying review articles for this study. The review also identified the critical factors influencing the adoption of Artificial Intelligence and Machine Learning in library management. The review discusses various Artificial Intelligence and Machine Learning techniques in the context of CODR. The paper provides structured accounts of research trends within this field. This paper offers an in-depth discussion of factors and methodologies employed in research dealing with library management in AI and ML. By explaining the gaps in CODR for library management using AI, this article will offer crucial contributions to future researcher.

The potential effects of artificial intelligence (AI) on education, including in libraries, are debated, yet it is improbable that they will remain unaffected. This conceptual review explores the divisions of various AI methods being implemented in academic libraries. To frame the analysis, the paper utilizes theoretical perspectives from library and information science (LIS) literature drawn from published literature and concepts of jurisdiction and hybrid logics (4) derived from sociological theories of occupations.

Though bleak, the AI perspective is largely confused, leaving many librarians and librarian leaders uncertain about their future. (5).

2. Background and FrameWork of the Study

AI or artificial intelligence use in libraries is primarily driven by technological growth in the computing environment and libraries' necessity to enhance services. We should understand how future libraries can best shape their services and introduce new technology, depending on the expected changes. Further examination must be undertaken to learn how libraries can exploit AI in service delivery. Libraries still require guidance in implementing AI technology. (6).AI can inspire an intelligent decision-making process for retrieving and sharing information for learning and research. However, many published studies confirm a low adoption rate by university libraries for using AI to offer novel alternative services, which is missing in their live framework. (7).

3. Research Purpose

The AI Hubs are currently being established, which are expected to bring together experts in AI, from industry and academia, to make AI models more customizable, reliable and trustworthy, and to help to realize the benefits of these technologies for society, science and the economy. This review aims to detect the library management facets that deploy Artificial Intelligence and Machine Learning. Even though the review is not all-inclusive, we framed it to address all significant issues more comprehensively by extracting the core influence of AI on library systems. The primary goals are thus related to understanding the facets of library systems that apply to AI and ML. Further, we aim to find the library system factors that permit the application of AI and ML.

4. Methodology

The data-driven approaches are well accepted as evidence in evaluating library AI applications. Processes involved in AI tools applications include text extraction from papers, cleaning, preparing, analysing the text,

and improving the model. Finally, data collection in AI systems becomes a prerequisite for working with AI and cleaning and organising that data. This way, the methodology is a significant advance because it enables in-depth analysis of the studied papers. In addition, the methodology allows one to conduct multidimensional studies on pattern detection and subdividing applications of AI in libraries, all of which can further guide decision-making.

To identify the dataset, the review study was conducted by thoroughly analysing 20 articles related to library management and AI& ML. This study is a review of articles published between 2008 and 2023. The articles were initially searched from databases like Google Scholar, Scopus, and ABDC. These articles were selected from reputable journals related to library systems. The keywords and key phrases used for searching the articles based on their topical discussion included keywords like 1. Library management and technology, 2. Library management and AI, 3. AI and ML in library management, 4. Classification of data in library services, 5. Library services and data curation using technology, etc.

The articles selected for the study included empirical and conceptual studies in library systems. However,

Sl no	Title of the source paper	Journal name and imprint	Authors	year	Addresses issues
1	Adoption of artificial intelligence in library and information science in the 21st century: assessing the perceived impacts and challenges by librarians in Akwa Ibom and Rivers States.	International Journal of Current Innovations in Education, 6 (1), 75-85	Bassey, M. M.,& Owushi, E.	2023	Library Services
2	The intelligent library: Thought leaders' views on the likely impact of artificial intelligence on academic libraries.	Library Hi Tech, 37 (3), 418-435	Cox, A.M., Pinfield, S.,& Rutter, S.	2019	Library Data
3	The application of artificial intelligence technology in public library information retrieval	Transactions on Computer Science and Intelligent Systems Research, 1, 119-127.	Xie, J.	2023	Library Services
4	Artificial Intelligence (AI) application in Library Systems in Iran: A taxonomy study.	Library Philosophy and Practice, 2(2).	Asemi, A., & Asemi, A.	2018	Technology for libraries
5	Research on the classification and identification of libraries based on artificial intelligence	Journal of Intelligent & Fuzzy Systems, 2021	Chaoying, Xie	2021	Traditional library services

6	Cataloguing and classification in the era of artificial ntelligence: Benefits, and hallenges from the perspective of cataloguing librarians in Oyo State, Nigeria	Vjesnikbibliotekara Hrvatske, Vol. 66 No. 1, 2023	Adeyinka Tella & Oluwole AkanmuOdunola	2023	Information Retrieval
7	Machine Learning + Libraries: A Report on the State of the Field	LC Labs Library of Congress, Version	Ryan Cordell,	2020	Library Services
8	Cataloguing Library Resources in a South African Public Library: A Case Study of rofessional Knowledge	Journal of Library Metadata, 2023	Monyela, M.	2023	Information Retrieval
9	The Roles of Artificial Intelligence in Library Automation: The Prospects and Challenges	Erudite Compendi-ums in Education, 2024	Emmanuel D. Hanson, & Okorie, Unwana U	2024	Library Services
10	Open Artificial Intelligence (AI) of ChatGPT for library services & Library Science professionals	Library Scholar, 2024	Gautam A.Wani & Dr. Sudhir G. Astunkar	2024	Natural Language Processing
11	Design and Implementation of an Electronic Ordering and Library Management System: Case Study: Kampala International University Library		Abdul, Idd Aziz&Odongo, Haruna Wanyirae	2019	Library Services
12	Library Management System Using Artificial Intelligence. In 2023 Eighth International Conference on Science Technology Engineering and Mathematics.	COSTEM, 2023	Abdulwahid, A. H., Pattnaik, M., Palav, M. R., Babu, S. T., Manoharan, G., & Selvi, G. P.	2023	Information Retrieval

13	The application of artificial intelligence in smart library.	International Conference on Organisational Innovation (ICOI 2019) (pp. 708-713). Atlantis Press.	Yu, K., Gong, R., Sun, L., & Jiang, C. (2019, October).	2019	Technology for libraries
14	Artificial intelligence (AI) library services innovative conceptual framework for the digital transformation of university education"	Library Hi Tech,2022	Okunlaya, R.O., Syed Abdullah, N. and Alias, R.A.	2022	Library Services
15	Taking control of your digital library: How modern citation managers do more than just referencing	Chest, 2013	Mahajan, A. K., & Hogarth, D. K. (2013)	2013	Literature Search and Use
16	Web referencing in online scholarly world: a case study of library and information science research	International Journal of Infor-mation Movement, 2018	Shah, U. Y., & Anayat, S.	2018	Literature Search and Use
17	A Comparative Review and Recommendations on Database Recovery Techniques	International Conference on Artificial Intelli-gence, Computer, Data Sciences and Applications (ACDSA	M. Alremeithi, H. Altamimi, A. Alshehhi and A. Khattak	2014	Database Man-agement
18	Artificial intelligence abilities to support library services.	International Arab Conference on Information Technoloogy, 2021	Al-Aamri, J. H., & Osman, N. E. E	2021	Information Management
19	ChatGPT and its possible impact on library reference service	Internet Reference Services Quarterly, 2023	Chen, X.	2023	Natural Language Pro-cessing
20	New challenges in scientific publications: Referencing, artificial intelligence and Chatgpt.	Slovenian Journal of Public Health,2023	Švab, I., Klemenc-Ketiš, Z., & Zupanic, S.	2023	Natural Language Pro-cessing and Scientific Writing

Table 1: Source papers and themes addressed

References to these papers are given at the end with ref nos from 8 to 23

review articles and textbook chapters were not accounted for in this review study. To address the research gaps related to library management, empirical studies that include various factors affecting library management services, specifically using AI or limited, are needed to fill the gap. Therefore, the current research attempts to bridge this gap through a review study to identify future gaps.

5. Analysis

We have presented the source papers selected for this study in Table 1. The twenty papers were chosen randomly, and the selected documents were text-analysed to extract derivations from their content. Table 1 below lists the dataset and the issues each paper chosen addresses. The papers used for this review have been manually read and classified based on their contents and themes discussed. The themes highlighted in all the source papers are now categorised by theme, and text extracts from the documents are presented. We extract the issue or the theme discussed in each paper and present it in the last column of the above table. The following discussions are an extract of the text content treated in each reviewed paper.

5.1 AI for Library Technology

It underlined the positive impacts and challenges of integrating artificial intelligence within library and information science. One key recommendation was for Academic libraries to embrace technologies such as chatbots, barcodes, RFID, and robotics to upgrade service quality.

Future research in library and information science will likely focus on using artificial intelligence (AI), which has excellent potential for its application in enhancing library systems. Intelligent systems, exceptionally expert systems, can be leveraged in activities such as cataloguing, indexing, and reference services. The research study identified key AI techniques relevant to library and information science using exploratory factor analysis (EFA). AI is also beneficial in speech recognition, machine translation, and using robots as librarians. The study evaluated the use of AI in Iranian library systems in terms of public, technical, and management services, with the most advanced Recommender Systems (RM) being the indicator. The least developed area is Natural Language Processing (NLP).

5.2 AI for Library Data Management

AI has greatly affected searching and finding resources, scholarly publishing, and learning. Along with library inaction on AI, other obstacles have arisen: ethical questions, the interpretability of conclusions drawn by AI, and the trustworthiness of underlying data. Concerns were also expressed about the potential termination of employment. So many possible roles of academic libraries have been identified, including data curation and acquisition, acquisition of AI resources and infrastructure, help in user navigation, and promotion of data literacy.

5.3 AI for Library Services

The library exists to provide accurate information for the right user at the right time, and thus, classifying books or information is a critical method of providing better service in the library. We all know that libraries are storehouses of knowledge. Hence, segregating information resources helps the user pick up genuine information.

AI is the most critical factor in the knowledge centre's information retrieval system. Using AI can save time

and get the information sought in time. AI assists the library in one way or another by rendering activities such as data analysis, cataloguing, library automation, etc. Automated library services include routine housekeeping activities such as acquiring library materials, circulation, cataloguing, stock verification, serial control, etc.

Because of AI's impact, Library management has adopted a technological method for disseminating information. Machine learning is disseminating different methods for databases or information. Researchers are entirely dependent on AI. Because AI helps to search, refer, and find countless articles, related searches, nearby topics, etc., it mainly saves time for the user. Digital transformation is more common in libraries with information services. Digital transformation is encouraging library professionals to provide the best service.

5.4 AI for Traditional Library Services

With the changes in the sciences, including social science and technology, artificial intelligence is gaining much attention within all industries. The published research strongly urges public libraries to embrace AI technology in their activities, such as accessing information, borrowing books, and providing other services. By using the new Internet and other educational tools, libraries can improve their collections and serve people. In this light, the present paper examines the applications of AI technology in public libraries to sensitize the professional community.

The library is a service-oriented organisation. Here, librarians order information sources according to users' requirements. It is a challenge for the librarian to manage the library, users, user needs, management, and the library budget. The ordering process is challenging because the librarian must consider the information source, availability, uses, price, etc. AI has minimized the information processing and ordering complexities to a large extent.

5.5 AI for Classification and Retrieval

Today, retrieving information is a challenge to librarians due to users' backgrounds and the nature of their queries. Artificial intelligence plays a vital role in the information centre. Librarians who are aware of AI would be able to render fast and flawless service to their users, as manual classification and cataloguing may take a prolonged period. AI is fast in Cataloguing and classification; hence, it could save time and money. It may also help libraries create metadata for digital resources.

Artificial intelligence, which has breathed new life into intelligent libraries, is an essential catalyst for the progress of modern civilization. This article studies the relationship between artificial intelligence (AI) and intelligent libraries, analyzes the role of AI in intelligent libraries, and illustrates examples of how AI can improve library services. AI is a vast, complex area of research that novices might find somewhat incomprehensible. However, the end goal is to develop artificial intelligence computer systems, significantly benefiting librarianship. AI technology must be understood more thoroughly to move the field into intelligent systems. Several prototypes of intelligent library systems for classification, indexing, retrieval, reference, etc. have been developed using the latest application of AI technologies; however, very few of them have been products/systems used in most of the day-to-day operations of libraries.

The research results revealed that the use of artificial intelligence in library and information science has had a significant impact, with "Cataloguing and Classification" identified as the most influential aspect in the 21st century. On the other hand, the research emphasized that the main challenge faced in incorporating Artificial Intelligence in library and information science is related to "Expertise and resources." It was determined that

artificial intelligence applications are becoming increasingly widespread across different sectors of society. Akwa Ibom State and River State libraries have proactively adopted technological advancements to improve their operations and services. The research highlighted the positive impacts and challenges of integrating artificial intelligence in library and information science. A key recommendation was for Academic libraries in Nigeria to fully embrace artificial intelligence technologies, such as chatbots, barcodes, RFID, and robotics, to enhance the quality of services provided.

Machine learning techniques are valuable because they allow for the identification of relationships between humans and machines. It is through machine language that humans search the catalogue. Users can browse for the information they need instead of browsing through a physical form of an information source. Machine learning categorises articles into groupings and assigns Dewey Number classifications to the information. In this way, the librarian provides extra service to the user as a multimedia information resource, not just text. By experimentation with classification, a text corpus may be grouped into themes. Library classification is well established and essential in the management of libraries as well as domain research.

5.6 Natural Language Processing

Operating as a digital reference service within the Knowledge Centre, ChatGPT responds to myriad user queries, providing information, recommendations, and assistance for user convenience or satisfaction. It allows users to seek information in any language with the flair of gathering it correctly. Conversations with ChatGPT maintain contextuality and rhythmical flow. It promotes library events, workshops, and seminars by providing information for the event and supporting an event register.

The article describes a simple ChatGPT test involving library reference questions and article-writing questions in February 2023, comparing library chatbot answers with those of ChatGPT. Attention is drawn to what lessons the library community might consider learning from previous transformative technology changes, like Google and Web 2.0.

AI-based software is changing the face of scientific writing as it facilitates quick writing and saves time. It will probably increase the number of scientific publications and improve their quality. The features and applications of these tools thus include the following: searching, analysing, synthesising, evaluating, and writing literature related to scientific research. They measure content very exhaustively, assess the article's scientific relevance, and rank the literature. They present information in visual form in the most understandable formats. These assist in a very efficient way of analysing and synthesising information from different sources through summary, reference management, and improving manuscript language. The language model Chatgpt has changed human-machine interaction to a new quantitative level, making communication natural with machines. But it is also risky, as it may improve some aspects of the writing process at use, but it calls for responsibility and adherence to ethical practices in using these tools. In short, AI has deeply penetrated article writing and will continue on these lines towards efficiency and improvement, even into the future of scientific publishing.

5.7 Literature Search and Use

Database referencing is essential for information seekers- students, faculty, and researchers. Earlier, citation managers could constrain the search of index databases. However, the latest versions of citation managers—Zotero, EndNote, and Mendeley—have excellent web-based tools for searching for, organising, and distributing the literature.

Research is re-search, and there is so much literature on it. For research, one has to depend mainly on referencing. Referencing is one of the key tools for every research scholar. These references mostly point to web references for purposes of literature reviews. Researchers can access articles published during the last decade, view the most reviewed articles on a particular topic, or browse articles based on journal publications such as UGC care, SCOPUS, ABDC, etc. The researchers can make sure that requirements are met through artificial intelligence. Other search options include keywords, title, author, journal list, full text, abstracts, etc.

5.8 Information Management

This relationship between knowledge management and advanced applications enhances institutions by facilitating knowledge production, organization, and sharing. The study explores the role of Artificial Intelligence Applications in knowledge management in libraries and their capabilities in advancing technical and administrative processes. The paper states the challenges libraries encounter while implementing AI applications, stressing the significance of a good technical infrastructure and capable human resources. Libraries should adapt with the times to continue their relevance in information management.

6. Discussion

The Advent of AI into one part of life has become a fact of today's world. Library and information management is not at all exempt. The performance of library services powered by AI tremendously improves effectiveness in terms of time, effort, and resources. Tasks like classification, sorting, ordering, retrieval of data, and referencing have recently turned into very simplified processes requiring less management, as far as processing them through AI-enabled methods. AI is also beneficial since it provides robot-operated actions within libraries and uses speech recognition and language translation features. In AI-enhanced libraries, information is presented as relevant text, which is married together with videos and images.

Automated library services manage routine maintenance such as acquisition, circulation, cataloguing, stock checks, and serial management activities directly powered by AI technology. Another popular advancement in artificial intelligence that brought a new wave into library management is open-source AI tools like ChatGPT, which engage users by answering queries about information and making recommendations that make the whole process user-friendly and convenient. The ordering process becomes very complicated as the librarian is supposed to consider several factors, such as source information, availability, usage, and price. The incredible influence of AI on information processes has simplified all the difficult-to-perform levels of processing and ordering. The challenges libraries face while adopting AI applications entail strong infrastructure and skilled professionals capable of handling both. Changes that embrace this technology are essential to keeping pace with the world of information management for libraries. Indeed, researchers may rely on artificial intelligence to meet their elaborate requirements. Search options include keywords, titles, authors, journal lists, full texts, and abstracts. A significant limitation in using AI in libraries is the lack of "expertise and resources." Moreover, some ethical issues, such as information protection, plagiarism, and others that may arise from enabling AI-based techniques, remain critically important.

Table 2 reveals the sub-facets that the selected papers addressed in the content. The themes are identified based on the text of the analysed papers, which provide the corresponding authors.

Sl No	Important factors	Reference
1	Library Automation	Bassey, M. M. &Owushi, E., 2023
2	Classification	Chaoying, X., 2021; Tella, A., et al., 2023
3	Ordering	Abdul, I.A. & Odongo, H. W., 2018
4	Referencing	Chen, X., 2023; Mahajan, . K. & Hogarth, D. K., 2013; Shah, U. Y. & Anayath, S., 2018; Svab, I., et al., 2023
5	Data recovery	M. Alremeithi., et al., 2024
6	Open-source AI & library services	Asemi, A & Asemi, A., 2018; Abdulwahid, A. H., et al., 2023; Wani, A. G. & Astunkar, G.S., 2024
7	Cost of implementation	Xie, J., 2023
8	Ethical issues	Svab, I., et al., 2023
9	Library services	Xie, J., 2023; Okunlaya, R. O., et al., 2022
10	Expertise in AI	Cox, A.M., et al., 2019; Monyela, M., 2024; Yu, K., et al.,2019

Source: Created by Authors

Table 2. Essential Factors that influence library services due to AI adoption

Incorporating AI into library systems necessitates the education of library personnel. The expense associated with implementation stands out as a significant obstacle in merging AI with library management systems. The utilization of data management, indexing, and classification is simplified by employing AI and ML methods, which facilitate precise data mapping and recognition through keywords. The application of Natural Language Processing and Image Processing is increasingly pertinent in handling text and video content, as it streamlines the classification and retrieval of information. Ethical concerns surrounding data and information security, as well as plagiarism, require deeper examination.

7. Conclusions and Implications

Artificial intelligence has made library systems more agile in integrating, indexing, retrieving, and referencing complex information. The review found that a lack of knowledge about AI and ML among library staff is one of the significant hurdles to integrating AI in library management. Apart from the integration issues, the cost of managing AI systems is another hurdle. Although AI and ML would enhance the efficiency of information curation and management, ethical issues in library services must be examined incisively.

Our findings corroborate those of a major earlier study. Most AI application studies, particularly the ML and AI ones, addressed the theoretical works, and only a few documented the real applications. (25). It is shown that the current information systems have a high potential to be improved by implementing AI technologies. (26).

7.1 Implications of the Study

Library Managers: Librarians are the knowledge handlers of a library and its information. They retrieve the right information for the right user through classification, indexing, cataloguing, ordering, data recovery, and referencing services. The study suggests that library processes are transforming the influence of AI.

Students and Researchers: AI sets the information needs of students from start to finish for purposes of study, project reports, thesis writing, etc. AI also assists researchers in literature reviews, article delivery, etc. This review identifies some factors, such as ChatGPT, an open-source AI that provides an effective information aggregation and processing method.

Institutions and Universities: AI and ML can be said to be rare companions for Institutions and Universities. If they implement AI in library services, institutions must speed up the rest of their processes to upgrade students' and faculty's knowledge. The review says institutions should train library staff about AI-aided processes and invest in AI-based technologies.

References

[1] Cox, A. M., Pinfield, S., Rutter, S. (2019). The intelligent library: Thought leaders' views on the likely impact of artificial intelligence on academic libraries. *Library Hi Tech, 37*(3), 418–435.

[2] Asemi, A., Asemi, A. (2018). Artificial intelligence (AI) application in library systems in Iran: A taxonomy study. *Library Philosophy and Practice, 2*(2).

[3] Xie, J. (2023). The application of artificial intelligence technology in public library information retrieval. *Transactions on Computer Science and Intelligent Systems Research, 1*, 119–127.

[4] Cox, A. (2023). How artificial intelligence might change academic library work: Applying the competencies literature and the theory of the professions. *Journal of the Association for Information Science and Technology, 74*(3), 367–380.

[5] Gasparini, A., Kautonen, H. (2022). Understanding artificial intelligence in research libraries – Extensive literature review. *LIBER Quarterly: The Journal of the Association of European Research Libraries, 32*(1).

[6] Tang, Z., Zhang, P. (2023). Comparative analysis of AI applications in libraries: A systematic literature review. *Proceedings of the Association for Information Science and Technology, 60*(1), 1146–1148.

[7] Okunlaya, R. O., Syed Abdullah, N., Alias, R. A. (2022). Artificial intelligence (AI) library services: An innovative conceptual framework for the digital transformation of university education. *Library Hi Tech, 40*(6), 1869–1892. https://doi.org/10.1108/LHT-07-2021-0242

[8] Bassey, M. M., Owushi, E. (2023). Adoption of artificial intelligence in library and information science in the 21st century: Assessing the perceived impacts and challenges by librarians in Akwa Ibom and Rivers States. *International Journal of Current Innovations in Education, 6*(1), 75–85.

[9] Tella, A., Akanmu Odunola, O., Wo, L. (2023). Cataloguing and classification in the era of artificial intelligence: Benefits and challenges from the perspective of cataloguing librarians in Oyo State, Nigeria. *Vjesnik bibliotekara Hrvatske, 66*(1), 159–176.

[10] Cordell, R. (2020). Machine learning + libraries. In the Library of Congress, Washington, DC. https://labs.loc.gov/static/labs/work/reports/Cordell-LOC-ML-report

[11] Monyela, M. (2024). Cataloguing library resources in a South African public library: A case study of professional knowledge. *Journal of Library Metadata, 24*(1), 1–17.

[12] Okorie, E. D. H.., Unwana, U. (2024). The roles of artificial intelligence in library automation: The prospects and challenges. In *Erudite Compendiums in Education* (April, p. 7).

[13] Wani, A. G., Astunkar, G. S. (2024). Open artificial intelligence (AI) of ChatGPT for library services and library science professionals. *Library Scholar, 4*(1).

[14] Abdul, I. A., Odongo, H. W. (2018). Design and implementation of an electronic ordering and library management system: Case study, Kampala International University Library.

[15] Abdulwahid, A. H., Pattnaik, M., Palav, M. R., Babu, S. T., Manoharan, G., Selvi, G. P. (2023, April). Library management system using artificial intelligence. In *2023 Eighth International Conference on Science, Technology, Engineering, and Mathematics (ICONSTEM)* (pp. 1–7). IEEE.

[16] Yu, K., Gong, R., Sun, L., Jiang, C. (2019, October). The application of artificial intelligence in smart library. In *2019 International Conference on Organisational Innovation (ICOI 2019)* (pp. 708–713). Atlantis Press.

[17] Mahajan, A. K., Hogarth, D. K. (2013). Taking control of your digital library: How modern citation managers do more than just referencing. *Chest, 144*(6), 1930–1933.

[18] Shah, U. Y., Anayat, S. (2018). Web referencing in the online scholarly world: A case study of library and information science research. *International Journal of Information Movement, 2*(9), 104–112.

[19] Alremeithi, M., Altamimi, H., Alshehhi, A.., Khattak, A. (2024). A comparative review and recommendations on database recovery techniques. In *2024 International Conference on Artificial Intelligence, Computer, Data Sciences and Applications (ACDSA)* (pp. 1–6). IEEE. https://doi.org/10.1109/ACDSA59508.2024.10467824

[20] Hamdan, J., Al-Aamri, N. M., Elshaiekh, N. M. E. (2021). Artificial intelligence abilities to support library services. In *2021 22nd International Arab Conference on Information Technology (ACIT)*. IEEE. https://

doi.org/10.1109/ACIT53391.2021.9677193

[21] Chen, X. (2023). ChatGPT and its possible impact on library reference services. *Internet Reference Services Quarterly, 27*(2), 121–129.

[22] Švab, I., Klemenc-Ketiš, Z., Zupaniè, S. (2023). New challenges in scientific publications: Referencing, artificial intelligence and ChatGPT. *Slovenian Journal of Public Health, 62*(3), 109–112.

[23] Chaoying, X. (2021). Research on the classification and identification of libraries based on artificial intelligence. *Journal of Intelligent & Fuzzy Systems, 40*(4), 6937–6948.

[24] Das, R. K., Islam, M. S. U. (2021). Application of artificial intelligence and machine learning in libraries: Systematic review. *CoRR, abs/2112.04573*. https://arxiv.org/abs/2112.04573

[25] Asemi, A., Ko, A., Nowkarizi, M. (2021). Intelligent libraries: A review on expert systems, artificial intelligence, and robots. *Library Hi Tech, 39*(2), 412–434.