

LIBRARIANSHIP RE-IMAGINED: EXPLORING THE ETHICAL DIMENSIONS OF AI-DRIVEN SYSTEM IN UNIVERSITY LIBRARIES IN NIGERIA

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Abstract

As artificial intelligence (AI) adoption increases in university libraries, ethical concerns such as data privacy, academic integrity, and equity are becoming more significant. This study examines the ethical implications of AI in librarianship, focusing on the responsibilities and challenges faced by library personnel in Nigeria. It highlights the need for a comprehensive ethical framework to guide AI integration in library services, ensuring that they are equitable and inclusive. The study surveyed 106 library personnel from six public university libraries using a purposive sampling technique and a quantitative research method in the form of questionnaires. The survey covers AI applications, perceptions of library staff regarding AI ethics, and the responsibilities and challenges faced. 97 copies of questionnaire administered were found statistically usable and descriptive statistics was adopted for data analysis. The findings revealed that while AI adoption is growing, many library personnel face challenges due to limited training, resources, and knowledge of AI technologies. The study identifies the need for stronger AI ethics governance and policy frameworks. The research also underscores the critical role of librarians in promoting responsible AI use to enhance access to information while maintaining ethical standards.

Keywords: Ethical Implications, Artificial Intelligent, Librarianship, Ethical Framework

Introduction

The growing integration of AI in librarianship has generated both enthusiasm and concern, necessitating a critical evaluation of its ethical implications. AI is widely used by corporations, institutions and organizations, however, libraries, are increasingly adopting AI to enhance their services. Many libraries employ information technology (IT) for library automation processes, digitization and RFID security as well circulation services and cataloging, though still require librarians' contemplation. Artificial intelligence and associated technologies such as robotics, ambient intelligence and data mining are helping to enhance efficiency, decision making and meet user needs while reducing the time spent on daily tasks.

The university library remains the vital connection between the public and knowledge, support learning, innovation and community services. With personnel and resources, the library collects, preserve and shares knowledge and information. Rapid advancement in AI is transforming library and reshaping operations, improving users' experience, and promoting innovation. AI-powered tools can efficiently handle tasks such as cataloging, classification, and circulation, and allowing librarians to focus on more complex and high-value tasks. Chatbots and virtual assistants enhances reference services, providing users with instant support and guidance, while AI-powered search and recommendation systems analyze vast amounts of data, identify patterns, and provide personalized recommendations to users. This enhances the discovery experience, making it easier for users to find relevant information. In addition, AI-

driven analytics tools assist librarians to understand user behavior and enabling data-driven decision-making (Mondal, 2025).

The ethical dimensions of AI in librarianship are many-sided; issues such as data privacy, academic integrity, equity, algorithmic bias, and intellectual freedom require careful consideration. These issues raise ethical questions that call for thorough analysis and forward-thinking strategy. Large volumes of sensitive users' data are processed by AI systems, which may jeopardize confidentiality and privacy; decision-making may perpetuate existing biases, affecting information access and discovery, and librarian roles and responsibilities must be well spelt out (Nweke & Olabimpe, 2025). Ethical considerations have become critical as artificial intelligence (AI) technology is widely used by libraries to improve services. Imperative issues concerning the effects on users, librarians, and the larger community are brought up by the incorporation of AI-driven technologies into library operations, collections, and services, therefore, librarians need to ensure that AI-powered tools prioritize user privacy, avoid bias, and promote diverse perspectives. Moreover, librarians must be transparent about AI-driven decision-making processes and provide users with clear guidelines on AI usage.

The trajectory of contemporary librarianship is increasingly intertwined with the adoption of AI, and upholding core principles of intellectual freedom, equity, and inclusivity (Aloamaka & Omozue, 2024). Librarians play a significant position in ensuring that AI integration aligns with professional ethics and values, while issues such as AI adaptation, AI-

powered services, data protection and privacy have become of critical concerns that require intentional and informed intervention. By leveraging AI, librarians can create, innovative, user-centric services that improve the library experience, and must remain adaptable, proactive, and committed to promoting the benefits of AI while mitigating its risks. Libraries need to appraise AI-powered systems for potential biases, ensuring that they endorse diverse perspectives, inclusive and equitable access to information.

There is no doubt that AI and libraries have a close connection; however, the usage and understanding of AI in library services continue to raise concerns. According to Barsha and Munshi (2024) AI enhance the library experience of both the users and library professionals with innovation and smart decisions. Librarians need to ensure that AI-powered resources abide by existing data security policies and regulations, safeguarding user information and maintaining trust and do not compromise intellectual freedom and academic integrity instead promoting discovery, exploration, and critical thinking. This requires careful balancing of AI-driven efficiency with human judgment and oversight.

In Nigeria, the rapid adoption of Artificial Intelligence (AI) in academic libraries is transforming the way information is accessed and processed. This technological revolution is driven by the region's growing tech-savvy population, improved internet connectivity, and government initiatives to promote digital economy. As AI continues to advance, Nigeria is poised to reap its benefits, including enhanced efficiency, improved decision-making, and

innovation. Given the unique socio-cultural context and technological advancements in this region, understanding the dynamics of AI adoption is crucial for promoting equitable access to information and protecting user privacy, enhancing learning experiences and improving student outcomes (Ajani et al. 2022).

Statement of the Problem

Despite the potential benefits of Artificial Intelligence (AI), its adoption in Nigerian academic libraries has been slow due to limited awareness and understanding of its significance. Additionally, there is a lack of comprehensive research on the ethical implications of AI within this context. The integration of AI into library systems presents various ethical challenges, including concerns about data privacy, security, algorithmic bias, transparency, and accountability of AI systems. This gap in research leaves an inadequate understanding of how these ethical issues are being addressed in university libraries in Nigeria.

Extant studies emphasized the technological benefits and challenges of AI, while neglecting the ethical considerations that influence the successful deployment and long-term sustainability of AI systems. Moreover, there is limited exploration of how library and information professionals perceive and respond to these ethical concerns. Without a clear framework to guide the ethical integration of AI, university libraries faces unintended consequences that undermine the goal of improving access to information and supporting academic success. Research has shown that librarians in Nigeria need substantial training and

capacity building to effectively incorporate AI into library operations. This study aims to explore the ethical dimensions of AI in librarianship, empowering library personnel and proposing guidelines for responsible AI adoption to ensure equitable, transparent, and responsive library services.

Research Questions

The following research questions will be used for the study to guide the investigation and ensure the exploration of the research problems

1. What are the current landscapes of AI applications in university libraries in South West, Nigeria?
2. What the perceptions of library and information personnel regarding AI's role in information access and equity in South-West, Nigeria?
3. What are the frameworks for ethical decision-making concerning AI use in librarianship?
4. What are the relationship between AI adoption and personnel professional development?
5. What are the impacts of AI on library services university libraries in South-West, Nigeria?
6. What are the challenges faced by library and information personnel in implementing AI technologies in South-West, Nigeria?

Literature review

Okunlaya (2022) emphasised that the rapid advancement of Artificial Intelligence (AI) technologies has transformed library operations, with notable impact on automated cataloguing and classification, as well as information retrieval and access discovery processes. Ola-Oluwa, (2024) observed that the application of AI is strengthen the dealings among smart technologies, thereby improving the effectiveness and facilitating the gradual budge from the conventional service models to more intelligent, adaptive systems capable of developing users' needs through ever-present knowledge services.

Honghai, (2020) noted that implementation of AI has assisted in solving difficult tasks, though the effect of AI on effectiveness and efficiency, decision-making and the ability to stimulate innovation is scarce and require more thorough empirical assessment. The implementation of AI technologies demands careful consideration of key responsibilities. Librarians need to recognize that data quality, algorithmic transparency, bias mitigation, cyber security, and effective governance are critical responsibilities.

However, Lakshman (2020) opined that the technical challenges in the adoption of AI include the explainability, interpretability of AI-driven decisions as well as scalability and integration of AI with existing systems. As AI-related regulations still evolving, regulatory compliance, public trust and acceptance of AI systems, and the management of technical debt associated with system maintenance and updates require urgent attention. By acknowledging

these responsibilities and challenges, libraries can harness the benefits of AI while minimizing potential risks and prioritize infrastructural development to ensure equitable access and use.

AI manifests in various forms, including the use of mobile technologies to boost data acquisition accuracy; advanced big-data analytics to reveal hidden patterns; and AI-driven techniques to retool information search, collection, organization, and knowledge discovery. Cox Pinfield and Rutter (2019) identified key area of impact such as the analyzing of big corpus of data, creating automated metadata, translating of search and integrating search across diverse information sources. In recent years, many libraries have begun to move away from library catalogs toward an online discovery system. Ibrahim and Okpala (2024) emphasised that the integration of AI into academic libraries significantly enhances operational efficiency and user engagement. This advancement enables academic libraries to provide enhanced access to information and support users in locating resources more quickly and accurately.

Ogunyemi (2021) emphasised that AI-driven technologies utilised natural language processing (NLP) to analyze and categorize materials accurately not only saves time but also ensures that resources are systematically organized and improving user navigation. AI technologies enable libraries to offer personalized experiences to users. Machine learning algorithms analyze user behavior and preferences to recommend relevant resources and services. Ayeni et al. (2024) corroborated that personalization fosters a more engaging and supportive learning environment, which is particularly important in academic settings where diverse needs must

be met. AI-driven tools are used to answer frequently asked questions, guide users through library services, and assist with research queries.

Martin and Thompson (2022) concluded that academic libraries can leverage AI-driven data analytics to strengthen evidence-based decision-making. Consequently, libraries need to develop apparent strategies and collaborate with technology providers to ensure effective implementation of AI system. The role of librarians has evolved dramatically, librarians engaged in a complex landscape where artificial intelligence (AI) increasingly shapes access and equity. Historically, librarians have been seen as gatekeepers of knowledge who are responsible to curate collections and assisting users in navigating information resources. However, with the advent of digital technologies, their roles have expanded to include digital literacy instruction, information advocacy, and community engagement.

According to Hanson (2024) librarians perceive AI as a tool that can streamline cataloging, enhance search capabilities, and provide personalized recommendations, while AI can enhance access to information, it can also perpetuate existing inequalities, and librarians are particularly concerned about algorithmic bias which can result in marginalized voices being underrepresented in search results. In an age where data drives AI systems, promoting data literacy is essential. Librarians play a key role in educating patrons about data usage, privacy, and the implications of AI (Hollister, 2022). The perception of AI's role in information

access and equity varies across different regions and cultures. In some countries, librarians are at the forefront of advocating for open access to information and equitable digital resources.

Professional standards require librarians to prioritize patrons' interests by accurately identifying their needs and providing timely assistance. The librarians are often at the forefront of advocating for ethical standards in information access, with sturdy emphasis on transparency and accountability in the use of AI. Furthermore, ethical considerations include informed consent, ensuring that users are fully aware of the data being collected and how it will be used. AI systems must be designed to respect and reflect the cultural contexts of users and uphold their consents during the communication process. The ethical application of AI in resource curation raises questions about authorship and intellectual property, therefore, according to Nwokocha (2021) libraries must navigate the complexities of copyright laws when using AI to recommend or organize resources.

Inclusivity is also a vital ethical consideration in the implementation of AI in libraries, it determines AI system genuinely serve the full diversity of users, according to Zaid (2023), services must be designed to meets the diverse needs of all users, including individual with disabilities. Serving diverse populations, including students, faculty, and researchers, access to adequate and a wide range of information resources need to be provided. Libraries are traditionally grounded in equitable access to information, and this mandate must extend to AI-

driven services. Libraries are expected to critically evaluate AI tools for inclusiveness to promote equitable access to information.

The integration of AI in university library services in Southwest Nigeria presents significant ethical challenges that require careful attention. These challenges range from user privacy and data security to algorithmic bias and employment concerns, reflecting the ethical landscape complexity. By prioritizing transparency, inclusivity, and stakeholder engagement, university libraries can navigate these challenges responsibly and ensuring that AI functions as a tool for enhancing, rather than undermining the fundamental library values. Examining case studies of libraries that have successfully navigated ethical issues in AI implementation can provide valuable insights. These examples can serve as models for best practices and highlight the importance of ethical considerations in library services.

In providing leeway, Vyhmeister et al. (2023) explained that a well-defined ethics framework for AI needs to be put in place to guide the adoption and use of AI as well as to update existing laws and ethical standards to ensure their relevance in contemporary context. The rapid integration of AI tools into library services requires a structured approach to ethical decision-making that assists libraries to navigate complex challenges, ensuring alignment with core professional values, such as intellectual freedom, privacy, and inclusivity. Such a framework should address the wide range of ethical concerns connected with AI, and be

grounded in the key principles including transparency, accountability, fairness, user autonomy, and continual assessment.

Ethical data management is essential for protecting user privacy and ensuring the integrity of library services in AI deployment. Ikwuanusi et al. (2023) opined that libraries must regularly assess AI systems for bias and fairness while collaborating with external stakeholders such as research institutions, ethics committees, and technology providers to strengthen ethical decision-making. In addition, libraries should establish clear ethical guidelines emphasizing transparency, accountability, and user rights in AI use. Since AI applications also raise concerns around copyright, intellectual property, and user data protection, libraries must remain vigilant in identifying and addressing emerging ethical risks. Prioritizing user needs, promoting research integrity, and ensuring that AI tools enhance rather than hinder access to information are equally critical.

One significant advantage of AI is its ability to analyze vast amounts of data to tailor learning experiences to individual employees' needs (Okunlaya et al., 2022). In this context, AI-driven learning platforms enable libraries to design personalized training modules that correspond with staff career goals and competency levels thereby improving skills acquisition and workforce efficiency. As workforce teams increasingly rely on AI tools for project management and communication, employees are required to develop the ability to work effectively in hybrid environments that combine human and machine collaboration.

Consequently, professional development programs should place equal emphasis on soft skills such as collaboration, creativity and problem-solving, alongside technical training.

The integration of AI into professional development programs allows libraries to leverage data analytics to measure training effectiveness by tracking skill acquisition, monitoring performance thereby supporting continuous improvement. As AI tools increasingly provide data-driven insights for library operations, critical thinking skills become essential for librarians to interpret and apply generated output for effective decision-making. Consequently, according to Jobin et al. (2019) librarians must understand the ethical implications in areas such as data privacy, intellectual freedom, and algorithm fairness to ensure responsible service delivery. For this reason, training programs should incorporate discussions on ethical AI use to prepare staff for the moral complexities introduced by these technologies. According to Vijayakumar and Sheshadri (2019) noted that providing training opportunities aligned with AI advancements strengthen commitment to workforce development, promotes inclusive and flexible learning opportunities, and support workplace culture.

However, AI implementation may encounter resistance from staff due to job displacement issues or feel besieged by technological changes (Kotter, 2024), making it necessary for libraries to incorporate change management strategies into their professional development frameworks. Promoting open communication and provide continuous support,

encouraging participant in the transition process can help employee adapt confidently and embrace new roles within AI-enabled environment.

Librarianship is progressively more being re-imagined through the integration of AI which is transforming conventional roles of information collection, access, dissemination, retrieval and user support. AI-enabled tools such as intelligent cataloguing systems, chatbots, predictive analytics, and automated indexing are enhancing service delivery by improving efficiency, speed, and personalization in library operations. In this emerging model, librarians are no longer confined to custodianship of physical and digital collections; instead, they are becoming data curators, digital literacy facilitators, and AI literacy educators who guide users in navigating complex information ecosystems. This redefined role aligns with contemporary demands for responsive, user-centered library services that can anticipate user needs and deliver tailored information support in real time (Cox, 2021).

However, the librarianship re-imagining through AI comes with noteworthy ethical dimensions that need to be decisively addressed to keep up with trust and professional integrity. Issues such as algorithmic bias, data privacy, surveillance risks, and lack of transparency in AI decision-making processes pose challenges to core library values of intellectual freedom, equity, and confidentiality. Librarians therefore need to play an active role in evaluating and monitoring AI systems to ensure fairness, accountability, and inclusivity in service delivery. This includes advocating for ethical AI governance frameworks, promoting

transparency in data usage, and ensuring that marginalized user groups are not disadvantaged by automated systems. In this regard, librarianship in the AI era becomes not only technologically advanced but also ethically grounded, requiring continuous professional development in both digital competencies and information ethics (IFLA, 2020; UNESCO, 2021).

Methodology

The study adopted the applied quantitative research method as it involved collecting data through a structured and self-administered questionnaire and the targeted population for the study comprised of the library and information personnel in public universities libraries in South-West, Nigeria. This study used purposive sampling technique to collect data from 106 library and information personnel of public university libraries in the Nigeria. The structure questionnaire was constructed, thus making data collection processes to be uncomplicated. The questionnaire was divided of three sections Section A deals with participants' demographic information and section B contained statements on AI applications in the library, perceptions of library and information personnel regarding, Section C have statements on ethics issues on AI, and responsibilities and challenges. Information on Section B and C was gathered through four-point Likerts' scale of strong agreed (SA), agreed (A), disagreed (D) and strongly disagree (SA). All the copies of questionnaire distributed to the respondent was duly completed and found usable, therefore there was 100% response rate. Descriptive statistics was adopted for data analysis in providing a comprehensive understanding of the topic

Research question 1: What are the current landscapes of AI applications in university libraries in South West, Nigeria?

Table 1: Analysis on the current landscape and impact of AI tools on library services

S/N	Impact of AI tools	SA	A	D	SD	Mean	Std. Dev.	Remarks
1	AI has significantly improved library automation in my library	47	43	2	4	3.50	24.3	Accepted
2	AI effectively assist users with their inquiries	32	41	11	12	3.41	14.9	Accepted
3	AI tools provide personalised recommendations that enhance resource discovery	45	28	11	12	3.21	16	Accepted
4	AI plays significant role in digitisation and preservation of library materials	61	23	6	6	3.13	25.9	Accepted
5	AI have enhanced the effectiveness of information retrieval systems	65	12	8	11	3.35	27.4	Accepted
6	AI integration has positively impacted library services	46	35	10	5	3	19.7	Accepted

Source: Author estimations

The results in Table 1 indicate a consistently positive impact of AI on core library operations, with all items accepted and mean scores clustering around the upper end of the scale. This suggests that AI is no longer experimental but already embedded in functional areas such as automation, information retrieval, digitisation, and user services. The relatively high mean for automation (3.50) and information retrieval (3.35) implies that AI is strengthening back-end efficiency and front-end access simultaneously.

However, the variation in standard deviation suggested irregular implementation across institutions. While some libraries appear to have mature AI integration, others are still

at early adoption stages. The slightly lower mean for overall service impact (3.00) indicates that although specific functions are improving, the transformation of the entire service ecosystem is still in progress. This aligns with a transitional phase where AI tools exist but are not yet fully optimized or integrated into unified service architecture.

Research question 2: What the perceptions of library and information personnel regarding AI's role in information access and equity in South-West, Nigeria?

Table 2: Analysis on the perceptions of library and information personnel regarding AI's role

S/N	Perception of librarian	SA	A	D	SD	Mean	Std. Dev.	Remarks
1	I believe generative AI tools have the potential to benefit library services and operations	47	43	2	4	3.50	24.3	Accepted
2	I believe AI tools require careful consideration to avoid biases in information provision	32	41	11	12	3.41	14.9	Accepted
3	AI tools will improve efficiency of library operations	45	28	11	12	3.21	16	Accepted
4	AI tools and applications will have a significant impact on my library	61	23	6	6	3.13	25.9	Accepted
5	I believe AI will increase accessibility to library resources for diverse patrons	65	12	8	11	3.35	27.4	Accepted
6	I believe AI tools improve access to information for undeserved communities	46	35	10	5	3	19.7	Accepted

Source: Author estimations

Table 2 reveals a high level of positive perception (Grand Mean = 3.35), indicating that librarians are generally receptive to AI adoption. They recognize its potential for improving efficiency, accessibility, and service delivery. Notably, strong agreement that AI can benefit

library operations reflects readiness at the attitudinal level, which is critical for successful technological adoption. At the same time, the concern about bias in AI systems shows a level of critical awareness among personnel. This is significant because it indicates that librarians are not merely passive adopters but are engaging with the ethical implications of AI. The comparatively lower mean for improving access to underserved communities suggests some skepticism about AI's inclusivity outcomes. This may reflect infrastructural and digital divide challenges in Nigeria, where access to AI-enabled services may not be evenly distributed.

Research question 3: What are the frameworks for ethical decision-making concerning AI use in librarianship?

Table 3: Analysis on the framework for ethical decision-making in librarianship concerning AI use

S/N	Framework for ethical decision-making	SD	A	D	SD	Mean	Std. Dev.	Remarks
1	My library ensures that its AI is designed in a way that treats all users fairly, without bias or discrimination	34	41	11	10	4.27	16	Accepted
2	My library ensures that its AI is transparent by providing clear explanations of how they work, what data they use, and how decisions are made.	36	33	19	8	4.8	13	Accepted
3	My library is accountable for the decisions and actions of AI tools by establishing clear policies and procedures for their use	61	20	9	6	4.11	25.4	Accepted
4	My library ensures that its AI respect user privacy by collecting and using personal data only for legitimate purposes	32	41	8	15	4.4	15.2	Accepted
5	My library ensures that its AI is subject to human oversight and intervention to ensure that decisions and actions align with its values and goals	30	46	11	9	4.7	17.5	Accepted
6	My library ensures that its AI is designed and implemented in a way that promotes the well-being of individuals and the community.	49	26	12	9	4.67	18.2	Accepted

Source: Author estimations

The findings in Table 3 show a strong perceived presence of ethical frameworks (Grand Mean = 4.45), particularly in areas such as transparency, privacy, and human oversight. This

suggests that libraries are conscious of ethical requirements and are making efforts to align AI use with professional values. However, the relatively lower mean for accountability mechanisms indicates a critical gap. While libraries claim to ensure fairness and transparency, the structures for holding AI systems accountable such as formal policies, audit trails, and responsibility frameworks are less robust. This implies that ethical principles may be acknowledged at a conceptual level but are not fully institutionalized in operational practice. The Grand Mean (GM) for framework for ethical decision-making in librarianship concerning AI use in library is 4.45 and the average standard deviation is 17.52 which suggested that the framework is high. Respondents were found to be satisfied with the available framework for ethical decision-making. The least mean score is on my library is accountable for the decisions and actions of AI tools by establishing clear policies and procedures for their use

Research question 4: What are the relationship between AI adoption and personnel professional development?

Table 4: Relationship between AI adoption and personnel professional development

S/N	Relationship	SA	A	D	SD	Mean	Std. Dev.	Remarks
1	Library provides adequate training on AI tool implementation	24	15	43	14	2.26	13.44	Rejected
2	AI training are relevant to my job responsibilities	24	28	28	16	3.21	5.66	Accepted
3	I receive timely technical support for AI-related issues	18	28	37	13	3.36	10.68	Accepted
4	AI strategies aligns with personnel professional development goals	22	17	22	21	3.21	8.29	Accepted

5	AI adoption goals are clearly communicated	16	31	38	11	2.18	12.34	Rejected
6	Performance evaluation account for AI skill development	35	26	18	17	3.21	8.37	Accepted
7	Librarians have the necessary skills to effectively integrate AI tools	24	23	29	20	2.42	3.74	Rejected
8	Staff understand AI's impact on information equity and access	40	25	10	21	3.78	12.40	Accepted
9	Collaboration among staff increases due to AI projects	41	23	13	19	3.51	12.06	Accepted
10	AI skills are integrated into existing workflows	20	30	36	10	3.82	11.43	Accepted

Source: Author estimations

From Table 4, the analysis shows that the respondents understand relationship of AI adoption and personnel professional development. Specifically, the respondents accepted that AI training are relevant to my job responsibilities, AI strategies aligns with personnel professional development goals, performance evaluation account for AI skill development and staff understands AI's impact on information equity and access. The respondents were found to have high scores in the area of area of AI skills are integrated into existing workflows with 3.82, while library provides adequate training on AI tool implementation have 2.26 as the lowest mean score. This implies that as library personnel becomes prominent with AI technologies, they develop professionally and these affects the quality and efficiency of library services and enhance users experiences as well better resources management. Libraries will also strategically aligned its workforce capabilities and get staff prepared for emerging technologies.

Research question 5: What are the ethical considerations of AI university libraries in South-West, Nigeria?

Table 5: Analysis on ethical consideration of AI in university libraries

S/N	Ethical issues	SA	A	D	SD	Mean	Std. Dev.	Remarks
1	AI tools handle sensitive patron data securely	23	34	25	14	3.53	8.21	Accepted
2	Library AI initiative prioritize data protection	23	19	26	28	4.51	3.92	Rejected
3	AI system transparently collect data and use data	34	29	21	12	4.21	9.63	Accepted
4	Library ensure AI compliance with data regulations	26	27	12	31	3.87	8.29	Accepted
5	AI-driven decision-making ensured fairness	34	24	23	15	3.68	7.79	Accepted
6	AI system provide clear explanations	26	13	23	34	4.11	8.68	Rejected
7	AI tools restrict access to controversial information	23	32	23	18	2.89	5.83	Accepted
8	AI-driven content filtering compromises intellectual freedom	28	26	23	19	3.19	3.92	Accepted
9	AI enhances human capabilities	23	27	27	19	3.48	3.83	Accepted
10	AI ethics guidelines are regularly updated	23	18	30	25	3.23	4.97	Rejected
11	AI development involves diverse stakeholders	21	29	25	21	3.12	3.83	Accepted
12	AI system undergo regular ethics audits	21	23	29	23	3.41	3.46	Rejected

Source: Author estimations

The findings in Table 5, revealed that while some ethical practices such as data security and fairness are moderately upheld, several critical areas are weak or inconsistent. Notably, data protection prioritization, transparency in AI explanations, regular updates of ethics

guidelines, and ethics audits are identified as deficient. This reinforces the earlier observation that ethical awareness exists but is not fully operationalized. The presence of concerns around intellectual freedom (e.g., content filtering) also suggests that AI systems may inadvertently restrict access to information, which contradicts core library values. Overall, ethical governance of AI remains fragmented and underdeveloped.

Research question 6: What are the challenges faced by library and information personnel in implementing AI technologies in South-West, Nigeria?

Table 6: Analysis of AI challenges faced by library and information personnel

S/N	Challenges	Frequency	Percentage
1	Lack of full knowledge	89	92.7
2	Exigency of duty	70	72.9
3	Management Aptitude	68	70.8
4	Gap in technical skills	58	60.4
5	Lack of training and programs	89	92.7
6	Inadequate infrastructure and resources	80	83.3
7	Ineffective AI ethics and governance	86	89.6
8	Resistance to change	43	44.8

Source: Author estimations

Table 6 data provide a clear explanation for many of the gaps observed in earlier tables. The table shows all the challenges faced by the respondents in the quest for adoption and implementation and use of AI technologies. Lack of full knowledge and lack of training and programs has the highest percentage 89(92.7%), followed by ineffective AI ethics and governance 86(89.6%) while and resistance to change has the lowest percentage 43(44.8%).

This indicates systemic constraints rather than isolated issues. The relatively lower concern for resistance to change (44.8%) is important, as it suggests that the problem is not attitudinal but structural. Library personnel are generally willing to adopt AI, but they lack the resources, skills, and institutional support required for effective implementation. This outcome corroborates with Kumar et al. (2024) that personnel need to have good understanding and moral knowledge of AI, and this implies that training and up-skilling programs are conducted to equip librarians with the necessary knowledge and skills to effectively utilize AI technologies and adapt to changing roles.

Recommendations

Based on the result of the findings, this study recommended that:

1. the university management should develop a comprehensive AI policy framework addressing ethical issues to guide adoption and implementation of AI, ensuring seamless integration of AI systems with the existing library system and provide periodical AI training and programs for professional development on AI technology;
2. the university libraries should develop and implement clear ethical guidelines specific to the use of AI technologies, addressing issues such as user privacy, data protection, intellectual freedom, and transparency in decision-making. Libraries should initiate programs to raise awareness among patrons about AI's role in library services, ensuring that users understand how data are used and the implications for privacy;

- 3 library management should provide a synergy between library staff and other stakeholders in navigating the complexities of AI, form teamwork to uphold creativity and innovation, and foster a culture of clearness and responsibility in implementing AI ethics; and
- 4 library staff should engage in continuous professional development that focuses on AI literacy and ethical implications of AI technologies in library settings, and the librarians should collaboration with technologists, and ethicists to ensure that AI systems are designed and implemented in alignment with professional core values.

Conclusion

Reimagining librarianship in the age of AI necessitates a thorough examination of the ethical dimensions inherent in technology adoption. Librarians must embrace their roles as ethical custodians of information, balancing the benefits of AI with the task in advocating even-handed and inclusive access to information. This study serves as a call to deed for library and information personnel to actively engage in determining the future of AI in libraries, ensuring that AI technology serves to enhance the public good. By establishing deep ethical frameworks and practices, library and information personnel must reinforce their vital role in fostering informed, equitable communities in an increasingly digital world.

The findings of this study will have significant implications for the prospect of librarianship in Nigeria and beyond. As AI continues to evolve, library and information

personnel must proactively tackle ethical issues, ensuring that the adoption of AI technologies aligns with the core values of librarianship, such as equity, access, and user empowerment. This study underscores the critical role librarians play as advocates for ethical AI practices, helping to build trust and transparency in the universities they serve. The study will encourage library and information personnel to be more practical, and acquire more skills on AI literacy, data science and other AI-driven skills. It will also assist librarianship in providing inclusive services on AI ethics, data protection and ensure compliance to intellectual property and copyright as regard to AI-driven discrepancies.

References

- Ajani, Y. A., Tella, A., Salawu, K. Y., & Abdullahi, F. (2022). Perspectives of librarians on awareness and readiness of academic libraries to integrate artificial intelligence for library operations and services in Nigeria. *Internet Reference Services Quarterly*, 26(4), 213-230.
- Aloamaka, P. C., & Omozue, M. O. (2024). AI and human rights: Navigating ethical and legal challenges in developing nations. *Khazanah Hukum*, 6(2), 189-201.
- Ayeni, O. O., Al Hamad, N. M., Chisom, O. N., Osawaru, B., & Adewusi, O. E. (2024). AI in education: A review of personalized learning and educational technology. *GSC Advanced Research and Reviews*, 18(2), 261-271.
- Barsha, S. & Munshi, S.A. (2024). Implementing artificial intelligence in library services: a review of current prospects and challenges of developing countries, *Library Hi Tech News*, 41(1), 7-10. <https://doi.org/10.1108/LHTN-07-2023-0126>
- Cox, A. (2020). The impact of AI, machine learning, automation and robotics on the information profession. <https://www.cilip.org.uk/page/researchrepor>
- Cox, Andrew 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. <https://doi.org/10.1108/LHT-08-2018-0105>
- Hanson, E. D., Okorie, U. U., & Nsit, A. (2024). The roles of artificial intelligence in library automation: the prospects and challenges. *Erudite Compendiums in Education*, 13-23.
- Hollister, J. M. (2024). Virtual libraries in the new metaverse: An exploratory study on community libraries in meta horizon worlds. *International Journal of Knowledge Content Development & Technology*, 14(4), 113-133.
- Honghai, L., & Kaneko, T. (2020, November). Training Japanese mahjong agent with two dimension feature representation. In *The 25th Game Programming Workshop 2020* (pp. 125-129).
- Ibrahim, H., & Okpala, A. E. (2024). Exploring the integration of artificial intelligence in Nigeria library services. *International Journal of Knowledge Dissemination (IJKD)*, 5(1), 55-65.

- IFLA Code of Ethics for Librarians and other Information Workers (2024). Available at: <https://www.ifla.org/publications/node/11092>
- Ikwuanusi, U. F., Adepoju, P. A., & Odionu, C. S. (2023). Advancing ethical AI practices to solve data privacy issues in library systems. *International Journal of Multidisciplinary Research Updates*, 6(1), 033-044.
- Jobin, A., Ienca, M. & Vayena, E. (2019). The global landscape of AI ethics guidelines. *Nature Machine Intelligence*, 389–399.
- Kotter, E. (2024). Planning and Goal Setting. In *AI Implementation in Radiology: Challenges and Opportunities in Clinical Practice* (pp. 33-50). Cham: Springer Nature Switzerland.
- Kumar, V., Kumar, S., Chatterjee, S., & Mariani, M. (2024). Artificial intelligence (AI) capabilities and the R&D performance of organizations: the moderating role of environmental dynamism. *IEEE Transactions on Engineering Management*.
- Lakshman, S. A., & Ebenezer, D. (2020). Application of principles of a Artificial Intelligence in Mechanical Engineering. In *IOP Conference Series: Materials Science and Engineering*, 912(3), p. 032075). IOP Publishing.
- Martin, J., & Thompson, G. (2022). The impact of automation on library operations. *Library Management*, 43(4), 231-245. doi:10.1108/LM-04-2022-0073
- Mondal, D. (2025). Artificial Intelligence (AI): a transformative force, redefining the landscape of modern libraries. *INQUEST-Peer-reviewed Multidisciplinary Online Research Journal*, 3(1), 15-23.
- Nweke, L. N., & Olabimpe, O. S. (2025). Integration of Artificial Intelligence in Library Operations: Opportunities and Challenges (A Case of Kenneth Dike Library, University of Ibadan). *International Journal of Women in Technical Education and Employment*, 6(2), 73-81.
- Nwokocha, G. C. (2024). Achieving operational excellence in North American supply chains: Assessing the impact of digital transformation and sustainable practices. *International Journal*, 11(1), 837-843.
- Ogunyemi, O. V., Ahmed, I. A., & Ajibola, O. A. (2024). Innovative systems for renewable energy integration: Harnessing AI, blockchain, and hybrid technologies. *International Journal of Research and Scientific Innovation*, 11(10), 603-634.

- Okunlaya, R.O., Syed Abdullah, N. and Alias, R.A. (2022), Artificial intelligence (AI) library services innovative conceptual framework for the digital transformation of university education, *Library Hi Tech*, 40(6), 1869-1892. <https://doi.org/10.1108/LHT07-2021-0242>
- Ola-Oluwa, J. A. (2024). Impact of artificial intelligence (AI) in enhancing knowledge sharing and boosting organizational efficiency in Nigerian enterprises. *African Journal of Management and Business Research*, 17(1), 76-95.
- UNESCO. (2021). Recommendation on the ethics of artificial intelligence. <https://en.unesco.org/artificial-intelligence/ethics>
- Vijayakumar, S. & Sheshadri, K. (2019). Applications of Artificial Intelligence in academic libraries. *International Journal of Computer Science and Engineering (e-journal)*, Available at: DOI: 10.26438/ijcse/v7si16.136140.
- Vyhmeister, E., Castane, G., Östberg, P. O., & Thevenin, S. (2023). A responsible AI framework: pipeline contextualisation. *AI and Ethics*, 3(1), 175-197.
- Zaid, Y. A. (2024). What is good for the goose is good for the gander. An Inaugural Lecture Delivered at J. F. Ade Ajayi Auditorium, University of Lagos, Akoka. ir.unilag.edu.ng