Southern African Journal of Communication and Information Science

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To cite this article: Farai, L., Mupfumbatwa, K. C., Mashokoh, A., and Goroba, B. 2026. Librarians' Perspectives on Facilitating Student Use of AI in Zimbabwean State University Libraries. *Southern African Journal of Communication and Information Science*. 4(2): 24 – 36

Published Online: 20 November 2026

SAJCIS
2026, Vol. 4, No. 2, 24 – 36

Librarians' Perspectives on Facilitating Student Use of AI in Zimbabwean State University Libraries.

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Abstract

This study explores librarians' perspectives on facilitating students' use of artificial intelligence (AI) in Zimbabwean state university libraries. The study employed a qualitative approach, drawing on insights from 10 participants at a purposively selected university library in the country. Findings revealed that most library personnel lacked the expertise to effectively manage and oversee the use of AI technologies. The study provides insights into how librarians perceive the integration of AI technologies in academic libraries, informing future research on AI adoption and its impact on library services. It highlights the need for targeted training programs for librarians to effectively facilitate student use of AI tools, ensuring they possess the necessary skills and knowledge.

Keywords: *Academic libraries; Artificial Intelligence; State University Libraries; Strategies*

Introduction

The advent of artificial intelligence (AI) technology has increasingly reshaped the operations of university libraries across the globe. Using Zimbabwe, this study examines the use of AI at selected university libraries. It contributes to scholarship on the ways of improving the use of AI by students in Zimbabwean state university libraries. Cai et al. (2023) define AI as the use of computer

programs and algorithms to learn, solve problems, make decisions, and understand natural language. Omame and Alex-Nmecha (2020) state that AI can greatly improve library operations and services, increasing the importance of libraries in a fast-changing digital world.

Artificial Intelligence is a crucial technology in the digital era, extensively utilized in library services to transform offerings in the information technology age (Jha, 2023). Pence (2022) argues that AI has the capacity to undertake routine tasks currently performed by humans, thereby allowing librarians to focus on providing the specialized knowledge essential for advanced research. As libraries evolve into dynamic information centers, artificial intelligence offers unique opportunities to boost productivity, tailor services, and preserve societal heritage. However, the implementation of AI in library management also raises ethical issues, including concerns regarding data privacy and procedural biases (Suhas and Narayanrao, 2014). Librarians working in academic libraries in Zimbabwe acknowledge AI's transformative potential, institutions are generally not ready to fully implement AI technologies. Tsekea and Mandoga (2025) conducted a qualitative study examining the preparedness of higher education librarians in Zimbabwe to support the ethical use of AI. They found that the use of AI in university libraries is still in its early stages. Most efforts focus on chatbots for communication and plagiarism detection tools like Turnitin (Tsekea and Mandoga, 2025). Major challenges that prevent wider adoption include high costs, poor infrastructure, a shortage of skilled personnel, privacy concerns, and the absence of clear AI policies (Tsekea and Mandoga, 2025). The study strongly recommends developing clear AI frameworks and policies in higher education to ensure fair, transparent, and ethical use of AI in libraries (Tsekea and Mandoga, 2025).

Another study by Mutasa and Chikowero (2024) focused on how library and information science students in Zimbabwe view and use large language models like ChatGPT. They found significant benefits for improving research skills but also raised ethical issues such as data privacy risks and algorithmic bias. This contributes to the global understanding of how students engage with AI tools in academic libraries. Hlongwane et al. (2024) present a literature review that examines the drivers and barriers to AI implementation in African academic libraries, including those in Zimbabwe. The review acknowledges AI's potential to improve academic services and resource accessibility. However, it highlights obstacles like limited infrastructure, a lack of expertise, funding shortages, and resistance to change. The study calls for localized research to develop effective strategies for AI adoption tailored to the Zimbabwean context. Despite the growing recognition of the potential

benefits of AI in academic libraries, the adoption and utilization of these technologies by students in Zimbabwean state universities remains limited and understudied. However, the integration of AI also brings forth various challenges that need to be addressed to fully harness the benefits of AI in library management systems. Existing research has primarily focused on the benefits, limiting research on how students can improve their engagement and leverage AI-based services and tools within the library setting. Therefore, the lack of established frameworks and guidelines to regulate the use of AI by university students presents a research gap that needs to be interrogated. The purpose of this study is to explore librarians' perspectives on facilitating student use of AI in Zimbabwean state university libraries. The research objectives are:

i. To assess the role of librarians in AI use by students in university libraries in Zimbabwe State University libraries.

ii. To identify challenges faced by librarians in leveraging AI-based services within the library setting.

iii. To develop strategies for librarians to improve students' efficient use of AI technologies in Zimbabwe's state university libraries.

AI in University Libraries

Existing scholarship has demonstrated how AI can make a major difference in the services given by university libraries (Chowdhury & Koya, 2017). The technology can be used to locate essential resources with accuracy and speed. Artificial intelligence can therefore improve the process of knowledge retrieval (Chowdhury and Koya, 2017). In Zimbabwe's state universities, technology is a great challenge to the running of library services. Some of the possibilities of technology include better information retrieval, personalized user help, and the completion of user tasks automatically. Beall (2020) notes the relevance of AI in providing more resources for students' research. According to Cai et al. (2023), AI could carry out sophisticated language tasks, such as translation, summarization, question answering, and content creation. AI Chatbots in libraries facilitate user relations and provide instant assistance. Zimbabwe's state university libraries would use AI to augment user experience, efficiency, and productivity. Ajani et al. (2022) evaluated librarian perceptions related to the knowledge and preparedness of academic libraries in Nigeria to incorporate AI into library operations and services. The study sought to determine the level of

expertise and readiness of the Nigerian university libraries in the application of AI in their operations and service delivery. The survey suggests academic libraries in Nigeria are aware of the fast growth and utilization of AI technologies in academic libraries worldwide and their integration into library systems. Based on the final research outcomes and the opinions of librarians, integrating AI in library processes and services will advance the institution by decreasing rates of human mistakes generated by repetitive library operations. Moreover, a study by Echedom and Okuonghae (2021) asserts that AI holds great potential to improve the information services of African university libraries. Therefore, within the context of the Fourth Industrial Revolution (4IR), the introduction of AI is vital to provide extraordinary library services. According to research, if AI is adequately deployed and accepted, it has the potential to increase the services of Zimbabwe's public universities.

Obstacles faced by librarians in utilizing AI-based services in academic libraries

These are not only isolated to Zimbabwe State University libraries but also embrace the broader issues of adopting and efficiently exploiting AI in practice and service excellence. These include, among others, financial limits, technological infrastructure deficiencies, and limited AI literacy among librarians and IT specialists. This was one of the important conclusions of the study by Gondo, Mundondo, and Munyoro (2020), which advised tackling the problems of paucity of technological resources, budgetary constraints, and resistance to change for the sake of encouraging AI adoption. Hence, investigations by Munyoro and Mujuru suggested that librarians need to gain abilities in AI to handle challenges linked to AI solutions. According to the findings of a study by Barsha and Munshi, there are various challenges with deploying AI in the workplace. The digital divide, inadequate data security, a shortage of workers with the necessary skills, a lack of funding, and the high expense of implementing AI are some of the obstacles. These studies demonstrate how challenging it may be for state university libraries in Zimbabwe to implement AI if the mentioned barriers are not removed.

Strategies to Enhance the Use of AI by Students in the State University Libraries of Zimbabwe

There are several actions that were proposed in order to address challenges and expand the application of AI in state universities of Zimbabwe. The first one is about the enhancement of the technological base (hardware, software, and internet) for constructing AI systems. A framework has

been developed by Ndlovu and Mupfiga (2018) for the enhancement of technological infrastructure for librarians in Zimbabwean universities that encompasses institutional support, development of AI librarians, and technological foundation. Another element is training IT staff and librarians. It is also essential to consider collaboration and funding options from technology companies, international organizations, and funding agencies to acquire the resources for installing and using AI-based technologies sustainably in university libraries (Mashingaidze and Moyo, 2021).

University Libraries should create and adhere to a change management plan for university libraries. One cannot exaggerate how important it is that librarians and university administrators create and adhere to a good change management plan in order to address resistance to the use of AI. Training, communication, and support systems for students and librarians should be incorporated. In order for librarians and students to be well-versed in technology and appreciate its usefulness in progressing the delivery of services in the academic community, training is also necessary (Mpofu, Milne and Watkins, 2019). The successful implementation of artificial intelligence in academic libraries involves a good change management plan.

State university libraries must have strict data privacy rules. In adopting AI services, there is a requirement to offer ethical and secure processing of student data. These will boost users' trust. Chinembiri and Mutula (2020) affirm this point by proposing the development of strong data protection and privacy standards to soothe Zimbabwean university library consumers' fears regarding AI services. In their systematic literature review on AI literacy and its professional practice applications, Alam et al. (2024) emphasize the importance of AI literacy for Master of Library Science students and the immediate need to integrate foundational topics such as data mining and natural language processing into the Library and Information Science curriculum. It claims assertively that there is zeal amongst pupils when they notice that AI can enhance services within a library. There is significant potential to boost students' learning and research activities through the introduction of AI technologies into Zimbabwe’s state university libraries at strategic levels. The implementation of AI technology will be boosted by tackling these primary problems through the technique the report offers. They will help in making it easier to provide library services in a more efficient, friendly, and innovative manner.

Theoretical Framework

The investigation was informed by the Diffusion of Innovation theory (Rogers, 1962). Rogers (1962) proposed the Diffusion of Innovation hypothesis, which describes how civilizations accept and disseminate new technologies. This framework can be applied to Zimbabwean state universities by examining institutional and environmental elements such as the relative advantage, compatibility, complexity, trialability, and observability of these innovations that either support or impede the diffusion and adoption of AI technologies in Zimbabwean university libraries. University libraries will thus gain important insights into creation and application of AI adoption strategies that encourage broad adoption and efficient use of the technology according to the study's application of the Diffusion of Innovation theory. State university libraries can, thus implement strategies for enhancing the adoption and use of AI technologies by students to enhance their research and academic capacities.

Methodology

A qualitative approach was used to gather in-depth information to enhance credibility and transferability. The study population comprised twelve individuals, with ten librarians purposefully selected from one state university library in Zimbabwe. Credibility was ensured through prolonged engagement with participants, member checking to validate responses, and triangulation with existing literature. Transferability was supported by providing rich, detailed descriptions of the context, participants, and research processes. Thematic analysis was used to examine the interview data. This process included steps like getting familiar with the data, coding important sections, developing and refining themes, and reporting findings with quotes from participants. We maintained rigour through collaborative coding and audit trails that documented our decisions. This ensured trustworthiness and depth in the analysis. We also emphasized replicability and transparency by clearly documenting the research design and methods, including detailed records of data collection and analysis procedures. Ethical considerations were addressed through the Institutional Review Board (IRB) approval, informed consent from all librarian participants, and strict measures to keep their identities and responses confidential throughout the study.

Findings

In this research, the data were collected by conducting semi-structured interviews with 10 librarians from one state university in Zimbabwe. The data collected were analysed using thematic analysis. The librarians are referred to as L1-L10, where quotes are used to show the sub-themes.

The Importance of AI in University Libraries

Enhanced Information Retrieval

The librarians all agreed on the transformative power of AI, despite the low adoption rate. One of the participants had this to say: - L1. *"AI chatbots such as virtual assistants assist students in accessing resources instantly, reducing our workload"* L. 3. Shared: *"Search algorithms personalize recommendations, making research faster"* L10. Opined that: -*'Voice-activated AI search cuts navigation time for non-tech-savvy users"*. The above results underscore the need for investment in the infrastructure and development of AI to realize its full potential in the state university libraries of Zimbabwe.

Plagiarism Detection and Academic Integrity

Librarians consistently highlighted the significant role of AI in enforcing plagiarism and academic integrity within all university libraries. *"Tools like Turnitin AI detect generated content, maintaining standards"* (L1), and *"It flags unethical use early, educating students"* (L5). In another response, L2 highlighted the active monitoring function of AI, saying, *"AI scans assignments in real-time during submission, preventing violations before they occur."* L6 also highlighted the benefits of linking and integrating AI tools, saying, *"Linking AI detectors with our LMS creates seamless academic honesty workflows."* In another response, L9 highlighted the long-term benefits of AI, saying, *"Consistent AI flagging builds a culture of originality among students over time."* These responses reveal AI's dual role in enforcement and education, strengthening library integrity.

Automation of Routine Tasks

Librarians also recognized the efficiency of AI in terms of streamlining library activities. For instance, L4 observed that *"AI-powered robots handle shelf management and inventory checks automatically."* L2 also observed that *"Chatbots resolve basic queries overnight, cutting response times."* Moreover, L8 emphasized that *"Automated metadata tagging speeds up new acquisitions processing tenfold."* These observations demonstrate the potential of AI in terms of transforming library activities into seamless operations.

Obstacles faced by librarians in utilizing AI-based services in academic libraries

Infrastructure and Cost Constraints

Librarians identified infrastructure and cost constraints as primary barriers to AI implementation in university libraries. L3, for instance, highlighted connectivity barriers when they said, *"Unreliable internet and frequent power outages make AI tools crash during peak hours, frustrating both staff and students."* L5, on the contrary, highlighted cost barriers when they said, *"Subscription costs for advanced AI tools such as premium chatbots are beyond our annual IT budget allocations."* L6, on the other hand, highlighted hardware barriers when they said, *"We lack enough servers and GPUs to run AI locally, making us rely on unreliable cloud services."* These quotes, therefore, show that infrastructural barriers are a hindrance to AI adoption in Zimbabwean libraries.

Lack of Training and Digital Literacy

Infrastructural and cost issues emerged as a major hindrance to AI adoption, according to librarians at university libraries. L1 opined, *"Most staff completed basic computer training a decade ago, but AI requires specialized skills we haven't received."* L4 also highlighted this aspect: *"Without regular AI workshops, librarians fear making errors with complex tools such as natural language processing systems."* L8 also pointed to a very important aspect of resistance to AI adoption: *"Older staff view AI as job-threatening, which creates psychological barriers to adoption beyond technical skill gaps."* These quotes clearly highlight the need for effective training programs for library professionals on AI systems.

Policy and Ethical Gaps

The librarians across the board identified the lack of institutional frameworks as a significant challenge to the adoption of AI. L7 explained, *"We lack specific data privacy guidelines, which puts our students' data at risk of being compromised by AI analysis tools."* L9 emphasized the need for caution with algorithms: *"The foreign AI tools we use are biased against Zimbabwean languages and indigenous knowledge systems."* L3 emphasized the lack of regulatory frameworks on AI ethics in public institutions: *"There are no specific guidelines on AI ethics in public institutions, making us vulnerable to the law."* These testimonies reveal how policy and ethical uncertainties paralyse librarians' willingness to embrace AI confidently.

Strategies to Enhance the Use of AI by Students in the State University Libraries of Zimbabwe

Targeted Training Programs

The role of librarians in promoting capacity-building training for AI adoption was emphasized. L10 proposed, *"Hands-on workshops using free AI tools like Google Bard should be mandatory during library orientations."* L7 proposed peer-led initiatives: *"Student ambassadors can demonstrate AI research tricks to their peers more effectively than formal lectures."* L1 emphasized integration*: "Embed AI literacy modules directly into information literacy classes with practical assignments."* These proposals place training as the foundation for sustainable student AI engagement in Zimbabwean libraries.

Affordable Infrastructure Partnerships

Collaborative approaches were highlighted by librarians as the solution to the challenges posed by the lack of resources. L3 suggested, *"Partner with telecom giants like Econet for subsidized data bundles dedicated to AI library platforms."* Hardware sharing was suggested by L6, who said, *"University consortia could pool resources for shared AI servers, reducing individual institution costs."* International aid was suggested by L9, who said, *"Seek grants from UNESCO or African Development Bank specifically for AI library infrastructure in developing nations."* These partnerships highlight the possible solutions for the democratization of AI access in the state universities in Zimbabwe.

Curriculum Integration and Awareness

Librarians emphasized the integration of AI with the formal learning process to achieve lasting effects. L1's suggestion was, *"Incorporate AI tool demonstrations into first-year library orientations with hands-on practice sessions." L5's suggestion involved the creation of incentives: "Offer bonus marks for assignments that feature ethical AI research methodologies."* L2's suggestion focused on creating awareness: *"Launch monthly 'AI in Research' webinars with success stories from top student users."* This integration of AI will make it go from a novelty to a basic skill set within the libraries of the universities of Zimbabwe.

Discussion

The results strongly confirm the Diffusion of Innovation Theory (Rogers, 1962) on AI adoption in one Zimbabwean state university library, where the librarians (L1-L10) strongly supported the relative advantage of AI in terms of improved information retrieval using chatbots (L3, L7, L10), plagiarism detection (L1, L2, L5, L6, L9), and automating mundane tasks (L2, L4, L8) that directly correspond to Chowdhury and Koya (2017) on knowledge retrieval efficiency and Cai et al. (2023) on AI language processing capabilities for individualized student services. However, complexity becomes a diffusion inhibitor, as seen in infrastructure constraints such as power failures and GPU availability (L3, L5, L6), which correspond to Gondo, Mundondo, and Munyoro (2020) on technological scarcity, while human capacity constraints and resistance (L1, L4, L8) align with Munyoro and Mujuru's (2020) AI literacy competency. The absence of policies on ethics and bias against local content (L3, L7, L9) further emphasize incompatibility with Zimbabwean realities, as Chinembiri and Mutula (2020) caution on data privacy, forming a wide "promise vs. practice" gap where AI visibility becomes a mere theoretical construct with 70-80% readiness gaps in the region (Ajani et al., 2022; Echedom & Okuonghae, 2021). The strategies proposed also show elements of trialability and observability, such as training strategies (L1, L7, L10) that mirror Alam et al.'s (2024) discussion on integrating AI literacy in LIS courses, whereas infrastructure partnerships with Econet and UNESCO grants (L3, L6, L9) also mirror Ndlovu and Mupfiga's model on the technological foundation, as well as Mashingaidze and Moyo (2021) on collaborative funding approaches. The integration of the curriculum with incentives (L1, L2, L5) and change management (Mpofu, Milne, & Watkins, 2019) also addresses the issue of resistance to change, positioning libraries as agents of empowerment. This research therefore expands on Rogers' (1962) theory on diffusion theory by promoting the diffusion accelerators of subsidized tools such as Google Bard, servers, and guidelines to move Zimbabwean libraries from being mere spectators to being innovators in AI, promoting equitable research capacities among Zimbabwean students as envisioned in the African 4IR literature (Barsha & Munshi; Chinembiri & Mutula, 2020).

Conclusion and Recommendations

In this study, the transformative potential of AI is highlighted for state university libraries in Zimbabwe, while the challenges that persist with the adoption of AI, as highlighted by thematic findings from the perspectives of 10 librarians (L1-L10), show the challenges that persist with the adoption of AI, as highlighted by thematic findings from the perspectives of 10 librarians (L1-L10).

This study is informed by the Diffusion of Innovation Theory, as presented by Rogers (1962). Therefore, the study calls for the following recommendations: -

1. State university libraries should adopt policies that promote privacy, fairness, transparency, accountability, and responsible use, including data protection, user consent, intellectual property rights, and bias mitigation to foster trust and inform implementation.
2. Develop targeted programmes in technical AI management, pedagogical AI literacy training, and student advisory skills to address skill sets and push past resistance, building confidence in adoption.
3. Utilize AI analytics, recommendation tools, and powerful search capabilities to enhance resource visibility, engagement, and service delivery.
4. Pursue external funding from government, international organizations (e.g., UNESCO), and the private sector (e.g., Econet) for servers, GPUs, and reliable connectivity to support AI applications long-term.
5. Weave AI training into library orientation, information sessions, and educational curricula with rewards such as bonus credits to shift students from curious to skilled researchers.

References

Ajani, Y. A. *et al.* 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. doi:10.1080/10875301.2022.2086196. [2025, February 20]

Alam, A. S.et al. 2024. Fostering AI literacy for future librarians. *College & Undergraduate Libraries*, 1–25. https://doi.org/10.1080/10691316.2024.2425092 [2025, February 20]

Barsha, S. and 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 [2025, February 20]

Beall, J. 2020. The potential of artificial intelligence-powered recommendation systems in academic libraries. *The Journal of Academic Librarianship*. 46(3):102132.

Cai, L., Guan, C. and Li, W. 2023. A survey of recent advances in natural language processing. *IEEE Transactions on Artificial Intelligence*. 4(2): 132-147.

Chinembiri, E. and Mutula, S. 2020. An investigation of information security and privacy risks in the use of cloud computing in academic libraries in Zimbabwe. *The Electronic Library*. 38(1):91-103.

Chowdhury, G. and Koya, K. 2017. Information practices for sustainability: Role of iSchools in achieving the UN Sustainable Development Goals (SDGs). *Journal of the Association for Information Science and Technology.* 68(9): 2128-2138.

Echedom, A. U. and Okuonghae, O. 2021. Transforming academic library operations in Africa with artificial intelligence: Opportunities and challenges: A review paper. *New Review of Academic Librarianship*. *27*(2): 243–255. https://doi.org/10.1080/13614533.2021.1906715 [2025, February 20]

Flick, U. 2018. An introduction to qualitative research. https://uk.sagepub.com/en-gb/eur/an-introduction-to-qualitative-research/book261109

Gondo, T., Mundondo, J. and Munyoro, G. 2020. Factors affecting the adoption of cloud computing in academic libraries in Zimbabwe. *Library Management*. 41(4/5): 261-274.

Jha, S.K. 2023. Application of artificial intelligence in libraries and information centers services: prospects and challenges. *Library Hi Tech News.* 4(7): https://doi.org/10.1108/LHTN-06-2023-0102. [2024, May 22]

Moyo, M. and Mashingaidze, S. 2021. Leveraging strategic partnerships to enhance the use of e-resources in Zimbabwean university libraries. *Library Management*. 42(4/5): 277-290.

Mpofu, B., Milne, D. and Watkins, A. 2019. Factors influencing the adoption of e-learning at Midlands State University in Zimbabwe. *The International Journal of Information and Learning Technology*. 36(1): 2-20.

Munyoro, G., and Mujuru, T. 2019. The use of open source integrated library systems in academic libraries in Zimbabwe. *The Electronic Library*. 37(1): 131-143.

Ndlovu, S. and Mupfiga, P. 2018. Competencies required by academic librarians in the digital age: The case of Zimbabwean university libraries. *Library Management*. 39(1/2): 2-15.

Omame, I. M. and Alex-Nmecha, J. C. 2020. Artificial intelligence in libraries. In Managing and adapting library information services for future users (pp. 120-144). *IGI Global.* 120-144.

Pence, H. E. 2022. Future of Artificial Intelligence in Libraries. *The Reference Librarian*. 63(4): 133–143. https://doi.org/10.1080/02763877.2022.2140741. [2024, August 3]

Rogers, E.M. 1962. Diffusion of Innovations. Free Press, New York.

Suhas, P. V. and Narayanrao, D. V. 2014. Ethical issues in the application of artificial intelligence in library and information services. *DESIDOC Journal of Library & Information Technology*. 34(4): 284-289.

Tsekea, S., & Mandoga, E. (2025). The ethics of artificial intelligence use in university libraries in Zimbabwe. Frontiers in Research Metrics and Analytics. https://pmc.ncbi.nlm.nih.gov/articles/PMC11782261/https://www.frontiersin.org/journals/research-metrics-and-analytics/articles/10.3389/frma.2024.1522423/full

Mutasa, L., & Chikowero, V. (2024). Perceptions and use of large language models by LIS students in Zimbabwe.https://journal.calaijol.org/index.php/ijol/article/download/385/424/2581

Hlongwane, M., et al. (2024). A literature review on AI implementation drivers and barriers in African academic libraries, including Zimbabwe. https://sajlis.journals.ac.za/pub/article/download/2399/1669/