International Journal of Social Research and Development
www.socialsciencejournal.net
Online ISSN: 2664-8709
Received: 20-02-2026, Accepted: 22-03-2026, Published: 06-04-2026
Volume 8, Issue 2, 2026, Page No. 17-23

Leveraging artificial intelligence (AI) to strengthen literacy campaigns in Nigeria: Analysing the role of katsina state public library board programs for sustainable development

Hindatu Salisu Abubakar
Department of Library and Information Sciences, Faculty of Social and Mnagemnet Sciences, Bayero University, Kano, Nigeria

Abstract
This study investigates the potential of artificial intelligence (AI) to enhance literacy campaigns and outreach programs at the Katsina State Public Library Board (KSLB) in Nigeria, focusing on identifying literacy gaps and designing effective interventions for sustainable development. The study adopted the quantitative descriptive survey design, data were collected from 127 library staff through a validated questionnaire (reliability coefficient = 0.789) and analysed using SPSS version 23. The findings reveal that KSLB prioritises child-focused programs, such as storytime sessions (mean = 3.8) and adult literacy classes (mean = 3.2), while specialised initiatives like mobile outreach (mean = 2.5) and EFL courses (mean = 2.3) are less frequent, indicating an adult gap and specialised literacy efforts. AI adoption is minimal, with data analytics (mean = 2.4) being the most utilised tool, while advanced applications like chatbots (mean = 1.8) and adaptive learning platforms (mean = 1.6) are underutilised due to high implementation costs (30%), lack of technical expertise (25%), and data privacy concerns (15%). These challenges align with broader Nigerian library trends, where infrastructure and funding constraints hinder AI integration. The study recommends increased investment in infrastructure, staff training, and policy support to leverage AI for personalised learning and targeted outreach, thereby addressing literacy disparities and advancing sustainable development in Katsina State.

Keywords: artificial intelligence, community engagement, data analytics, data privacy, digital divide, literacy campaign

Introduction

Public libraries are cornerstone institutions for promoting literacy and fostering lifelong learning, serving as vital community hubs that provide access to essential resources such as books, digital media, and educational programs (Asemi & Asemi, 2018) [4]. In regions with limited educational infrastructure, public libraries play a critical role in bridging literacy gaps and enhancing educational outcomes across diverse demographics. These institutions offer safe spaces for self-directed learning, supporting a range of literacy initiatives, from early childhood education to adult literacy programs. However, challenges such as limited funding, inadequate staffing, and insufficient infrastructure, particularly in rural areas, often hinder their effectiveness (Ibrahim & Okpala, 2024) [9]. The integration of artificial intelligence (AI) presents a transformative opportunity to address these challenges, enabling libraries to strengthen literacy campaigns and outreach efforts through data-driven and innovative approaches.

AI technologies, including machine learning, natural language processing, and predictive analytics, offer significant potential to enhance the efficiency and impact of literacy initiatives. By analysing large datasets, AI can identify literacy gaps, demographic trends, and community-specific needs, enabling libraries to design targeted and personalised literacy programs (Hussaini, 2023) [8]. For instance, AI-driven tools can assess reading habits, educational backgrounds, and demographic data to pinpoint communities with low literacy rates, ensuring that interventions are tailored to specific needs (Ibrahim & Okpala, 2024) [9]. Furthermore, AI can automate administrative tasks, such as cataloguing and user support, allowing library staff to focus on developing and delivering impactful literacy programs. AI-powered tools, including chatbots and virtual assistants, enhance user experiences by providing immediate assistance and personalised resource recommendations (Adetayo, 2023) [1]. These technologies also enable adaptive learning systems that adjust to individual learner needs, offering tailored educational content to improve literacy outcomes (Asemi & Asemi, 2018) [4].

AI's potential extends to outreach programs, making them more targeted and accessible. Traditional outreach methods, such as posters and word-of-mouth, are often inefficient, particularly for reaching marginalised or remote communities. AI-driven strategies, leveraging digital platforms, social media, and mobile applications, enable libraries to engage diverse audiences effectively (Chemulwo & Sirorei, 2020) [5]. For example, AI-powered mobile apps can deliver educational content to rural populations or individuals with limited mobility, expanding access to literacy programs (Adetayo, 2023) [1]. By facilitating anytime, anywhere learning, AI aligns with the growing trend of mobile education, making literacy initiatives more inclusive and accessible to non-traditional learners, such as adults without formal education (Asemi & Asemi, 2018) [4].

In Katsina State, Nigeria, where literacy rates are significantly lower than in developed countries, AI integration in public libraries could address pressing educational disparities. Challenges such as poverty, limited educational infrastructure, and high illiteracy rates, particularly in rural areas, underscore the need for innovative solutions. AI can enable the Katsina State Public Library Board to develop data-driven literacy programs, automate administrative tasks, and expand outreach efforts,

thereby enhancing educational outcomes and supporting sustainable development (Ibrahim & Okpala, 2024) [9].

Statement of the Problem

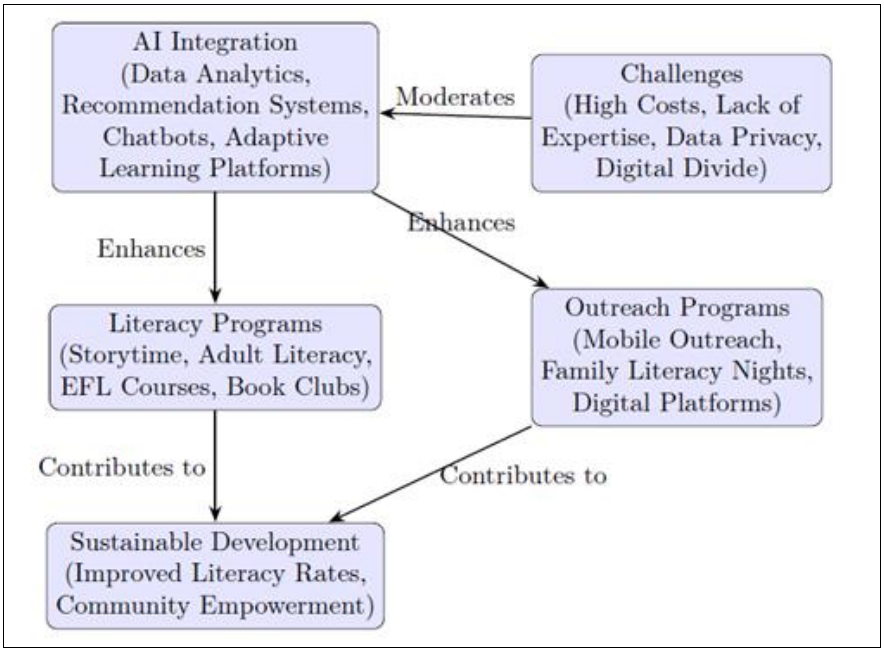
The integration of artificial intelligence (AI) into public library systems offers transformative potential for enhancing literacy and outreach programs by enabling the identification of literacy gaps, personalising learning experiences, and extending services to underserved communities (Yusuf, Adebayo, Bello, & Kayode, 2022) [20]. AI technologies, such as data analytics, machine learning, and natural language processing, allow libraries to analyse user data, track engagement, and deliver tailored educational content (Hussaini, 2023) [8]. These tools are particularly valuable in resource-constrained environments, where they can optimise program delivery and improve accessibility.

However, preliminary investigations indicate that literacy and outreach programs in Katsina State are severely limited, particularly in rural areas, where barriers such as poor infrastructure, inadequate resources, and a shortage of trained personnel hinder access to basic literacy initiatives. The absence of consistent outreach efforts exacerbates these challenges, leaving significant portions of the population without access to essential educational resources. This situation poses a critical barrier to educational advancement in the region. This study explores how AI can be leveraged by the Katsina State Public Library Board to identify literacy gaps, design effective outreach programs, and address the educational needs of diverse communities, thereby contributing to sustainable development.

Research Objectives

1. Identify the types of literacy and outreach programs currently implemented by the staff of the Katsina State Public Library Board.
2. Examine how library staff utilise AI to enhance literacy and outreach programs in Katsina State.
3. Investigate the challenges hindering the effective integration of AI in promoting literacy and outreach programs in the region.

Conceptual Framework



Source: Researcher, 2025

Fig 1: Conceptual Framework for Leveraging AI in Literacy and Outreach Programs at Katsina State Public Library Board

The diagram visually represents these relationships:

AI Integration is centrally positioned, with arrows pointing to Literacy Programs and Outreach Programs, indicating that AI enhances both.

Challenges moderate the relationship between AI and the programs, shown by an arrow pointing back to AI Integration.

Both Literacy Programs and Outreach Programs contribute to Sustainable Development, depicted by arrows converging on this outcome.

This framework provides a clear theoretical basis for understanding how AI can be leveraged to strengthen literacy campaigns while acknowledging the barriers that must be addressed for effective implementation.

The Role of Public Libraries in Literacy Development

Public libraries are pivotal in promoting literacy, education, and community engagement by providing free access to information and resources for individuals from diverse backgrounds (Yusuf *et al*., 2022) [20]. They support literacy development through a variety of programs, including storytime sessions for young children, summer reading programs, adult literacy classes, and English as a Foreign Language (EFL) courses (Subaveerapandiyan, 2023) [18]. Additional initiatives, such as book clubs, homework help centres, family literacy nights, and mobile outreach programs, foster critical thinking, reading comprehension, and cognitive skills, particularly in underserved communities (Isaiah & Juliet, 2020) [11].

Concept and Applications of AI in Libraries

Artificial Intelligence (AI) refers to the simulation of human intelligence in machines, encompassing technologies such as machine learning, natural language processing, and data analytics (Duggal, 2023) [6]. In libraries, AI enhances service

delivery, operational efficiency, and user engagement. AI-powered tools, including automated cataloguing systems, virtual assistants, and recommendation algorithms, streamline library operations and personalise user experiences (Yusuf *et al*., 2022) [20]. For instance, AI-driven chatbots provide real-time assistance, guiding users to relevant resources, while recommendation systems suggest reading materials based on individual preferences and literacy levels (Jamila & Nour, 2022) [12]. These technologies enable libraries to design data-driven literacy programs and targeted outreach initiatives, addressing specific community needs (Subaveerapandiyan, 2023) [18].

AI in Literacy and Outreach Programs

AI enhances various literacy programs, including digital literacy initiatives, which equip individuals with skills to navigate the digital world (Alala, Uzoaru, & Odikwa, 2024) [2]. AI-powered platforms, such as intelligent tutoring systems and virtual learning environments, adapt content to individual learner needs, ensuring personalised and engaging educational experiences (Subaveerapandiyan, 2023) [18]. For reading literacy, AI-based recommendation algorithms suggest tailored reading materials, improving user engagement and learning outcomes (Massis, 2018) [13]. In outreach, AI-driven strategies leverage digital platforms and mobile applications to reach marginalised communities, overcoming the limitations of traditional methods (Chemulwo & Sirorei, 2020) [5]. While developed countries have successfully integrated AI into library services, adoption in Nigeria remains limited due to infrastructure constraints, budget limitations, and a lack of technical expertise (Idemudia & Makinde, 2022; Oyetola *et al*., 2023) [10, 17].

Challenges of AI Integration in Libraries

The integration of AI in public libraries, particularly in developing countries like Nigeria, faces several challenges. High implementation costs, including the acquisition and maintenance of AI technologies, pose significant barriers for libraries with limited budgets (Hussaini, 2023) [8]. A lack of technical expertise among library staff further hinders effective AI adoption (Moustapha & Yusuf, 2023) [14]. Data privacy concerns, resistance to technological change, and accessibility issues for individuals with disabilities also complicate implementation (Irizarry-Nones, Palepu, & Wallace, 2017; Yusuf *et al*., 2022) [15, 20]. Additionally, cultural and linguistic limitations of AI tools may reduce their effectiveness in diverse communities, while the risk of misinformation from AI-generated content threatens library credibility (Massis, 2018; Moustapha & Yusuf, 2023) [13, 14]. Addressing these challenges requires investment in infrastructure, staff training, and public awareness to fully harness AI's potential in enhancing literacy and outreach programs (Isaiah & Juliet, 2020) [11].

Research Methodology

This study adopts a quantitative research approach using a descriptive survey design. The target population comprises all 127 library staff members of the Katsina State Public Library Board and its branches. A total enumeration sampling technique was employed, including all respondents in the study. Data were collected using a validated questionnaire, reviewed by experts in Library and Information Science, with a reliability coefficient of 0.789. Data analysis utilised mean, standard deviation and charts for research objectives 1 and 2, while simple frequency tables, percentages and charts addressed research objective 3. The Statistical Package for the Social Sciences (SPSS) version 23 was used for data analysis.

Results

The results of this study are presented based on the research objectives outlined earlier, addressing the types of literacy and outreach programs implemented by the Katsina State Public Library Board, the use of AI in enhancing these programs, and the challenges hindering effective AI integration. The data were analysed using mean, standard deviation, frequency tables, percentages, and charts, as described in the methodology.

Response Rate

Table 1: Response Rate

S/N	Description	Number (n)	Percentage (%)
1	Number of Questionnaire Administered	127	100
2	Number of Questionnaire Returned	106	83.5
3	Number of Questionnaire Not Returned	21	16.5

The results in the table above indicate that a total of 127 questionnaires were distributed to the respondents, who were staff members of the Katsina State Public Library Board. Of these, 106 questionnaires (83.5%) were duly completed and returned, while 21 questionnaires (16.5%) were not returned. The high response rate of 83.5% was achieved through consistent follow-ups by the researcher and the research assistants engaged for the study, ensuring robust data collection for the analysis of AI integration in literacy and outreach programs.

Research Objective 1: Types of Literacy and Outreach Programs Implemented by the Katsina State Public Library Board

The first objective sought to identify the literacy and outreach programs currently implemented by the staff of the Katsina State Public Library Board. The survey results indicate that the library board implements a range of programs, though their scope and frequency vary. The data, analysed using mean and standard deviation, are summarised in the chart below

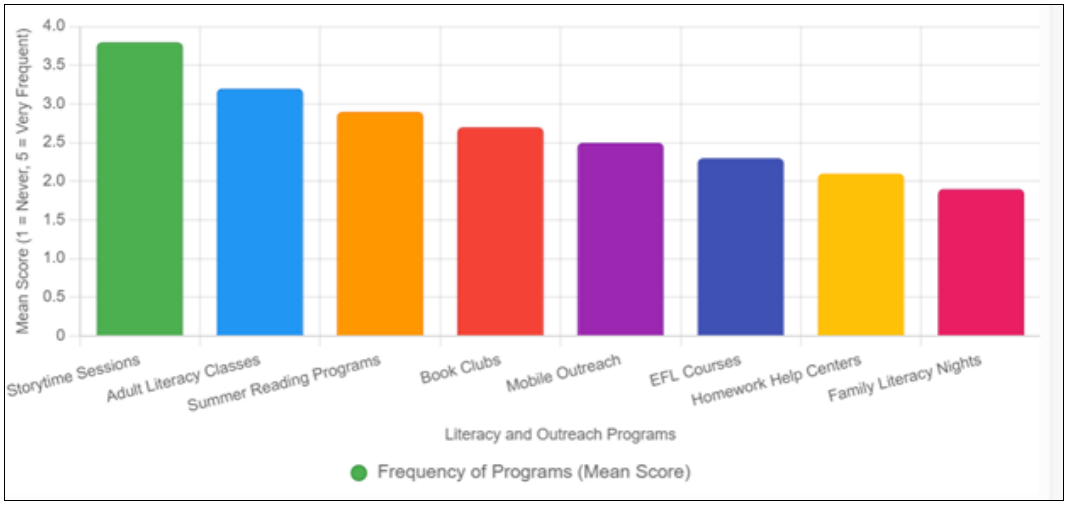


Fig 2: Frequency of Literacy and Outreach Programmes in Katsina State Public Library Board

The chart illustrates that storytime sessions for young children (mean = 3.8) and adult literacy classes (mean = 3.2) are the most frequently implemented programs, indicating a focus on early childhood and adult education. Summer reading programs (mean = 2.9) and book clubs (mean = 2.7) are moderately frequent, while mobile outreach programs (mean = 2.5), English as a Foreign Language (EFL) courses (mean = 2.3), homework help centres (mean = 2.1), and family literacy nights (mean = 1.9) are less common. These findings suggest that while the library board offers a variety of literacy programs, outreach efforts, particularly mobile outreach and family literacy nights, are limited, potentially due to resource constraints or logistical challenges in reaching rural communities (Isaiah & Juliet, 2020) [11].

Research Objective 2: Use of AI in Enhancing Literacy and Outreach Programs

The second objective examined how library staff leverage AI to enhance literacy and outreach programs in Katsina State. The survey assessed the extent of AI utilisation across various applications, including data analytics, recommendation systems, chatbots, and adaptive learning platforms. The results, analysed using mean and standard deviation, are presented in the chart below:

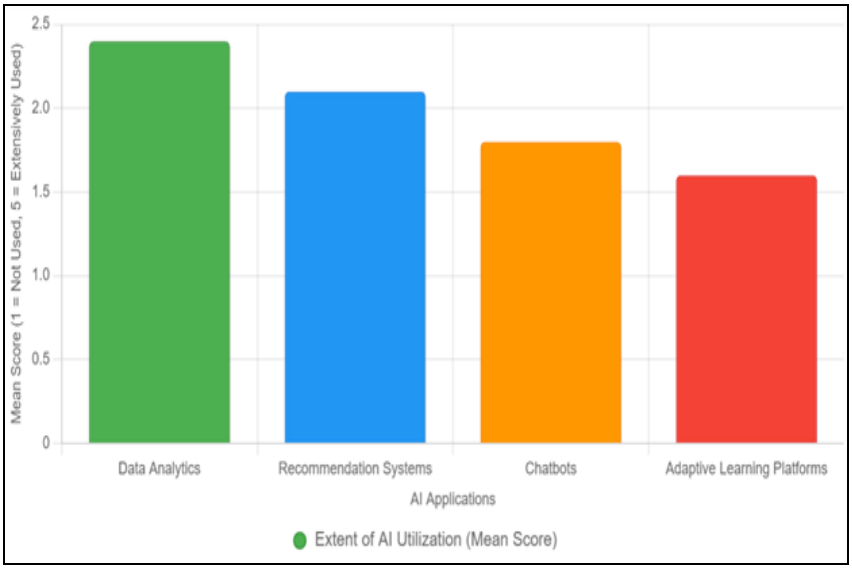


Fig 3: Extent of AI Utilisation in Literacy and Outreach Programmes

The chart reveals limited AI adoption in the Katsina State Public Library Board. Data analytics (mean = 2.4) is the most utilised AI application, likely for basic user data analysis to identify literacy trends. Recommendation systems (mean = 2.1) and chatbots (mean = 1.8) are minimally used, while adaptive learning platforms (mean = 1.6) are rarely implemented. These low scores indicate that AI integration is in its early stages, with limited deployment of advanced tools like chatbots or adaptive learning systems, which could enhance personalised learning and outreach (Yusuf *et al*., 2022; Subaveerapandiyan, 2023) [18, 20]. The findings align with literature highlighting the slow adoption of AI in Nigerian libraries due to infrastructural and technical limitations (Idemudia & Makinde, 2022) [10].

Research Objective 3: Challenges Hindering Effective AI Integration

The third objective investigated the challenges hindering library staff from effectively leveraging AI in literacy and outreach programs. The data, analysed using frequency tables and percentages, are summarised in the chart below:

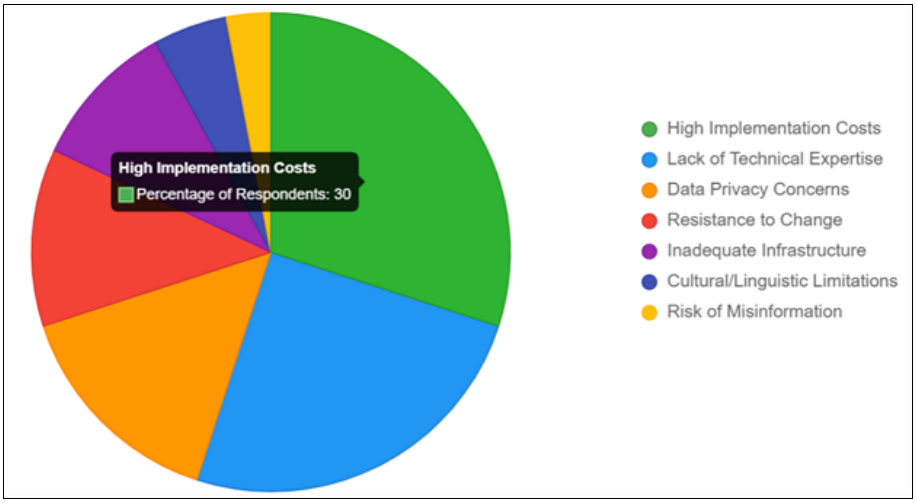


Fig 3: Challenges Hindering AI Integration in the Katsina State Public Library Board

The pie chart indicates that high implementation costs (30%) and lack of technical expertise (25%) are the most significant barriers to AI integration, consistent with findings from Hussaini (2023) and Moustapha & Yusuf (2023) [8, 14]. Data privacy concerns (15%) and resistance to change (12%) are also notable challenges, reflecting concerns about user data security and staff reluctance to adopt new technologies (Irizarry-Nones *et al*., 2017) [15]. Inadequate infrastructure (10%), cultural and linguistic limitations (5%), and the risk of misinformation (3%) are less frequently cited but still relevant, particularly in diverse communities where AI tools may not fully accommodate local languages or cultural contexts (Massis, 2018) [13]. These challenges underscore the need for targeted investments in infrastructure, training, and awareness to facilitate AI adoption (Isaiah & Juliet, 2020) [11].

Discussion of Findings

The results of this study provide valuable insights into the current state of literacy and outreach programs at the Katsina State Public Library Board (KSLB), the extent of AI integration in these initiatives, and the barriers to effective AI adoption. These findings are discussed in relation to the research objectives, drawing connections to existing literature, including recent studies on AI in Nigerian and African libraries. By examining these elements, the discussion highlights opportunities for enhancing literacy campaigns through AI, while addressing implications for sustainable development in Nigeria.

Discussion of Research Objective 1: Types of Literacy and Outreach Programs

The findings indicate that the KSLB prioritises programs focused on children and community engagement, such as storytime sessions (mean = 3.8) and adult literacy classes (mean = 3.2), with moderate implementation of summer reading programs (mean = 2.9) and book clubs (mean = 2.7). However, specialised initiatives like mobile outreach (mean = 2.5), English as a Foreign Language (EFL) courses (mean = 2.3), homework help centres (mean = 2.1), and family literacy nights (mean = 1.9) are less frequent. This distribution suggests an emphasis on foundational literacy for younger demographics, potentially reflecting resource allocation toward immediate community needs in a region with historically low literacy rates. Recent data from the Katsina State Bureau of Statistics reports an 85% literacy rate, but other sources indicate disparities, with Katsina ranking among states with lower literacy levels at around 41.5%. This gap underscores the need for broader program coverage, particularly in rural areas where access to education is limited (Isaiah & Juliet, 2020) [11].

This focus on child-centric programs contrasts with more balanced approaches in other library systems, such as those in developed countries or even some urban Nigerian contexts, where adult and specialised literacy initiatives are equally emphasised to support lifelong learning (Subaveerapandiyan, 2023). For instance, Hussain (2023) [8, 18] argues that libraries should adopt a holistic strategy, integrating adult education to address intergenerational literacy gaps, which is crucial for sustainable development goals like SDG 4 (Quality Education). The underemphasis on adult-focused programs at KSLB may perpetuate cycles of low literacy among older populations, limiting economic empowerment and community resilience in Katsina State. Comparatively, libraries in Lagos State have begun incorporating AI-driven knowledge management to expand adult literacy, demonstrating potential pathways for KSLB. To bridge this gap, KSLB could diversify its offerings by partnering with local NGOs or leveraging mobile technologies to extend outreach, aligning with global best practices that promote inclusive literacy for all age groups (Yusuf *et al*., 2022) [20].

Discussion of Research Objective 2: Leveraging AI in Literacy and Outreach Programs

The study reveals limited utilisation of AI in enhancing literacy and outreach at KSLB, with data analytics (mean = 2.4) being the most adopted tool, followed by recommendation systems (mean = 2.1), chatbots (mean = 1.8), and adaptive learning platforms (mean = 1.6). This underutilization suggests that while basic AI applications are emerging, advanced technologies like natural language processing or AI-generated educational content remain largely absent, hindering personalised learning and efficient outreach. These results align with Ibrahim and Okpala (2024) [9], who highlight similar patterns in Nigerian libraries, where resource constraints and technical expertise shortages impede AI integration. Globally, AI's potential to personalise learning is well-documented; for example, Duggal (2023) [6] notes that AI-driven virtual environments

can adapt to individual needs, improving engagement and outcomes in literacy programs.

In the African context, recent studies emphasise AI's transformative role in library services, such as metadata management and collection development, yet adoption in Nigeria lags due to infrastructural barriers. The low AI leverage at KSLB contrasts with progressive implementations in South African libraries, where AI streamlines operations without displacing staff. This disparity indicates that KSLB is at an early stage of AI adoption, potentially missing opportunities to address literacy gaps through data-driven insights and mobile apps, as suggested by Chemulwo and Sirorei (2020) [5]. For sustainable development, integrating AI could enable targeted outreach in underserved rural areas of Katsina, where literacy rates remain challenged by poverty and limited access (Adetayo, 2023) [1]. By scaling AI tools, KSLB could enhance program efficiency, fostering inclusive education and aligning with national efforts to improve Nigeria's overall literacy rate, estimated at 69% with significant regional variations.

Discussion of Research Objective 3: Challenges Hindering AI Leverage

The primary challenges identified include high implementation costs (30%), lack of technical expertise (25%), data privacy concerns (15%), resistance to change (12%), inadequate infrastructure (10%), cultural/linguistic limitations (5%), and risk of misinformation (3%). These barriers resonate with Chemulwo and Sirorei (2020) [5], who identify financial constraints and limited AI understanding as key obstacles in African libraries. Similarly, Massis (2018) [13] discusses technical difficulties and misinformation risks, which are amplified in developing contexts like Nigeria, where unstable power supply and skills shortages further complicate adoption.

Recent research in Nigeria highlights additional hurdles, such as insufficient policy frameworks and funding shortages, which impede AI preparedness in university libraries. The digital divide, exacerbated by rural-urban disparities in Katsina, echoes global concerns about equitable technology access (Moustapha & Yusuf, 2023) [14]. Resistance to change and data privacy issues, as noted by Irizarry-Nones *et al*. (2017) [15], may stem from cultural factors and a lack of training, leading to reluctance among staff. These challenges not only limit AI's role in literacy but also hinder broader sustainable development, as unaddressed literacy gaps perpetuate inequality. To mitigate this, investments in infrastructure and training are essential, as emphasised in studies on AI in academic libraries.

Conclusion

This study underscores the transformative potential of artificial intelligence (AI) in enhancing literacy and outreach programs at the Katsina State Public Library Board (KSLB), yet highlights significant barriers impeding its effective adoption. Key challenges include high implementation costs, limited technical expertise, inadequate government support, technical glitches, and insufficient understanding of AI among library staff. Furthermore, concerns surrounding data privacy and the persistent digital divide in Katsina's communities exacerbate these obstacles, limiting access to AI-driven solutions. To fully harness AI's capabilities for advancing literacy and promoting sustainable development, strategic interventions—such as increased funding, comprehensive staff training, and infrastructure improvements—are essential to overcome these barriers and ensure equitable access to innovative educational tools.

Recommendations, Implications, and Future Research

Overall, the findings underscore AI's untapped potential to strengthen literacy campaigns in Katsina, contributing to sustainable development by addressing educational disparities. By identifying gaps and designing targeted outreach, AI can support SDG 4 and enhance community resilience. Recommendations include government funding for AI infrastructure, staff training programs, and collaborations with tech firms to pilot adaptive tools. Limitations of this study, such as reliance on self-reported data from 127 staff, suggest the need for mixed-methods approaches in future research, including user perspectives and longitudinal assessments of AI impacts. Expanding to other Nigerian states could provide comparative insights, fostering evidence-based policies for AI-driven library transformations.

References

1. Adetayo AJ. Artificial intelligence chatbots in academic libraries The rise of ChatGPT. Library Hi Tech News,2023:40(3):18–21. https://doi.org/10.1108/LHTN
2. Alala AG, Uzoaru GC, Odikwa NH. Advantages and Challenges of Implementing Artificial Intelligence in Academic Library Services. International Journal of Education Research and Scientific Development,2024:5(1):15
3. Alberico R. The future of expert systems and artificial intelligence technologies in libraries and information centres. In The future of expert systems and artificial intelligence technologies in libraries and information centres. K G Saur, 2011, 194–228. https://doi.org/10.1515/9783110977806.194
4. Asemi A, Asemi A. Artificial Intelligence AI Application in Library Systems in Iran A taxonomy study. Library Philosophy and Practice e journal,2018. http://digitalcommons.unl.edu/libphilprac/1840/
5. Chemulwo MJ, Sirorei EC. Managing and Adapting Library Information Services for Future Users Applying AI in Libraries. Managing and Adapting Library Information Services for Future Users, 2020, 2. https://www.researchgate.net/publication/372493233_Applications_of_Artificial_Intelligenc
6. Duggal N. What is Artificial Intelligence Types history and future Simplilearn. Simplilearn, 2023. https://www.simplilearn.com/tutorials/artificial-intelligence-tutorial/what-is-artificial-intelligence
7. Ferguson IA. IJCAI 97 workshop on AI in Digital Libraries. D Lib Magazine, 1997. https://www.dlib.org/dlib/september97/09clips.html
8. Hussain A. Use of Artificial Intelligence in the Library Services Prospects and Challenges. Library Hi Tech News,2023:40(2):15–17. https://doi.org/10.1108/
9. Ibrahim H, Okpala AE. Exploring the Integration of Artificial Intelligence in Nigeria Library Services. International Journal of Knowledge Dissemination IJKD,2024:5(1):55–65. https://ijkd.uniabuja.edu.ng/index.php/ijkd/article/view/98
10. Idemudia BE, Makinde B. Artificial Intelligence in Libraries Prospect and Challenges for Nigerian

Academic Libraries. Communicate Journal of Library and Information Science,2022, 24(2). https://www.cjolis.org/index.php/cjolis/article/view/11
11. Isaiah MO, Juliet CA. Artificial intelligence in Libraries. ResearchGate, 2020. https://www.researchgate.net/publication/338337072_Artificial_intelligence_in_libraries
12. Jamila A, Nour EO. The Role of Artificial Intelligence Abilities in Library Services. The International Journal of Information Technology, 2022. https://doi.org/10.34028/iajit/19/3A/16
13. Massis B. Artificial Intelligence Arrives in the Library. Information and Learning Science,2018:119(7/8):456–459. https://doi.org/10.1108/ILS
14. Moustapha AA, Yusuf IO. Adoption of Artificial Intelligence to Improve Library Service Delivery in Academic Libraries in Kwara State Nigeria. Library Philosophy and Practice e journal, 2023, 7915. https://digitalcommons.unl.edu/libphilprac/7915
15. Nones A, Palepu A, Wallace M. Artificial Intelligence AI. Boston University, 2017. www.bu.edu/lernet/artemis/years/2017/projects/FinalPresenations/A.I.%20Presentation.pdf
16. Nugroho PA, Anna NEV, Ismail N. The Shift in Research Trends Related to Artificial Intelligence in Library Repositories During the Coronavirus Pandemic. Library Hi Tech,2023:3(2):16–36. https://doi.org/10.1108/
17. Oyetola SO, Oladokun BD, Maxwell S, Akor SO. Artificial Intelligence in the Library Potential Implications for Library and Information Services in 21st century Nigeria. Social Science Research Network, 2023. https://www.researchgate.net/publication/369681234_Artificial_intelligence_in_the_library_Potential_implications_to_library_and_information
18. Subaveerapandiyan A. Application of Artificial Intelligence AI in Libraries and its Impacts on Library Operations Reviews. Reviews, 2023
19. Yuan X. Research on the Development of Library in the Era of Artificial Intelligence. 16th International Conference on Computer Science and Education ICCSE,2021:1052–1057. https://doi.org/10.1109/ICCSE51940
20. Yusuf TA, Adebayo O, Bello L, Kayode J. Adoption of Artificial Intelligence for Effective Library Services Delivery in Academic Libraries in Nigeria. Library Philosophy and Practice e journal, 2022, 6804. https://digitalcommons.unl.edu/