

Libraries services in an AI-powered world : a personnel management perspective

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ABSTRACT

Artificial intelligence (AI) is increasingly reshaping library services, professional practices, and workforce configurations. This study examines the implications of AI adoption for library services from a personnel management perspective, with emphasis on changing staff roles, competencies, and management strategies. A descriptive survey design was adopted, and data were collected from 174 library professionals drawn from academic, public, school, and special libraries using a structured questionnaire. Data were analysed using descriptive statistics, specifically mean and standard deviation. Findings indicate that AI has moderately transformed staff roles by reducing repetitive tasks, improving operational efficiency, and shifting professional responsibilities toward technology mediation, supervision, and ethical oversight. Although respondents acknowledged opportunities for innovation and professional growth, challenges such as fear of job displacement, limited funding for training, skills gaps, and ethical concerns remain significant. The study recommends sustained capacity-building programmes, integration of AI competencies into personnel policies, leadership-driven change management, and collaborative training initiatives. The study provides empirical evidence from a developing-country context and practical guidance for aligning personnel management strategies with responsible, inclusive AI adoption in library services.

(Key words: Artificial Intelligence; library services; personnel management; digital transformation; library professionals; AI ethics.)

I. INTRODUCTION

Artificial intelligence (AI) has emerged as a transformative force within contemporary information environments, influencing how information is generated, organised, retrieved, and evaluated. Libraries, traditionally positioned as custodians of recorded knowledge and facilitators of equitable information access, are increasingly integrating AI-driven technologies into their service delivery and operational processes. Applications such as machine learning-based recommender systems, automated metadata generation, natural language processing-driven chatbots, and analytics-supported decision tools are now embedded in many library systems, reshaping both internal workflows and user experiences (Olowookere & Isah, 2025). The growing adoption of AI reflects broader digital transformation trends within higher education, public service institutions, and knowledge-intensive organisations. Users increasingly expect personalised, seamless, and immediate access to information resources, prompting libraries to adopt technologies capable of responding to these expectations at scale. AI-enabled

systems support faster discovery, extended service hours, and more data-informed planning, thereby enhancing operational efficiency and perceived service quality (Tella, 2023).

However, the integration of AI into library services raises critical implications beyond the technology itself, particularly for personnel management. As AI automates or augments routine tasks such as cataloguing support, circulation monitoring, and basic reference services, the professional roles of librarians and other library staff are undergoing redefinition. Increasingly, library personnel are required to function as technology mediators, quality controllers of automated outputs, educators in digital and AI literacy, and ethical stewards of information systems. These evolving responsibilities demand new competencies, including data literacy, evaluative judgment, and ethical reasoning, alongside traditional librarianship skills (Cox, 2023).

From a management perspective, AI adoption introduces challenges related to workforce readiness, staff motivation, training provision, and organisational culture.

While AI can enhance productivity, it may also generate anxiety among staff regarding job security, role relevance, and skill obsolescence if introduced without clear communication and structured professional development. Studies have shown that staff attitudes toward emerging technologies are strongly shaped by leadership support, access to training, and institutional policies that frame AI as an augmentative rather than a substitutive tool (Lo, 2024).

In developing contexts, these issues are particularly pronounced. Libraries often operate under constraints, including limited funding, uneven technological infrastructure, and gaps in continuous professional development opportunities. Without deliberate personnel management strategies, AI adoption risks widening inequalities in service delivery and professional preparedness across library types and regions. Consequently, examining library services in an AI-driven era through a personnel management lens is both timely and necessary. This study responds to this need by providing empirical evidence on how AI is influencing staff roles, management practices, and sustainable workforce strategies within libraries.

Despite increasing interest in AI adoption within library services, many libraries lack structured personnel management frameworks to guide the transition. AI implementation without adequate training, policy clarity, and leadership support can result in skills gaps, staff anxiety, ethical risks, and underutilisation of technologies. These challenges are particularly acute in developing contexts, where resource constraints limit workforce development. There is limited empirical evidence on how AI adoption is shaping personnel management practices in libraries, creating a gap that this study seeks to address.

This study, therefore, examines the implications of AI adoption for library services from a personnel management perspective. Specifically, the study examines the impact of AI on staff roles and responsibilities and investigates how personnel management practices are adapting to AI integration. The study identifies challenges and opportunities that AI presents for library professionals and proposes strategies for sustainable AI-driven personnel management in libraries.

Artificial Intelligence and the transformation of library services

The application of AI in libraries has evolved significantly from early expert systems to contemporary machine learning and natural language processing tools embedded in integrated library systems and discovery

platforms. Olowookere and Isah (2025) conducted a study on AI and machine learning applications in libraries. Their findings showed that AI is primarily applied across all library activities, e.g., classification, metadata, and collection development, leading to improved efficiency and consistency in information retrieval. However, the authors emphasised that professional oversight remains essential to ensure quality and accountability. Further study by Tella (2023) examined the application of AI to reference services in academic libraries through a systematic review of the literature and found that most advanced countries, such as Canada and China, use AI in reference services. They are mostly self-directed services in the libraries. The study by Kaushal and Yadav (2022) explored chatbot adoption in academic libraries through qualitative interviews. Their study identified concerns about reliability, contextual understanding, governance, and sustainability. The authors concluded that libraries experience meaningful service transformation only when AI tools align with organisational goals and staff capacity. Ashfaq et al. (2020) investigated determinants of user satisfaction with AI service agents using a quantitative survey. They found that perceived usefulness, trust, and service quality significantly predict user acceptance. Applied to library contexts, this implies that AI-enabled services must prioritise accuracy and transparency to sustain user trust.

Abba (2024) examined AI adoption in African university libraries using a survey. The study revealed moderate use of AI tools in reference services and discovery platforms, constrained by infrastructure gaps and limited training. This highlights the contextual realities shaping AI-driven service transformation in developing environments. Omeluzor, Ojukwu, and Enakrire (2024) focused on AI use in collection development in Nigerian university libraries. Their findings showed strong perceived potential but low implementation due to skills shortages and a lack of institutional policies. This demonstrates that awareness alone does not translate into service transformation. Asim, Mahmood, and Batool (2023) empirically investigated AI applications in Pakistani university libraries using a mixed-methods approach. They found that institutional readiness and staff expertise strongly influence the extent of AI-enabled service transformation. Synthesizing these studies, AI transforms library services incrementally by improving efficiency and access. However, the extent of transformation depends on personnel competence, institutional policies, and contextual capacity.

Library Professionals Changing Roles with AI

Inclusion of AI into service delivery has changed the role of library personnel significantly. Ahmed (2024) highlights a fundamental shift where librarians transition from traditional gatekeepers of information to dynamic knowledge curators and technologists. AI automates routine activities such as cataloguing and circulation management, which frees librarians to focus on developing personalized user services, managing complex digital datasets, and providing ethical oversight of AI applications. The emergence of AI-powered tools enhances metadata management, search optimization, and content curation, making information more accessible and user-specific. According to Cox (2024), who explores the necessary competencies for library professionals to fully integrate, emphasizing the need for a hermeneutic understanding of AI to fully leverage its potential while managing associated risks. Continuous professional development in AI technologies, data literacy, and ethical frameworks is deemed essential to adapt to the evolving landscape. Another study by Peter & Tumibi (2024) confirms AI's capacity for automating routine processes, supporting collection development, and fostering individualized user experiences. Their study further emphasizes the pressing need for librarians to acquire new skills in AI systems, data analysis, and IT collaboration. A survey of academic library staff by Lo, (2024) found that many employees reported decreased time on repetitive, routine tasks and increased time on supervisory, evaluative, and user-engagement responsibilities. These role shifts are reflected in qualitative case studies and institutional reports: when ML automates parts of cataloguing or duplicate detection, librarians focus on quality assurance of model outputs, curating training data, and interpreting algorithmic decisions (Das & Islam, 2021; Molaudzi & Ngulube, 2025).

Kisilowska-Szurmińska (2025) investigates academic librarians' knowledge and attitudes towards AI, revealing optimistic expectations of AI as a catalyst for transformation. Librarians anticipate AI will augment their roles by supporting more advanced information retrieval and research assistance while automating mundane tasks. Lund et al. (2020) surveyed academic librarians to examine perceptions of AI. While respondents acknowledged AI's potential to automate routine tasks, concerns about job security, ethical accountability, and insufficient training were prominent. This reflects the uncertainty that accompanies a professional role change. In the same vein, Asim et al. (2023) reported that librarians' roles are shifting toward system supervision, data interpretation, and user

guidance, often without formal job redesign. This intensifies the workload and underscores the need for personnel planning.

Abba (2024) observed emerging technology-mediated roles among African librarians, constrained by limited access to structured training. Furthermore, Cox, et al. (2019) empirically examined workforce transformation in academic libraries and found role hybridisation rather than redundancy. Librarians increasingly perform blended functions across technology, teaching, and research support. This reframes AI-driven role change as professional evolution. In addition, Lund et al. (2023) extended this evidence through a large-scale international survey, showing that librarians anticipate increased responsibility for supervising and contextualising AI outputs, despite feeling underprepared. This reinforces the need for structured capacity building.

AI adoption has prompted a reconfiguration of professional roles within libraries. Conceptual and empirical studies indicate that librarians are increasingly transitioning from routine task execution to roles centered on technology mediation, system evaluation, and user education. Collectively, these studies show that AI is redefining librarianship toward mediation, evaluation, and ethical stewardship, requiring deliberate personnel development to avoid role strain.

Organizational readiness, governance, and personnel management strategies

Effective AI integration in libraries depends heavily on organisational readiness and personnel management practices. Studies reveal that staff acceptance of AI is strongly influenced by leadership commitment, transparent communication, and institutional investment in training. Hussain, et al. (2025) further showed that organisational support predicts librarians' intention to adopt AI. Rafiq (2025) in looking at the evolving role of special libraries in European Union, noted that with strategic initiatives that support digital transformation of libraries, the potential transformative change in libraries will be significance and libraries will be a key player in the evolving digital landscape, further study by Molaudzi and Ngulube (2025) highlight the need for strategies that would ensure AI-technologies are utilized ethically, equitably and with accountability in libraries. This goes to show that libraries with explicit management strategies and staff development plans achieved more coherent and sustainable adoption. Abba (2024) and Omeluzor et al. (2024) highlighted the absence of structured personnel policies for AI adoption in African and Nigerian libraries. Lo (2024) similarly noted the disconnect between awareness and preparedness where institutional support

is weak. While, Cox (2024) argued that sustainable AI adoption requires integrating AI competencies into recruitment, appraisal, and professional development systems.

Institutional readiness and governance repeatedly appear as decisive factors in whether AI delivers expected benefits for service delivery and personnel outcomes. Das & Islam (2021) highlight that many projects documented in the literature were isolated pilots lacking scalability plans or governance structures. More recent empirical studies document how explicit governance, including experimentation protocols, data-stewardship rules, and staff engagement mechanisms, reduces uncertainty and increases staff confidence in AI tools (Molaudzi & Ngulube, 2025; Rodriguez, 2025).

Lo (2024) empirically demonstrated that perceived managerial support was strongly correlated with positive staff attitudes toward AI adoption. This suggests practical personnel management levers: integrate AI competencies into recruitment criteria, redesign job descriptions to include supervisory and evaluative AI tasks, and adapt appraisal systems to recognise AI-related contributions. Together, these studies demonstrate that personnel management and organisational readiness are decisive factors in AI adoption.

Impact on library services and user experience

AI has a significant impact on service delivery across libraries. Fabunmi and Akinyemi (2024) provide an empirical assessment of AI's influence on university library services, reporting significant improvements in operational efficiency and the personalised user experience. AI tools facilitate tailored information retrieval, enhancing student and researcher interactions with library resources and streamlining internal workflows for improved service delivery. Another study conducted by Tella (2023) reveals that the adoption and use of AI in libraries will give room for better information processing and better information search that will motivate both library staff and users, subsequently allowing easy and fast access to information. Which shows that AI deployment in library services empowers libraries to provide tailored services in line with users needs. Furthermore, by implementing chatbots, libraries can enhance user experience, offer round-the-clock services, and significantly reduce wait times for assistance. However, from a personnel management perspective, the adoption of AI raises key concerns, such as ethical concerns and the need for librarians to acquire new skills.

Librarians are experiencing shifts from routine operational tasks to more analytical and supervisory roles. This redefinition requires continuous training, skill retooling, and professional development (Sousa, 2025). Therefore, personnel management strategies must balance technological integration with staff well-being and career growth. Despite a growing body of literature, empirical evidence on how personnel management specifically responds to AI-driven change remains limited, particularly in developing contexts. This study contributes to bridging that gap by empirically examining the dynamics among library professionals in Nigeria.

II. METHODOLOGY

This study adopted a quantitative descriptive survey design. The population comprised library and information science professionals working in academic, public, school, and special libraries. Using purposive sampling, 174 professionals participated in the study. Data were collected through a structured questionnaire administered via Google Forms. The instrument consisted of 26 items organised into four thematic clusters aligned with the research questions and measured on a four-point Likert scale (SA, A, D, SD). Content validity was established through expert review, and reliability testing from a pilot study yielded a Cronbach's alpha coefficient of 0.82. Data was analysed using descriptive statistics (mean and standard deviation).

III. STUDY RESULTS

A total of 174 valid responses were analyzed. Participants included professionals from academic libraries (43%), school libraries (21%), special libraries (18%), and public libraries (18%). Gender distribution was balanced female (52%) while male (48%), and participants represented various career stages ranging from below 5 years to above 20 years experiences.

RQ1 - Impact of AI on staff roles in libraries and library services

Table 1 shows that the impact of AI on staff roles and responsibilities in library services is moderate, with a mean score of 2.95. This revealed that staff generally agreed that AI is shaping their roles, but not dramatically. Respondents assert that AI reduces repetitive tasks (3.07), improves the quality of user interactions (3.03), enhances decision-making in workflows (3.01), and is closely followed by a role change toward being more of a technology mediator. However, AI is displaying traditional functions and changing job responsibilities received the lowest mean score of 2.77.

Table 1: Mean and Standard Deviation of the impact of AI on staff roles in libraries and library services ¹

#	Statement	Mean (M)	SD
1	AI reduced repetitive tasks	3.07	0.95
2	AI enhanced efficiency in classification/indexing	2.94	1.03
3	AI minimized manual workload	2.96	0.97
4	Staff roles shifted toward tech mediation	2.99	0.99
5	AI is displacing traditional functions	2.77	1.05
6	AI created new specialized job roles	2.99	0.95
7	AI enhances decision-making in workflows	3.01	0.96
8	Emerging technologies has significantly changed my job responsibilities	2.77	1.04
9	Technology has improved the quality of my interactions with library users	3.03	0.95
10	The shift to technology-enhanced services has positively affected my work environment	2.96	0.97
	Grand Mean	2.95	

RQ2 - Adaptation of personnel management practices to AI-driven changes

Table 2 reveals that the ways in which personnel management is adapting to AI-technology-driven change are significant, with an overall mean of 2.9, which is higher than the criterion mean of 2.50. This shows that personnel management is adapting, but policies and training are lagging. Respondents agreed that AI literacy is essential, with the mean score of 3.03, while communicating the policies had the lowest mean score of 2.77.

¹ Source: Field Survey**Table 2: Mean and Standard Deviation of ways in which personnel management practices are adapting to AI-driven changes²**

#	Statement	Mean (M)	SD
1	Libraries provide AI-related staff training	2.85	1.01
2	Personnel policies address AI integration	2.81	0.97
3	AI competencies included in recruitment	2.82	1.00
4	Professional development plans must integrate AI skills	2.90	0.99
5	AI training is continuous	2.85	0.98
6	Management communicates AI adoption goals clearly to staff for integration and use	2.77	0.97
7	Provision of staff support resources	2.78	0.99
8	Capacity building is vital for AI adaptation	2.85	0.99
9	AI literacy is essential for all staff	3.03	0.95
10	AI requires new forms of staff training	2.90	0.99
	Grand Mean	2.9	

RQ3 - Challenges and opportunities AI technologies present to library professionals

Table 3, on the following page, listing challenges and opportunities of AI from a personnel perspective revealed an overall mean score of 3.1, which is greater than the criterion mean of 2.50. This shows a high level of agreement with item statements. AI offers opportunities for innovative services (3.22) and opportunities for professional growth (3.1); however, respondents see that job design has been adjusted to accommodate new technology-enhanced services in libraries, which had the lowest mean score of 2.97.

² Source: Field Survey

Table 3: Mean and Standard Deviation of challenges and opportunities AI technologies present to library professionals³

#	Item	Mean (M)	SD
1	AI adoption faces resistance from some staff	3.1	0.89
2	There are fears that AI will replace librarians	3.2	0.86
3	Limited funding hinders AI personnel development	3.18	0.88
4	AI tools sometimes lack contextual adaptability	3.21	0.84
5	AI requires continuous retraining of personnel	3.05	0.91
6	Ethical concerns arise in AI-driven decisions	3.16	0.88
7	AI offers opportunities for innovative services	3.22	0.83
8	Innovation is fostered among library staff	3.03	0.95
9	Technology has created new opportunities for professional growth	3.1	0.89
10	Job design has been adjusted to accommodate new technology-enhanced services	2.97	0.96
	Grand Mean	3.1	

RQ4 - Sustainable strategies for personnel management in the AI era

Table 4 presents the respondents' means and standard deviations for sustainable strategies for personnel management in the AI-powered world. It revealed an overall mean score of 3.2, indicating that all respondents agreed with the various strategies listed.

Table 4: Mean and Standard Deviation of sustainable strategies for personnel management in an AI-powered world⁴

#	Statement	Mean (M)	SD
1	Libraries should organize AI-related workshops	3.1	0.89
2	Libraries endeavor to provide online courses for AI skills and reskilling	3.2	0.86
3	Collaborations with IT departments are encouraged	3.18	0.88
4	Mentorship to support AI adoption	3.21	0.84
5	Libraries initiate incentives for staff for AI engagement	3.05	0.91
6	Library leadership should support AI-driven change	3.16	0.88
7	Libraries to create AI task forces or committees on AI implementation and deployment	3.22	0.83
	Grand Mean	3.2	

IV. DISCUSSION OF FINDINGS

The findings revealed that across all research questions, the grand mean values clustered between 2.9 and 3.2, demonstrating an overall agreement among respondents on the transformative role of AI in library services from personnel management perspectives. For RQ1, the results indicated that library professionals recognize the role of AI in reducing repetitive tasks, improving metadata accuracy, and enhancing decision-making. This aligns with Nkomo and Matli (2025), who emphasized that AI tools are increasingly redefining professional roles in African university libraries. Similarly, Abba (2024) reported that NLP-driven applications and AI-based cataloguing significantly improved efficiency in African university libraries.

In terms of personnel management (RQ2), the findings underscored the necessity of continuous professional development, AI literacy, and the integration of AI into library professionals' professional development plans. This confirms the argument of Das and Islam (2021), who found that AI adoption is constrained by global skills shortages, making professional development essential. Chipembele et al. (2025) also reported that LIS professionals require continuous reskilling to stay

³ Source: Field Survey⁴ Source: Field Survey

relevant in an AI-driven information environment. The emphasis on workshops and professional training aligns with global recommendations for upskilling LIS professionals in skills diversification and innovation.

The results for RQ3 highlighted concerns around funding, job loss, lack of contextual adaptability in AI, and ethical issues. While respondents acknowledged opportunities for innovation, they also indicated apprehension about job security. Das and Islam (2021) noted similar concerns about ethical risks and human replacement in their systematic review. Ethical concerns raised in this study also align with global debates on algorithmic bias in artificial intelligence.

Regarding RQ4, sustainable strategies such as workshops, collaborations, and mentorship were identified as vital for supporting personnel transitions. These findings support Nkomo and Matli (2025), who stressed that institutional leadership and collaborative strategies are crucial for AI adoption. The strong support for continuous training and leadership-driven strategies aligns with Hussain et al. (2025) and Abba (2024), confirming that librarians favour structured and inclusive approaches to AI adoption rather than resistance. Personnel management in libraries must thus focus on supportive frameworks, staff well-being, and a culture of innovation. Importantly, the empirical evidence underscores the urgent need for sustainable strategies tailored to diverse library types and contexts.

V. CONCLUSION

This study examined library services in an AI-driven era from a personnel management perspective. The findings demonstrate that AI is reshaping library work primarily through role reconfiguration rather than job displacement. While AI adoption enhances efficiency and innovation, its sustainability depends on personnel management strategies that prioritize training, ethical governance, and inclusive leadership. Artificial intelligence should therefore be viewed as a tool that augments human expertise rather than replaces professional librarianship.

VI. RECOMMENDATIONS

Based on the findings and discussions, the following recommendations are proposed for library administrators, policymakers, and professional bodies: Libraries should institutionalise continuous capacity-building programmes focused on AI literacy and ethics. AI-related competencies should be integrated into recruitment, appraisal, and career development policies. Library leadership should strengthen communication and staff involvement in AI adoption processes. Collaborative training and resource-sharing initiatives should be promoted to address resource constraints. Ethical oversight mechanisms should be embedded within personnel management frameworks.

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