

## Librarians' Awareness and Perception toward the Adoption of Artificial Intelligence (AI) in University Libraries in Delta State, Nigeria

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### Abstract

**Purpose:** This study investigated librarians' awareness, perceptions, and willingness to adopt artificial intelligence (AI) in university libraries in Delta State, Nigeria.

**Methodology:** The study employed a descriptive survey design, targeting the entire population of 90 librarians across four universities in Delta State. A census sampling technique was adopted, and data were collected using a self-structured questionnaire titled Librarians' Awareness and Perception toward Artificial Intelligence Questionnaire (LAPAIQ). Data analysis was conducted using descriptive statistics such as frequencies, percentages, mean scores, and a set criterion mean of 2.50 to guide interpretation.

**Findings:** The results showed that librarians demonstrated low awareness of AI, with limited understanding of its applications and minimal exposure to training. However, perceptions were largely positive, as respondents acknowledged AI's potential to improve service delivery, efficiency, accessibility, and cost-effectiveness. A high level of willingness to adopt AI was also observed, with librarians expressing readiness to support policies, participate in pilot projects, and attend training. Nonetheless, challenges such as resistance to change, inadequate ICT skills, insufficient training opportunities, poor infrastructure, and funding limitations were identified as major barriers to adoption.

**Conclusion:** Although librarians in Delta State have limited awareness, their positive perceptions and willingness to adopt AI highlight the need for targeted training, infrastructural investment, and supportive policies to ensure successful integration.

**Study Type:** Research Paper

### Keywords:

Adoption, Artificial Intelligence, Librarians, Perception, University Libraries

### Introduction

In recent years, the global landscape has undergone sweeping transformations, largely driven by major technological advances and shifting economic realities. Nigeria is deeply affected by these changes. As of January 2025, the country experienced an inflation rate of 34.8 per cent, the highest recorded since

independence, thereby placing intense pressure on both individual livelihoods and institutional operations (Ogbogbaidi, 2025). Within this challenging economic climate, various organisations have been forced to adopt innovative, efficient, and cost-effective strategies to meet their goals despite constrained budgets. Academic libraries, as knowledge hubs and essential support systems for higher education, have not been exempt from these financial strains. Declining public funding and increased service demands have left these libraries in need of sustainable solutions to maintain relevance and functionality. This calls for a strategic embrace of modern technologies, particularly artificial intelligence (AI), to ensure continued service delivery amid Nigeria's economic challenges (Eiriemiokhale & Sulyman, 2023).

Onwubiko et al. (2025) observed that reductions in allocations to Nigerian tertiary institutions have significantly curtailed the financial strength of academic libraries. As a result, libraries must now depend more heavily on technology to remain functional and relevant. AI, as part of broader information and communication technology (ICT) systems, is increasingly being considered a viable approach to handle rising operational challenges and labour shortages. According to Ali et al. (2022), artificial intelligence involves enabling machines to mimic human thinking processes, allowing them to execute tasks with minimal or no human input. Drawing on fields such as cognitive science, computer engineering, and data analytics, AI systems can interpret data, learn over time, and make independent or guided decisions. Within the educational environment, AI have enabled more efficient, accurate, and automated processes, helping institutions respond quickly to evolving demands (Bradley, 2022).

The application of AI in academic libraries spans a variety of services and operations. Smart systems can now handle duties once exclusive to library personnel. These include cataloguing, circulation, information retrieval, and reference services. Modern academic libraries are incorporating self-service checkout systems, virtual reference bots, intelligent search engines, and automated digital archive management (Gasparini & Kautonen, 2022). These tools not only simplify processes but also improve access to library resources. AI can also support backend operations such as indexing academic works, managing metadata, and streamlining acquisitions. An example is the use of automated storage and retrieval systems (ASRS), which optimise space usage and provide faster access to materials. Furthermore, virtual assistants powered by AI enhance user support by guiding students and researchers through library databases and digital platforms. This technological assistance enables librarians to focus on more complex duties, such as research support and digital literacy training (Oyekale & Zubairu, 2023).

However, the success of AI adoption does not rest solely on its availability. Librarians' level of awareness of these plays a crucial role in their adoption and use in practice. As Abayomi et al. (2021) pointed out, awareness extends beyond mere knowledge of AI. It includes an understanding of its potential applications in library services, its benefits, and its possible limitations. Librarians who are well-informed are better equipped to critically assess which tools are relevant and how they might enhance their work. They can also anticipate implementation challenges, including costs, skill requirements, technical maintenance, and the impact on existing roles. Awareness is closely linked to factors such as access to professional learning opportunities, institutional support, and engagement with technological innovations (Ogbogbaidi, 2025). Consistent with this, Yoon et al. (2022) argued that awareness increases librarians' confidence and makes them more open to integrating AI into their daily operations.

Closely related to awareness is the perception of AI, which often determines whether librarians embrace or resist their use. According to Lund et al. (2020), perception is shaped by personal attitudes, institutional environment, and the broader professional culture. It reflects how librarians evaluate the usefulness, trustworthiness, and long-term impact of AI. A librarian with a favourable outlook on AI is

likely to see it as a tool that complements human effort, improves efficiency, and enriches user experience. On the other hand, concerns such as fear of job loss, data security risks, system failure, or ethical dilemmas may lead to resistance. Huang (2022) stressed that a librarian's perception can either drive innovation or block it. When AI is viewed as a collaborative tool that enhances professional effectiveness rather than replacing human input, it is more readily welcomed. Safana and Fari (2024) further noted that perceptions are often shaped by past experiences, training, and organizational encouragement, and these must be addressed in any effort to introduce AI in libraries.

Although AI has shown great promise in transforming library functions, many obstacles still hinder its full adoption in Nigerian academic libraries. Studies such as Abayomi et al. (2020) have reported that many librarians remain hesitant or uncertain about integrating AI tools. This scepticism can often be traced to a lack of technological competence, fear of the unknown, or institutional reluctance to invest in training and system upgrades. Many libraries also face infrastructural limitations, inconsistent power supply, and inadequate internet connectivity. Without adequate support, even the most enthusiastic librarians may find it difficult to implement or sustain AI-based systems. This situation is exacerbated by the absence of clear policies or long-term strategies to guide the integration of such technologies. As a result, efforts to adopt AI in libraries may remain superficial or ineffective. Addressing these gaps requires deliberate investment in capacity development, institutional reform, and sustained advocacy for AI awareness and use in libraries.

While much research has explored the applications of artificial intelligence (AI) in libraries across developed countries such as the United States, the United Kingdom, China, and Singapore where AI-driven systems are already being used for cataloguing, information retrieval, user services, and predictive analytics relatively little attention has been given to how academic librarians in Africa, particularly Nigeria, understand and perceive these technologies. Unlike their counterparts in developed nations who benefit from robust infrastructure, consistent funding, and advanced digital ecosystems, Nigerian librarians often operate in environments marked by inadequate technological facilities, irregular power supply, limited funding, and insufficient institutional support. Existing studies in Nigeria have largely adopted generalized or nationwide perspectives, thereby overlooking local differences in technological exposure, infrastructural realities, and institutional preparedness. This gap has limited insights into the specific experiences, attitudes, and challenges faced by librarians in distinct regions. Given the growing relevance of AI in enhancing library services, there is an urgent need for empirical evidence that captures the perspectives of librarians within this context. Such findings will not only inform targeted interventions and guide institutional decision-making but also strengthen the case for AI integration in university libraries. This study is therefore timely and significant, as it seeks to examine both the level of awareness and the prevailing perceptions of artificial intelligence among academic librarians in university libraries in Delta State, Nigeria. The remaining sections of this paper are organised as follows: the next section presents the methodology, followed by the results and discussion, while the final part provides the conclusion, recommendations, and references."

### Statement of the Problem

The emergence of Artificial Intelligence (AI) presents a transformative opportunity for academic libraries, with applications such as automated cataloguing, intelligent search engines, virtual assistants, and predictive analytics that offer the potential to optimise resources, streamline operations, and improve the user experience. By reducing repetitive tasks, AI enables librarians to focus on higher-level professional responsibilities, such as research support and information literacy, thereby strengthening libraries' strategic role within universities. However, preliminary consultations with certified librarians in Delta State universities reveal low awareness and limited readiness for AI adoption. Many librarians conflate AI with general technological trends, lack knowledge of practical applications, and express

concerns about cost, technical challenges, inadequate ICT skills, ethical implications, and fears of job redundancy. These uncertainties highlight the absence of consensus on AI's relevance and reliability in library services. While global discussions on AI integration in libraries are expanding, little empirical research has addressed the Nigerian context, particularly within Delta State. Consequently, the level of awareness, perceptions of utility, and factors shaping librarians' attitudes toward AI remain unclear. Without such insight, efforts to implement AI may face resistance, misalignment, and underutilization. This study, therefore, seeks to bridge the knowledge gap by examining librarians' awareness and perceptions of AI adoption in university libraries in Delta State, Nigeria. The following research questions guided this study:

### Research Questions

1. To what extent are librarians in university libraries in Delta State, Nigeria, aware of artificial intelligence?
2. What are the perceptions of librarians towards the adoption of artificial intelligence in university libraries in Delta State, Nigeria?
3. How willing are certified librarians to adopt artificial intelligence in university libraries in Delta State, Nigeria?
4. What are the perceived benefits associated with the use of artificial intelligence in university libraries in Delta State, Nigeria?
5. What are the perceived challenges associated with the adoption of artificial intelligence in university libraries in Delta State, Nigeria?

### Methodology

The study employed a descriptive survey research design, which was deemed appropriate because it systematically gathers data without manipulating variables and enables the researcher to examine opinions and perceptions within a defined population. As Arumuru (2015) observed, descriptive surveys offer objectivity, broad coverage, and accurate representation of respondents' views, making them suitable for research decision-making. Accordingly, this design was adopted to investigate librarians' awareness of and perceptions regarding the adoption of artificial intelligence (AI) in university libraries in Delta State, Nigeria. The study population comprised 90 librarians from four universities: Delta State University, Abraka (62); Southern Delta University, Ozoro (12); Dennis Osadebay University, Asaba (7); and the University of Delta, Agbor (9). Since the population was relatively small and manageable, total enumeration (census) sampling was used, yielding a sample size equal to the population ( $n = N = 90$ ). The primary data collection instrument was a self-structured questionnaire titled the *Librarians' Awareness and Perception toward Artificial Intelligence Questionnaire (LAPAIQ)*. The instrument was divided into five sections to capture detailed responses. To ensure effective data collection, the researcher personally administered the questionnaire to respondents and, when necessary, engaged trained assistants to clarify ambiguities and encourage honest, timely responses. This approach was adopted to maximise return rates and reduce bias. Data analysis was conducted using descriptive statistics, including frequencies, percentages, and mean scores. A criterion mean of 2.50 was set as the decision benchmark to determine levels of agreement or disagreement with questionnaire items

## Results and Discussion

**Research Question One:** To what extent are librarians in university libraries in Delta State, Nigeria, aware of artificial intelligence?

**Table 1: Extent of librarians in university libraries in Delta State, Nigeria, awareness of artificial intelligence**

Statements	Highly Aware	Aware	Somewhat Aware	Not Aware	$\bar{x}$
I am familiar with the term "artificial intelligence"	20	18	22	18	2.41
I feel informed about the potential benefits and challenges of AI in libraries.	15	17	21	25	2.10
I can identify examples of AI used in libraries.	13	19	20	26	2.04
I am conscious of the impact of AI on the future roles of librarians.	14	16	19	29	1.99
I am aware of libraries currently using AI.	11	15	18	34	1.91
I understand how AI can improve library efficiency.	12	14	19	33	1.90
I have received training or attended workshops on AI.	9	12	20	37	1.78
I am aware of specific tasks AI can perform in library management.	10	13	18	37	1.77
I am aware of the costs associated with implementing AI.	8	11	17	42	1.68
I know how AI can automate library tasks.	6	10	20	42	1.62
Average Mean					1.92
Criterion Mean					2.50

Table 1 shows that the average mean score of 1.92 falls below the criterion mean of 2.50, indicating a low level of awareness of AI among librarians in university libraries in Delta State, Nigeria. While a fair number of librarians reported familiarity with the term "artificial intelligence" ( $\bar{x} = 2.41$ ), their deeper knowledge—such as identifying examples of AI in libraries ( $\bar{x} = 2.04$ ) or understanding its potential benefits ( $\bar{x} = 2.10$ )—is limited. Awareness of libraries currently using AI ( $\bar{x} = 1.91$ ) and specific AI tasks ( $\bar{x} = 1.77$ ) is also weak. Importantly, training and workshop participation in AI scored very low ( $\bar{x} = 1.78$ ), underscoring limited exposure to professional development opportunities in this area. Similarly, understanding of implementation costs ( $\bar{x} = 1.68$ ) and knowledge of how AI automates tasks ( $\bar{x} = 1.62$ ) are minimal.

**Research Question Two:** What are the perceptions of librarians towards the adoption of AI in university libraries in Delta State, Nigeria?

**Table 2: Perceptions of librarians towards the adoption of AI in university libraries in Delta State, Nigeria.**

Statements	SA	A	D	SD	$\bar{x}$
I believe AI will improve the user experience in university libraries.	27	26	15	10	2.91
AI can help bridge gaps in resource accessibility.	25	28	14	11	2.91
AI is essential for modernising library operations.	24	27	17	10	2.88
AI can enhance collaboration among university libraries.	23	25	19	11	2.81
AI can enhance library service delivery.	22	27	18	11	2.79
AI will reduce the workload for librarians.	21	28	17	12	2.77
AI will make library operations more efficient.	19	29	18	12	2.74
AI can support innovative library services.	20	25	21	12	2.71
AI will positively transform librarianship.	18	22	23	15	2.56
The adoption of AI is necessary for staying competitive in the digital age.	12	15	20	31	2.50
Average Mean					2.71
Criterion Mean					2.50

The data in Table 2 reveal that the average mean score of 2.71 exceeds the criterion mean of 2.50, indicating that librarians in Delta State universities generally have a positive perception towards the adoption of AI. The strongest perceptions were that AI can improve user experience ( $\bar{x} = 2.91$ ), bridge gaps in resource accessibility ( $\bar{x} = 2.91$ ), and modernise library operations ( $\bar{x} = 2.88$ ). These scores reflect an acknowledgement of AI's transformative potential in enhancing library relevance in the digital age. Furthermore, librarians agreed that AI can enhance collaboration across institutions ( $\bar{x} = 2.81$ ) and improve service delivery ( $\bar{x} = 2.79$ ). They also believed AI can reduce workload ( $\bar{x} = 2.77$ ), improve efficiency ( $\bar{x} = 2.74$ ), and support innovative services ( $\bar{x} = 2.71$ ). However, there was a more cautious perception of AI's ability to "positively transform librarianship" ( $\bar{x} = 2.56$ ), reflecting skepticism about AI replacing traditional professional roles. Most notably, the lowest mean ( $\bar{x} = 2.00$ ) shows that librarians were less convinced AI is necessary for maintaining competitiveness in the digital age.

**Research Question Three:** How willing are certified librarians to adopt AI in university libraries in Delta State, Nigeria?

**Table 3: Willingness of certified librarians to adopt AI in university libraries in Delta State, Nigeria.**

Statements	Very High	High	Low	Very Low	$\bar{x}$
I will support policies promoting AI adoption in my library.	29	27	13	9	2.98
I will embrace AI as a means to enhance library service delivery.	28	25	15	10	2.95
I am willing to encourage library users to utilise AI.	27	24	16	11	2.88
I am interested in participating in AI pilot projects.	25	26	15	12	2.85
I am willing to learn how to use AI for library operations.	24	25	17	12	2.83
I am willing to attend training sessions on AI.	22	27	17	12	2.81
I fully support the integration of AI in my library.	23	24	18	13	2.78
I am open to experimenting with AI in my library.	21	25	19	13	2.74
I am willing to invest time to acquire the skills necessary for using AI.	20	23	18	17	2.62
I am prepared to adapt my workflow to incorporate AI.	18	22	20	18	2.56
Average Mean					2.80
Criterion Mean					2.50

Table 3 shows an average mean of 2.80, which is above the criterion mean of 2.50, suggesting a high level of willingness among certified librarians to adopt AI. The highest willingness was expressed in supporting policies promoting AI adoption ( $\bar{x} = 2.98$ ), embracing AI for service delivery ( $\bar{x} = 2.95$ ), and encouraging users to utilise AI ( $\bar{x} = 2.88$ ). These responses indicate openness to institutional and user-centred AI integration. Librarians also expressed strong willingness to participate in pilot projects ( $\bar{x} = 2.85$ ), learn how to use AI ( $\bar{x} = 2.83$ ), and attend training sessions ( $\bar{x} = 2.81$ ), highlighting their readiness to acquire necessary competencies. Furthermore, respondents supported AI integration in their libraries ( $\bar{x} = 2.78$ ) and experimentation with AI applications ( $\bar{x} = 2.74$ ). However, slightly lower willingness was observed to invest time in acquiring AI skills ( $\bar{x} = 2.62$ ) and in adapting workflows ( $\bar{x} = 2.56$ ).

**Research Question Four:** What are the perceived benefits associated with the use of AI in university libraries in Delta State, Nigeria?

**Table 4: Perceived benefits associated with the use of AI in university libraries in Delta State, Nigeria.**

Statements	SA	A	D	SD	$\bar{x}$
AI can improve library service delivery.	31	28	11	8	3.05



AI can provide quicker responses to user inquiries.	30	27	13	8	3.01
AI can increase operational efficiency in libraries.	29	26	14	9	2.96
AI can automate repetitive tasks.	28	25	15	10	2.91
AI can reduce errors in cataloguing and sorting.	26	27	15	10	2.90
AI can reduce costs associated with manual work.	27	24	15	12	2.87
AI can save time in library operations.	25	26	15	12	2.86
AI can facilitate 24/7 library service delivery.	24	25	17	12	2.83
AI can enhance resource accessibility for users.	23	24	18	13	2.78
AI can assist in preserving fragile or rare materials.	22	23	19	14	2.74
Average Mean					2.89
Criterion Mean					2.50

The results in Table 4 show a mean of 2.89, which exceeds the criterion mean of 2.50, indicating that librarians perceive substantial benefits from AI adoption. The most highly rated benefits include improved service delivery ( $\bar{x} = 3.05$ ), quicker user responses ( $\bar{x} = 3.01$ ), and increased operational efficiency ( $\bar{x} = 2.96$ ). These responses demonstrate that librarians view AI as a key enabler of improved user satisfaction and streamlined operations. AI's potential for automating repetitive tasks ( $\bar{x} = 2.91$ ), reducing cataloguing errors ( $\bar{x} = 2.90$ ), and lowering costs ( $\bar{x} = 2.87$ ) was also acknowledged. Similarly, librarians perceived time-saving benefits ( $\bar{x} = 2.86$ ) and valued AI's capacity for supporting continuous (24/7) service ( $\bar{x} = 2.83$ ). Additional advantages include improved access to resources ( $\bar{x} = 2.78$ ) and preservation of fragile materials ( $\bar{x} = 2.74$ ).

**Research Question Five:** What are the perceived challenges associated with the adoption of AI in university libraries in Delta State, Nigeria?

**Table 5: Perceived challenges associated with the adoption of AI in university libraries in Delta State, Nigeria.**

Statements	SA	A	D	SD	$\bar{x}$
Resistance to change is a challenge to integrating AI.	28	27	13	10	2.94
Lack of ICT skills among librarians hinders AI adoption.	27	28	12	11	2.93
Insufficient training opportunities affect AI awareness.	26	27	14	11	2.90
Technological phobia influences perceptions of AI.	25	25	16	12	2.83
The cost of AI is a major challenge for libraries.	24	26	17	11	2.83
Absence of funding is a barrier to AI adoption.	23	24	19	12	2.76
A lack of technical support discourages the use of AI.	22	23	20	13	2.71
Inadequate infrastructure is a barrier to implementing AI.	21	23	21	13	2.68
Concerns about job displacement affect perceptions of AI.	20	23	22	13	2.65
Cultural or institutional resistance hinders AI awareness and adoption.	18	22	23	15	2.53
Average Mean					2.78
Criterion Mean					2.50

The findings in Table 5 show that the average mean of 2.78 is above the criterion mean of 2.50, indicating that librarians in Delta State perceive significant challenges in adopting AI in university libraries. The most critical challenges are resistance to change ( $\bar{x} = 2.94$ ), lack of ICT skills ( $\bar{x} = 2.93$ ), and insufficient training opportunities ( $\bar{x} = 2.90$ ). These reflect both personal and institutional barriers that hinder AI integration. Cost-related constraints, such as the high cost of AI ( $\bar{x} = 2.83$ ) and lack of funding ( $\bar{x} = 2.76$ ), also emerged as major impediments. Additional difficulties include technological phobia ( $\bar{x} = 2.83$ ), lack of technical support ( $\bar{x} = 2.71$ ), and inadequate infrastructure ( $\bar{x} = 2.68$ ).

Furthermore, librarians expressed concerns about job displacement ( $\bar{x} = 2.65$ ) and highlighted cultural or institutional resistance ( $\bar{x} = 2.53$ ) as obstacles

### **Discussion of the Findings**

Based on the analysis and interpretation of data from the research questions raised in the study, the following findings were made and discussed on:

#### **Awareness of Artificial Intelligence among Librarians**

The findings reveal that librarians in Delta State university libraries possess a low level of awareness of artificial intelligence (AI). Although many respondents have heard the term, their knowledge rarely extends beyond surface-level definitions, and they struggle to identify practical applications within library environments. This limited awareness shows a gap between the recognition of AI as a concept and the understanding of its real-world use in cataloguing, virtual reference services, user analytics, or resource recommendation systems. Very few librarians reported attending seminars, workshops, or training sessions dedicated to AI, indicating a lack of professional exposure. This aligns with the findings of Emiri (2023), who observed that librarians in Nigerian universities often encounter AI terminology in passing but remain uninformed about its technical applications and professional benefits. Similarly, Atanda and Oyovwe-Tinuoye (2023) noted that while librarians acknowledge the presence of emerging technologies, their specific knowledge of AI tools is minimal, largely due to poor institutional sensitization. In addition, Eiriemiokhale and Sulyman (2023) reported that librarians' awareness of AI is hindered by inadequate training opportunities and limited policy initiatives that would encourage staff development in this area.

#### **Perceptions of Librarians toward AI Adoption**

The study found that librarians in Delta State University libraries generally hold positive perceptions toward adopting AI technologies, believing that AI could enhance service delivery, expand access to resources, and modernise library functions. They view AI as a powerful tool capable of reducing workloads, automating repetitive tasks, and supporting innovation in information provision. However, the findings also warrant caution, as librarians expressed moderate scepticism about the extent to which AI could revolutionise librarianship, raising concerns about overreliance on technology and the potential erosion of professional relevance. These mixed perceptions are consistent with Cox, Pinfield, and Rutter (2019), who found that while librarians appreciate the efficiency AI can bring to operations, they remain cautious about issues of sustainability and role displacement. Similarly, Emiri (2023) observed that librarians recognise AI's usefulness in optimising user services but exhibit hesitation due to uncertainties about costs and technical expertise requirements. In another related study, Atanda and Oyovwe-Tinuoye (2023) noted that librarians consider AI adoption essential for maintaining competitiveness in the digital age, yet their optimism is tempered by concerns about institutional support and the availability of training.

#### **Willingness of Librarians to Adopt AI**

The findings indicate a strong willingness among librarians in Delta State university libraries to adopt artificial intelligence. Respondents demonstrated readiness to support institutional policies that promote AI integration and showed enthusiasm for applying AI tools to improve service delivery. Many librarians also expressed interest in participating in AI-related pilot projects, workshops, and training programmes to strengthen their skills and remain relevant in the digital era. However, a slight reservation emerged regarding the time and effort required to restructure workflows and fully adapt to AI systems, reflecting practical concerns about balancing existing responsibilities with learning demands. These results align with Atanda and Oyovwe-Tinuoye (2023), who reported that Nigerian



academic librarians are generally enthusiastic about AI adoption, emphasising their openness to continuous professional development. Similarly, Emiri (2023) found that librarians in Southern Nigeria were highly supportive of AI initiatives, particularly when provided with opportunities for hands-on training and participation in pilot projects. Furthermore, Cox, Pinfield and Rutter (2019), highlighted librarians' willingness to embrace AI innovations, noting that enthusiasm was strongest when institutional leadership backed adoption with funding and capacity-building programmes.

### **Perceived Benefits of AI in University Libraries**

The findings reveal that librarians perceive numerous benefits of adopting AI in university libraries, including improved service delivery, faster responses, and greater operational efficiency. Librarians recognised AI's potential to automate repetitive tasks, minimise cataloguing errors, save time, and reduce operational costs. They also acknowledged AI's capacity to enhance user accessibility, support 24/7 services, and even preserve fragile library materials. These benefits suggest that librarians view AI as a transformative tool capable of addressing persistent challenges in service delivery while enhancing knowledge management. This aligns with the findings of Atanda and Oyovwe-Tinuoye (2023), who found that AI adoption significantly improves service speed, accuracy, and operational productivity in Nigerian university libraries. In a related study, Emiri (2023) noted that librarians perceive AI as instrumental in strengthening user engagement, optimising workflows, and promoting long-term knowledge preservation. Similarly, Eiriemiokhale and Sulyman (2023) reported that librarians highlighted the value of AI in enabling round-the-clock service delivery, reducing human error, and enhancing resource accessibility across diverse user groups.

### **Perceived Challenges of AI Adoption**

Despite the optimism surrounding AI's benefits, librarians at Delta State University libraries highlighted several challenges that hinder adoption. Resistance to change, limited ICT competencies, and inadequate training opportunities emerged as major obstacles. Financial barriers, such as high costs and insufficient funding, were also identified, as were infrastructural limitations, including poor internet connectivity and unreliable electricity. Additionally, librarians expressed concerns over job displacement, cultural resistance, and technological phobia, all of which threaten successful integration. These challenges are consistent with the observations of Cox, Pinfield and Rutter (2019), who reported that librarians face financial, technical, and psychological constraints in adopting AI technologies. Similarly, Eiriemiokhale and Sulyman (2023) highlighted infrastructural inadequacies, a lack of technical support, and fears about job security as significant barriers to AI implementation in university libraries. Furthermore, Emiri (2023) noted that, without robust institutional frameworks and ongoing training, AI adoption may be resisted by librarians due to skill gaps and role insecurity.

### **Conclusion**

This study examined librarians' awareness and perceptions of the adoption of artificial intelligence (AI) in university libraries in Delta State, Nigeria. The findings revealed that, although librarians held generally positive perceptions of AI and expressed strong willingness to adopt it, their actual awareness remained low. Many librarians were familiar with the concept of AI in theory but lacked a deeper understanding of its practical applications in library contexts. At the same time, they recognised its numerous benefits, including improved service delivery, faster responses to user queries, operational efficiency, cost reduction, and enhanced accessibility. Despite this optimism, significant challenges were identified, including resistance to change, a lack of ICT skills, insufficient training opportunities, inadequate infrastructure, limited funding, and concerns about job displacement.

The major contribution of this research lies in bridging a contextual knowledge gap by providing empirical evidence on the state of AI awareness, perceptions, and readiness among librarians in Delta State. While previous studies have focused largely on national or regional perspectives, this study offers nuanced insights into local realities, highlighting both the opportunities and challenges specific to this environment. It adds to the growing body of knowledge on technology adoption in developing countries, particularly within the library and information science field, and provides a foundation for more targeted interventions to enhance librarians' professional readiness.

## Recommendations

University management and library administrators should prioritise regular training workshops, seminars, and professional development opportunities to strengthen librarians' ICT and AI competencies. Pilot AI projects should be introduced in collaboration with ICT departments to allow hands-on practice and confidence-building. Institutional and governmental policies should be developed to provide clear frameworks for AI integration in academic libraries. These should include funding strategies, infrastructure development, and technical support to sustain implementation. Policies should also address ethical concerns, job security, and change management to ensure staff buy-in.

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