

## MOTIVATION TO USE ARTIFICIAL INTELLIGENCE TOOLS BY LIBRARIANS IN TERTIARY INSTITUTIONS IN OYO STATE, NIGERIA

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### Abstract

The study examined the Motivation to use Artificial Intelligence tools by librarians in Oyo State, Nigeria. The study adopted a descriptive survey-correlational research design and a total enumeration sample procedure of 73 librarians from nine universities in Oyo State, Nigeria. The study instrument was a structured questionnaire, data was analysed using SPSS statistical data and results were presented in frequency count, simple percentages, means, standard deviation, Pearson Product-Moment Correlation (PPMC) and visualise in tables. The findings indicated that use of AI tools by librarian is low with mean score of  $\bar{x}=1.84$ , however, ChatGPT and Grammarly were the most used. Intelligent search and discovery: to discover relevant resources more efficiently ( $\bar{x}=2.87$ ), is the highest purpose of use of AI tools, the level of user expectancy ( $\bar{x}=3.20$ ), performance expectancy ( $\bar{x}=3.27$ ), facilitating condition ( $\bar{x}=3.37$ ) and social influence ( $\bar{x}=2.69$ ) were all above the threshold ( $\bar{x}=2.5$ ) and the Motivation to use AI has significant relationship on use of AI tools by librarians with p-value ( $r=.287$ ,  $n=60$ ,  $p(.026)<.05$ ). Librarians' effort expectancy, performance expectancy, facilitating condition and social influence influenced use and purpose of use of AI tools. Therefore, all stakeholders should prioritize training programmes, invest in digital infrastructure, develop AI tools use policies, and create awareness campaigns to increase the motivations to use artificial intelligence tools among librarians.

Keywords: Artificial intelligence tools, Motivation to use AI tools, Librarians, effort expectancy, performance expectancy, facilitating condition and social influence

### Introduction

Library in age of surveillance where tasks are executed seamlessly with less and less human input but with a great yield of outputs and satisfactions due to the use of advanced technology. The era of Artificial Intelligence seems to make librarians and library users to derive satisfaction from use of AI tools either virtually or within the library buildings. Fortunately, the monotonous routines librarians engage in is being reduced as emerging technologies such as Artificial Intelligence as enabled librarians to focus on activities that require human intelligence.

The Artificial Intelligence tools assist librarians to attend to other personalized library services. While librarians use the AI tool speedily modify reports, edit book of readings, conduct self-user education, and provide answers to users' frequently ask questions (FAQ) as a form of reference services. Artificial intelligence is the ability of a machine to mimic the human intelligence. And any tool that exhibit this trait is referred to as an AI tool. Thus, how motivated are librarians in the full adoption of AI tools in their library and professional tasks.

Nwakunor (2021) sees artificial intelligence as computer-controlled robots that think intelligently like human beings. These robots are controlled electronically with the aid of the computer by mimicking the competences of the human. These technologies (AI) help in keeping, analyzing and interpreting records generated in the library and beyond. The advent of Artificial Intelligence tools such as Grammarly, Chabots, ChatPDF, EndNote, Scite, Copyscape, Quillbot, and Flixier has revolutionized traditional routines and mode of service delivery in service oriented sectors such as library. These technologies are self-learning robotic machine that has the ability to see, view, process, analyze, present and interpret and also communicate to human.

There are numerous examples of AI intergrated tools market, some are outsource and others are proprietary software. For instance, Grammarly is an AI tool aids in word editing, proof reading, and correcting grammar and typographical errors. Another example of AI tool is "Scite", it is an AI tool that literature review of recent articles on a given topic. The list of AI tools are growing by the day and existing applications and software are integrating AI functionalities. Some existing applications such as Mendeley, Zotero, EndNote among other now have AI capacity to recommend appropriate articles for a given research work, provide bibliographic details of papers, generate various reference formats and so on. In a study by Tandel, (2024) on Artificial Intelligence (AI) tools used in libraries listed out some AI tools that could be deployed for use in the library and they include Research Rabbit, Perplexity, Scite, ChatGPT, Consensus, EndNote, Semantic Scholar, Elicit, QuillBot, etc. The study itemized the importance of AI tools in the library as hectic routines can be completed with less effort using the aforementioned AI tools for daily library routines. Therefore, the huge benefits of use of Artificial Intelligence tools cannot be overemphasized. It is important for librarians to show motivation and enthusiastic use AI tools in performing monotonous library routines and improve effective and efficiencies of their services and products.

Simpson (2008) defined motivation as an internal state that arouses us to action, pushes us in particular direction and keeps us engaged in certain activities. It is a way of energizing, stimulating and praising individual to action to accomplish desired goals. Librarians could be motivated to use AI tools as a result of its intrinsic and extrinsic benefits. Intrinsic benefit are perceived usefulness, relative advantage and ease to use AI tools and from outside that it extrinsic motivation, which could stem from social and facilitating condition. Also, the effort expectancy of AI tool is the amount of training and time the librarians invested to master to use of the AI tools. The performance expectancy is the effectiveness and efficiency of the tools on the productivity of the librarians. While, the social influence is the degree to which people in the librarians, network wish the librarian use the AI tools. And lastly, the facilitating condition is the social facilities that will enhance the use if AI tools provided by the librarians universities.

The researchers observed librarians in some institutions are motivated to use of Artificial Intelligence tools because it meet their professional needs and serve their career development intrinsically. According to the study by Obiano, Onuoha, Adeoye, Nwosu & Folarin (2022) the use of AI tools increase librarians efficiency and service delivery is effective and ultimately, relevant materials are being retrieved faster. On the other hand, extrinsic motivation could be enhance through facilitating condition. This support stem from the organization through the adequate provision of social infrastructures such as enabling environment, uninterrupted power supply, furniture and fittings, training to use the procured AI tools and ICT facilities. To place the study in an established framework, the study unified technology acceptance theory (UTAUT) by Venkatesh, Morris, Davis, and Davis (2003). The theory propounded that acceptance of technology is anchored on effort expectancy, performance expectancy and facilitating condition and social influence. Therefore, Artificial intelligence tool is a technology that its use may be motivated through any or all of the constructs in this theory.

The motivation to use AI tool is not universal across the world and among professionals. Yusuf et al. (2022) evaluated the application of artificial intelligence for efficacy in library service delivery. The study has clearly demonstrated that, due to a wide range of issues which are peculiar to developing countries, the adoption of artificial intelligence by librarians in Nigerian university libraries is very low. Therefore, it is imperative to investigate the motivation to use AI tools among librarians in universities in Oyo state. Oyo state is the capital of the western region

before the creation of more state by General Ibrahim Babangida during the military region in 1984. Oyo state was later made to become a state in the southwestern Nigeria and the capital city is Ibadan, the state has well distributed universities owned by federal government, state government and private individuals. Currently the state has nine universities: one federal government financed university (University of Ibadan, Ibadan), three state owned and financed universities (Senator Abiola Ajimobi Technical University, Ibadan, Emmanuel Alayode University of Education, Oyo and Ladoke Akintola University of Technology, Ogbomoso) and finally, seven privately financed and owned universities namely: (Dominion University, Ibadan, Precious cornerstone University, Ibadan, Ajayi Crowther University, Oyo, Kola-Daisi University, Ibadan, and Lead City University, Ibadan).

Library is a growing organism and being a people oriented institution library is user centered and need to evolve as its patron information need changes. The advent of AI tools is how all products and services are processed and delivered and library inclusive should evolve with time. However, anecdotal evidences have revealed a low use of AI tools among librarians in Nigeria and if this is unchecked it may result into low patronage of the library, ineffective and efficient library services, lack of sophisticated information services, slow respond time, monotonous tedious library services routines, demotivated library staff, lack of professional fulfillments, dissatisfaction library users, obsolete information facilities, and wastage of meager library and human resources.

Previous studies presumed lack of facilitating condition as a factor to low use of the resource but there is a need to all investigate the impact of purpose of AI tools use, effort expectancy, performance expectancy and social influence on the motivation to use AI tools by librarians in universities. The investigation of the combined effects of these factors (effort expectancy, performance expectancy, facilitating condition and social influence) on motivation to use AI tool prompted the need for this study.

## Research Question

The research will provide answers to the following questions;

- i. What is level of artificial intelligence tools used by librarians in Oyo State, Nigeria?

- ii. What is the purpose of use of artificial intelligence tools by librarians in Oyo State, Nigeria?
- iii. What is the level of effort expectancy of artificial intelligence tools by librarians in Oyo State, Nigeria?
- iv. What is level of the performance expectancy of artificial intelligence by librarians in Oyo State, Nigeria?
- v. What is the level of facilitating condition on use of artificial intelligence by librarians in Oyo State, Nigeria?
- vi. What is the level of social influence on use of artificial intelligence by librarians in Oyo State, Nigeria?

## Literature Review

The review of literature explored existing studies on motivation to use AI tools by librarian. This section discusses the concepts, purpose of using artificial intelligence tools by librarians. Performance expectations, social influence and facilitating condition to use AI tools by librarians

## Concepts and Purpose of Use of Artificial Intelligence Tools in Libraries

The integration of Artificial Intelligence (AI) tools in libraries represents a transformative shift in the landscape of information services. These tools enhance the efficiency and quality of library services, promote digital literacy, and enable seamless interactions between librarians and users. The purpose of using AI in libraries is multifaceted, encompassing enhancing user experiences, optimizing library resources, and fostering lifelong learning. One of the primary purposes of AI in libraries is to improve user engagement and access to information. Chatbots and intelligent search engines, for instance, can significantly improve users' ability to obtain relevant information effortlessly. These tools facilitate real-time assistance and help users navigate the vast digital resources available, enabling libraries to deliver personalized experiences tailored to individual needs (Patra, 2024). Furthermore, AI can support librarians in better understanding patrons' information-seeking behaviors by analyzing user interactions, thus informing the development of more effective library services and enhancing user satisfaction (Jha, 2023).

AI tools also play a pivotal role in fostering digital literacy among library users. As highlighted by Mutia et al., AI actively contributes to equipping users with essential skills in navigating digital platforms, improving not only their proficiency in using digital tools but also their understanding of online privacy and security (Mutia et al., 2024). This is increasingly relevant in contemporary library environments, where digital literacy is critical in empowering users to utilize available resources effectively. Moreover, the findings by Harisanty et al. suggest that the successful integration of AI requires supportive library policies, visionary leadership, and adequate resources, reflecting broader trends in technology adoption within libraries (Harisanty et al., 2022).

Furthermore, AI's potential to revolutionize library management is evident through its applications in resource allocation, collection management, and operational efficiency. As Amalia et al. discuss, AI can optimize various aspects of library operations, making processes more efficient and allowing librarians to focus more on strategic functions and user engagement (Amalia et al., 2024). Technologies such as machine learning and natural language processing enable libraries to automate routine tasks, placing librarians in a better position to provide expert services and personalized assistance to users (Barsha & Munshi, 2023).

The emerging "smart library" concept reflects the cumulative impact of AI on library services. Traditional libraries are evolving into smart libraries through the integration of advanced technologies like cloud computing and data mining (Gul & Bano, 2019). This transformation not only enhances service delivery but also necessitates a paradigm shift in librarian training and skills development, as library professionals must be adept at utilizing these technologies to better serve their communities (Oyetola et al., 2023). Therefore, collaborative efforts between librarian education and computer science departments can foster innovation and improve the implementation of AI tools in library settings (Ali et al., 2020).

### **User Expectancy of Using Artificial Intelligence Tools in Library**

One critical aspect of user expectations revolves around the perceived utility of AI tools in fulfilling specific informational needs. As discussed in the study by Almufarreh, users derive satisfaction from AI tools when they align with their expectations of utility, such as simplifying their learning processes and task completion Almufarreh (2024). This sentiment is aligned with

Ameen et al., who emphasize that user satisfaction is largely dependent on the extent to which services meet user needs and preferences (Ali et al., 2020). Therefore, libraries must ensure that AI technologies are designed to optimize usability and relevance, fostering a positive user experience.

Furthermore, trust plays a vital role in shaping user expectations concerning AI applications in libraries. Andersdotter found that users' trust may be affected by AI's performance and transparency in how it handles searches and cataloging processes (Andersdotter, 2023). Users' anxiety regarding the mechanisms behind AI decision-making can lead to diminished trust in the library as an institution, suggesting that it is crucial for libraries to provide clear explanations and engage patrons in understanding how AI tools operate (Andersdotter, 2023). This finding resonates with the views presented by Yoon et al., who observed that despite the growing use of AI in everyday life, there remains a gap in adoption rates within library settings, often linked to concerns around trust and the perceived competence of AI systems (Yoon et al., 2021).

Moreover, successful implementation and user satisfaction with AI in libraries often come down to effective communication and user education. As highlighted by Rahmani, integrating AI in public library services can enhance user engagement if patrons understand their functions and implications (Rahmani, 2023). Libraries can increase trust and satisfaction via tailored training programs and informational resources that clarify AI capabilities and usage, encouraging user engagement with these tools (Amalia et al., 2024).

In addition to these psychological factors, practical aspects such as user familiarity with digital tools and the technological infrastructure available within libraries also significantly influence user expectations. As Barsha and Munshi point out, the effectiveness of AI implementation requires a robust technological framework to support various AI applications, such as automated cataloging and intelligent recommendation systems (Barsha & Munshi, 2023). Libraries must ensure that their infrastructure can accommodate these tools to meet user expectations effectively.

Finally, the incorporation of user feedback is essential in refining AI applications. Libraries can glean valuable insights from users regarding their experiences and expectations



through surveys and focus groups, enabling adjustments and enhancements that align more closely with user needs (Mahmud, 2024). This iterative approach not only fosters user satisfaction but also builds a culture of continuous improvement in library services.

### **Performance Expectancy of Using Artificial Intelligence Tools by Librarians**

The key benefits of AI tools, as emphasized in the literature, is their ability to automate routine tasks, thereby enhancing librarians' productivity. For example, Rahmani suggests that the deployment of AI applications, including chatbots and intelligent indexing systems, significantly improves operational efficiency and user services Rahmani (2023). Similarly, Amalia et al. highlight that applications of AI can revolutionize library management and user engagement, affirming that AI integration leads to more effective library environments (Amalia et al., 2024). The automation of cataloging processes, for instance, allows librarians to redirect their focus toward more complex tasks and personalized user interactions.

Moreover, the successful implementation of AI tools in libraries is seen as a pathway to improved accuracy and reliability in information provision. Yakubu et al. indicate that when effectively utilized, AI can enhance productivity and decision-making among librarians, enabling them to manage repetitive tasks efficiently (Yakubu et al., 2023). This trend echoes across various studies that suggest an increase in performance expectancy when AI technologies improve the timeliness and relevance of information accessed by users (Jha, 2023).

User trust in AI systems also directly influences the performance expectancy of such tools within library settings. Andersdotter points out that trust in AI systems is crucial, as it affects how librarians perceive the efficacy of these tools (Andersdotter, 2023). If librarians lack confidence in the AI's decision-making capabilities or cannot adequately explain how these systems operate, it may diminish their overall performance expectations and utilization rates.

Furthermore, training and creating awareness about AI's capabilities are essential to enhancing performance expectancy. Research by Deshen and Noa emphasizes that improving librarians' AI literacy is imperative as it enables them to leverage AI tools effectively, leading to enhanced service quality (Deshen & Noa, 2024). As libraries evolve, continuous education and



professional development regarding emerging technologies become increasingly important to meet the growing expectations of library patrons.

Lastly, the integration of AI is not merely a technocratic solution; it necessitates a cultural shift within libraries. Effective leadership and supportive managerial frameworks can significantly influence the performance expectancy of AI tools. Oyetola et al. note that libraries integrating AI into their strategies often experience enhanced service delivery and increased patron engagement (Oyetola et al., 2023). Cultivating a positive organizational culture toward AI adoption can motivate librarians to embrace technology, thereby maximizing its benefits.

### **Facilitating Condition and Social Influence on the Use of Artificial Intelligence by Librarians**

Facilitating conditions refer to the supportive resources and infrastructure available to librarians, which can ease the integration of AI into library services. Research has shown that perceived ease of use, effort expectancy, and available infrastructure are influential factors in determining librarians' intentions to adopt AI tools (Mbaidin et al., 2024). For instance, Yoon et al. emphasize the necessity for training programs to better prepare librarians, positing that such initiatives could strengthen the facilitating conditions within library environments (Yoon et al., 2021). Furthermore, studies indicate that when librarians have access to necessary resources and supportive conditions, their intention and actual behavior to use AI technologies increase (Ioku et al., 2024). This correlation underscores the critical role environmental factors play in shaping the facilities and support systems needed for successful AI adoption.

On the other hand, social influence encompasses the impact of peers, colleagues, and broader professional communities on individual librarians' decisions to embrace AI. Deshen and Noa found that social influence is a vital determinant in the acceptance of AI among librarians, suggesting that those who are positively influenced by their professional networks are more likely to develop higher AI literacy and acceptance (Deshen & Noa, 2024). Additionally, Yakubu et al. reported a strong link between social influence and librarians' intentions to use AI tools, indicating that encouragement and support from professional circles could bolster adoption rates (Yakubu et al., 2023).

Factors such as performance expectancy and hedonic motivation were also found to correlate with both facilitating conditions and social influence, creating a multifaceted framework for understanding AI adoption among librarians (Emon et al., 2023). This interconnectedness is vital as it highlights that increased motivation to use AI technologies is not solely about individual attitudes but is shaped by the broader context of organizational support and social dynamics.

The synergy between facilitating conditions and social influence is particularly evident as libraries seek to enhance their services through innovative AI applications, such as automated cataloging, personalized user services, and enhanced information retrieval processes. Librarians who are positively impacted by both supportive conditions and social encouragement demonstrate a greater likelihood of integrating AI into their daily operations effectively (Kusumaningtyas et al., 2024)..

### **Theoretical Framework**

The Unified Theory of Acceptance and Use of Technology (UTAUT) serves as the foundation for this research. In 2003, Venkatesh, Morris, Davis, and Davis formulated the idea. It is a unification theory that brought together eight distinct concepts that apply to the adoption and application of technology. These include the following: Innovation Diffusion Theory (IDT), Model of PC Utilization (MPCU), Theory of Planned Behaviour (TPB), Motivation Model (MM), Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), and Social Cognitive Theory (SCT). According to the idea, social influence, effort expectancy, performance expectancy, and facilitating conditions are the main factors that directly influence behavioural intention. The Unified Theory of Acceptance and Use of Technology (UTAUT) serves as the foundation for this research (Venkatesh, Thong & Xu, 2016).

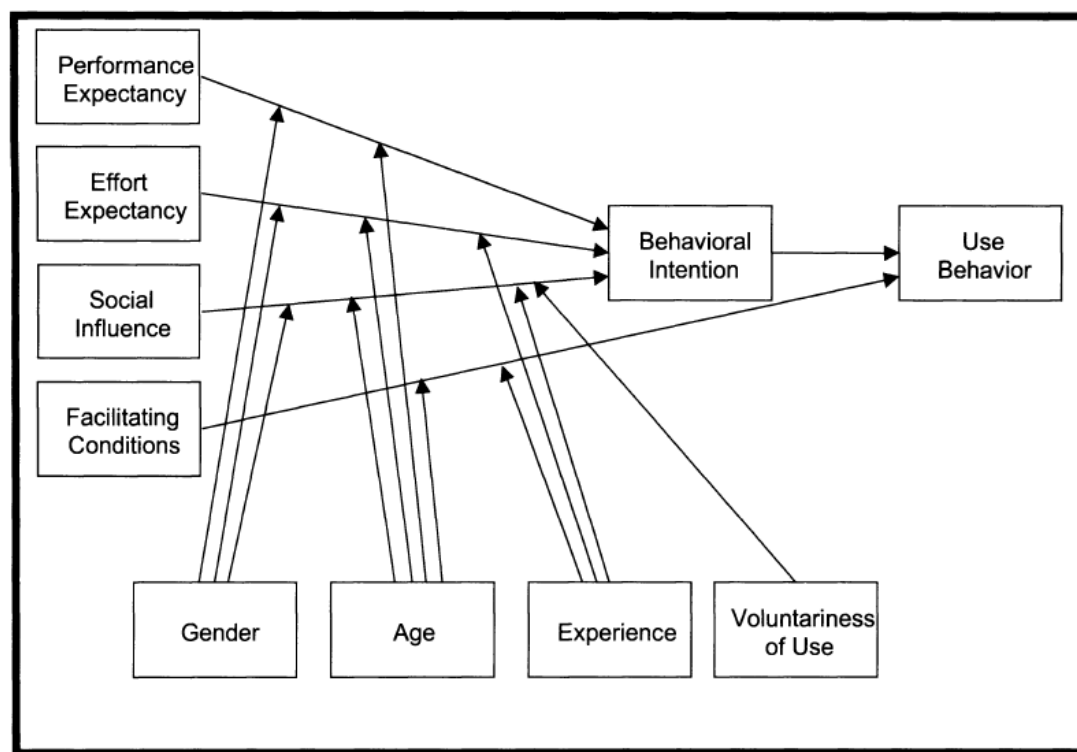


Figure 1.1: Unified Theory of Acceptance and Use of Technology (UTAUT)

Since motivation of using Artificial intelligence (AI) is one of the factors that precede the use of technology, this theory is pertinent to the research. A further explanation of the core construct of the theory would show clarity. Performance expectancy is the measure of the extent to which a librarian appears to believe that existing and forthcoming AI tools would significantly increase job performance. Performance Expectancy is a construct that determine a librarian's attitude towards using any AI tools. It is the percentage of librarians who believe that using the AI tools will enable them to receive rewards for work success (Menon and Shilpa, 2023). Similarly, the same report shows that performance expectancy has a substantial, beneficial impact on librarians adopting a behavioural purpose and utilising an AI tools. Effort expectancy has varying repercussions on users' attitudes and behavioural intentions. Furthermore, (Rizkalla, et al., 2023; Chuyen, 2023) asserted the important role of effort expectancy as a predictor of future advanced technology adoption as the AI tools. Social influence, as explained by Chen, et al., (2024) is the level at whom a particular user (librarian) appears to believe those around him/her honestly thinks he or she could perhaps incorporate AI tools. According Kar (2021)

when it comes to raising the pace of motivation to use AI tools, social influence is extremely important. Facilitating conditions as drawn from the studies of (Ambarwati, et al., 2020; Hamzat, S. A., & Mabawonku, 2018) is the degree to which an individual (a librarian) appears to actually presume a properly structured, technological, and economic infrastructure continues to emerge to enhance the use of AI tools can be described as facilitating circumstances..

## Materials and Methods

The research investigated the motivation to use artificial intelligence tools by librarians in universities in Oyo State, Nigeria. The study adopt a descriptive survey-correlational research design and the study population comprises of 73 librarians in universities in Oyo State and the study use total enumeration procedure to sample nine universities. The study instrument was a structured questionnaire and data collected were presented and analysed using Statistical Data Package SPSS 26 and results were presented in simple percentages, means, standard deviation, correlation and Pearson Product-Moment Correlation PPMC.

**Table: 1      Demographical Characteristics of librarians**

s/n	Variables	Labels	Frequency	Percentage
1	Name of institution	Ladoke Akintola University	12	20.0
		Emmanuel Alayande Univ.	7	11.9
		Dominion University	3	5.1
		Precious cornerstone Univ.	3	5.1
		Ajayi Crowther Univ.	7	11.9
		Kola-Daisi University	2	3.3
		Lead City University	6	9.9
		Technical University	3	11.7
		University of Ibadan	17	28.3
2	Rank/position	Librarian II	15	25.0
		Librarian I	14	23.3
		Senior Librarian	16	26.7
		Principal Librarian	13	21.7
		University Librarian	2	3.3
3	Gender	Male	30	50.0
		Female	30	50.0
4	Age	21-30 years	4	6.7
		31-40 years	18	30.0
		41-50 years	22	36.7

		51 years and above	16	26.7
5	Highest qualification	PhD	9	15.0
		MLIS	42	70.0
		MLS	9	15.0
6	Present section of the library	Technical service	29	48.3
		Reader service	20	33.3
		Special Units	11	18.3

Table 1 showed the detailed analysis of the demographic characteristics of librarians across the universities in Oyo State. Notably, the distribution of librarians by institution indicated that the University of Ibadan has the highest representation (28.3%), followed by Ladoko Akintola University (20.0%) and Emmanuel Alayande University (15.0%). Smaller representation is seen in most private universities with the least at Kola-Daisi University, each with 3.3%. In terms of rank, majority of respondents occupy mid-level positions such as Librarian II (25.0%) and Senior Librarian (26.7%), suggesting a workforce with a balanced mix of experience and professional growth potential. Position like the University Librarian (3.3%) is less represented, reflecting the hierarchical structure of library administration.

Regarding other demographic variables, gender representation is evenly split between males and females (50% each), indicating gender balance among the library personnel. Age distribution showed that the largest group falls within the 41-50 years category (36.7%), followed by 31-40 years (30.0%), which reflected a mature workforce likely in their prime career phase. In terms of educational qualifications, 70.0% of the personnel possess an MLIS, signifying the dominance of this degree as the standard professional qualification, while 15.0% each hold a PhD or MLS. Most personnel work in the Technical Services section (48.3%), indicating a focus on behind-the-scenes library operations, while others are distributed between Reader Services (33.3%) and special unit (18.3%).

**Research question one:** What are the Artificial Intelligence tools used by librarians in universities in Oyo State, Nigeria?

The first research question one elicit responses from librarians on the AI tools used in discharging their duties.

**Table 2: Types of Artificial Intelligence tools used by librarians**

s/n	Types of Artificial Intelligence tools	Hardly	Sometimes	Often	Always	$\bar{x}$	S.D.
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1	PLAITO	45(75.0%)	13(21.7%)	1(1.7%)	1(1.7%)	1.30	0.591
2	Google BARD AI	27(45.0%)	24(40.0%)	8(13.3%)	1(1.7%)	1.72	0.761
3	QUILLBOT	18(30.0%)	22(36.7%)	11(18.3%)	9(15.0%)	2.18	1.033
4	POE	34(56.7%)	23(38.3%)	1(1.7%)	2(3.3%)	1.52	0.701
5	Dream Box	33(55.0%)	17(28.3%)	8(13.3%)	2(3.3%)	1.65	0.840
6	Microsoft Power BI	27(45.0%)	21(35.0%)	8(13.3%)	4(6.7%)	1.82	0.911
7	Scite	26(43.3%)	16(26.7%)	12(20.0%)	6(10.0%)	1.97	1.025
8	ChatGPT	18(30.0%)	12(20.0%)	18(30.0%)	12(20.0%)	2.40	1.123
9	Elicit for research	35(58.3%)	11(18.3%)	10(16.7%)	4(6.7%)	1.72	0.976
10	Research rabbit	38(63.3%)	8(13.3%)	10(16.7%)	4(6.7%)	1.67	0.986
11	Grammarly	18(30.0%)	19(31.7%)	8(13.3%)	15(25.0%)	2.33	1.160

Weighted Mean =1.84, Average mean score = 2.5.

Table 2 showed the Artificial Intelligence (AI) tools used by librarians. It revealed that the most frequently used tools are ChatGPT and Grammarly, with means of 2.40 and 2.33, respectively, indicating a higher proportion of librarians using these tools always. For ChatGPT, 30.0% of the respondents use it often, and 20.0% use it always, while Grammarly is always used by 25.0% of respondents and often by 13.3%. These findings indicated that tools focused on enhancing writing and research assistance are well-integrated into library operations. Conversely, tools like PLAITO and Research Rabbit are rarely utilized, with 75.0% and 63.3% of respondents indicating hardly using them, highlighting a possible lack of awareness or relevance of these tools to librarians' needs.

Overall, the weighted mean of 1.84 falls below the average score. And this simply reflected that majority of AI tools are only hardly or sometimes used by librarians, suggesting a moderate adoption rate. Tools like Google BARD AI, Microsoft Power BI, and Scite showed intermediate levels of usage, with respondents evenly distributed between hardly and sometimes. Notably, Elicit for research and Dream Box, despite being recognized, are also underutilized, with a large portion of users reporting hardly using them.

Despite this above, the overall result reveal a weighted mean of 1.84 reflected that majority of AI tools are only hardly or sometimes used by librarians. This suggests a low level of motivation to Artificial intelligence tools usage by librarians in universities in Oyo State. This is a shocking revelation considering the benefit attributed to use of AI tools for library routines. The possible factors for the low use of AI tools among librarians could include the lack of

infrastructure and resources, the shortage of skilled personnel, erratic power supply, the absence of data privacy regulations, digital divide and the high cost of implementing AI-based solutions as supported by Barsha, and Munshi, (2024) and Emiri, O. T (2023). However, the finding of this study is contrary to the report of Yoon, Andrews, and Ward, (2022) who found that librarians have positive perceptions toward the use of AI tools.

**Research Question Two:** What are the purposes of using Artificial Intelligence tools by librarians in universities in Oyo State, Nigeria?

The research question two reveals responses on the purposes of using Artificial Intelligence tools by librarians in universities in Oyo State, Nigeria.

**Table 3 Purpose of using Artificial Intelligence tools by librarians**

s/n	Purpose of using AI tools	Hardly	Sometimes	Often	Always	$\bar{x}$	S.D.
1	Intelligent search and discovery: to discover relevant resources more efficiently	8 13.3%	15 25.0%	14 23.3%	23 38.3%	2.87	1.081
2	Chatbots and virtual assistants in answering common patron queries	6 10.0%	23 38.3%	17 28.3%	14 23.3%	2.65	0.954
3	Collection management and curation by automating tasks such as cataloguing, metadata tagging, and content classification	7 11.7%	20 33.3%	15 25.0%	18 30.0%	2.73	1.023
4	Digital preservation and archiving: preserving and archiving digital content such as digitization, metadata extraction, and quality control	13 21.7%	15 25.0%	20 33.3%	12 20.0%	2.52	1.049
5	Data analytics and usage insights: analyze library usage data, including circulation records, patron behaviour, and resource usage patterns	11 18.3%	11 18.3%	24 40.0%	14 23.3%	2.68	1.033
6	Language translation and natural language processing in providing resources and services in multiple languages	15 25.0%	15 25.0%	20 33.3%	10 16.7%	2.42	1.046
7	Accessibility and inclusivity: in making library resources more accessible and inclusive for users with disabilities	14 23.3%	11 18.3%	21 35.0%	14 23.3%	2.58	1.094
8	Recommender systems: in suggesting related resources	14 23.3%	18 30.0%	19 31.7%	9 15.0%	2.38	1.010



9	Data security and privacy: identify and mitigate cybersecurity threats, detect anomalies in network traffic, and protect sensitive patron data	13 21.7%	21 35.0%	18 30.0%	8 13.3%	2.35	0.971
10	Text mining and data extraction: analyse large volumes of text data, such as research articles, books, and manuscripts	21 35.0%	18 30.0%	11 18.3%	10 16.7%	2.17	1.092
11	Plagiarism and fraud detection such as fake publications or plagiarized content	14 23.3%	17 28.3%	12 20.0%	17 28.3%	2.53	1.142
12	Data visualization: in presenting complex information and data in a visually appealing and easily understandable format	10 16.7%	19 31.7%	16 26.7%	15 25.0%	2.60	1.045
13	Virtual reality (VR) and Augmented reality (AR): for virtual tours, interactive exhibits, and enhancing user engagement with library resources	11 18.3%	18 30.0%	25 41.7%	6 10.0%	2.43	0.909

Weighted Mean =2.53. Average mean score = 2.5.

Table 3 showed the purposes for which librarians use Artificial Intelligence (AI) tools, revealing a range of applications with varying purposes of use. The highest-rated purpose is Intelligent search and discovery ( $\bar{x}$  =2.87), where 38.3% of respondents reported always using AI tools for efficient resource discovery. This indicated that AI is primarily valued for enhancing search efficiency and resource relevance. Similarly, Collection management and curation ( $\bar{x}$  = 2.73), and Chatbots and virtual assistants ( $\bar{x}$  =2.65) are frequently employed, with over 50% of respondents using these tools often or always. These indicated that automation in cataloging, metadata tagging, and patron interaction is becoming integral to library operations.

Other purposes such as Data analytics and usage insights ( $\bar{x}$  =2.68) and Accessibility and inclusivity ( $\bar{x}$  = 2.58) are moderately utilized, reflecting a growing recognition of AI's role in enhancing data-driven decisions and inclusive access. However, tools for Text mining and data extraction and Data security and privacy have lower means ( $\bar{x}$  =2.17 and 2.35, respectively), indicating limited use in these specialized areas. The overall results on purposes of use of AI tools by librarians are 2.53 weighted mean which is above the average mean of 2.5. On the

purpose of using Artificial Intelligence tools by librarians, the study findings revealed that of respondents use Artificial Intelligence always for Intelligent search and discovery: to discover relevant resources more efficiently, respondents often use AI tools for Data analytics and usage insights: analyze library usage data, including circulation records, patron behaviour, and resource usage patterns and lastly, respondents use AI tools often for data analytics. The efficiency of using AI tools drives librarians to always use them for various functions such as: intelligent search and discovery and use for analyzing library usage, reference services and the likes. The deployment of these AI tools make library services less tasking. The deployment of AI tools for answering users' queries like ChatGPT or Chatbots makes reference service delivery effective and efficient as support by the study of Ali, Naeem, and Bhatti (2020), Rathinasabapathy, Swetha, and Veeranjanyulu, (2023), Jha, (2023) and Hasan, Saifullah, and Hashmi, (2024).

**Research question three:** What is the level of user expectancy of using Artificial Intelligence tools by librarians in universities in Oyo State, Nigeria?

The user expectancy of using Artificial Intelligence tools by librarians in universities in Oyo State, Nigeria is revealed below in table 4. The response format is a likert scale of Strongly Disagree (SD), Disagree (D), Agree (A) and Strongly Agree (SA), and Standard Deviation (S.D.).

**Table 4: The level of effort expectancy of using Artificial Intelligence tools by librarians**

s/n	Effort expectancy using AI	SD	D	A	SA	$\bar{x}$	S.D.
1	It is easy for me to become more skill in using Artificial Intelligence tools	1 1.7%	2 3.3%	25 41.7%	32 53.3%	3.47	0.650
2	I will continue to find it easy to use Artificial Intelligence tools	-	2 3.3%	38 63.3%	20 33.3%	3.30	0.530
3	Learning to use Artificial Intelligence tools does not require much effort	6 10.0%	4 6.7%	38 63.3%	12 20.0%	2.93	0.821
4	My interaction with Artificial Intelligence tools will continue to be clear and understandable	2 3.3%	-	36 60.0%	22 36.7%	3.30	0.646
5	Learning how to use Artificial Intelligence tools is easy for me	2 3.3%	2 3.3%	45 75.0%	11 18.3%	3.08	0.591
6	I find Artificial Intelligence tools easy to use	2 3.3%	2 3.3%	42 70.0%	14 23.3%	3.13	0.623
7	It is easy for me to become skillful at using Artificial Intelligence tools	4 6.7%	-	38 63.3%	18 30.0%	3.17	0.740

Weighted Mean =3.20, Average mean score = 2.5.

Table 4 explored the level of effort expectancy associated with librarians' use of Artificial Intelligence (AI) tools, reflecting overall positive perceptions of ease of use and skill acquisition. 95.0% of the respondents indicated that it is easy for them to become more skillful at Artificial Intelligence tools ( $\bar{x} = 3.47$ ), respondents agreed that acquiring AI-related skills is straightforward for them. Similarly, statements like "I will continue to find it easy to use Artificial Intelligence tools" ( $\bar{x} = 3.30$ ) and "My interaction with Artificial Intelligence tools will continue to be clear and understandable" ( $\bar{x} = 3.30$ ) also show high levels of agreement, with over 60% of respondents in agreement. These responses reflected strong confidence among librarians in their ability to learn and interact with AI tools effectively.

The overall weighted mean is 3.20 which is above the average mean of 2.5, suggesting a generally high level of effort expectancy. Though, some responses revealed slight variability in perceptions. Learning to use Artificial Intelligence tools does not require much effort has a lower mean of ( $\bar{x} = 2.93$ ), with 10.0% of respondents strongly disagreeing, indicating that a minority finds the learning curve challenging. Despite this, statements like "I find Artificial Intelligence tools easy to use" ( $\bar{x} = 3.13$ ) and "Learning how to use Artificial Intelligence tools is easy for me" ( $\bar{x} = 3.08$ ) confirmed that most librarians find AI tools user-friendly. Overall, the findings indicated that librarians perceived AI tools as accessible and manageable, but targeted support for those encountering difficulties could further enhance adoption and effective use. It could be deduced from the study findings that respondents agreed that use of Artificial Intelligence does not require much effort to use. This could be the motivating parameter for its use among librarians reason being, AI tools do not require much effort like traditional means of reference service delivery where encyclopedia, dictionary, thesaurus are consulted.

**Research question four:** What are the level of performance expectancy of using Artificial Intelligence by librarians in universities in Oyo State, Nigeria?

The level of performance expectancy of using Artificial Intelligence by librarians in universities in Oyo State, Nigeria is revealed with response format of a likert scale of Strongly Disagree (SD), Disagree (D), Agree (A) and Strongly Agree (SA), and Standard Deviation (S.D.).

**Table 5      The level of performance expectancy of using Artificial Intelligence by librarians**

s/n	Performance expectancy	SD	D	A	SA	$\bar{x}$	S.D.
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1	The Artificial Intelligence tools enables me to improve my work performance	2 3.3%	2 3.3%	26 43.3%	30 50.0%	3.40	0.718
2	The Artificial Intelligence tools enables me to achieve study/research task	2 3.3%	2 3.3%	35 58.3%	21 35.0%	3.25	0.680
3	Artificial Intelligence tools help me accomplish my work more quickly	-	4 6.7%	35 58.3%	21 35.0%	3.28	0.585
4	Artificial Intelligence tools increase my productivity at work	3 5.0%	2 3.3%	36 60.0%	19 31.7%	3.18	0.725
5	Artificial Intelligence tools is beneficial to my work	2 3.3%	2 3.3%	31 51.7%	25 41.7%	3.32	0.701
6	I find Artificial Intelligence tools useful in my daily life	1 1.7%	4 6.7%	35 58.3%	20 33.3%	3.23	0.647
7	Using Artificial Intelligence tools increases my chances of achieving task that are important to me	4 6.7%	2 3.3%	25 41.7%	29 48.3%	3.32	0.833
8	Using Artificial Intelligence tools help me accomplish things more quickly	4 6.7%	2 3.3%	33 55.0%	21 35.0%	3.18	0.792

Weighted Mean =3.27, Average mean score = 2.5.

Table 5 showed the level of performance expectancy associated with the use of Artificial Intelligence (AI) tools by librarians, indicating a generally positive perception of their benefits in improving work efficiency and productivity. "The Artificial Intelligence tools enable me to improve my work performance" received the highest mean score ( $\bar{x} = 3.40$ ), with 50.0% of respondents strongly agreeing and 43.3% agreeing. Similarly, "AI tools help me accomplish my work more quickly" ( $\bar{x} = 3.28$ ) and "AI tools enable me to achieve study/research tasks" ( $\bar{x} = 3.25$ ) also showed high levels of agreement, with over 90% of respondents acknowledging their utility. These findings indicated that AI tools are viewed as valuable assets for enhancing work outcomes, streamlining tasks, and supporting research endeavors.

The overall weighted mean of 3.27 as above the Average mean score = 2.5 reflected a strong agreement on the performance expectancy benefits of AI tools. Statements like "AI tools increase my productivity at work" and "Using AI tools helps me accomplish things more quickly" have slightly lower means ( $\bar{x} = 3.18$  each), partly due to a small percentage (5.0%-6.7%) of respondents expressing disagreement. The results indicated that most librarians have consistent positive perceptions of AI's role in task efficiency. This highlights the perceived

effectiveness of AI tools in professional contexts, highlighting their capacity to enhance work performance and productivity.

Finding revealed that Artificial Intelligence tools improves librarians work performance as results presented showed percentage and mean values of respondents that agreed to use of Artificial Intelligence tools improve their work performance of respondents. The efficiency and effectiveness of AI tools has contributed tremendously to work productivity of librarians as tedious work were been completed with less effort and saves time. This results supported the research findings of (Onaolapo, & Oyewole, 2018).

**Research question five:** What is the level of facilitating condition on use of Artificial Intelligence by librarians in Oyo State, Nigeria?

The facilitating condition on use of Artificial Intelligence by librarians in Oyo State, Nigeria is revealed below in table 6 with response format of a Likert scale of Strongly Disagree (SD), Disagree (D), Agree (A) and Strongly Agree (SA), and Standard Deviation (S.D.).

**Table 6 The level of facilitating condition on use of Artificial Intelligence by librarians**

s/n	Facilitating condition	SD	D	A	SA	$\bar{x}$	S.D.
1	Facilitating condition is suitable for the way I study	-	3 5.0%	41 68.3%	16 26.7%	3.22	0.524
2	I can get help when I have difficulty	-	2 3.3%	34 56.7%	24 40.0%	3.37	0.551
3	The help can direct me to the information I need	2 3.3%	2 3.3%	32 53.3%	24 40.0%	3.30	0.696
4	The help supports me in my tasks/research work	2 3.3%	4 6.7%	39 65.0%	15 25.0%	3.12	0.666
5	Other staff show me how to use Artificial Intelligence tools	2 3.3%	10 16.7%	28 46.7%	20 33.3%	3.10	0.796
6	I have been trained to use Artificial Intelligence tools	2 3.3%	9 15.0%	28 46.7%	21 35.0%	3.13	0.791
7	I have the resources necessary to use Artificial Intelligence tools	2 3.3%	3 5.0%	40 66.7%	15 25.0%	3.13	0.650
8	I have the knowledge necessary to use Artificial Intelligence tools	4 6.7%	3 5.0%	35 58.3%	18 30.0%	3.12	0.783
9	Artificial intelligence tools are compatible with other technologies I use	4 6.7%	2 3.3%	31 51.7%	23 38.3%	3.22	0.804
10	I can get help from others when I have difficulties using Artificial Intelligence tools	4 6.7%	2 3.3%	35 58.3%	19 31.7%	3.15	0.777
Weighted Mean =3.19, Average mean Score = 2.5							

Table 6 assessed the level of facilitating conditions that support librarians in using Artificial Intelligence (AI) tools, revealing generally favourable perceptions. "I can get help when I have difficulty" received the highest mean score ( $\bar{x}=3.37$ ), with 56.7% of respondents agreeing and 40.0% strongly agreeing, highlighting the availability of assistance as a critical enabling factor. Similarly, "The help can direct me to the information I need" ( $\bar{x}=3.30$ ) reflected a strong agreement, showing that librarians perceived the guidance they receive as effective in navigating AI-related challenges. These emphasized the importance of accessible support systems in fostering the adoption and use of AI tools among librarians.

Despite the overall positive response, some areas indicated room for improvement. Statements such as "Other staff show me how to use Artificial Intelligence tools" ( $\bar{x}=3.10$ ) and "I have been trained to use Artificial Intelligence tools" ( $\bar{x}=3.13$ ) indicated that not all librarians feel adequately trained or supported by peers. Additionally, "Artificial intelligence tools are compatible with other technologies I use" ( $\bar{x}=3.22$ ) and "I have the resources necessary to use Artificial Intelligence tools" ( $\bar{x}=3.13$ ) indicated a need for improved integration and resource availability. With a weighted mean of 3.19 above the average mean score of 2.5.

The study also indicated that librarians agreed that they were trained to use Artificial Intelligence tools such as Grammarly, ChatGPT or Chatbots, Quillbot and Scite for various purposes. Librarians agreed that the training they went through has contributed immensely to ease the use of AI tools. Also, they agreed that they could get help from other when the need for such arises. The overall level of facilitating conditions is positive, strengthening training programmes, ensuring resource adequacy, and fostering peer collaboration could further enhance the enabling conditions for AI tool use in libraries. These are agreed upon by Barsha, and Munshi, (2024) and Emiri, O. T (2023). Furthermore, Shahzad, Khan, and Iqbal, (2024) supported that a significant positive impact of AI adoption was found on the implementation smart library services with the impact of helpful facilitating conditions. Findings revealed that facilitating conditions motivated librarians to adopt AI tools in university libraries for the delivery of smart library services.

**Research question six:** What is the level of social influence on use of Artificial Intelligence by librarians in universities in Oyo State, Nigeria?

The level of social influence on use of Artificial Intelligence by librarians in universities in Oyo State, Nigeria responses are presented in table 7 below with response format of a Likert scale of Strongly Disagree (SD), Disagree (D), Agree (A) and Strongly Agree (SA), and Standard Deviation (S.D.).

**Table 7 The level of social influence on use of Artificial Intelligence by librarians**

s/n	Social influence on use of AI	SD	D	A	SA	$\bar{x}$	S.D.
1	People whose opinions I value prefer that I use Artificial Intelligence tools	7 11.7%	4 6.7%	43 71.7%	6 10.0%	2.80	0.777
2	People who are important to me at my institution think that I should use Artificial Intelligence tools	7 11.7%	4 6.7%	37 61.7%	12 20.0%	2.90	0.858
3	People who influence my work think I should use Artificial Intelligence tools	7 11.7%	8 13.3%	33 55.0%	12 20.0%	2.83	0.886
4	I am encouraged to use Artificial Intelligence tools by people who assess my work	9 15.0%	4 6.7%	38 63.3%	9 15.0%	2.78	0.885
5	I use Artificial Intelligence tools because people around me do	4 6.7%	11 18.3%	38 63.3%	7 11.7%	2.80	0.732
6	Not using Artificial Intelligence tools makes me feel I am falling behind others	14 23.3%	17 28.3%	24 40.0%	5 8.3%	2.33	0.933
7	People who influence my behaviour think that I should use Artificial Intelligence tools	17 28.3%	11 18.3%	25 41.7%	7 11.7%	2.37	1.025

Weighted Mean =2.69, Average mean Score = 2.5.

Table 7 evaluated level of social influence on librarians' use of Artificial Intelligence (AI) tools, revealing moderate levels of encouragement from social and professional networks. "People who are important to me at my institution think that I should use Artificial Intelligence tools" received the highest mean score ( $\bar{x}$  =2.90), with 61.7% of respondents agreeing and 20.0% strongly agreeing. This reflected a significant social expectation within institutional contexts. Similarly, "People who influence my work think I should use Artificial Intelligence tools" ( $\bar{x}$  = 2.83) and "I use Artificial Intelligence tools because people around me do" ( $\bar{x}$  = 2.80) indicated that workplace culture and peer practices play a notable role in shaping AI adoption.



Despite these positive influences, some statements revealed lower levels of social encouragement. "Not using Artificial Intelligence tools makes me feel I am falling behind others" ( $\bar{x}=2.33$ ) and "People who influence my behavior think that I should use Artificial Intelligence tools" ( $\bar{x} = 2.37$ ) had a higher proportion of disagreement, indicating that not all librarians feel pressured to adopt AI tools to remain competitive or meet social expectations. The overall weighted mean of 2.69 as against the average mean score of 2.5 indicated a moderately high level of social influence.

On the level of social influence on use of Artificial Intelligence by librarians, the study finding indicated that librarians agreed to use of Artificial intelligence tools for different routines because they listen to peoples whose opinion are significant to them prefer they use AI tools. In addition, the respondents agreed that people who are important to them in their respective institution think that they should use artificial Intelligence tools. This might be that those people have benefitted from use of AI tools in carrying out day to day activities such as translation, reference services, paraphrasing, and data analytics. The overall weighted mean as against the average mean score indicated a moderately high level of social influence. Therefore, there is little influence of social influence on their use of AI tools. This is finding is supported by Andrews, Ward, and Yoon, (2021) that social influence (SI) and effort expectancy (EE) did not have significant impact on motivation to use AI tools. But Shahzad, Khan, and Iqbal, (2024) found that Social influence has a positive significant impact on motivation to use AI tools by librarians. Therefore, to enhance the role of social influence, institutions could create environments where the use of AI tools is more explicitly supported and encouraged by leadership and peers.

## **Conclusion**

In this study, motivation to use artificial intelligence tools by librarians in tertiary institutions discovered low use of AI tools among librarians in universities but with high level of effort expectance, performance expectancy and facilitating condition, meanwhile, there was a moderate level of social influence on the use of AI tools by librarians. With the result of this study, university management, and librarians could make valuable decisions onto how to effectively adopt and use AI tools to enhance library service delivery, user satisfaction, impactful

allocation of resources and librarians' job performance and satisfaction. However, this study adopted quantitative research method (questionnaire) which is limited as compare to use of mixed methods. Further study could adopt mixed methods and expand the scope of the study to other academic libraries (polytechnic and colleges). Overall, this study has established the growing need for librarians to adopt the use of AI tools for improve job satisfaction and effective library service delivery.

### Recommendations

Based on the findings of study, it is recommended that:

1. To enhance the adoption of AI tools among librarians in universities in Oyo State, institutions should prioritize training programmes to improve digital literacy and AI proficiency. Investment in digital infrastructure, such as stable internet and power supply, is essential for seamless AI integration. Universities should also develop policies that promote AI adoption while addressing ethical concerns and data privacy. Awareness campaigns and incentive programme can motivate librarians to embrace AI tools.
2. To enhance the utilization base on the purpose of AI tools use in library services, libraries should fully integrate AI-driven search and discovery systems to improve resource accessibility and streamline information retrieval. AI-powered data analytics should be expanded to assess patron behavior, circulation trends, and resource usage, enabling better decision-making. Encouraging research and innovation in AI applications will further enhance library operations, ensuring efficiency and improved user experience.
3. Given the high effort expectancy of AI tools among librarians, institutions should further promote their adoption by emphasizing their ease of use. Training programmes should focus on practical applications to reinforce confidence in AI tools, ensuring that librarians can seamlessly integrate them into daily operations. Additionally, continuous user support and system upgrades should be provided to maintain ease of use and optimize AI functionalities. By fostering a user-friendly AI environment, librarians can maximize the benefits of AI tools for enhanced service delivery.

4. To maximize the performance expectancy of AI tools in libraries, institutions should actively encourage their adoption by highlighting their efficiency in streamlining tasks and improving work productivity. Training programmes should focus on demonstrating how AI tools can enhance research support, automate tedious processes, and optimize resource management.
5. To further enhance the facilitating conditions for AI adoption in libraries, institutions should provide adequate resources, including digital infrastructure and support systems. Additionally, facilitating conditions like institutional support should be reinforced through access to technical assistance, fostering a more AI-friendly environment for efficient library service delivery.
6. To enhance the role of social influence in AI adoption among librarians, institutions should foster a culture where AI use is actively encouraged by leadership and peers. This can be achieved through awareness campaigns, success stories, and peer mentoring programmes that highlight the benefits of AI tools in library operations. University librarians and institutional leaders should advocate for AI integration, setting an example for others to follow.

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