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Perceived Effects of Use of Artificial Intelligence for Knowledge Management at Danbaba Danfulani Suntai Library, Taraba State University, Jalingo, Nigeria.

Chukwuemeka Chukwueke[1] & Prof. Anthonia U. Echedom[2]
[1]Department of Library and Information Science, Taraba State University, Jalingo, Nigeria
chukwuemeka.chukwueke@tsuniversity.edu.ng
2 Department of Library and Information Science, Nnamdi Azikiwe University, Awka

Abstract
The study explores the perceived effects of artificial intelligence (AI) on knowledge management at the Danbaba Danfulani Suntai (DDS) Library, Taraba State University, Jalingo. Despite concerns about job replacement among library staff, the research highlights the significant benefits of AI in knowledge management in academic libraries. Five research objectives and corresponding questions guided the study. Using a descriptive survey with 36 library staff, data were collected through a structured questionnaire and analyzed using frequency counts, percentages, and mean scores. Findings revealed that among 17 investigated AI tools, the DDS Library staff only used Team-GPT, and its application was limited. Nonetheless, AI tools were perceived to enhance automation of knowledge processes, facilitate conversion of tacit to explicit knowledge, and support handling large volumes of unstructured data. Yet, use remains low due to challenges such as fears of job loss leading to resistance, inadequacies in ICT infrastructure, and insufficient funding. The study concludes that while AI holds promise for improving knowledge management in academic libraries, usage at DDS Library is minimal and hindered by structural and attitudinal obstacles. Recommendations include the need for comprehensive training for library staff on AI tools to improve their utilization and advocating for increased financial investment to address longstanding resource shortages in Nigerian academic libraries. These steps are crucial to unlocking the full potential of AI in transforming library services and knowledge management.

Keywords: AI, Knowledge Management, Academic Libraries-Nigeria, Librarians, Effects

Introduction

In today's society, artificial intelligence (AI) is being adopted and utilized for several purposes across different sectors. The academic library, inclusive. While some schools of thought are still negative about these tools replacing and displacing the human resources (in this case, the librarian), the benefits of these tools cannot be overemphasized. According to Yusuf, Adebayo, Lateef, and Kayode (2023), some of these benefits include promoting efficient and effective library service delivery, enhancing library use, reducing information search and retrieval difficulties. Additionally, a notable area wherein AI is making its way in libraries is the knowledge management (KM) practices. Nnadozie (2016) defined KM as a process of creating, acquiring, packaging, applying or reusing knowledge. Urban and Matela (2022) believed that knowledge management is represented by the strategies and processes used to identify, capture, and structure an organization's intellectual assets to benefit from them in enhancing its performance. Similarly, Gürlek and Cemberci (2020) stated that knowledge management is based on the process through which value is generated by relying on the organization's intellectual and knowledge-based assets. These views were earlier amplified by Ofori-Dwumfuo and Kommey (2013) when they explained the term as a systematic effort to create, capture, store, retrieve, re-use, transfer and share knowledge assets within an organization in a measurable way, completely integrated in its operational and business goals to maximize innovative and competitive advantages.

Nonetheless, AI in KM simply refers to the application of artificial intelligence in the creation, storage, sharing, and re-use of organizational know-how, documents, and records. The accelerating adoption and use of AI tools in KM practices is rapidly transforming how academic libraries generate, store, share, and utilize knowledge. Williams and Li (2023) observed that as knowledge is increasingly recognized as a critical organizational asset, effective KM practices are essential for enhancing decision-making, innovation, and competitive advantage in both corporate and academic settings. AI technologies, such as machine learning, Team-GPT, Document360, Korra, Bloomfire,

natural language processing, and expert systems, automate knowledge processes and enable the conversion of tacit knowledge, which is often difficult to articulate, into explicit, actionable information (Taherdoost & Madanchian, 2023). Additionally, Jarrahi et al. (2023); Chukwueke and Austin (2024) noted that the advancements brought about by the adoption of AI tools in academic settings and information centres have facilitated the management of vast amounts of unstructured data, fostered organizational learning, and improved the efficiency of knowledge-intensive tasks.

Regrettably, despite the opportunities, the use of AI in KM is not without challenges. Key issues as articulated by Wliimans and Li (2023) include resistance due to concerns over job security, limitations in ICT infrastructure, ethical considerations such as data privacy and algorithmic bias, and the need for continuing professional development. Furthermore, Taherdoost and Madanchian (2023) noted that while AI enhances many aspects of KM, it is limited in capturing the nuanced and contextual nature of human knowledge, which can impede full use by academics, especially in Nigeria. However, use of AI tools for KM practices is thus marked by both transformative promise and notable challenges. The Danbaba Danfulani Suntai Library, which is the library of Taraba State University, Jalingo, is not excluded from these challenges. Notwithstanding, these challenges should not be leveraged upon. As libraries seek to unlock AI's potential in knowledge management, research highlights the necessity of ethical frameworks, ongoing training, and strategic investment to ensure that these technologies augment rather than replace human contributions, creating sustainable and innovative knowledge ecosystems. Given this, the study investigates the perceived effects of the use of artificial intelligence for knowledge management at the Danbaba Danfulani Suntai Library, Taraba State University, Jalingo, Nigeria.

Research Objectives

The following objectives guided the study.

1. To find out the AI tools used for knowledge management by academic libraians.
2. To determine the extent of use of these tools for knowledge management at DDS Library, Jalingo.
3. To find out the perceived effects of the use of the AI tools for knowledge management practices at DDS Library, Jalingo.
4. To investigate the challenges facing the use of AI tools for knowledge management at DDS Library, Jalingo.
5. To proffer solutions to the challenges facing the use of AI tools for knowledge management at DDS Library, Jalingo.

Research Questions

The following questions were answered

1. What are the AI tools used for knowledge management academic librarians?
2. To what extent are these tools used for knowledge management at DDS Library, Jalingo?
3. What are the perceived effects of the use of the AI tools for knowledge management practices at DDS Library, Jalingo?
4. What are the challenges facing the use of AI tools for knowledge management at DDS Library, Jalingo?
5. What are the solutions to the challenges facing the use of AI tools for knowledge management at DDS Library, Jalingo?

Methodology

The study adopted the descriptive survey design, using a total population of 36 librarians. These 36 librarians consist of library staff at the Danababa Danfulani Suntai Library, Taraba State University, Jalingo, with a minimum of a bachelors degree in library-related disciplines. The total enumeration sampling technique was used in studying the entire population. Data were collected using a 64-item structured questionnaire titled 'Artificial Intelligence for Knowledge Management Questionnaire (AIKM-Q). The instrument was divided into two sections: Section A and Section B. Section A elicited the respondents' demographic variables, while Section B, with five clusters, focused on the core variable questions. A total of 36 copies of the instrument were distributed, and all were returned, giving a 100% response rate. The distribution lasted for one week to ensure maximum

return of the copies. Data collected were analyzed using frequency counts, simple percentages and mean scores. A criterion mean of 2.50 was chosen in deciding the outcome of responses in research questions 3, 4 and 5. This implied that any item statement with a mean score of 2.50 and above was considered agreed, while item statements with mean scores below 2.50 were considered as disagreed. Furthermore, the simple majority was used in deciding the outcome of responses to research question 1. However, the real limit of numbers was used in deciding the outcome of responses in research question 2. This implied the consideration of item statements with mean scores 3.50 – 4.00 as Very High Extent, 2.50 – 3.49 as High Extent, 1.50 – 2.49 as Low Extent, and 1.00 – 1.49 as Very Low Extent. The actual presentation of results was done using frequency tables.

Results and Findings

The data collected and analysed are presented in line with the research questions and the order in which they appear on the questionnaire.

Research Question 1: What are the AI tools used for knowledge management by academic librarians?

Table 1: AI tools used for knowledge management.

S/n	AI Tools	Used	%	Not-Used	%
1	Team-GPT	20	55.6	16	44.4
2	Document360	4	11.1	32	88.9
3	Microsoft Viva Topics	8	22.2	28	77.8
4	Natural Language Processing (NLP)	8	22.2	28	77.8
5	IBM Watson Discovery	4	11.1	32	88.9
6	Shelf	12	33.3	24	66.7
7	Lindy	4	11.1	32	88.9
8	Notion Q&A	12	33.3	24	66.7
9	Guru (e.g. Slack)	4	11.1	32	88.9
10	Knowmax	4	11.1	32	88.9
11	Bloomfire	5	13.9	31	86.1
12	Aidbase	8	22.2	28	77.8
13	Korra	12	33.3	24	66.7
14	Mem	4	11.1	32	88.9
15	Trainual	4	11.1	32	88.9
16	Yext	4	11.1	32	88.9
17	**Slite**	4	11.1	32	88.9

Table 1 captures the respondents' responses on the AI tools used for knowledge management by academic librarians. 17 AI tools for knowledge management were investigated. The result shows that the respondents, who constitute 20 (55.6%), use Team-GPT for internal search and retrieval of information, while the other 16 AI tools had a majority of the respondents not using them for any knowledge management practices. They include Document360, Natural Language Processing, IBM Watson Discovery, Shelf, Lindy, Notion Q&A, Guru, Knowmax, Bloomfire, Aidbase, Korra, Mem, Trainual, Yext, and Slite. Summarily, of the 17 AI tools investigated, only one is being used for knowledge management practices at the DDS Library, Jalingo.

Research Question 2: To what extent are these tools used for knowledge management at DDS Library, Jalingo?

Table 2: Extent of Use of AI tools in Knowledge Management

S/n	Item Statement	VHE	HE	LE	VLE	Mean	Remark
18	Team-GPT	13	14	0	9	2.86	HE
19	Document360	0	14	1	21	1.81	LE
20	Microsoft Viva Topics	0	5	10	21	1.56	LE
21	Natural Language Processing (NLP)	5	5	0	26	1.69	LE
22	IBM Watson Discovery	0	9	5	22	1.64	LE
23	Shelf	5	13	0	18	2.14	LE
24	Lindy	5	5	4	22	1.81	LE
25	Notion Q&A	0	18	4	14	2.11	LE
26	Guru (e.g., slack)	0	5	4	27	1.39	VLE

27	Knowmax	5	4	5	22	1.78	LE
28	Bloomfire	0	15	0	21	1.83	LE
29	Aidbase	5	4	5	22	1.78	LE
30	Korra	0	10	8	18	1.78	LE
31	Mem	5	4	5	22	1.78	LE
32	Trainual	0	5	4	27	1.39	VLE
33	Yext	0	4	10	22	1.50	LE
34	Slite	0	0	5	31	1.14	LE
	Cluster Average					**1.76**	**LE**

Table 2 presents the respondents' views on the extent of use of AI tools for knowledge management management at DDS Library, Jalingo. With a cluster average mean score of 1.76, the result shows that the majority of the respondents rated a low extent of use of AI for knowledge management practices. Specifically, the majority of the respondents rate the use of Team-GPT to a high extent, with a mean score of 2.86. Furthermore, the extent of use of Document360, Natural Language Processing, IBM Watson Discovery, Shelf, Lindy, Notion Q&A, Knowmax, Bloomfire, Aidbase, Korra, Mem, Yext, and Slite was rated low extent with mean scores ranging from 1.56 – 1.83. While Guru and Trainual, with mean scores of 1.39, were rated very low extent. The result implies that the extent of use of AI tools for knowledge management practices at DDS Library, Jalingo is low.

Research Question 3: What are the perceived effects of the use of the AI tools for knowledge management practices at DDS Library, Jalingo?

Table 3: Perceived effects of the use of the AI tools for knowledge management practices.

S/n	Item Statement	SA	A	D	SD	Mean	Remarks
35	They improve the automation of knowledge processes in my library	21	4	5	6	3.11	Agreed
36	They aid the conversion of tacit to explicit knowledge	12	13	5	6	2.86	Agreed
37	They serve as vital tools for the processing of large volumes of unstructured data	4	21	5	6	2.64	Agreed
38	AI tools enhance decision-making and library agility	10	12	9	5	2.75	Agreed
39	They foster collaborative knowledge sharing	17	9	5	5	3.06	Agreed
40	They assist in providing intelligent search and information retrieval	25	6	0	5	3.42	Agreed
41	Guru provides instant access to up-to-date information with deep integrations and browser extensions	8	18	5	5	2.81	Agreed
42	They support multilingual content, fast content creation, and integration	9	17	5	5	2.83	Agreed
43	They allow the users to ask questions and connect information from multiple sources	13	13	5	5	2.94	Agreed
44	Notion enables users to query a company's entire knowledge base	0	26	0	10	2.44	Disagreed
45	They support user self-service	12	19	0	5	3.06	Agreed
46	Makes for easy retrieval of information without manual sorting.	25	6	0	5	3.42	Agreed
47	They provide a searchable and trackable digital manual	21	5	5	5	3.17	Agreed
48	They assist in ensuring consistency and accuracy with library data management	13	13	5	5	2.94	Agreed
	Cluster Average					**2.96**	**Agreed**

Table 3 captures the respondents' views of the perceived effects of the use of AI tools for knowledge management at DDS Library, Jalingo. With a cluster average mean score of 2.96, the result shows that the majority of the respondents agreed with the perceived effects investigated. The agreement by the majority of the respondents can also be seen in item statements 35, 36, 37, 38, 39, 40, 41, 42, 43, 45, 46, 47, and 48. Furthermore, the majority of the respondents disagreed with item statement 44, which reported that Notion enables users to query a company's entire knowledge base, as it reported a mean score of 2.44, which is below the criterion mean chosen for the study (that is, 2.50). In view of this, the study reported the following as the perceived effects of the use of AI tools in knowledge management practices. They include, they improve the automation of knowledge

processes in my library (3.11), they aide the conversion of tacit to explicit knowledge (2.86), they serve as vital tools for the processing of large volumes of unstructured data (2.64), AI tools enhance decision-making, and library agility (2.75), they foster collaborative knowledge sharing and innovation (3.06), and they assist in providing intelligent search and information retrieval (3.42).

Other perceived effects as revealed from the responses of the respondents include, Guru assist in verifying knowledge, eliminates silos, and provides instant access to up-to-date information with deep integrations and browser extensions (2.81), they support multilingual content, and fast content creation, and integrates (2.83), they allow the users to ask questions and receive precise, contextual answers, connecting information from multiple sources (2.94), they support user self-service (3.06), makes for easy retrieval of information without manual sorting (3.42), they provide searchable, and trackable digital manual (3.17), and they assist in ensuring consistency and accuracy with of library data management (2.94).

Research Question 4: What are the challenges facing the use of AI tools for knowledge management at the DDS Library?

Table 4: Challenges facing the use of AI tools for knowledge management

S/n	Item Statement	SA	A	D	SD	Mean	Remarks
49	Many library staff lack the necessary skills to develop, implement, and maintain AI systems, leading to hesitancy and slow adoption.	27	4	5	0	3.61	Agreed
50	There is widespread concern among librarians that AI could automate tasks and threaten job security, leading to resistance to adoption	5	26	5	0	3.00	Agreed
51	Many libraries face insufficient ICT infrastructure	18	8	10	0	3.22	Agreed
52	The financial burden of establishing and maintaining AI systems is a major barrier.	19	12	5	0	3.39	Agreed
53	Absence of institutional support.	18	13	5	0	3.36	Agreed
54	Issues around user privacy and data security.	14	22	0	0	3.39	Agreed
55	Staff and users may be reluctant to change established workflows or trust AI-driven processes.	10	17	9	0	3.03	Agreed
56	Reliance on commercial AI solutions can threaten library autonomy and long-term sustainability.	14	12	10	0	3.11	Agreed
57	AI systems require ongoing updates, which can strain library resources	22	14	0	0	3.61	Agreed
	Cluster Average					**3.30**	**Agreed**

Table 4 presents the respondents' responses to the challenges facing the use of AI tools for knowledge management practices by academic librarians. The result shows a total agreement by the majority of the respondents on the nine perceived challenges investigated, as it accounts for a cluster average mean score of 3.30. These challenges, as captured in item statements 49 – 57, have mean scores ranging from 3.00 to 3.61. They include, many library staff lack the necessary skills to develop, implement, and maintain AI systems, leading to hesitancy and slow adoption; there is widespread concern among librarians that AI could automate tasks and threaten job security, leading to resistance to adoption; and many libraries face insufficient ICT infrastructure, unreliable power supply, and limited access to the necessary hardware and software.

Other challenges revealed, include, the financial burden of establishing and maintaining AI systems; lack of support from institutional leadership and insufficient funding can hinder AI initiatives; AI systems often require significant data collection, raising issues around user privacy, data security, and potential surveillance that conflict with libraries' traditional values; staff and users may be reluctant to change established workflows or trust AI-driven processes; reliance on commercial AI solutions can threaten library autonomy and long-term sustainability, as ongoing costs and dependencies may not align with library values or resources; and AI systems require ongoing updates, monitoring, and adaptation to remain effective and relevant, which can strain library resources. All these could be attributed to the reason for the low use of AI tools for knowledge management by academic librarians.

Research Question 5: What are the solutions to the challenges facing the use of AI tools for knowledge management at the DDS Library?

Table 5: Solutions to the challenges facing the use of AI tools for knowledge management

S/n	Item Statement	SA	A	D	SD	Mean	Remarks
58	Provision of adequate training on the use of AI tools for knowledge management	25	11	0	0	3.69	Agreed
59	Library management should invest in reliable ICT infrastructure.	25	11	0	0	3.69	Agreed
60	Allocation of sufficient for AI initiatives is required.	18	18	0	0	3.50	Agreed
61	There is a need to develop clear policies to protect user privacy and ensure data security.	22	14	0	0	3.61	Agreed
62	The library should choose AI systems that offer explainable decision-making processes.	18	18	0	0	3.50	Agreed
63	Libraries should partner with AI specialists and vendors to ensure proper integration of AI solutions.	23	13	0	0	3.64	Agreed
64	The library should establish processes for regular updates of AI systems to keep them effective and relevant.	31	5	0	0	3.86	Agreed
	Cluster Average					3.64	

Table 5 shows the respondents' views on the solutions to the challenges facing the use of AI tools for knowledge management at the DDS Library. With a cluster average mean of 3.64, the result shows that the majority of the respondents agreed on the perceived solutions as captured in item statements 58 – 64 as part of the solutions to the challenges facing the use of AI tools for knowledge management at the DDS Library. The solutions with their mean scores include, provision of adequate training on the use of AI tools for knowledge management (3.69), Library management should invest in reliable ICT infrastructure, including stable power supply and up-to-date hardware and software, to support AI systems, especially in under-resourced libraries (3.69), securing commitment from library leadership and stakeholders to allocate sufficient funding and strategic support for AI initiatives is required (3.50), and there is the need develop clear policies to protect user privacy, ensure data security, and address ethical concerns related to AI use, maintaining trust and compliance with regulations (3.61).

Other solutions include, the library should choose AI systems that offer explainable decision-making processes to mitigate bias and build user confidence in AI-driven services (3.50), libraries should partner with AI specialists and vendors to ensure proper integration, customization, and sustainability of AI solutions (3.64), and the library should establish processes for regular updates, performance evaluation, and troubleshooting of AI systems to keep them effective and relevant (3.86). It is assumed that with the above, the use of AI tools for knowledge management may improve at the library studied.

Discussion of Findings

The study, which focused on the perceived effects of the use of artificial intelligence for knowledge management at the Danbaba Danfulani Suntai Library, Taraba State University, Jalingo, Nigeria, made a series of findings, which are discussed in light of other studies.

AI tools used for knowledge management

The study found minimal use of AI tools for knowledge management practices by academic librarians. This is evident based on the result, which shows the use of only Team-GPT out of 17 AI tools investigated. This finding goes a long way to portray the absence of AI tools for knowledge management practices at the library. To this end, it could be rightly stated that the academic libraians, especially, those at the DDS Library is among the academic libraries still struggling with the use of AI tools for knowledge management. Given this, the finding that the academic librarians, shows minimal use of AI tools for knowledge management, with only Team-GPT being used among 17 AI tools investigated, corroborates research indicating that many academic libraries, especially in developing regions, are still at an early stage of AI adoption for knowledge management practices. For instance, the study of Monyela and Tella (2024) reported that academic libraries in several developing countries

face challenges in using AI tools due to a lack of awareness, preparedness, and training. Additionally, the study of Ajani et al. (2022) found that while some libraries had adopted AI tools, many librarians remained minimally familiar with such technologies, making the use uneven. This is often influenced by the knowledge level of staff and the availability of training, ICT facilities, among other things.

Extent of use of AI tools for knowledge management

The study showed a low extent of use of AI tools for knowledge management at the DDS Library Jalingo. This finding aligns with the study of Ajani et al. (2022), which found that academic libraries in developed countries' institutions tend to have higher AI tool use, while libraries in developing nations struggle with low adoption and integration levels. Additionally, GR Tech (2025) revealed that AI tools like chatbots, intelligent search assistants, and metadata generators are becoming more common in academic libraries globally, but this penetration is not uniform. This is the clear picture of the DDS Library, where only Team-GPT is considered to be used to a high extent. The cause of this is what was revealed in the study of Monyela and Tella (2024) to be due to certain ethical considerations, inadequate infrastructure, among other things. To this end, it is very clear that the report of this study on low extent use of AI tools for knowledge management at the DDS Library, Jalingo, aligns with broader trends of uneven AI integration in academic libraries, underscoring a gap that needs attention through staff education, strategic planning, and resource support. This is also true, going by the findings of Owusu-Ansah et al. (2023), which showed a statistically significant difference in AI utilization across institutions, with resource-rich libraries demonstrating higher integration levels.

Perceived effects of the use of AI tools for knowledge management practices

The study reported several perceived effects of the use of AI tools for knowledge management practices. These perceived effects include improving the automation of knowledge processes in my library, aiding the conversion of tacit to explicit knowledge, serving as vital tools for the processing of large volumes of unstructured data, enhancing decision-making and library agility, as well as fostering collaborative knowledge sharing and innovation. This corroborates with the studies such as Chen (2024), and Yang (2024), which found that AI fosters collaborative knowledge sharing and innovation by suggesting relevant documents, identifying experts, and uncovering new pathways for teamwork and problem-solving, thus boosting organizational agility and connectedness (Chen, 2024), and AI tools serve as vital means for processing large volumes of unstructured data, enabling advanced search, retrieval, and curation that traditional KM systems struggle to handle (Yang, 2024). Furthermore, Taherdoost and Madanchian (2023) found that AI technologies, such as machine learning, Team-GPT, Document360, Korra, Bloomfire, natural language processing, and expert systems, automate knowledge processes and enable the conversion of tacit knowledge, which is often difficult to articulate, into explicit, actionable information.

Going further, this study revealed other perceived effects to include assisting in providing intelligent search and information retrieval, assisting in verifying knowledge, eliminate silos, and provision of instant access to up-to-date information with deep integrations and browser extensions, supporting multilingual content, and fast content creation, and integrates, allowing the users to ask questions and receive precise, contextual answers, connecting information from multiple sources, supporting user self-service, making for easy retrieval of information without manual sorting, providing searchable, and trackable digital manual, and assisting in ensuring consistency and accuracy with of library data management. This further aligns with the study of Mensah (2024), which revealed that AI also facilitates efficient handling of large volumes of unstructured data, aids in digital preservation, and supports advanced analytics to inform collection management. To this end, a clear revelation of AI's transformative role in KM systems in academic libraries.

Challenges facing the use of AI tools for knowledge management

The study found several challenges facing the use of AI tools for knowledge management in academic libraries. Some of them, include, many library staff lack the necessary skills to develop, implement, and maintain AI systems, leading to hesitancy and slow adoption; there is widespread concern among librarians that AI could automate tasks and threaten job security, leading to resistance to adoption; and many libraries face insufficient ICT infrastructure, unreliable power supply, and

limited access to the necessary hardware and software. Agreeing with this, Orubebe, Oloniruha, and Oladokun (2024); Yusuf, Adebayo, Lateef, and Kayode (2023) reported that many academic library professionals lack the training and expertise to develop, implement, and maintain AI systems, causing hesitancy and slow adoption. It went further to reveal the fact that librarians express concern that AI automation may replace human roles, which leads to resistance to adopting AI technologies as well as Many academic libraries, especially in developing countries, face limited ICT infrastructure, inadequate high-speed internet, unreliable power supply, and lack of compatible hardware and software for AI integration.

It is important to note that these challenges collectively obstruct the widespread adoption and effective utilization of AI for knowledge management in academic libraries, but are recognized alongside the promise AI holds for enhancing library services. To this end, the a need to develop strategies aimed at fully tackling them to further ensure the efficient and effective use of AI tools for knowledge management in academic libraries, especially in Nigeria, where most of these challenges are prevalent.

Solutions to the challenges facing the use of AI tools for knowledge management

Part of the solutions revealed from the study, include, provision of adequate training on the use of AI tools for knowledge management, Library management should invest in reliable ICT infrastructure, including stable power supply and up-to-date hardware and software, to support AI systems, especially in under-resourced libraries, securing commitment from library leadership and stakeholders to allocate sufficient funding and strategic support for AI initiatives is required, the need to develop clear policies to protect user privacy, ensure data security, and address ethical concerns related to AI use, maintaining trust and compliance with regulations. Furthermore, Orubebe et al. (2024) highlighted that upgrading ICT infrastructure, including stable power supply, high-speed internet, and modern hardware/software, is crucial for effective AI implementation, especially in under-resourced libraries in developing countries. Chen (2024) and Yang (2024) underscored the necessity of establishing data governance frameworks and ethical guidelines to address risks related to privacy breaches, algorithmic biases, and legal compliance, thereby maintaining user trust and meeting regulatory demands.

Furthermore, Monyela and Tella (2024) emphasised the need for continuous monitoring, ethical governance, interdisciplinary collaboration, and ongoing staff education to address emerging risks such as algorithmic bias, transparency, privacy, and job displacement. Jagtap (2024) includes the establishment of ethical guidelines, enhancing inclusivity and accessibility, and involving library communities in decision-making regarding AI deployment. This implies that infrastructural investments, training efforts, and policy frameworks are highly needed to enable effective and ethical AI use for knowledge management practices in academic libraries.

Conclusion

The importance of artificial intelligence in knowledge management in academic libraries cannot be overemphasized. However, the state of these AI tools in some academic libraries in Nigeria is still questionable. The study found minimal use of AI tools for knowledge management at the DDS Library, Jalingo, with only Team-GPT actively used. These AI tools are seen to improve automation, convert tacit to explicit knowledge, handle large unstructured data, aid decision-making, and foster collaboration. However, challenges include skill gaps, job security concerns, and poor infrastructure. To overcome these, the study recommends staff training, investing in reliable ICT and power supply, securing leadership support and funding, and developing clear policies on privacy, security, and ethics. Ongoing monitoring, ethical governance, inclusivity, and community involvement are also essential for successful AI integration in knowledge management. To this end, the study concludes that AI tools in the area of knowledge management practices in academic libraries are promising and should be leveraged for better and quality service delivery.

Recommendation

Based on the findings, here are key recommendations to enhance the use of AI tools for knowledge management in the DDS Library, Jalingo, and similar academic libraries, especially in developing regions:

1. **Provision of adequate training:** There is a need to implement continuous professional development programmes to build the library staff's skills and confidence in using and managing AI tools. This will reduce resistance and promote effective adoption.
2. **Invest in Reliable ICT Infrastructure:** Library authorities and management should endeavour to upgrade existing infrastructure to include a stable power supply, high-speed internet, and up-to-date hardware and software capable of supporting AI systems to ensure smooth operation.
3. **Leadership Commitment and Funding:** Library management and stakeholders should demonstrate strong support by allocating sufficient financial and strategic resources specifically for AI initiatives.
4. **Develop Clear Policies and Ethical Guidelines:** There is a need to establish data privacy, security, and ethical frameworks to govern AI use, addressing concerns such as user trust, algorithmic bias, and regulatory compliance.
5. **Implement Continuous Monitoring and Governance:** Set up mechanisms for ongoing evaluation of AI system performance, ethical implications, and impact on staff roles, adjusting strategies as needed.
6. **Foster Collaboration and Knowledge Sharing:** There is a need to encourage partnerships within and beyond the library community to share best practices, experiences, and resources related to AI use for knowledge management practices.

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