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INFORMATION ACCESS IN AN ERA OF ARTIFICIAL INTELLIGENCE: AWARENESS AND USE AMONG ACADEMIC LIBRARIANS IN LAGOS STATE, NIGERIA

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Abstract

AI-powered tools and technologies have revolutionalized the ways that library users get information and yet, information providers are not adequately utilizing it. A mixed methods research design was adopted for the study. Population comprised 303 information providers in Lagos State. Self-structured questionnaire in Google form/hard copy was the instrument for the study. A total of 252 (83%) responded to the questionnaire. Descriptive statistics was used for analysis. Findings indicated that respondents certified extent of awareness of information access with AI as low; extent of use of AI tools by information providers in Lagos as low; level of accessibility of AI tools by information providers as low. Result revealed that AI technologies fasten library services and support users. It revealed that AI is not taking job of information providers in the library. Study concluded that Lagos State academic libraries should create awareness scheme, provide user-friendly AI-access and training to information providers to improve their ICT-AI skills for good service delivery.

Keywords: Awareness, Information access, Usability, Artificial intelligence, Information providers, Lagos State, Nigeria

Introduction

Artificial intelligence (AI) tools use is rapidly transforming the landscape of information management in all spheres globally with implications for academic libraries as the grand information providers in librarianship profession. AI-powered tools and technologies have the potential to revolutionize the way library users

discover, access, and utilize information. AI tools are the new magical phenomenon emerged in recent times to various domains of life globally. Artificial intelligence use in libraries is a veritable tool to reach the goal of re-examining processes and innovating services if libraries are to prosper in the new knowledge economy. Fortunately, the presence of AI tools as intelligent library, robots in library, AI chatbots and radio frequency identification (RFID) increase good service delivery. These AI tools are utilized at the circulation, cataloguing, collection development, serial services, security management, information retrieval of all library services. Lack of any or all of the AI tools debar proper access of resources by information providers and users. Several AI-based technologies are available in libraries to assist with routine or complex tasks; however, only a few libraries have fully embraced AI, either partially or completely. Libraries must consider some specific issues when deciding whether to implement AI, including those relating to leadership policies, budgets, human resources and facilities (Harisanty et al., 2024). However, there are challenges associated with using AI to improve information access, as ethical issues, accountability, and unbiased. Academic libraries are at the forefront of this transformation, and are responsible for providing access and managing information resources. Despite the promising advantages of AI, its application in academic research libraries is limited, influenced by librarians' awareness and acceptance of its efficacy and job security concerns. Awareness refers to librarians' knowledge of AI technologies and their relevance to their work, including understanding AI tools and their functions (Bawack et al., 2021).

While some studies have explored artificial intelligence in education (Adebowale et al., 2021; Huang, 2022; Mbarika et al., 2020; Ofem et al., 2024), few have addressed its application in library service delivery. Existing research highlights that awareness and acceptance of AI tools

are crucial for their effective use in administrative and service delivery contexts (Dawes & Partridge, 2020). Additionally, librarians' awareness of AI's relevance often influences their acceptance (Bawack et al., 2021), and acceptance can affect the application of AI tools (Dunn & O'Brien, 2021; Alam et al., 2024). Thus, it is essential to explore how the use of AI for library service delivery relates to librarians'

awareness and acceptance. One of the key principles to ginger the use of AI tools by information providers is being aware that such product or tool(s) exist(s) and having the knowledge of the significant role (s) such tool (s) could render to the users. Some libraries are known for their old methods of disseminating information to users whereas a better format yielding multiple turnouts to the satisfaction of users exist with the implementation of the AI tools. The ability of information users to access the new products of AI tool will enable the user to achieve the dream of information need. However, academic libraries face multiple challenges harmonizing increasing volume and complexity of information, budget constraints, and changing needs of users, and lack of much AI tools knowledge which apparently militate their service delivery through AI facilities especially in Lagos State. This study therefore investigated the level of awareness and usability of AI tools for information access among information providers in academic libraries in Lagos State, Nigeria.

1. To what extent are information providers in academic libraries aware of AI-powered tools and technologies for information access?
2. To what extent are information providers in academic libraries use AI-powered tools and technologies to improve information access for their users?
3. What is the level of accessibility of AI tools by information providers in academic libraries in Lagos State, Nigeria?
4. What are the benefits of AI usability on information providers and academic libraries in Lagos State, Nigeria?

Studies have shown that the era of artificial intelligence is young in years but advanced in impact. Intermediate skill jobs as we know them are fast disappearing as their tasks are systematically automated, and individuals are increasingly likely to encounter AI technology in their everyday lives. Study of Gasparini and Kantonen (2022) discovered that AI will affect how research libraries perform and carry out their services and how the various kinds of data they hold in their repositories will be used in the future. The study also showed that landscape is complex and unclear, and library personnel and leaders are uncertain about where they should lay the path ahead though with contrary view from by Oyekale and Zubairu (2023) who

identified 80% of the respondents (information providers) having high awareness of artificial intelligence. Sambo and Oyovwe-Tinuoye (2023) revealed that certified librarians are averagely aware of the existence of robotic technologies usage for library services which raises their employee retrenchment anxiety. Irrespective of their awareness, the innovative available AI tools will attract global recognition and enhance library services.

Vijayakumar and Sheshadri (2019) in their study observed that AI is in active use in various sections of the library as thus: expert system in library services as (a) Reference services in REFSEARCH, POINTER, Online reference assistance (ORA), AMSWERMAN, PLEXUS which serves as advisory systems that helps in locating reference resources and real data. (b) Cataloguing: This has taken a new shape through AI tool like (AACR2). AI serves in two phases in cataloguing - (i) human-machine interface that divides intellectual works into intermediary and support system; and (ii) An expert system that serves full cataloguing capabilities with the assistance of electronic publishing systems. © Classification: AI interfaces through application of expert systems in library classification which includes Coal, SORT, EP-X and BIOSIS. All these help in knowledge organizations in the library. Afebendu and Nna-Etuk (2019) revealed that knowledge of information retrieval tools is relatively low in the institutions studied. The study showed low usage of AI retrieval tools and thus recommended that more attention should be paid to the teaching of the use of information retrieval tools in all library user education studies of the instructions. Oniovoghai, Idiodi, and Urhiewhu (2023) acknowledged that the incorporation of AI into academic institutions has opened doors for timely services in terms of shelf space for books, cataloguing and categorization, serials functions, collection development, and procurement of resource materials. Bodenhamer (2022) affirmed that the usefulness of ChatGPT is improving quickly, and helpful in selecting possible keywords for an internet search.

Even if AI tools are available in all academic libraries, if there is no accessibility of it by information providers and users, it is as good as not available. Aina (2014) stated that accessibility determines the speed at which an information output in any format

is obtained. Ani, et al (2014) noted that access to information is imperative to the successful conduct of research in universities. In addition, Abubakar, Mallo and Suleiman (2020) revealed that most of the information resources (AI tools) are available while some of them are moderately accessible. Services based on Natural Language Processing (NLP) are used in libraries, e.g. Google Assistant, Voice Searching, and Google Translate. Pattern recognition methods, such as text data mining, are also used to retrieve library material and conduct online searching. Big data is accessed via services such as cloud computing, OneDrive, and Google Drive (Ali, Naeem & Bhatti, 2020).

There are many AI application tools used in the library, but few are viewed on this paper (intelligent libraries, robots in libraries, Radio Frequency Identification (RFID), and AI chatbots).

Intelligent Libraries

Intelligent libraries also known as intelligent library automation system is the system that relies on the AI technologies which provides knowledge based services to library staff and clientèle. Omame and Alex-Nmecha (2020) assert that AI systems can replicate and thus replace human being in the library but on the contrary, Li, Huang, Kurniawan and Ho (2015) opined that AI intervention will never replace librarians, rather, will centre on menial and time - consuming library operations as shelf-reading and leave the librarians to engage with patrons.

Robots in Libraries

Robot is a machine that performs automation tasks and carries out series of complex operations under the supervision of a human or automatically under the control of pre-defined program using AI techniques (Shohana, 2016; Omame & Alex- Nmecha, 2020). Robots assist in book shelving and retrieval robots take the most laborious and time consuming works (book tracing in library) off human affairs.

Radio Frequency Identification (RFID)

This AI tool (RFID) boots the services of all libraries worldwide. The embedded RFID are tagged into the collections of the libraries in form of barcodes which contains a unique identifying labels on the respective books in the library. It quickly scans the collections of the library through wireless, handheld RFID scanner/readers. The study of Li et al (2015) affirmed that smart shelves containing several RFID antennas can automatically register when books are removed from the stacks or returned. It equally aids automatic shelve reading and generate reports for mis-shelved or missing books.

AI Chatbots

Chatbots or conversational agent are software applications that use natural language to interact with humans (Rapp et al., 2021). It is one of the AI tools used in the libraries worldwide. Chatbots domiciles in education, healthcare, and customer services. It supports online learning management systems to improve academic research experiences for students.

Many studies and parastatals have identified artificial intelligence to adding efficiency and effectiveness to their respective agencies even higher than personnel. Livberber and Ayvaz (2023) revealed that ChatGPT could serve as a powerful assistant tool in scientific research and education and could also serve as a source of inspiration for new topics or research areas. However, the study also revealed that ChatGPT raises ethical concerns among academics, such as plagiarism and disinformation. Artificial Intelligence (AI) has aided in the improvement of many librarians' job responsibilities, including cataloguing, indexing, information retrieval, reference, and other tasks. It can be used in speech recognition, machine translation, and library robots. According to Tunde et al. (2022), the University of Lagos is currently the only institution in Nigeria that has adopted the use of artificial intelligence (robots) in some library services and operations like cataloguing, indexing, information retrieval, referencing etc. Above all, information providers awareness of the use of AI in library services is still low. Artificial intelligence will greatly improve library operations and services and will upgrade and heighten the

relevance of libraries in an ever-changing digital society (Omame & Alex-Nmecha, 2020).

Methodology

A mixed methods research design was adopted for this study. The population of the study is 303 information providers in academic libraries in Lagos State involving both professionals and para-professionals. The participants were physically approached in their schools by researchers which lasted two weeks for the interview. The total respondents for the study is 252 (83%). From the respondents, 48 of the leading members (University librarian, deputy librarian and unit heads of the library - circulation, cataloguing and classification, serial, acquisition and reference) were interviewed to ascertain true picture of the study. Instrument for the study is a self-structured questionnaire and interview questions on hard copy administered physically. The instruments were subjected to face and content validity where the copy was given to experts in AI applications for vetting and approval. For it's reliability test a pilot study was done and the result of the variables ranges from 0.82 - 0.94 while the Cronbach's alpha coefficient is 0.87 was obtained to prove that it is worthy for the study. Data collected was analyzed using descriptive statistics (frequency, mean, percentage and standard deviation). The mean scores are rated as follows: if mean is 1-1.74 =very low, 1.75-2.49=Low, 2.5-3.24=High, 3.25-4.0=very high.

Results

Question one: To what extent are information providers in academic libraries aware of AI-powered tools and technologies for information access?

Table 2: Extent of Awareness of Information Access with AI

Table 2: Extent of Awareness of information access with AI

Awareness of AI tools by information providers	**Very High Extent (%)**	**High Extent (%)**	**Low Extent (%)**	**Very Low Extent (%)**	**Mean**	**SD**
To what extent are you aware of AI's speech tools?	14(7.3)	104(54.2)	58(30.2)	16(8.3)	2.60	.745
To what extent are you aware of AI's machine learning (predictive analytic and deep learning)?	8(4.2)	88(45.8)	72(37.5)	24(12.5)	2.42	.761
To what extent are you aware of AI's expert system?	12(6.3)	68(35.4)	88(45.8)	24(12.5)	2.35	.779
To what extent are you aware of AI's robotics systems?	10(5.2)	120(62.5)	52(27.1)	10(5.2)	2.68	.655
To what extent are you aware of AI's natural language precessing for information extraction and translation classification and clustering?	4(2.1)	78(40.6)	86(44.8)	24(12.5)	2.32	.716
To what extent are you aware of AI's machine vision for image recognition and machine vision?	4(2.1)	80(41.7)	80(41.7)	28(14.6)	2.31	.742
To what extent are you aware that AI's virtual assistants and chatbots provide instant support to library users?	12(6.3)	102(53.1)	60(31.3)	18(9.4)	2.56	.749
Grand mean					**2.46**	**.735**

Decision rule: if mean is 1-1.74 =very low, 1.75-2.49=Low, 2.5-3.24=High, 3.25-40=very high.

Table 2 holds respondents view on the extent of information providers awareness of AI tools and technologies. The extent of awareness as seen on table 2 is low (mean=2.46, SD=.735). This implies that available AI tools and technologies are not known to information providers in academic libraries in Lagos State. The implication

of this result shows that in as much as information providers have low awareness of AI tools, it will be difficult to implement the tools in the libraries and as such, the dividends of AI tools in libraries will be lacked. The AI tools marketers or producers need to add more advert programs to nook and crannies of all libraries with special focus on information providers.

Question two: To what extent are information providers in academic libraries use AI-powered tools and technologies to improve information access for their users?

Table 3: Extent of Use of AI tools

Usability of AI tools by information providers to access information	Very High Extent (%)	High Extent (%)	Low Extent (%)	Very Low Extent (%)	Mean	SD
To what extent have you used AI's speech tools text to speech/speech to text?	-	66(34.4)	86(44.8)	40(20.8)	2.14	.732
To what extent have you used AI's expert systems?	-	60(31.3)	92(47.9)	40(20.8)	2.10	.716
To what extent have you used AI's machine learning (predictive analytic and deep learning)?	-	56(29.2)	92(47.9)	44(22.9)	2.06	.721
To what extent have you used AI's planning scheduling and optimization packages	4(2.1)	34(17.7)	102(53.1)	52(27.1)	1.95	.729
To what extent have you used AI's virtual assistants and chatbots to provide instant support to library users?	-	38(19.8)	102(53.1)	52(27.1)	1.93	.683
To what extent have you used AI's natural language processing for information extraction and translation classification and clustering?	4(2.1)	32(16.7)	92(47.9)	64(33.3)	1.88	.755
To what extent have you used AI's machine vision for image recognition and machine vision?	4(2.1)	18(9.4)	104(54.2)	66(34.4)	1.79	.693
To what extent have you used AI's robotic in your library?	-	22(11.5)	74(38.5)	96(50)	1.61	.684
Grand mean					**1.93**	**.714**

On table 3, responses on extent of use of AI tools by information providers is presented. The grand mean reveals that the extent of use of AI tools for information access is low (mean=1.93, SD=.714). This is the average of the respondents view and therefore implies that the respondents rarely make use of available AI tools when accessing information. Implication here shows that the low extent of use of the AI tools by information providers may be dependent on their technological know-how. The information providers need to improve themselves through attending to seminars and conferences on AI related themes and the universities need to sponsor such effort.

Question three: What is the level of accessibility of AI tools by information providers in academic libraries in Lagos State, Nigeria?

Table 4: Level of AI tools Accessibility by Information Providers

AI tools Accessibility by information providers to access information	**Very High (%)**	**High (%)**	**Low (%)**	**Very Low (%)**	**Mean**	**SD**
My level of access to AI's speech tools is	12(6.3)	50(26)	90(46.9)	40(20.8)	2.18	.831
My level of access to AI's virtual assistants and chatbots to provide instant support to library users is	4(2.1)	68(35.4)	78(40.6)	42(21.9)	2.18	.793
My level of access to AI's planning scheduling and optimization packages is	4(2.1)	50(26)	96(50)	42(21.9)	2.08	.747
My level of access to AI's natural language processing for information extraction and translation classification and clustering is	-	38(19.8)	114(59.4)	40(20.8)	1.99	.639
My level of access to AI's robotics systems is	-	40(20.8)	108(56.3)	44(22.9)	1.98	.663
My level of access to AI's machine vision for image recognition and machine vision is	-	44(22.9)	100(52.1)	48(25)	1.98	.694
My level of access to AI's machine learning (predictive analytic and deep learning) is	4(2.1)	48(25)	76(39.6)	64(33.3)	1.96	.818
My level of access to AI's expert systems is	4(2.1)	40(20.8)	78(40.6)	70(36.5)	1.89	.804
Grand mean					**2.03**	**.748**

The responses presented on table 4 shows the level of accessibility of AI tools by information providers in academic libraries in Lagos State, Nigeria. The grand mean (mean=2.03, SD=.748) reveals that the level of accessibility of AI tools by information providers is low. This implies that the information providers in Lagos State do not have adequate access to AI tools and technologies. Implication of table 4 result shows that the low level of AI tools accessibility may be benched on lack of the tools in the libraries. Lack of constant electricity and network connectivity may cause low accessibility of the AI tools in the respective libraries. Information providers need to align themselves with the current digital technological flow to render services to their users through AI tool applications.

Question four: What are the Benefits of AI usability on information providers and academic libraries in Lagos State, Nigeria?

Table 5: Benefits of Use of AI tools

Benefits of AI usability on information providers	**YES (%)**	**NO (%)**
AI technologies like natural language processing and machine vision help libraries to automate cataloguing processes faster than personnel	192(76)	60(24)
AI powered virtual assistants and chatbots provide instant support to library users	190(75.3)	62(24.6)
AI answer frequently asked questions and work - round-the-clock than personnel	195(77.3)	57(22.6)
AI harnesses the power of data analytic for better decision making	188(74.6)	64(25.3)
AI facilitates collaboration and knowledge sharing among library users than personnel	171(67.9)	81(32.1)
AI can utilize personalized recommendations using AI algorithms to get quality results for students, researchers etc than personnel	172(68.2)	80(31.7)
AI produces more authentic results than personnel	106(42.0)	146(58)
AI removes information providers, students and researchers personal Interactions	89(35.3)	163(64.6)
AI removes learning on the job by information providers	67(26.5)	185(73.4)
AI takes the job of information providers in the library	60(24)	192(76)

As reported on table 5, 192 (76%) of the respondents indicated that AI technologies like natural language processing and machine vision help libraries to automate cataloguing processes faster than personnel. In the same vein, 190 (75.3%) agreed

that AI powered virtual assistants and chatbots provide instant support to library users, and that AI answer frequently asked questions and work - round-the-clock than personnel. However, 192 (76%) of the respondents did not agree with the statement that AI takes the job of information providers in the library, and another 185 (73.4%) also did not agree that AI removes learning on the job by information providers. Similarly, 163(64.6%) of the respondents did not agree that AI removes information providers, students and researchers personal interactions, while 146 (58%) did not agree that AI produces more authentic results than personnel. Implication here shows that though respondents have knowledge of the benefits of the AI tools, but they find it difficult to apply them to work which resulted to the low use and accessibility of such tools. Information providers need to put all efforts to ensure AI tools are used effectively in their libraries.

Interview Questions and Responses from Librarians of the Study

a) How is your information users able to access your collections in your library? 98% of respondents said their users access their collections through WIFI and OPAC; while 2% said they access it through robots. b) How aware are they of the AI tools available to the libraries? 95% answered that they are not much aware of AI tools usable to the libraries. c) To what extent have they been using AI tools for their services? 100% agreed its usage in low extent. d) If they have used any/many of the tools, to what extent has it /have they improved their information access? 100% said to low extent. e) If they have not been using AI tools to access their information, what are their likely challenges in not using them? 100% of them said, lack of fund, lack of adequate manpower training on AI tools, lack of infrastructure, poor network connectivity etc. f) If their patronage to AI tool is low, how has it impacted their clientele and staff? 100% responded that the low patronage of AI drives low service delivery in the libraries, limits operations, reduces number of users in the library. g) has the job of librarians been overtaken by AI if used in the library? Their general response is No, meaning their jobs are not taken by AI.

Discussion of Findings

In table 3 based on the extent information providers in academic libraries in Lagos State are aware of AI tools to access information the result indicated that the information providers awareness to AI tools is Low (mean=2.46, SD= .735). This table 3 result is in affirmation with the findings of Gasparini and Kantonen (2022) who found that landscape about AI is complex and unclear, and library information providers and leaders are uncertain about where they should lay the path ahead which showed that information providers are not aware of the AI in their establishment. However, the result differs from the findings of Oyeleke and Zubairu (2023) and Sambo and Oyovwe-Tinuoye (2023) who observed that 80% of information providers in their study are aware of AI; and librarians in Nigeria are averagely aware of AI existence.

Table 4 result that evaluated the extent of information providers in academic libraries in Lagos State use AI tools to improve information access for users, revealed that their extent of use of AI is low based on the grand Mean =1.93, SD = .714. This finding is in agreement with the result of Afebendu and Nna-Etuk (2019) revealed that knowledge of AI information retrieval tools is relatively low in their institution. On the other hand, studies of Oniovoghai, Idiodi and Urhiewhu (2023) acknowledged that incorporation of AI into academic library has broaden their service delivery. Bodenhamer (2022) concurred that the usefulness of chatgpt has assisted in selecting possible keywords for internet search.

Table 5 examined the level of accessibility of AI tools by information providers in academic libraries in Lagos State, Nigeria. The result revealed the level of accessibility of AI tools by information providers is low through its grand Mean = 2.03, SD = .748. This result indicated that information providers in Lagos State do not have adequate access to AI tools. The study result is in harmony with the findings of Abubakar, Mallo and Suleiman (2020) who revealed that most of the information resources (AI tools) are available while some are moderately accessible. In addition, Ali, Naeem and Bhatti (2020) affirm that AI tool are easily accessible to deliver services on natural language processing (NLP) like google assistant, voice searching, google translate etc.

Table 6 evaluated the benefits of AI usability on information providers and academic libraries in Lagos State, Nigeria and revealed in its result that 80% of respondents indicated that AI tools help libraries to automate cataloguing processes faster than personnel. Their study also agree to AI powered virtual assistants and chatbots providing instant support to library users; as well as ascertaining AI answering frequently asked questions, working round the clock than personnel. Consequently, the result equally revealed respondents disagreeing to AI taking jobs from information providers in library; AI removing learning on the job by information providers. Respondents did not also agree that AI removes information providers, students and researchers personal interactions. The study of Tunde et al (2022) agreed to the result of this study by affirming that AI in library service delivery has aided in the improvement of many librarians job responsibilities like cataloguing, indexing, information retrieval, reference etc. Additionally, Omame and Alex-Nmecha (2020) in their study affirmed to the present study that AI in libraries has become pervasive like in expert system for reference services, book reading and shelf-reading robots, and virtual reality for immersive learning. Their study result revealed also that the incorporation of AI in libraries is perceived to alienate librarians from their users. This finding is not in harmony with the study result where respondents disagreed that AI removes information providers, students and researchers personal interactions. Livberber and Ayvaz (2023) findings in their study affirmed that chatgpt serves as a powerful assistant tool in scientific research and education and also is capable of serving as source of inspiration for new topic or research areas.

On the responses of the interviewed librarians in question one on how information users access their collections in the respective libraries, they affirmed that Wifi and OPAC are the access they use except for one library that uses robot. This showed that the academic libraries are not having and utilizing the AI tools for their information access. This response harmonizes with the result of Afebendu and Nna-Etuk (2019) who revealed that knowledge of AI information retrieval tools is relatively low in their institution. For question two on librarians awareness of the AI tools, 95% of them agreed of not being much aware of the tools. This significantly affected the usage of the AI tools in their libraries meaning that maximum utilization

of the tool is not guaranteed. Responses to question three on the extent of AI use for service delivery and types used if any indicated a low extent of use which also affirmed with the study of Afebendu and Nna-Etuk (2019). Additionally, Tunde et al. (2022) affirmed that University of Lagos is the only institution in Nigeria for now that has adopted the use of robots in their library services and operations proving the low result usage.

Further more, responding to question four on how any of the used AI tool has improved information access in their libraries, librarians concurred that much as expected is yet to be achieved from the use of AI tools to access collections probably for lack of AI tools and lack of staff training for it. Question five sought for the challenges for not using the AI tools. Responses indicated lack of fund, lack of training, poor network connectivity etc. These responses affirmed with the finding of Odigie (2024) who stated that poor institutional funding, infrastructure, network connectivity and lack of training of personnel formed the hallmark of challenges to the usage of AI tools in the library. Question six asked for how the low AI tool patronage has impacted the clientele and staff of the libraries. 100% of them stated that low usage of AI tools drive low service delivery and limit operations which significantly affect the research output of students, researchers and staff of the university. And question seven sought to know if the emergence of AI tools in the library has taken the jobs of librarians. Generally, they said none of their jobs has been overtaken by AI tools thus far. This response confirmed the finding of ALA (2024) who stated that librarians are unlikely to be replaced by AI because they cannot provide the same level of personalized services than librarians could.

Epileptic power supply in Nigeria precisely causes a low usage of AI tools as well as poor network connectivity. Inadequate ICT facilities for AI technologies as well as poor maintenance culture in the libraries has the capability to hinder the flow of AI tools usage in the libraries.

To avert these situations, information providers should envelop themselves with all required ICT skills to operate the AI tools available to them. The institutions should endeavour to have a stand-by generator designated to the libraries to empower acquired tools at all times. The academic universities should enshrine the purchase of AI tools in their budget attached to their libraries to be a top-notch in their service

delivery. Producers and marketers of the AI tools need to conduct constant seminars with information providers and equally advertise their different products through social media, televisions, and newspapers to create more awareness and things to gain using the products especially as it concerns academic institutions. These, will elevate the awareness and usability of the AI tools if applied. If information providers (librarians) are aware of the AI packages in the library, as it concerns using AI for (open access, resource location, shelf arrangement, classification, cataloguing, stack-room guides, issue and return of resources, reference service and documentation services); then they will have ability to access and use AI applications amicably. Knowledge of these will permeate an easy guide to the users thereby creating smooth AI service delivery in the libraries. This is the gap this current paper proffers.

Impacts of low AI usage on library services and user satisfaction

AI has proven to be of great impact to all establishments including library services. It is used to provide meta data for items in the library. It enables search services and filter results; translates, summarizes and generate texts as well as improve the services of information providers. However, low patronage of the AI in any library service will make their service delivery redundant as well as offer dissatisfaction to users. It will equally dis-integrate information providers from being up to date with the current technological advancements in their field.

Conclusion

Artificial intelligence has metamorphosed as the latest information technology rendering services to all establishments globally. Though existing and capable of solving almost everything to increase productivity for organizations, academic libraries are potential benefactors of this application if adopted. But having a free access to the AI tools in the library is of great essence to the information providers in academic libraries. Considering information providers in Lagos State, Nigeria, this study has revealed that the extent of awareness of AI tools by information providers is low. This result requires Lagos State academic libraries information providers to brace themselves with the current trend in the information technology which adds value to their service delivery. The study revealed also that the extent of use of the

AI tools by information providers in Lagos State is low. The management of the university system should proffer massive training on the information providers so as to improve the AI tools usage. Among the existing AI tools, the study showed that the level of AI's accessibility by information providers in academic libraries in Lagos State is low. There is high need for information providers in Lagos to have wholesome access to the AI tools in other to improve their service delivery. The impact of AI information access in the library is more advantageous to the information providers in academic libraries in Lagos State as the study revealed. The information providers should remove negatives of the adoption of AI tools information access into the academic libraries.

Recommendation

To have an information access in this era of artificial intelligence where academic librarians are aware and can use the technology effectively, the following recommendations are made:

1. Considering the fact that the extent of awareness of information access using artificial intelligence is low according to respondents, it is critical that respective academic librarians in Lagos State and AI marketers need to do more artificial intelligence related advertisements where the librarians can have access. The academic librarians need to attend more seminars, conferences, symposiums, and webinars to boost their knowledge of artificial intelligence use in libraries.
2. On the extent of use of AI technologies, the result of the study showed it is low equally. The academic librarians are to make themselves more relevant in information space and must be pro-active to learning and mastering new technologies so as to meet the current need of users. The University management on the other hand should provide the required technologies to the libraries for it to be used.
3. The level of accessibility of the AI technologies proves to be low according to respondents of the study. For the fact that these technologies could be accessed only when they are available, the respected institutions must provide all necessary facilities to allow access of such artificial intelligence in terms of constant electricity,

internet as well as librarians having adequate skills to use it. The university management and the librarians should endeavour to do the needful in this regards.

4. The result of the study showed on the benefits of AI Use in the libraries in Lagos State that respondents acknowledged the high usefulness of the AI technologies in the library if available. With this awareness, the university management should create a vibrant budget for libraries annually to support them acquire these resources to improve their services.

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