



Assessment of Artificial Intelligence Technology on Job Performance of University Librarians in Nigeria

OKONOKO, Vera Ngozi¹

vera.okonoko@unidel.edu.ng

IDEH, Peace Nkemdilim¹

idehpeace@yahoo.com

ODIKPO, Caroline Akunne²

¹University of Delta Agbor, Delta State, Nigeria

²The Library, Ogwashi-Ukwu Polytechnic Delta State, Nigeria

Abstract

The study investigated the impact of artificial intelligence (AI) on the job performance of librarians in some selected university libraries in Nigeria. The descriptive survey design was used in this investigation. 113 librarians who were recruited from some selected university libraries in Nigeria make up the study's population. For the study, a self-made questionnaire was employed. Descriptive statistics were used to extract 95 of the 113 copies of the questionnaire that were disseminated. A mean score of 2.5 or above and a percentage score of 50% were deemed satisfactory. The study shows the impact of artificial intelligence (AI) in university libraries in the following order: Increased productivity through automation, enhanced decision-making from data analysis, reduced human error, advanced data analysis and boosting productivity. The study further affirmed how the application of artificial intelligence (AI) in university libraries influences lib how the application of artificial intelligence (AI) in university libraries influences librarian's job performance: automating routine tasks, increasing efficiency, Smart decision making, speed up job performance, automating routine tasks, increasing efficiency, Smart decision making, speed up job performance Speed up job performance. The study recommends that to support and promote the use of smart technology in library operations, the government should enhance funding for university libraries, The library should have a functional standby generator and an inverter, and the power supply should be sufficient and the library should hire qualified IT technical specialist.

Keywords: Impact of artificial intelligence (AI), job performance, librarians, university libraries

Introduction

Professionals who manage and arrange information resources, such as databases, books, and digital assets, are known as librarians. They may oversee personnel, finances, and instructional initiatives in addition to helping users with research and fostering information literacy. Their specialized professions include catalogers and archivists, and their work encompasses both conventional and contemporary digital material. With the advent of several new media and technology in the last century, the job of the librarian has evolved throughout time. There have been custodians and distributors of the data stored in data storage since the first libraries in antiquity to the contemporary information center. Depending on the kind of library, the librarian's area of expertise, and the tasks required to preserve collections and make them accessible to patrons, since their roles and duties might differ significantly. For librarians to manage libraries effectively, they have to embrace artificial intelligence. Artificial intelligence (AI) is the capability of a machine or computer to perform tasks that typically require human intelligence, such as reasoning, learning, and problem-solving (Tella 2020). Algorithms are used in this branch of computer science to help machines recognize patterns in data, forecast outcomes, and take appropriate action. Libraries are incorporating artificial intelligence (AI) to help with resource management, enhance user services, and automate repetitive operations. AI-powered chatbots for user's service, recommendation engines that tailor resource recommendations and sophisticated cataloging and information retrieval systems that facilitate faster content discovery are examples of common uses. (2019, Ogundele). This enables librarians to concentrate on more advanced tasks like teaching digital literacy and providing research help. This will in turn will enhance their job performance. Job performance is how effectively an employee fulfills their job duties, encompassing observable behaviors and skills that contribute to organizational goals, (Carpini, Parker, & Griffin, 2017). Feedback, performance reviews, and metrics are used to monitor effective work performance, which is impacted by elements such as job design, alignment with corporate goals, individual abilities, and motivation. By automating processes like cataloging and data indexing, artificial intelligence (AI) can improve librarians' job effectiveness and free up time for more strategic, user-focused work. However, issues such a lack of technical expertise, inadequate infrastructure, and costly installation and training expenses limit AI's efficacy. Libraries must make investments in staff professional development and guarantee that sufficient technological resources are accessible if they want to optimize AI's advantages. It is in light of this benefits that prompted the researcher to embark on



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the title the impact of artificial intelligence (AI) on the job performance of librarians in some selected university libraries in Nigeria.

Statement of the problem

Globally, artificial intelligence (AI) has revolutionized technology, affecting all facets of growth including libraries. Libraries serve as the center of any educational institution and are a source of knowledge for individuals from all walks of life. The main purpose of university libraries in an academic setting is to provide their communities with access to scholarly resources and knowledge-based content to support the overarching educational objectives of their parent institutions. Artificial intelligence (AI) is one of the contemporary digital revolutions that university libraries may fully use to provide patrons a variety of faster library services. Libraries, a sector tasked with giving people the information they need to be current, relevant, and thriving in this AI-driven era, must incorporate AI due to its rapidly expanding ramifications in our daily lives which has drastically increase librarian job performance in university libraries. It has been observed that research topics exist on the impact of artificial intelligence (AI) on the job performance of librarians, but no study has been able to cover the impact of artificial intelligence (AI) on the job performance of librarians in some selected university libraries in Nigeria hence the need for this study.

Objectives of the study

The following objectives guided the study

1. To find out the impact of artificial intelligence (AI) in university libraries
2. To find out how the application of artificial intelligence (AI) in university libraries influences librarian's job performance

Research Questions

The following research questions was formulated to guide the study

1. What is the impact of artificial intelligence (AI) in university libraries?
2. How does the application of artificial intelligence (AI) in university libraries influences librarian's job performance?

Literature Review

Artificial Intelligence AI

The capacity of robots to function like human intellect is known as artificial intelligence (AI). Asemi, and Asefeh, (2018) defined Artificial Intelligence (AI) as the body of knowledge that enables robots to act with remarkable intelligence, much like people. Another innovation is artificial intelligence (AI), which ingeniously uses computers to do things that people can do and do quicker than people, such analyzing massive quantities of data and forecasting (Wheatley & Hervieux, 2019). More than merely a technological phenomenon, artificial intelligence (AI) is a force that is redefining human intellectual, social, and professional landscapes (Redek, Marčić, Maldonado, da Silva, & Shenstone, 2023). Academic libraries in developing countries like Nigeria, for example, have not made as much use of AI as they could. In many emerging nations, libraries have not adopted digital technology and have shown resistance to changes in the way technologies are employed in different library activities (Whelton and Hervieux, 2019). According to Tella (2020), libraries in developed countries have adopted and used AI technology in practically every sphere of society, whereas libraries in poor countries are still gaining traction. To properly apply AI in university libraries, library employees must get training. Staff training is an organizational strategy that entails spending money on employees to develop the values, abilities, and knowledge that would eventually enhance employees' job performance and increase productivity inside the business (Bakare). Enhancing staff abilities via training is one way to achieve the desired outcomes (Ogundele, 2019). According to Bakare (2023), library employees need continual training to develop the new skills required for effective service delivery in the twenty-first century, given the changing information needs of library users. For library staff to acquire the abilities and know-how necessary to employ AI technology efficiently, they must receive sufficient training. Furthermore, Ajulo and Achonna (2020) emphasized that training and retraining librarians in ICT applications is one of the most crucial ways to guarantee that they can utilize ICT to address issues in libraries and information services. Training enables librarians to satisfy the information demands of the public and boost productivity in the current digital era. Additionally, training equips librarians to recognize, evaluate, and make important choices that will increase their efficiency in the library. Akinyemi and Afolabi (2023) state that inadequate internet training and ICT literacy are among the problems with ICT use in libraries. Similarly,



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Smith (2023) proposed that a library that prioritizes staff training is more suited to deploy AI. Organizations that make significant investments in staff training enhance AI preparedness and cultivate a creative and flexible culture (Johnson, 2021). Numerous studies have looked at how AI may be used to improve service delivery in university libraries, and they have highlighted the necessity of training library staff so they can use AI to run the library (Walker & Jiang, 2019). However, this study is novel as it explores the required training for library personnel in using AI in university libraries.

Job Performance

In organizational behavior and industrial management, job performance is arguably the most significant and researched variable (Carpini, Parker, & Griffin, 2017). According to Cascio et al. (2021), job performance has a significant impact on productivity, efficiency, and overall effectiveness, making it a crucial driver of organizational success. The accomplishment of corporate objectives is greatly impacted by the activities, behaviors, and results of workers (Cameron & Quinn, 2020). Maintaining a competitive edge and long-term success in the fast-paced, cutthroat corporate world of today requires maximizing work performance (Organ et al., 2019). Unquestionably, employee performance is essential to an organization's success. Employees are essential to advancing an organization's goals and implementing successful initiatives, regardless of their particular purposes (Burgess, 2015). However, it might be difficult to draw in and keep top personnel in the current competitive employment market (Schmitz, 2019). According to Jiang et al. (2019), companies need to actively manage their employee interactions in order to solve this. Long-term benefits can be obtained by cultivating a healthy work atmosphere and solid relationships with staff members (Kleiner & Rothbard, 2019). Higher job satisfaction, productivity, and overall performance are all correlated with a supportive, development-oriented work environment (Shuck et al., 2011). Scholars and practitioners are very concerned about the existence of a performance crisis in organizations. A significant discrepancy between intended and actual staff performance levels is the root cause of this catastrophe. According to Forbes (2014), this disparity is partly caused by employees not receiving enough resources and assistance, which makes it more difficult for them to accomplish their goals.

Methodology

The descriptive survey design was used in this investigation. 113 librarians who were recruited from some selected university libraries in Nigeria make up the study's population. For the study, a self-made questionnaire was employed. Descriptive statistics were used to extract 95 of the 113 copies of the questionnaire that were disseminated. A mean score of 2.5 or above and a percentage score of 50% were deemed satisfactory

Population of the study

Table 1

S/N	University libraries	Librarians
1	University of Portharcourt	37
2	Sokoto State University Library	18
3	Lagos State University Library	19
4	Delta State Library Abraka	21
	Total	95

Table 1 shows the population of librarians of the study in the following order: University of Portharcourt (37), Sokoto State University Library (18), Lagos State University Library (19) and Delta State University Library Abraka (21) respectively.

Table 2

The impact of artificial intelligence (AI) in university libraries

Key: Strongly agreed, Agree, Disagree, Strongly disagree

S/N	Items	SA	A	D	SD	-x	Decision
1	Increased Productivity Through Automation	34	47	6	8	3.1	Accepted
2	Enhanced Decision-Making From Data Analysis	33	49	9	4	3.1	Accepted
3	Reduced Human Error	43	38	7	7	3.2	Accepted
4	advanced data analysis	42	38	9	6	3.2	Accepted
5	Boosting Productivity	47	42	6	0	3.4	Accepted



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Table 2 affirmed the impact of impact of artificial intelligence (AI) in university libraries in the following order: Increased productivity through automation (3.1), enhanced decision-making from data analysis (3.1), reduced human error (3.2), advanced data analysis (3.2) and boosting productivity (3.4) respectively.

Table

How the application of artificial intelligence (AI) in university libraries influences librarian’s job performance

Keys: Strongly agreed, Agree, Disagree, Strongly disagree

S/N	Items	SA	A	D	SD	-x	Decision
1	Automating routine tasks	42	45	7	1	3.3	Accepted
2	increasing efficiency	34	49	10	2	3.1	Accepted
3	Smart decision making	48	39	7	1	3.4	Accepted
4	Speed up job performance	42	44	6	3	3.3	Accepted
5	Solving complex problems	40	41	5	9	3.1	Accepted

Table 3 depicts how the application of artificial intelligence (AI) in university libraries influences librarian’s job performance: Automating routine tasks (3.3), increasing efficiency (3.1), Smart decision making (3.4), speed up job performance (3.3) Speed up job performance (3.1) respectively.

Discussion of Findings

The study is on the impact of artificial intelligence (AI) on the job performance of librarians in some selected university libraries in Nigeria. Two research questions were formulated to guide the study. The study revealed the impact of impact of artificial intelligence (AI) in university libraries in the following order: Increased productivity through automation, enhanced decision-making from data analysis, reduced human error, advanced data analysis and boosting productivity. The study further affirmed how the application of artificial intelligence (AI) in university libraries influences lib how the application of artificial intelligence (AI) in university libraries influences librarian’s job performance: automating routine tasks, increasing efficiency, Smart decision making, speed up job performance, Speed up job performance rarian’s job performance: automating routine tasks, increasing efficiency, Smart decision making, speed up job performance Speed up job performance.

Conclusion

Intelligent AI has a vital impact on university libraries. This is because it enhances librarians' work performance and the libraries' overall service delivery. However, this study comes to the conclusion that AI has a significant impact on university librarians' work performance. By automating processes like cataloging and reference management, artificial intelligence (AI) may greatly improve librarians' job effectiveness and free up time for more strategic work. However, for AI to be integrated effectively, librarians must receive sufficient training to use the technology, overcome obstacles, and take advantage of its potential. To close the skills gap, continual assistance and upgraded infrastructure are required. Lastly, AI may lessen employee strain by automating repetitive operations, freeing them up to concentrate on more important and valuable jobs.

Recommendations

1. To support and promote the use of smart technology in library operations, the government should enhance funding for university libraries.
2. The library should have a functional standby generator and an inverter, and the power supply should be sufficient.
3. The library should hire qualified IT technical specialists.
4. Librarians and other library employees need to be trained and retrained on how to use smart technology in libraries.

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