AWARENESS, REDINESS AND UTILIZATION OF ARTIFIFIAL INTELLIGENCE (AI) AMONG LIBRARIANS IN SELESTED UNIVERSITY IN KWARA STATE

BY

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CERTIFICATION

This is project has been written, read and approved as meeting part of the requirement of Department of Procurement And LIBRARY AND INFORMATION STUDIES, Kwara state Polytechnic, Ilorin for the award of National Diploma (ND) In Library And Information Studies

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DEDICATION

I dedicated this to almighty God that make this research work a successful project, for his strength and wisdom i glorify your name.

Moreover to my loving parents who give the moral support and advice thank to you for your contribution.

To my loving Aunty, I really appreciate your financial support and being patient throughout my program thanks for being there always lastly, it is dedicated to my Aunty.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

University libraries are libraries that provide organized information resources to enable a university execute teaching, learning and research. According to Ishola (2014), the central objective of a university library is to support teaching, learning and research in ways consistent with and supportive of the institution's mission and goals. In supporting these functions, university libraries draw from the wealth of knowledge and skills of individuals who had studied Library Science, Information Science or Library and Information Science. These terms are used interchangeably.

Graduates of Library and Information Science are usually referred to as librarians. Librarianship is the application of Library Science which comprises the practical services rendered by librarians in their day-to-day attempts to meet the needs of library patrons or users. Librarians are information professionals trained in the processes of collecting or acquiring, processing, organising, storing, preserving, conserving, locating, accessing, retrieving and utilising information resources to meet the information needs of the library users (Friday & Onuh, 2022).

Trends in global information communication and technology (ICT) have dramatically changed the way people receive and disseminate information as a result of the ever-changing digital landscape. The change has reached an extent that threatens the survival of academic libraries unless they respond positively to the contemporary mode of information dissemination. This is mainly because other knowledge and information facilitators have emerged that have employed

the emerging technologies to outclass libraries and librarians. Thus, the earlier librarians responded to these evolutionary trends for information dissemination in their libraries, the better their chances of remaining relevant in their institutions (Ahenkorah-Marfo, 2015).

In recent times, the application of Library Science, which is librarianship, is increasingly being shaped by information and communication technology (ICT). This has been facilitated by the integration of ICTs in library operations. With the introduction of information and communication technology (ICT) in libraries, every facet of librarianship such as cataloguing, reference services, circulation services and collection development, has changed. The emerging world of Library and Information Science practices has transformed manual cataloguing, face-to-face reference services, paper-based circulation services and collection development have been gradually replaced by online cataloguing, virtual reference services, automated circulation services and electronic collection development respectively (Friday & Onuh, 2022).

Generally, the term "AI" is used when a machine simulates functions that human's associate with other human minds such as learning and problem solving (Gupta, 2017). Artificial Intelligence (AI) is intelligence shown by machines. In Computer Science, AI is defined as the study of "intelligent agents." It is the science and engineering of making computers behave in ways that require human intelligence (Andrew, 2017). This means that AI is a branch of information technology that allows the programming and designing of both hardware and software systems capable of providing machines with certain characteristics considered typically human (Travaglioni, Petrillo, De Felice, Cioffi & Piscitelli, 2020).

Artificial intelligence (AI), sometimes called machine intelligence, is intelligence demonstrated by machines, in contrast to the natural intelligence displayed by humans and other animals, such

as "learning" and "problem solving (Baum, 2021). In the last few years, there has been an arrival of a large amount of software that utilizes elements of artificial intelligence. Subfields of AI such as Machine Learning, Natural Language processing, Image Processing and Data mining have become an important topic for today's tech giants (De Felice, Petrillo & Zomparelli, 2018). AI technology ranges from machines truly capable of thinking to search algorithms used to solve societal problems (Kumar, 2018).

On a very broad account the areas of artificial intelligence are classified into sixteen categories. These are: reasoning, programming, artificial life, belief revision, data mining, distributed AI, expert systems, genetic algorithms, systems, knowledge representation, machine learning, natural language understanding, neural net-works, theorem proving, constraint satisfaction, and theory of computation (Travaglioni et al, 2020). In the 21st century, AI has become an important area of research in virtually all fields: Engineering, science, education, medicine, business, accounting, finance, marketing, economics, stock market and law, among others. The range of AI has grown enormously to the extent that tracking proliferation of studies becomes a difficult task.

Robinson (2018) asserted that artificial intelligence is involved in the project of developing machines endowed with the intellectual processes and characteristics of humans, such as the ability to reason, discover meaning, generalize, or learn from past experiences. It is an intelligence demonstrated by machines in contrast to natural intelligence displayed by humans and other animals. This implies that machines can be made to perform tasks commonly associated with intelligent beings like humans and animals. It is an area of computer science with the help of digital electronics that emphasizes the creation of intelligent machines that work and react like humans (Kumar, 2018).

Akporhonor and Olisa (2015) strongly argued that in this 21st century where a paradigm shifts in communicating library services to users is evident, a modern and contemporary tool would be needed to render effective services to library users and that artificial intelligence is one of the modern and contemporary media librarians can use to render library and information services efficiently and effectively to users and to attract them to the library. Therefore, librarians that are aware of and ready to use artificial intelligence to render services to library users can have the potential of increasing the utilisation of their resources and services, the values of their libraries and changed users' perceptions about the library.

Idiedo and Posigha (2020) asserted that for librarians to effectively utilise artificial intelligence to render effective services to users, adequate awareness and knowledge of it is required. Awareness plays a vital role in the adoption of modern technologies like artificial intelligence in the library. This is because for librarians to use a technology, they must have a good knowledge of it, its types and the kinds of services that they can use it for to render information services or disseminate information in the library. This is unarguably true because if librarians are not knowledgeable about technology like artificial intelligence, for instance, there is no way they can make use of it or grasp its relevance to their profession.

It is important to stress that awareness should not be confused with readiness. This is because, in many situations, people are aware of something, but were not ready to use that thing. Therefore, readiness can be seen as the willingness or intention of librarians to use the AI they are aware. Readiness to utilise AI by librarians can also be seen as the mental submission to try the AI they are aware of, in order for them to determine or ascertain the impact, be it positive or negative on their operations and services in the library (Aju & Tofi, 2021).

This is why Basorun and Akorede (2019) defined use to mean the act of using or putting into service or the act or practice of employing something. The normalization of use is utilisation. Utilisation in the context of AI is the act of exploiting AI in the library. Aju and Tofi (2021) defined utilisation as the appropriate use of acquired information. According to the author, utilisation of resources means taking full advantage of available resources. Utilisation of AI by librarians depends largely on the extent to which they are aware of its availability and its impact of use (Gana, Ajibili & Dare, 2019).

Thus, assuming that there should be synergies between awareness, readiness and utilisation necessitates why this study will be exploring the awareness, readiness and utilisation of artificial intelligence (AI) among librarians in selected university libraries in Kwara State, Nigeria

1.2 Statement of the Problem

Artificial intelligence is a product of the emerging technologies. Artificial intelligence is a machine programmed to execute tasks in a similar proportion to the human brain. This makes artificial intelligence to be considered as an important, inevitable machines in the contemporary business settings. With respect to university libraries, which are organised to support and sustain teaching, learning and research, artificial intelligence has revolutionised the operations and services of university libraries by enhancing the productivity of the university libraries.

Despite the popularity surrounding the utilisation of artificial intelligence in university libraries in the developed and developing world, it has been observed by this researcher and reported in various studies that university libraries in Nigeria are struggling to utilise artificial intelligence for their operations and services. The reasons include that most librarians in most Nigerian university libraries are not aware of the artificial intelligence they can utilise because they don't

acquaint themselves with technological advancements; in cases where they are aware of artificial intelligence, librarians are not ready to utilise artificial intelligence because of their apprehension that artificial intelligence will take over their jobs (Eiriemiokhale & Sulyman, 2023; Tella, 2020).

Realising the factors contributing to the awareness, readiness and utilisation of artificial intelligence in libraries justifies why this study will be exploring the awareness, readiness and utilisation of artificial intelligence (AI) among librarians in selected university libraries in Kwara State, Nigeria.

1.3 Objectives of the Study

The main objective of this study is to explore the relationships between awareness, readiness and utilisation of artificial intelligence (AI) among librarians in selected university libraries in Kwara State, Nigeria.

The specific objectives are to:

1. determine the level of awareness of AI among librarians in selected university libraries in Kwara State, Nigeria;
2. examine the readiness of librarians to adopt and utilise AI in selected university libraries in Kwara State, Nigeria;
3. determine the extent to which librarians are currently utilising AI in selected university libraries in Kwara State, Nigeria; and,

4. identify the factors influencing librarians' adoption and use of AI in selected university libraries in Kwara State, Nigeria.

1.4 Research Questions

This study intends to answer the following questions:

1. what is the level of awareness of AI among librarians in selected university libraries in Kwara State, Nigeria?
2. What is the readiness of librarians to adopt and utilise AI in selected university libraries in Kwara State, Nigeria?
3. What is the extent to which librarians are currently utilising AI in selected university libraries in Kwara State, Nigeria?
4. What are the factors influencing librarians' adoption and use of AI in selected university libraries in Kwara State, Nigeria?

1.5 Significance of the Study

This study will be of immense values to the management of academic libraries, academic librarians, library users, practitioners of Library and Information Science, AI developers, policy and decision makers and other stakeholders in the field of Library and Information Science by revealing the current state of research on the awareness, readiness and utilisation of AI by librarians in academic libraries. The management of academic libraries will find this study valuable because it will reveal how they can be supportive in creating an enabling environment for their personnel in utilising AI for the library services.

Furthermore, this study will be of benefit to academic librarians by revealing to them different AIs they can be utilising to perform different library operations and also utilised to render and deliver different library services in academic libraries. Similarly, professional librarians will gain from this study by knowing the awareness and readiness of librarians in academic libraries in Kwara State to be utilising AI for library services. This can encourage and motivate professional librarians to be organising training to empower and equip their colleagues in Kwara State.

More so, library users such as lecturers, students and researchers will derive value from this study by discovering the awareness of librarians on AI and how ready they are to provide different library services to meet their information needs efficiently and expediently. Also, AI developers will find this study valuable because it will reveal different exogenous obstacles affecting librarians' readiness to utilise AI in academic libraries, which they should consider in developing AI suitable for the library.

Above all, policy and decision makers and other stakeholders in the field of Library and Information Science will find this study valuable because it will keep them up-to-date with the trends on AI in academic libraries and particularly how librarians in Kwara State are ready to utilise AI for library operations and services.

1.6 Scope of the Study

This study will explore the relationships between awareness, readiness and utilisation of artificial intelligence (AI) among librarians in selected university libraries in Kwara State, Nigeria. Since this study is focusing on university libraries, it will focus on the professional and para-professional librarians of University of Ilorin and Kwara State University, Malete. The aim of this study of establishing the possibilities or relationships or otherwise between awareness,

readiness and utilisation of AI by librarians will make it adopt correlational design. This study will be conducted between April and October, 2025.

1.7 Operational Definition of Terms

Artificial intelligence: This is a machine programmed with human-like intelligence to accept and analyse prompts and provide information related to the prompts, which its awareness, readiness and utilisation in university libraries in Kwara State will be explored.

Awareness: This is the sensitivity or conscious knowledge of AI among librarians in university libraries in Kwara State, which may motivate them to be ready to utilise it.

Kwara State: This is located in North-West, Nigeria, where the awareness, readiness and utilisation of AI in university libraries located in it will be explored.

Explore: This is the process of systematically investigating or examining the awareness, readiness and utilisation of AI in university libraries in Kwara State.

Readiness: This is the willingness or preparedness to utilise the AI librarians in university libraries in Kwara State are aware of.

University libraries: These are repositories established to support the teaching, learning and research of universities in Kwara State, where the awareness, readiness and utilisation of AI will be explored.

Utilisation: This is the act of be ready to be attaching values to the AI librarians in university libraries in Kwara State are aware of.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter focuses on the review of the literature related to the study; the review is arranged under the following sub-heading:

2.2 Concept of artificial intelligence (AI)

2.3 Concept of university libraries

2.4 Awareness of AI among librarians

2.5 Readiness of librarians to adopt and utilise AI

2.6 Extent to which librarians are currently utilising AI

2.7 Factors influencing librarians' adoption and use of AI

2.8 Appraisal of the literature reviewed

2.2 Concept of Artificial Intelligence (AI)

Artificial Intelligence, or AI, refers to computing systems that work similarly to human brains. The human brain processes data through organic neural networks, and AI emulates these networks. AI was designed to perform tasks not easily defined by specific algorithms, such as image and voice recognition & generation, text generation, and more. Essentially, AI is any task that requires recognizing patterns with numerous parameters (John, 2022).

Artificial Intelligence refers to the development of machines or computers that simulate or emulate the functions of the human brain. The functions of a computer differ according to the area of study. Prolog, for example, is a programming language that aims to understand human logic. It also applies mathematics in order to create systems that can discern relevant conclusions from a set of statements. Intelligent Agents is another example. Unlike traditional agents, Intelligent Agents are designed to take actions that are optimized to achieve a specific goal. Based on their perception of the environment and internal rules, intelligent agents make decisions (Cheng, 2021).

Artificial intelligence (AI) is quickly becoming a common tool for use in a wide number of industries, including business, finance, medicine and education. But the education industry still has some way to go before it has harnessed the full potential of AI. Ideas include using AI to make education more engaging and personalized, improve accessibility, complement individual learning styles, and enhance the learning experience for both the teacher and the student. In addition to improving the learning experience for students, AI could be used to help teachers save time and resources by automating tasks such as checking answer sheets and other administrative tasks (Gururaj, 2022).

Artificial intelligence (AI) has aroused a growing interest in education. Despite its relatively recent history, AI is increasingly being introduced into the classroom through different modalities, with the aim of improving student achievement (Garcia-Martinez, Fernández-Batanero, Cerero & Leon, 2023). With the advancement of Artificial Intelligence in the last couple of decades, it has become very much possible to assess each individual student's performance in advance and get a hint of his or her chances of success or failure (Dhara et al, 2022).

AI has the potential to positively impact students' academic performance by providing insights and interventions to improve their educational journey (SciSpace, 2022). Artificial intelligence (AI) systems offer effective support for online learning and teaching, including personalizing learning for students, automating instructors' routine tasks, and powering adaptive assessments (Seo, et al, 2021). AI systems have been positively recognized for improving the quantity and quality of communication, for providing just-in-time, personalized support for large-scale settings, and for improving the feeling of connection, there were concerns about responsibility, agency, and surveillance issues (Seo et al., 2021).

2.3 Concept of University Libraries

University libraries are libraries established to support the teaching, learning and research of the university (Akporhonor, 2015). Abubakar (2011) emphasized that university libraries are at the forefront of providing information services to their respective communities which comprise of students, lecturers and researchers in order to support their teaching, learning and research needs. Kolawole and Igwe (2016) described a university library as the heart of the university system and its basic purpose is to provide university staff, students and other researchers with information and enabling environment that will facilitate teaching, learning and research. A university library is the nerve center of intellectual activities in the academic environment, which is established to serve as life blood of information that will facilitate research and stimulate learning.

Akpohonor (2015) posited that a university library is a library that takes care of the people engaged in an academic and research works in the university. Such libraries are the melting point for different people requiring the services of libraries and meant to satisfy its patrons by

providing materials to support their educational, research, information and recreational needs. Olalokun (2013) opined that university libraries are established primarily to serve the academic and general purpose of the staff and students of the university. Olugbenga (2011) also supported this claim by noting that university libraries are set up for the sole purpose of complementing the easy achievement and continuous promotion of academic excellence in the university. The university libraries are an integral part of the academic environment that are delegated with the responsibilities of selecting, acquiring, processing, storing and disseminating information to meet the mandates of the academic community.

University libraries assist their respective institutions in the discharge of their functions by acquiring all relevant information resources necessary for sustaining the teaching, learning, research and public services functions of their universities (Kolawole & Igwe, 2016). The Florida Association of Research and Academic Librarian (n.d.) vividly put it that university libraries contribute in many significant ways to the missions of the colleges and universities they are a part of. They are active partners in the teaching and research processes and support students and faculties through the provision of information resources and technology, spaces for individual and group work and study, programs and events, and assistance in finding, using, and evaluating information.

Olurotimi (2014) posited that university libraries are important components of a university. The author further justified his position by averring that "no academic excellence will be achieved without a good library to back up teaching, research and other community service mandates. The National Policy on Education also recognized the place of university library when it suggested that one of the goals of university education is to acquire both physical and intellectual skills to enable individuals to become self-reliant and useful members of the society (Federal Ministry of

Education, 2014). The policy realized that university libraries are avenues for building an intellectually potent individual by providing access to varying information within their confines.

Kaufman (2015) in a paper presented on roles and missions of university libraries explained the status of university libraries by describing university libraries as the jewel in the university's crown, the heart of the university, the campus treasure. These images are remarkably similar from campus to campuses because large main library buildings are typical and important iconic representations of the library's place within the university: centrally located, critically important, very large, separate and distinct. These images are static; they suggest the traditional roles of academic libraries as supportive of teaching, learning and research.

2.4 Awareness of AI among librarians

AI is gaining an impressive recognition in all fields of studies. In Librarianship, different studies have reported different cases from different areas and countries globally. Sambo and Oyovwe-Tinuoye (2023) discovered that the majority of licensed librarians were averagely aware of AI robotic technologies in libraries. Oyekale and Zubairu (2023) also reported a high level of awareness of AI among librarians in Osun State.

Hervieux and Wheatley (2021) evaluated the perceptions of librarians with regard to artificial intelligence in academic libraries in Canada and the United States. An online survey of 24 questions was distributed through library distribution lists in Canada and the United States at the end of the summer in 2019. Findings show that librarians do not agree on a definition of artificial intelligence which is in keeping with this emerging field. The responses highlight the fact that academic librarians require more training with regard to artificial intelligence and its potential applications in libraries. Other important implications include a recognition that library patrons

are interested in AI and that little to no programming about it has been offered in academic libraries.

Kim (2017) reported that librarians are aware of humanoid robots, which can welcome guests and give directions in libraries. For instance, Libby, a robot at the University of Pretoria Libraries in South Africa, already performs such tasks. AI technologies can facilitate text and data mining, helping researchers and students extract valuable insights from large volumes of academic literature. It can support various research activities and aid in knowledge discovery.

Eiriemiokhale and Sulyman (2023) posited that the invention of AI has greatly enhanced the potential of academic libraries' services. Their study explores the awareness and perceptions of AI among librarians in university libraries in Kwara State, Nigeria. Their findings revealed that Chatbots and Dynamed are the AI the respondents were aware of. The respondents have the perceptions that AI technologies can be adopted in university libraries, capable of replacing human librarians in future and AI is a positive development for librarians. Findings further indicated that the respondents perceived that AI is beneficial in university libraries because it provides patron-tailored recommendations to items, can reduce manual and repetitive tasks performed by librarians and facilitates the discovery of new knowledge.

Isiaka et al. (2024) investigated the perceived awareness and usefulness of artificial intelligence technology for library operations in Kwara State academic libraries. Their findings revealed that the respondents are of AI Robots, AI chatbots, face recognition technology, virtual references, Humanoids, Dynamed and AI expert systems are the AI technologies the respondents were highly aware of.

Eiriemiokhale and Sulyman (2023) stated that librarians perceived AI as a positive technological advancement that can be used to perform some tasks initially perform by librarians. Several academic librarians see the introduction of AI as an excellent innovation to library practices. AI-driven chatbots and virtual assistants provide instant support to library users. They can answer queries, assist with navigation, and offer information about library resources and services (Owolabi et al., 2021).

2.5 Readiness of librarians to adopt and utilise AI

AI is defined as the simulation of human intelligence in computers that are trained to think and act like humans. The phrase can also refer to any machine that demonstrates human-like characteristics like learning and problem-solving. Its adoption of AI stands out as a transformative force across various sectors such as healthcare, finance, education, entertainment and information institution university libraries, as essential hubs of information and knowledge, have not remained untouched by this wave of innovation. The intersection of AI and library operations heralds a new chapter in the evolution of these vital technologies, promising enhanced efficiency, accessibility, and user experiences (Frankenfield, 2021).

Researches have shown that the adoption AI in libraries and information centers are based on the awareness and perceptions of the LIS professionals in different societies. Looking at Nigeria for instance, Moustapha and Yusuf (2023) noted that libraries in Nigeria are struggling to adopt AI because of paucity of fund and technological defects, while the fear of job loss, reliability on and authenticity of content and fear of privacy and confidentiality are the problems associated with the librarians' perceptions.

Adopting AI to services of academic libraries is a developmental strategy that most academic libraries have come to embrace and appropriate. With the use of AI, the duties of librarians can be made easier and service delivery would be efficient. AI is not just important for academic librarians in terms of functions and activities, it is also crucial for the growth and value of libraries in the world today (Omame & Alex-Nmecha, 2020). Subaveerapandiyan, Sunanthini and Amees (2023) claimed that LIS professionals in Zambia were aware of the skills required to adopt AI technologies. This spurred their eagerness and preparedness to take the lead role in adopting AI in libraries.

Eiriemiokhale and Sulyman, (2023) stated that librarians in university libraries may not be ready to adopt AI because they have the perception that AI have the capability of replacing human librarians in future. Oyekale and Zubairu (2023) reported that AI is yet to be adopted among the libraries. This was why Tella (2020) posited that university libraries needs to re-position themselves to take the relative advantages of artificial intelligence's potentials by refining the quality of library services in this era of the information explosive age. AI seems to be the new hope for university libraries to provide more of advanced automated services to their users as it is one of the technologies that has arisen and will play a major role in the 5th Industrial Revolution (Memela, 2023).

The adoption of AI for library operations is not merely a technological advancement to university libraries. It represents a strategic response to the changing expectations and behaviors of library users in the digital age. Libraries in the developed countries have accepted and use AI technologies for their operations and services virtually in all spheres of life whereas those in developing countries are still struggling to find their feet (Tella, 2020). The use AI in university libraries will make the library more relevant in the academic community. University libraries'

patrons would be more excited to come to the library and see the library as a real center of knowledge (Owolabi et al., 2021).

AI adoption in university libraries operations offers numerous benefits and advantages. AI innovations in the library will increase academic librarians' job performance and better user satisfaction was highlighted by Owolabi et al., (2021) as one of the various advantages of adopting AI in library operations. AI is being used to guide and support library activities and operations, and at the same time user-friendly, particularly in information search among other benefits derived from the adoption AI in libraries (Yusuf et al., 2022). AI has the ability to streamline library operations, increase librarian productivity, and encourage the provision of high-quality services to the next generation of library patrons (Olusegun et al., 2023).

AI has enormous potential to greatly improve a library's productivity. Memela (2023) argued that academic libraries have been trying to find ways to offer automated services to their users over the years. From the card system to computers, to digitization, to e-books and databases, and even RFID. AI adoption in academic libraries has raised the bar for the effectiveness and efficiency of library service delivery, enabling libraries to enhance and offer dynamic services for library users. It is user-friendly, especially in searching for information, and is also used to direct and assist library activities (Yusuf, Adebayo & Bello, 2022).

Moustapha and Yusuf (2023) wrote a conceptual paper on the adoption of AI for effective library services in academic libraries in Nigeria. They identified the advantages of adopting artificial intelligence in academic libraries, which include ease of use, endless functionality, and the ability to perform complex work, among others. They concluded that adoption of AI in academic

libraries sets a new level of efficient and effective library service delivery, but its adoption in developing countries such as Nigeria is low due to some identified challenges.

Tang and Zhang (2023) noted that the application of AI (artificial intelligence) in libraries is not only the result of the development of technology, but also the choice of libraries to improve their service. They argued that better integration of AI in libraries still needs further exploration and libraries also need guidance in implementing AI technology. The study uses a systematic literature review method to analyze the literature on the application of AI in libraries published before 2023. Based on sorting out the application of AI in libraries, the paper summarizes and analyzes the practice and attitudes of applying AI in libraries. The study found that there is a broad prospect of AI applications in libraries, but the current application is scattered and lacks a comprehensive view. There are different attitudes towards the application of AI in libraries and it is important to learn about different views.

2.6 Extent to which librarians are currently utilising AI

The adoption of AI in academic libraries has immensely elevated the image of their operations and services to users (Isiaka et al., 2024). Obiano et al (2022) investigated aiding the exploration of artificial intelligence (AI) in Nigeria academic libraries. The study revealed that institutional support for adoption of AI is low, but the level of ICT competence of library staff is high. It was also revealed that there is perceived usefulness of AI to the librarians and the factors militating against the adoption of AI is high, consisting of factors such as lack of needed AI tools and inadequate planning.

Asim, Arif, Rafiq and Ahmad (2023) investigated the applications of Artificial Intelligence (AI) in the university libraries of Pakistan. Following the explanatory sequential mixed-methods

approach, the study was completed in two phases. In the first phase, quantitative data was collected from 237 university librarians across Pakistan. In the second phase, 10 purposefully selected university librarians were interviewed. The results reveal that Pakistani university libraries are using limited AI-based library services including text-to-speech and speech-to-text technologies, Google Assistant to search by voice command, Radio Frequency Identification (RFID) system for self-checkout, check-in, and security purposes, and intelligent data analysis for collection management.

Xie (2023) explores the application of artificial intelligence technology in public library information retrieval. The paper argues that the public library as an important place in the society to provide mass education for the masses should fully seize the development opportunity with artificial intelligence technology as the core idea in the operation and development, carry out intelligent, automatic and digital reform and innovation of the library, and optimize the links of information retrieval, book borrowing, information service and access to the library. Through the artificial intelligence and other advanced technologies, the whole science and technology content of public libraries and public service quality is improved so as to meet the specific needs of the public for the use of public education resources.

Isiaka et al. (2024) reported that the usefulness of AI technologies for efficient library operations such as AI chatbots can be useful for reference services, AI can used for cataloguing and classification of library materials, AI drone surveillance can be used for library security, AI expert search tools for information search, AI can be useful for automating library routines. Bassey and Owushi (2023) examined the adoption of artificial intelligence in library and information science in the 21st century the perceived impacts and challenges by librarians in

Akwa Ibom and rivers states. They concluded that libraries in Akwa Ibom State and River State have not lagged behind in utilising AI for their operations and services.

Oyekale and Zubairu (2023) examined an assessment of awareness, perceptions, and adoption of artificial intelligence in university libraries in Osun State, Nigeria. Findings revealed that 80% of the respondents are aware of artificial intelligence, similarly, 80% of the respondents claimed to have a positive perception regarding AI, they affirmed that AI is here to make library routine easier and not take their job from them, and finally 100% of the responded claimed that AI is yet to be adopted in the surveyed libraries.

2.7 Factors influencing librarians' adoption and use of AI

AI is still in its early stages of development, and many challenges need to be addressed before it can be fully integrated into libraries and information services. These challenges include privacy, security and ethical considerations (Subaveerapandiyan, Sunanthini & Amees, 2023). Asim, Arif, Rafiq and Ahmad (2023) itemised highly integrated technological infrastructure, funding/cost associated with AI, collaboration between AI experts and professionals, library users' feedback, requirement of a highly networked and integrated environment, lack of budget, high cost of AI technologies, and lack of staff expertise as some key factors influencing AI's adoption and application in academic libraries.

Eiriemiokhale and Sulyman (2023) found that the major factors affecting the adoption of AI include poor internet connectivity and lack of expertise among librarians. The challenges of artificial intelligence technology integration to library operations to includes potential loss of job, high risk of maintenance, inadequate internet service provision, technical problems, epileptic

electricity or power supply, and Inadequate ICT facilities for AI technologies (Isiaka et al., 2024).

Subaveerapandiyan, Sunanthini and Amees (2023) stated the following challenges: privacy, security and ethical considerations. Ethical considerations, such as the responsible and transparent use of AI, are crucial. Decisions made by AI systems should be understandable, explainable, and accountable. Ensuring ethical use requires careful planning and ongoing scrutiny. Kaushal and Yadav (2022) stated that despite the huge advantages of AI chatbots for improving reference services in libraries, their major drawback, a major intrusion on privacy, has to be removed by software designers during the development phase. Qomariyah et al. (2020) stated that documents about policies and procedures, technical know-how, and organizational resources, such as human and technological resources, are among challenges associated with artificial intelligence.

Asim, Arif, Rafiq and Ahmad (2023) stated that highly integrated technological infrastructure, funding/cost associated with AI, collaboration between AI experts and professionals, library users' feedback, requirement of a highly networked and integrated environment, lack of budget, high cost of AI technologies, and lack of staff expertise as some key factors influencing artificial intelligence's adoption and application in university libraries. Also, Ogwo, et al. (2023) stated a number of factors working against the adoption of AI in university libraries such as poor ICT skills and technical expertise, financial constraints, phobia for job displacement, privacy and ethical issues, poor maintenance culture, epileptic power supply, poor network connectivity among others.

Similarly, Sambo, Imran and Akanbi (2022) stated various obstacles of AI integration to university libraries such as power failure, lack of digital equipment, workload overwhelming, cost of digital skills training, lack of basic digital literacy skills, lack of computer literate. Contrarily, Obiano et al. (2022) stated in their study that institutional support for adoption of AI is low, but the level of ICT competence of library staff is high. It was also revealed that there is perceived usefulness of AI to the librarians and the factors militating against the adoption of AI is high, consisting of factors such as lack of needed AI tools and inadequate planning.

2.8 Appraisal of the literature reviewed

Many studies have been conducted on AI, its awareness, readiness for adoption and integration or utilisation in libraries. Among the different types of libraries available, the university libraries cannot be underrated. This is because the university libraries, being ones dedicated to support teaching, learning and research in the university system, must always be adopting technologies to enhanced its services and considering the growing popularity of AI, its utilisation in university libraries becomes imperative.

It is the notion that was realised that made Isiaka et al. (2024) to investigate the readiness and perceived use of AI among librarians in Kwara State. Their findings revealed that librarians in university libraries in Kwara State are ready to adopt AI and are already using it for different library operations. The study of Bassey and Owushi (2023) also revealed that librarians in universities in Rivers and Akwa Ibom States are not lagging behind in the adoption of AI. The study of Oyekale and Zubairu (2024) is a bit different from some findings of Isiaka et al. (2024). Though the similarity between the two studies is that librarians in university libraries in Kwara and Osun States are aware of AI, but its adoption in Osun State is low.

Having discovered that researchers have pioneered studies to explore, examine, assess or investigate the state-of-the-art of AI in Nigeria, particularly in Osun and Kwara States, which are closer to Ekiti, this triggers this study to be exploring the relationships between awareness, readiness, and utilisation of artificial intelligence among librarians in university libraries in Kwara State, Nigeria.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter will explain the methods the researcher will use to obtain data needed for solving the problems being investigated. Most importantly, this chapter will espouse the justifications for adopting the methods used in conducting this study.

Hence, this chapter will be organised under the following sub-headings:

3.2 Research design

3.3 Population of the study

3.4 Sampling technique and sample size

3.5 Instrument for data collection

3.6 Reliability and Validity of the instrument

3.7 Procedure for Administration of the instrument

3.8 Method of Data Analysis

3.2 Research Design

Research design is to indicate the approaches to be adopted in conducting a study. Descriptive survey design will be adopted for this study. The reason for the choice of descriptive survey is

because it will allow the researcher to gather the characteristics, awareness, readiness and utilisation of AI among librarians in university libraries in Kwara State.

3.3 Population of the Study

Population is the total area, environment, scope or aspect a study is expected to cover. According to Issa (2012), population of a study is referred to as all the members or elements of a particular group of people, animals, or things in a defined area. Hence, the population of this study will be presented in the table below:

S/No	Universities' Names	No of Staff
1.	University of Ilorin	52
2.	Kwara State University, Malete	37
3.	Thomas Adewumi University, Oko	19
Total		**108**

3.3 Sampling Technique and sample size

Sample is the unit, portion or element of the population, which will provide data that are relevant to the study. In this study, census enumerative will be adopted to select all the 108 librarians in the libraries understudied. The reason for adopting census enumerative is because the respondents are not much and the researcher can obtain data from them, provided they are available at the time of administering the data collection instrument.

3.5 Instrument for Data Collection

This study will adopt questionnaire to collect data from respondents. Issa (2012) explains questionnaire as a data collection instrument containing series of questions and other prompt responses for the purpose of gathering information from library users. The questionnaire will be titled ***"Questionnaire on awareness, readiness and utilisation of artificial intelligence (AI)***

among librarians in selected university libraries in Kwara State, Nigeria." The questionnaire will be arranged into seven major sections, with each section containing the options relevant to the objectives of this study.

3.6 Validity and Reliability of the Instrument

Validity refers to the extent at which an instrument accurately measures what it intends to measure (Li, 2016). The questionnaire will be given to two subject experts for assessment of the quality of presentation of the contents of the variables the researcher wishes to measure. Their expert opinions will be effected before the questionnaire is presented to the supervisor for assessment and corrections, before its onward administration to the respondents.

However, reliability refers to the extent at which an instrument yields consistent results. Internal consistency will be used to assess the extent of differences within the test items by exploring the same construct that produce similar results (Thomas, 2022).

3.7 Procedure for Administration of Instrument

The questionnaire will be administered to the respondents by the student researcher and one research assistant. The researcher will administer the questionnaire to the personnel of University of Ilorin Library alone because they are minimal and they can be covered by the researchers. The data collection will be held with the help of the assistants in other libraries.

3.8 Method of Data Analysis

Data collected will be presented in simple percentage and frequency tables and analysed by using the IBM SPSS Statistics. The reason for the choice of simple percentage and frequency tables is

because it allows presentation, analysis and comparison of multiple attitude, opinion and ideas which can enhance easy understanding of tables and the data they contained. The opinions generated through the interviews will be used in the discussion of findings to support the data contained in the tables.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION OF THE FINDINGS

4.1 Introduction

This chapter presents the results of the data analysis of the study. The order of presentation was the demographic variables of the respondents' distribution of questionnaire, the response rate and research questions.

4.2 Demographic Variables of the Respondents

A total of 108 respondents were targeted in the distribution of the questionnaire for the study in Kwara State University, Malete, University of Ilorin and Thomas Adewunmi University, Oko, Kwara State, Nigeria. A total of 103 copies were retrieved and valid for analysis. This gives a response rate of 95.4%.

Table 4.1: Distribution of the Respondents by Demographic Variables

Gender	**Frequency**	**Percent**
Male	42	40.8
Female	61	59.2
Total	**103**	**100.0**
Age	**Frequency**	**Percent**
21 - 30	36	35.0
31 - 40	57	55.3
41 – 50	10	9.7
Total	**103**	**100.0**
Marital Status	**Frequency**	**Percent**
Single	34	33.0
Married	69	67.0
Total	**103**	**100.0**
Academic Qualification	**Frequency**	**Percent**
HND	23	22.3
BLIS	19	18.4
MLIS	61	59.2
Total	**103**	**100.0**
Years of work experience	**Frequency**	**Percent**
Less than 6	66	64.1
26 – 10	37	35.9
Total	**103**	**100.0**

Table 4.1 shows the distribution of the respondents by demographic variables. Majority, 61 (59.2%) respondents were female, 57 (55.3%) respondents were between the ages of 31 and 40 years, 69 (67.0%) respondents were married, 61 (59.2%) respondents' educational qualification was MLIS and 66 (64.1%) respondents' years of work experience was less than 6.

4.3 Presentation of Research Questions

The following research questions were presented:

4.3.1 Research Question One: What is the level of awareness of AI among librarians in university libraries in Kwara State, Nigeria?

Table 4.2: Level of awareness of AI among librarians in university libraries in Kwara State, Nigeria

S/No	Items	Mean	SD
1.	AI robots	3.39	0.564
2.	Face recognition technology	3.39	0.564
3.	Humanoid	3.22	0.641
4.	Dynamed	3.16	0.826
5.	Cognii	3.14	0.852
6.	ChatGPT	3.08	0.825
7.	Dualingo	3.07	0.565
8.	Good-AI	2.97	0.747
9.	Chatbot	2.94	0.916
10.	EssayWriters.ai	2.92	0.723
11.	PaperWriter.ai	2.89	0.593
12.	SchoolHack.AI	2.71	0.736
	Criterion Mean	**2.50**	

Table 4.2 shows the level of awareness of AI among librarians in university libraries in Kwara State, Nigeria. The criterion mean is 2.50. Any individual mean greater or equal to criterion mean shows the agreement of the respondents that the level of awareness of AI among librarians in university libraries in Kwara State, Nigeria was high. Majority of the respondents agreed that the levels of awareness of AI robots (Mean = 3.39), Face recognition technology (Mean =

3.39), Humanoid (Mean = 3.22), Dynamed (Mean = 3.16), Cognii (Mean = 3.14), ChatGPT (Mean = 3.08) and Dualingo (Mean = 3.07) were high.

4.3.2 Research Question Two: What is the readiness of librarians to adopt and utilise AI in university libraries in Kwara State, Nigeria?

Table 4.3: Readiness of Librarians to Adopt and Utilise AI in University Libraries in Kwara State, Nigeria

S/No	Items	Mean	SD
1.	AI robots	3.30	0.639
2.	PaperWriter.ai	3.28	0.720
3.	SchoolHack.AI	3.19	0.486
4.	Chatbot	3.16	0.414
5.	ChatGPT	3.11	0.740
6.	Face recognition technology	3.10	0.619
7.	Humanoid	2.99	0.602
8.	Dualingo	2.97	0.551
9.	Good-AI	2.97	0.798
10.	Dynamed	2.95	0.451
11.	Cognii	2.95	0.584
12.	EssayWriters.ai	2.81	0.525
	Criterion Mean	**2.50**	

Table 4.3 shows the readiness of librarians to adopt and utilise AI in university libraries in Kwara State, Nigeria. The criterion mean is 2.50. Any individual mean greater or equal to criterion mean shows the agreement of the respondents with the readiness of librarians to adopt and utilise AI in university libraries in Kwara State, Nigeria. Majority of the respondents agreed that the readiness of librarians to adopt and utilise AI in university libraries in Kwara State,

Nigeria were AI robots (Mean = 3.30), PaperWriter.ai (Mean = 3.28), SchoolHack.AI (Mean = 3.19), Chatbot (Mean = 3.16), ChatGPT (Mean = 3.11), Face recognition technology (Mean = 3.10) and Humanoid (Mean = 2.99).

4.3.3 Research Question Three: What is the extent to which librarians are currently utilising AI in university libraries in Kwara State, Nigeria?

Table 4.4: Extent to Which Librarians Are Currently Utilising AI in University Libraries in Kwara State, Nigeria

S/No	Items	Mean	SD
1.	Cognii	3.13	0.667
2.	Chatbot	3.10	0.869
3.	PaperWriter.ai	3.10	0.786
4.	Face recognition technology	3.01	0.693
5.	SchoolHack.ai	2.99	0.923
6.	Dynamed	2.98	0.804
7.	Humanoid	2.98	0.840
8.	Dualingo	2.93	0.630
9.	AI robots	2.92	0.860
10.	EssayWriters.ai	2.84	0.683
11.	ChatGPT	2.83	0.810
12.	Good.ai	2.61	0.770
	Criterion Mean	**2.50**	

Table 4.4 shows the extent to which librarians are currently utilising AI in university libraries in Kwara State, Nigeria. The criterion mean is 2.50. Any individual mean greater or equal to criterion mean shows the agreement of the respondents that the extent to which librarians are

currently utilising AI in university libraries in Kwara State, Nigeria was high. Majority of the respondents agreed that the extent at which librarian utilized Cognii (Mean = 3.13), Chatbot (Mean = 3.10), PaperWriter.ai (Mean = 3.10), Face recognition technology (Mean = 3.01), SchoolHack.ai (Mean = 2.99), Dynamed (Mean = 2.98) as well as Humanoid (Mean = 2.98) was high.

4.3.4 Research Question Four: What are the factors influencing librarians' adoption and use of AI in university libraries in Kwara State?

Table 4.5: Factors Influencing Librarians' Adoption and Use of AI in University Libraries in Kwara State

S/No	Options	Mean	SD
1.	Privacy, security and ethical considerations	3.74	0.442
2.	Technical problems	3.65	0.622
3.	Cost of digital skills training	3.61	0.490
4.	High cost of AI technologies	3.61	0.757
5.	Lack of digital equipment	3.57	0.497
6.	Potential loss of job	3.48	0.654
7.	Lack of staff expertise	3.38	0.643
8.	High risk of maintenance	3.38	0.526
9.	Poor Internet connectivity	3.33	0.856
10.	Lack of budget	3.32	0.770
11.	Epileptic electricity or power supply	3.31	0.611
12.	Inadequate ICT facilities for AI technologies	3.23	0.819
	Criterion Mean	**2.50**	

Table 4.5 shows the factors influencing librarians' adoption and use of AI in university libraries in Kwara State. The criterion mean is 2.50. Any individual mean greater or equal to criterion mean shows the agreement of the respondents with the factors influencing librarians' adoption and use of AI in university libraries in Kwara State. Majority of the respondents agreed that the factors influencing librarians' adoption and use of AI in university libraries in Kwara State were privacy, security and ethical considerations (Mean = 3.74), technical problems (Mean = 3.65), cost of digital skills training (Mean = 3.61), high cost of ai technologies (Mean = 3.61), lack of digital equipment (Mean = 3.57), potential loss of job (Mean = 3.48) and lack of staff expertise (Mean = 3.38).

4.4 Discussion and Interpretations of Findings

Findings revealed that the level of awareness of AI-robot, face recognition technology, humanoid, Dynamed, Cognii, ChatGPT and Dualingo were high among the respondents. The finding on AI-robot contrasted that of Sambo and Oyovwe-Tinuoye (2023) discovered that the majority of licensed librarians were averagely aware of AI-robotic technologies in libraries. However, the finding on AI and ChatGPT is similar to the results of Oyekale and Zubairu (2023) which reported a high level of awareness of AI among librarians in Osun State.

The respondents' awareness of humanoid is also consistent with the study of Kim (2017) which reported that librarians in South Africa are aware of humanoid robots because it can welcome guests and give directions in libraries. in addition, findings on the respondents' awareness of Dynamed corroborate the findings of Eiriemiokhale and Sulyman (2023) that librarians in university libraries in Kwara State are aware of Dynamed and chatbots.

Furthermore, findings on the respondents' readiness to adopt and utilise AI revealed that AI robots, PaperWriter.ai, SchoolHack.AI, Chatbot, ChatGPT, face recognition technology and humanoid. The import of these findings is that the respondents are ready to adopt and utilise the AI that was revealed they are aware of. This indicates an encouraging level of consistency on the respondents' opinions. These findings affirmed the claim of Omame and Alex-Nmecha (2020) that librarians in Rivers State, Nigeria, are ready to adopt and utilise the AI they are aware of.

The cited claim was similar to the position of Subaveerapandiyan, Sunanthini and Amees (2023) that LIS professionals in Zambia are ready to adopt and utilise AI they are aware of. This spurred their eagerness and preparedness to take the lead role in adopting AI in libraries. The respondents' readiness to adopt and utilise AI they are aware of shows that the respondents are striving to respond to the notion of Tella (2020) that AI adoption and utilisation represents a strategic response to the changing expectations and behaviours of library users in the digital age. Libraries in the developed countries have accepted and use AI for their operations and services virtually in all spheres of life whereas those in developing countries are still struggling to find their feet

More so, Cognii, Chatbot, PaperWriter.ai, face recognition technology, SchoolHack.ai, Dynamed as well as Humanoid was high on the extent to which the respondents were utilising AI. These disagreed with the findings of Obiano et al (2022) that the adoption and utilisation of AI in Nigerian academic libraries are low. Though, the reason for the low adoption and utilisation was attributed to poor institutional support.

Interestingly, findings on the use of face recognition technology by the respondents is similar to the reports of Asim, Arif, Rafiq and Ahmad (2023) from Pakistan that librarians are utilising

Radio Frequency Identification (RFID) system for self-checkout, check-in, and security purposes, and intelligent data analysis for collection management. This shows that the respondents are moving with the trends and utilising face recognition technology for security purposes

In the same vein, majority of the respondents agreed that the factors influencing their adoption and use of AI privacy, security and ethical considerations, technical problems, cost of digital skills training, high cost of AI technologies, lack of digital equipment, potential loss of job and lack of staff expertise. The findings affirmed the notions of Moustapha and Yusuf (2023) that libraries in Nigeria are struggling to adopt AI because of paucity of fund and technological defects, while the fear of job loss, reliability on and authenticity of content and fear of privacy and confidentiality.

In addition, the findings confirm the points of Subaveerapandiyan, Sunanthini and Amees (2023); Asim, Arif, Rafiq and Ahmad (2023) that the major challenges to the adoption and utilisation of AI in libraries include privacy, security, ethical considerations, technological infrastructure, funding/cost associated with AI, collaboration between AI experts and professionals, library users' feedback, requirement of a highly networked and integrated environment, lack of budget, high cost of AI technologies, and lack of staff expertise.

Above all, majority of the respondents recommended the provision of adequate power supply, adequate protections of data, reduced cost of AI technologies, provision of adequate ICT facilities for AI technologies, librarians should not perceive AI as their competitors and availability of qualified library personnel as the prerequisites for the adoption and utilisation of AI in university libraries. These recommendations are consistent with those of the existing

studies of Eiriemiokhale and Sulyman (2023); Obiano et al. (2022); Ogwo, et al. (2023); Sambo, Imran and Akanbi (2022) that adequate funding, availability of qualified library personnel and possession of adequate digital skills among others should be considered in the library's quest of adoption and utilisation of AI.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter summarises the findings of this study, draws conclusion from those findings and makes appropriate recommendations. This chapter is arranged in the following order:

5.2 Summary of findings

5.3 Conclusion

5.4 Recommendations

5.2 Summary of findings

Results of this study revealed that:

1. Librarians in university libraries in Kwara State, Nigeria, are highly aware of AI robots, face recognition technology, humanoid, Dynamed, Cognii, ChatGPT and Dualingo.
2. Librarians in university libraries in Kwara State, Nigeria, are ready to adopt and utilise AI robots, PaperWriter.ai, SchoolHack.AI, chatbots, ChatGPT, face recognition technology and humanoid.
3. Librarians in university libraries in Kwara State, Nigeria, are highly utilising Cognii, chatbots, PaperWriter.ai, face recognition technology, SchoolHack.ai and Dynamed.
4. Factors influencing the librarians' adoption and use of AI in university libraries in Kwara State include privacy, security and ethical considerations, technical problems, cost of

digital skills training, high cost of ai technologies, lack of digital equipment and potential loss of job.

5.3 Conclusion

AI has revolutionised the operations and services of libraries. Though, the level of its effectiveness to library operations and services are hinged on librarians' awareness, readiness for adoption and its eventual utilisation. This study has brought into fore that librarians in university libraries in Kwara State, Nigeria, are highly aware of AI robots, face recognition technology, humanoid and they are ready to adopt and utilise AI robots, chatbots, ChatGPT and humanoid. Though, the librarians are already utilising Cognii, chatbots, face recognition technology and Dynamed.

Furthermore, this study has proven that there is a strong relationship between readiness, adoption and utilisation of AI because AI aids in delivering information to users at stipulated time without librarians' interventions, allows for better analysis of datasets and revolutionises various aspects of library operations and services. However, AI adoption and utilisation in university library in Kwara State are hindered by many factors including privacy, security, ethical considerations, technical problems, cost of digital skills training, high cost of AI technologies, lack of digital equipment and potential loss of job.

5.4 Recommendations

Based on the findings of this study, the following recommendations are hereby made:

1. Management of university libraries in Kwara State should train their personnel on AI literacy. This will equip the librarians with the skills to utilise AI without violating security and privacy concerns.
2. Management of university libraries in Kwara State should be adequately funding their libraries. This will make the library overcome all cost-related issues limiting them from training the personnel, purchasing IT infrastructure needed for AI and others.
3. Librarians in university libraries in Kwara State should perceive AI as a supplement to their job and not their competitors. This will be motivating them to be adopting and utilising AI.
4. Indigenous technology developers should prioritise developing AI that is deliberately designed for the needs of university libraries in Nigeria.

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APPENDIX I

KWARA STATE POLYTECHNIC, ILORIN
INSTITUTE OF INFORMATION AND COMMUNICATION TECHNOLOGY
DEPARTMENT OF LIBRARY AND INFORMATION SCIENCE

Request to Fill a Questionnaire on a project titled**: "*Awareness, Readiness and Utilisation of Artificial Intelligence (AI) Among Librarians in Selected University Libraries in Kwara State, Nigeria*"**

Dear respondent,

I am a final year student of the department of Library and Information Science, Kwara State Polytechnic, Ilorin. I am currently conducting a project on the above topic. I humbly request your assistance in filling this questionnaire. The exercise is purely academic and the information gathered will be treated confidentially.

Thanks for your anticipated co-operation.

Researcher

Section A: Demographic Characteristics of Respondents
Kindly select the option of your choice by ticking from the answers below

1 Gender: Male ( ) Female ( )
2 Age range: 21 – 30 years ( ) 31 – 40 years ( ) 41 – 50 years ( )
51 – 60 years ( ) 61 years and above ( )
3 Marital Status: Single ( ) Married ( ) Divorced ( ) Widow ( )
4 Respondent institution: Kwara State University ( ) Thomas Adewunmi University, Oko ( ) University of Ilorin ( )
5 Academic qualification: ND ( ) HND ( ) BLIS ( ) MLIS ( ) PhD ( )
6 Work experience: Less than 5 years ( ) 6 – 10 years ( ) 11 – 15 years ( )
16 – 20 years ( ) 21 – 25 years ( ) 26 years and above ( )

Section B: Level of awareness of AI among librarians in university libraries in Kwara State, Nigeria

What is the level of your awareness of AI?

Kindly tick (✔) VHA for "**Very Highly Aware**," HA for "**Highly Aware**," MA for "**Partially Aware**" and NA for "**Not Aware**"

S/No	Options	VHA	HA	PA	NA
1.	Chatbot				
2.	Dynamed				
3.	ChatGPT				
4.	AI robots				
5.	Face recognition technology				
6.	Humanoid				
7.	Dualingo				
8.	EssayWriters.ai				
9.	PaperWriter.ai				
10.	SchoolHack.AI				
11.	Good-AI				
12.	Cognii				
Others, please specify……..					

Section C: Readiness of librarians to adopt and utilise AI in university libraries in Kwara State, Nigeria

What is your readiness of librarians to adopt and utilise AI?

Kindly tick (✔) VHR for "**Very Highly Ready**," HA for "**Highly Ready**," MA for "**Partially Ready**" and NA for "**Not Ready**"

S/No	Options	VHR	HR	PR	NR
1.	Chatbot				
2.	Dynamed				
3.	ChatGPT				
4.	AI robots				
5.	Face recognition technology				
6.	Humanoid				
7.	Dualingo				
8.	EssayWriters.ai				
9.	PaperWriter.ai				
10.	SchoolHack.AI				
11.	Good-AI				
12.	Cognii				
Others, please specify……..					

Section D: Extent to which librarians are currently utilising AI in university libraries in Kwara State, Nigeria

What is the extent to which you are currently utilising AI?

Kindly tick (✔) VHU for "**Very Highly Utilised**," H for "**Highly Utilised**," MA for "**Moderately Utilised**" and NA for "**Not Utilised**"

S/No	Options	VHU	HU	PU	NU
1.	Chatbot				
2.	Dynamed				
3.	ChatGPT				
4.	AI robots				
5.	Face recognition technology				
6.	Humanoid				
7.	Dualingo				
8.	EssayWriters.ai				
9.	PaperWriter.ai				
10.	SchoolHack.ai				
11.	Good.ai				
12.	Cognii				
Others, please specify……..					

Section F: Factors influencing librarians' adoption and use of AI in university libraries in Kwara State

What are the factors influencing your adoption and use of AI?

Kindly tick (✔) SA for "Strongly Agree," A for "Agree," D for "Disagree" and SD for "Strongly Disagree."

S/No	Options	SA	A	D	SD
1.	Privacy, security and ethical considerations				
2.	Technical problems				
3.	Potential loss of job				
4.	Lack of digital equipment				
5.	Cost of digital skills training				
6.	Lack of budget				
7.	Poor Internet connectivity				
8.	High cost of AI technologies				
9.	Inadequate ICT facilities for AI technologies				
10.	Epileptic electricity or power supply				
11.	Lack of staff expertise				
12.	High risk of maintenance				
Others, please specify……					