

## Artificial Intelligence and Students Literature Acquisition in Public Universities in Bayelsa State

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### Abstract

### Original Research Article

This study investigates the impact of Artificial Intelligence (AI) on academic literature acquisition among university students in Bayelsa State, Nigeria. With technologies that improve research efficiency, customise learning, and expedite academic duties, artificial intelligence (AI) has emerged as a disruptive force in education. However, there are several obstacles to the widespread use of AI at Nigerian colleges, especially in Bayelsa State, because of poor infrastructure, problems with digital literacy, and ethical dilemmas. Twenty students from Niger Delta University, Federal University Otuoke, and Bayelsa Medical University participated in semi-structured interviews as part of the study's qualitative research design. The results show that although students in Bayelsa State are using and becoming more aware of artificial intelligence (AI) tools such as Grammarly, Mendeley, and Google Scholar, their comprehension of these tools' features and advantages is still lacking. Difficulties include limited digital infrastructure, slow internet access, and a lack of training on how to use AI tools effectively. The study concludes that universities in Bayelsa State must address infrastructure deficiencies, improve digital literacy programs, and encourage ethical use of AI tools in order to fully realize AI's potential in academic literature acquisition. Recommendations include investing in technology infrastructure, providing targeted training on AI tool usage, and fostering a culture of responsible AI use to improve academic outcomes and research efficiency.

**Keywords:** Artificial Intelligence, Academic Literature acquisition, Universities

## INTRODUCTION

The integration of artificial intelligence (AI) into the classroom has caused a sea change in how students find and use course materials. Artificial intelligence (AI) is often seen as a crucial tool for enhancing educational possibilities, speeding up information retrieval, and enabling personalised learning (Selwyn, 2019). An rising number of universities across Nigeria, including those in Bayelsa State, are implementing AI-driven systems to assist students in locating necessary academic materials. The purpose of this qualitative research is to examine how college students in Bayelsa State have used AI tools to access course materials.

The field of education is one of several that has been impacted by the rise of artificial intelligence (AI). More and more, people are starting to notice that AI has the ability to revolutionise learning and increase access to knowledge (Luckin, 2017). Tools and technology powered by artificial intelligence (AI) in educational settings, particularly universities, provide students new ways to

discover content, personalise their learning, and speed up tasks. The current status of artificial intelligence (AI) in academic literature acquisition, with a focus on university settings, is examined in this literature and theory review. The significance of AI to Nigerian institutions, particularly those in Bayelsa State, is further demonstrated. It takes a look at the major research results, challenges, and recent advancements in the area of artificial intelligence (AI) in education, as well as the basic frameworks for assessing this integration.

A lot of focus has been on artificial intelligence's (AI) usage at universities because of its ability to improve learning outcomes. Intelligent tutoring systems that adapt to the specific needs of each student are only one example of the many ways in which artificial intelligence (AI) is finding use in the field of education (Wawacki-Richter et al., 2019). Academic databases and search engines driven by artificial intelligence have made it easier and faster for students to discover the scholarly material they need, saving them time (Luckin, 2017).

Bayelsa State is among those in Nigeria where universities are gradually using AI to aid students in their studies. Nonetheless, there has been only a little amount of adoption thus far due to infrastructural limitations and the digital divide (Onye, 2021). Google Scholar, Semantic Scholar, and other AI-driven reference systems are becoming more and more popular among students as a means to bolster their academic work.

### Statement of the Problem

The fast advancement of artificial intelligence (AI) has transformed several facets of higher education, particularly the ways in which students locate, retrieve, and use academic resources. Academic databases, online libraries, and search engines all run on artificial intelligence, which provides students with unprecedented opportunities to enhance their learning and research. Nonetheless, there are a lot of obstacles that prevent the widespread adoption and use of these AI technologies in Nigerian institutions, particularly in Bayelsa State.

Students in Bayelsa State universities are unable to make full use of artificial intelligence (AI) tools for acquiring academic material due to infrastructural issues such as slow internet connections, limited access to digital resources, and inadequate technological equipment. Another issue is the digital gap. Students in less developed regions or schools with less funding do not have the same access to platforms driven by artificial intelligence as students in more developed places.

Researching how well university students in Bayelsa State understand, utilise, and comprehend AI methods for acquiring academic material is crucial in light of the growing importance of AI in higher education worldwide. If we want students in Bayelsa State to reap the benefits of AI—better academic performance, more streamlined research procedures, and more tailored learning experiences—we must close these gaps.

### OBJECTIVES

1. To explore the awareness and understanding of AI tools among university students in Bayelsa State for academic literature acquisition.
2. To examine how students utilize AI tools for sourcing academic information, such as research articles, journals, and books.

### Questions

1. What is the level of awareness and understanding of AI tools among university students in Bayelsa State?

2. How do students utilize AI tools for academic literature acquisition in universities in Bayelsa State?

## LITERATURE AND THEORETICAL REVIEW

### Artificial

Both businesses and universities are feeling the effects of artificial intelligence's (AI) domino effect in the modern digital world. George, Osinga, Lavie, & Scott (2016) state that organisations, society, and economies are being transformed by this technological innovation and the exponential rise of data. Though many scholarly publications are starting to discuss the responsible use of AI, this field is still in its infancy when it comes to applying AI to academic research.

Academic evaluations have always focused on the phrase "contribution" (Leidner, 2020). However, editorials are increasingly focussing on how AI is being used in research initiatives due to its increasing importance. There is hope that artificial intelligence (AI) will help scientists find new answers more quickly, streamline their work, and expand their understanding of the world. Although AI has been a component of research for a long time, showing itself in many research approaches, it is frequently seen narrowly in academic research, with tools like ChatGPT being the only examples. In terms of its scope and definition, artificial intelligence (AI) is a field that uses logic-based techniques and advanced analytics (e.g., machine learning, deep learning, regression analysis, etc.) to automate tasks, make decisions, interpret events, and identify patterns (Gartner, 2023).

Key aspects of management, including decision making and issue solving, might be completely transformed by AI due to its predictive, automative, and pattern-discovering capabilities (Iansiti & Lakhani, 2020; Bailey, Faraj, Hinds, Leonardi, & von Krogh, 2022). In addition, according to Krakowski, Luger, & Raisch (2022), Tang et al. (2022), and Choudhury, Allen & Endres (2020), management researchers may take use of a variety of methodological options presented by AI, which enable them to investigate and analyse massive data sets in novel ways.

By focussing on AI's potential and importance in academia and the factors that must be considered for its successful implementation, we want to deepen and broaden the knowledge of AI in this editorial. Artificial intelligence (AI) has the ability to completely transform the way research is conducted (von Krogh, Quinetta Roberson, & Marc Gruber, 2023).

### Utilisation Artificial Intelligence in Research

There is a dearth of publications that rely on AI to back up their claims about innovation, even as AI is getting more and more attention in this area (Mariani et al.,

2023). While artificial intelligence (AI) has recently become more popular as a research tool, the essay by Mariani et al. (2023) emphasises its usage in academic innovation research. There has to be more integration of AI into new research methodologies to take advantage of its potential to speed up discoveries and optimise procedures, since there is a disconnect between AI study and its practical usage in academic research.

The creative process of writing an article incorporates many different areas of study, including theory, methodology, composition, phenomenology, and framing. Research on innovation stands to benefit greatly from the incorporation of artificial intelligence (AI) into all these many facets.

From a theoretical standpoint, there are currently a plethora of digital platforms that employ practical AI approaches to unearth books, conferences, papers, and editorial remarks across all fields of study (George, Osinga, Lavie & Scott, 2016). These tools help researchers choose the appropriate theory for their studies, organise information, synthesise material, and provide summaries by indicating patterns on any topic and analysing data (Musib et al., 2017). There has to be more integration of AI into research methodologies because of AI's revolutionary function, which shows how it can speed up discoveries and improve procedures in innovation research. According to Burger et al. (2023), AI may be a great help when it comes to data analysis and literature reviews, namely Systematic Literature Reviews (SLR). New research possibilities, especially in management, may be better identified and capitalised upon with the help of AI, according to von Krogh, Roberson, and Gruber (2023). The three most popular AI approaches in methodological problems are deep learning, supervised learning, and unsupervised learning. To illustrate the link between variables, regressions are widely used methods in supervised learning (Bzdok, Altman, & Krzywinski, 2018). Decision trees and random forests are two more methods that fall under the category of classification algorithms that utilise recursive data partitioning. As a form of unsupervised learning, cluster analysis entails categorising data into related sets according to their similarities. Neural networks are deep learning algorithms that mimic the way the human brain functions. They can model complicated relationships and are utilised for a variety of tasks, including picture recognition, NLP, and time series prediction (Hinton & Salakhutdinov, 2006). According to Vaswani et al. (2017), transformer models are a type of neural network architecture that has recently gained a lot of attention. These models have the ability to optimise processes across multiple sectors and might revolutionise fields like art, advertising, and entertainment. There are other research that use AI in novel ways to understand real-world behaviours and analyse data.

Momtaz (2021) provides an example of research that uses emotional AI to measure the emotional state of CEOs in public photos taken during initial coin offers (ICOs) and investigates the effect of these states on the valuation of firms. Another case in point is the work of Miric, Jia, and Huang (2023), who used supervised learning to do large-scale text classification. Their goal was to find AI-related patents, which showed that they could categorise and quantify unstructured textual material, which shed light on AI technical advancements.

Online language editors and grammar checkers that use AI approaches are great tools to have while writing academic articles. Word choices, syntax, spelling, articles, pronoun use, and subject-verb agreement are some of the faults that these grammar checkers aim to catch that other grammar checkers fail to notice. Researchers may also want to look into the work of Alshater (2022), who investigated how AI—and more especially ChatGPT—can boost students' grades. Recent news has focused on ChatGPT, an application built on GPT-3.5, which demonstrates the potential of GPT-3 and related models to enhance search (Dwivedi et al., 2023). Kung et al. (2022), Transformer and Zhavoronkov (2022), and Transformer et al. (2022) are only a few examples of the papers that showcase the increasing acknowledgement of AI in academia. One of these articles even named a GPT derivative as a coauthor. Researchers are increasingly intrigued by the idea of using intelligent tutors, avatars, and simulations to study and create new social phenomena. In qualitative research, AI has also been employed as a general-purpose voice transcription model; for example, Kung et al. (2022) demonstrated this technology in their assessment of ChatGPT's USMLE performance, suggesting the possibility of AI-assisted medical education. In a same vein, Datt et al. (2023) highlight the function of ChatGPT-4 for the benefit of healthcare researchers, highlighting the increasing significance of artificial intelligence in this field. Also, the technology can do multilingual voice transcription, translation, and language recognition; it is a multitasking model trained on a big heterogeneous audio data set.

The need to consider the moral status of machines as well as humans and other morally relevant beings is highlighted by the fact that AI-related ethical issues (Bostrom & Yudkowsky, 2018) deal with both the assurance that these machines will not harm humans and other morally relevant beings and the machines' own moral standing. Research on innovation might benefit from AI, as shown by the examples given from various fields.

### **The Challenges of using Artificial Intelligence**

Academic research with AI still requires further hands-on experience to assess ethical concerns. Having technical understanding and the capacity to comprehend

what needs doing to be equally explicable and transparent is essential for being open and honest in one's dealings and for being able to explain the judgements made by AI solutions. Security of data and operations is of the utmost importance when implementing AI solutions, say some authors (Gartner, 2022). This includes safeguarding privacy, making appropriate use of technology, and having the capacity to gather additional data and incorporate more technological features for future advancements. It is on to developers, researchers, and their leaders to ensure that AI is used responsibly in academic research. Nevertheless, delving into these questions becomes more intricate when AI solutions start to construct new ideas and research frameworks iteratively.

The use of state-of-the-art AI and NLP techniques into cutting-edge research has opened up new avenues of inquiry. The ChatGPT model showcases the cutting-edge AI capabilities and how they may revolutionise research methods and outcomes. Researchers have a powerful tool at their fingertips with ChatGPT, which can analyse massive data sets and produce informative reports, allowing them to delve deeper into complex innovation problems. By encouraging a data-driven approach, increasing the breadth and depth of research, and so pushing the boundaries of knowledge in the area, technologies like ChatGPT can play a pivotal role in the evolving innovation environment (Alshater, 2022).

International journals and big databases have found AI to be an interesting and relevant area for academic study and publishing. Artificial intelligence has shown promise in facilitating more thorough understanding and productive teamwork among scholars. To ease academics' access to reliable Scopus material and data, facilitate collaboration, and increase the social impact of research, Elsevier has developed Scopus AI, an AI tool that is now in its alpha form (Elsevier, 2023, August 1). Nevertheless, there are several practical and ethical concerns that arise from the growing usage of AI.

Giving credit where credit is due to AI-generated material is one of the main issues. An example of a policy that reflects concerns about accountability and authorship in academic research is Elsevier's decision that AI and AI-assisted tools cannot be acknowledged as authors on published work (Elsevier, n.d.-a). The use of artificial intelligence (AI) in academic writing is not without its privacy and security concerns, according to the company's warnings (Elsevier, n.d.-b). This is particularly true when researchers post their work to online platforms like ChatGPT.

Wiley and the editor engagement team held a webinar in March 2023 to discuss ways to safeguard journals from AI-generated content (AIGC) and other forms of systematic

manipulation of the publication process. How to identify and assess the usage of technologies like ChatGPT in submitted and published papers and manuscripts was one of the topics discussed in the debate. Such tools cannot be identified as authors according to Wiley's policy, which is specified in the authorship part of the best practices guidelines on research integrity and publishing ethics (Streeter, 2023). In addition, researchers must be clear about the disclosure of their use of such tools.

Bibliometric studies utilising Web of Science data have investigated AI publication patterns, suggesting an acknowledgement of the AI technology's interdisciplinary development, even though Web of Science has not made a direct statement regarding the usage of AI in academic research and publishing (Hajkowicz et al., 2023).

But according to Mariani et al. (2023), AI is being used at many levels in the literature, including issue exploration, problem selection, solution discovery, and solution selection. Research by Garbuio and Lin (2021) and Kakatkar et al. (2020) among others has demonstrated that AI may facilitate these various problem-solving and paradigm-discovery processes by removing mental roadblocks to original thought. There needs to be a greater push to incorporate AI into academic research to help with ideation and problem exploration in the early stages, as the majority of empirical studies have concentrated on AI's use during the solution selection phase for organisational problems (Mariani & Nambisan, 2021). Concerning the possible effects of AI on academic research, there has to be a lot of talk and information given to researchers so that they can offer the strong assistance that AI techniques may give to the influence and contribution of academic scientific research, and so remove the mystery from this field.

### **Artificial Intelligence and Literature Sourcing**

The capacity to efficiently and rapidly offer access to massive volumes of data is one of AI's key benefits. The capacity of AI to sort and rank data according to its relevance to individual enquiries is particularly important in the academic realm, where students frequently face information overload (Selwyn, 2019). By improving the quality of research findings, AI's predictive algorithms make academic literature acquisition more personalised by suggesting articles based on users' search history.

The ability of computers to comprehend, analyse, and produce human language is known as Natural Language Processing (NLP), and it is the foundation of many AI-powered scholarly resources (Huang et al., 2019). Machine learning systems can sift through mountains of academic literature in search of pertinent articles and extract important ideas using natural language processing (NLP).

Students will benefit from this since it streamlines the process of book reviews and information collection for school projects, tests, and assignments.

## **THEORETICAL FRAMEWORKS**

### **Technological Determinism**

Additionally, ethical considerations impact the use of AI for scholarly sources. Filter bubbles created by AI systems, particularly those that propose sources according to user preferences, might limit students' exposure to different perspectives. Use of artificial intelligence (AI) technologies, such as plagiarism detection software, in academic writing also begs the question of whether students are becoming too reliant on these tools to the point where they plagiarise or otherwise cheat.

Those who disagree with the idea that technology has an independent impact on how schools operate point out that technical variables do, in fact, interact with societal, economic, and political elements. Because of issues with infrastructure, digital literacy, and access to technology, this criticism is especially pertinent to Bayelsa State's usage of AI for academic sourcing.

## **METHODOLOGY**

This qualitative study used semi-structured interviews to explore students' perceptions of AI in academic literature acquisition. Niger Delta University, Federal University Otuoke, and Bayelsa Medical University were the three universities in Bayelsa State from which twenty (20) students were selected using a purposive sampling approach. This study's interviews focused on students' perspectives, experiences, and knowledge about AI technology as they pertained to their academic work. In order to identify commonalities and trends in the usage of AI for scholarly literature acquisition, the data was analysed using thematic analysis.

## **FINDINGS AND DISCUSSION**

### **Awareness and Understanding of AI Tools**

Grammarly, Google Scholar, Mendeley, and Zotero are examples of artificial intelligence (AI) services that most students were familiar with. However, they failed to grasp the inner workings of algorithms driven by artificial intelligence. Students had the view that AI technologies were fundamental to enhancing the quality of their research papers and making it easier to find academic resources. An individual expressed uncertainty about the

inner workings of Google Scholar, despite its usefulness in quickly locating reliable publications. Even when students use AI tools, there is often still a lack of understanding of the underlying technology (Zawacki-Richter et al., 2019). Their findings support this..

### **Utilization of AI Tools in Academic Literature**

#### **Acquisition**

The students reported utilising AI-powered platforms to seek for academic books, journals, and articles on a regular basis. Google Scholar held the top spot, with Microsoft Academic and other university databases following closely after. The time savings and ease of finding current, peer-reviewed information were two areas where many students praised AI technologies. According to one reply, "AI tools save me from having to spend hours in the library." Thanks to it, I can get what I need with minimal effort and a few clicks.

Additionally, the ability of AI tools to provide article and source suggestions derived on previous searches was recognised, leading to a more personalised research experience. A major benefit of AI in the classroom, according to Selwyn (2019), is the ability to tailor lessons to each individual student.

## **CONCLUSION**

When it comes to the information that university students in Bayelsa State get, artificial intelligence is playing an ever larger role. While kids benefit from AI's speed, efficacy, and customisation, there are still challenges with internet access, digital literacy, and ethical considerations. Investing in digital infrastructure, training staff on AI tools, and encouraging the ethical use of technology in scholarly research are all necessary for universities in Bayelsa State to fully fulfil the potential of AI in education.

## **RECOMMENDATIONS**

1. Upgrades to digital infrastructure and internet connectivity are necessary for Bayelsa State institutions to fully benefit from artificial intelligence.
2. Universities should institute formal training on how to employ AI technology in the classroom.
3. It is important for organisations to promote ethical conduct while using AI technologies, particularly when it comes to avoiding plagiarism and critically assessing sources.

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