

Predictors of University Lecturers' Intention-To-Adopt AI Tools for Research Output in Universities in Ondo State

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ABSTRACT: The integration of Artificial Intelligence (AI) into academic research has gained significant attention due to its potential to enhance research efficiency, data analysis, and scholarly productivity. This study examined university lecturers' intention to adopt AI tools for research in Ondo State, Nigeria, focusing on the influence of information literacy skills and institutional readiness. The study adopted a correlational survey research design, involving 345 lecturers randomly selected from three public universities, with one university chosen from each of the three senatorial districts. Data were collected using a self-developed questionnaire titled Lecturers' Intention-to-Adopt AI Tools for Research Questionnaire (LIATAIRQ). The instrument was validated by experts and achieved a reliability coefficient of 0.883 using the Cronbach Alpha technique. Data collected were analyzed using mean and standard deviation for research questions, while Pearson Product-Moment Correlation (PPMC) and multiple regression analysis were employed to test the hypotheses at a 0.05 significance level. The findings revealed a high level of lecturers' intention to adopt AI tools despite limited information literacy skills and low institutional readiness. A significant relationship was established between lecturers' information literacy skills and their intention to adopt AI tools, as well as between institutional readiness and AI adoption. The study calls for institutional investment in AI infrastructure and policy development.

KEYWORDS: Artificial Intelligence, AI Adoption, Information Literacy, Institutional Readiness, University Education, Research Productivity

INTRODUCTION

Research output encompasses the scholarly work produced by academics, including peer-reviewed articles, conference papers, books, and other forms of published research findings. It plays a pivotal role in academia by contributing to knowledge creation, dissemination, and innovation (Altbach & de Wit, 2020). Through rigorous research, lecturers generate new insights and solutions that advance their respective fields and address societal challenges. The dissemination of these findings not only enrich the global knowledge base but also fosters collaboration and further inquiry among scholars (Montgomery, 2021). Moreover, innovative dissemination methods, such as digital platforms and open-access publications, have enhanced the reach and impact of research outputs, making them more accessible to diverse audiences, particularly in developing countries where access to traditional journals is limited (Teferra, 2023).

Research output in higher education is a critical determinant of lecturers' professional advancement. Institutions often emphasize research performance in promotion and tenure evaluations, recognizing it as a measure of academic excellence and contribution to institutional development (Mohrman, Ma, & Baker, 2021). High-quality research enhances a lecturer's reputation, leading to career progression and increased opportunities within the academic community (Teferra, 2023). Furthermore, institutions with robust research outputs gain higher visibility and prestige, which can influence global rankings and attract research funding (Montgomery, 2021). Recent studies have highlighted a global trend where research performance is a key criterion in academic promotions (Altbach & de Wit, 2020).

Artificial Intelligence (AI) tools have become important in enhancing various facets of academic research. In data collection, AI algorithms facilitate the efficient gathering and processing of large datasets, enabling researchers to identify patterns and insights that might be overlooked through manual methods (Altbach & de Wit, 2020). For instance, AI-powered survey platforms can analyze respondent data in real-time, providing immediate feedback and trends analysis (Mohrman, Ma, & Baker, 2021). In data analysis, machine learning models assist in interpreting complex data structures, offering predictive analytics and uncovering correlations within vast datasets (Teferra, 2023). Regarding literature synthesis, AI tools like Litmaps aid researchers in staying updated with the latest publications by mapping out relevant studies and highlighting emerging trends in specific fields (Montgomery, 2021). In academic writing, applications such as Grammarly utilize AI to enhance grammar, style, and coherence,

ensuring clarity and precision in scholarly communication (Bamberger, Morris, & Yemini, 2019). Additionally, AI-driven plagiarism detection tools like Turnitin scan vast databases to ensure the originality of content, upholding academic integrity (de Wit & Altbach, 2021).

Globally, there is a significant uptick in the adoption of AI-driven tools within the research community. Platforms like ChatGPT have gained attention for their ability to generate human-like text, assisting in drafting and brainstorming academic content (Altbach & de Wit, 2020). Grammarly offers real-time grammar and style suggestions, aiding researchers in refining their manuscripts (Montgomery, 2021). Turnitin remains a staple for plagiarism detection, ensuring the authenticity of scholarly work (Mohrman, Ma, & Baker, 2021). Tools like Scite provide smart citations, helping researchers understand the context and reliability of references by showing how a paper has been cited by others (Teferra, 2023). AI-based statistical software, such as IBM's SPSS with AI enhancements, streamlines complex data analyses, making sophisticated statistical methods more accessible to researchers (Bamberger, Morris, & Yemini, 2019). These tools collectively contribute to a more efficient and rigorous research process, reinforcing the credibility and impact of academic publications (de Wit & Altbach, 2021).

The integration of AI into research workflows has markedly improved efficiency, quality, and innovation. By automating routine tasks, AI allows researchers to focus on more complex aspects of their studies, thereby reducing time constraints (Mohrman, Ma, & Baker, 2021). For example, AI can expedite the literature review process by quickly summarizing relevant studies, enabling researchers to identify pertinent information swiftly (Montgomery, 2021). In terms of quality, AI tools assist in maintaining high standards of academic writing and data analysis, minimizing human errors (Altbach & de Wit, 2020). Innovatively, AI opens new avenues for interdisciplinary research by providing tools that can handle diverse data types and analytical methods, fostering novel insights and discoveries (Teferra, 2023). As AI technology continues to evolve, its role in research is expected to expand, further transforming the landscape of academic inquiry (Bamberger, Morris, & Yemini, 2019).

The adoption of AI tools for research among university lecturers is hindered by several challenges, with technical skills gaps and digital literacy being major barriers. Many lecturers, especially those who were trained in traditional research methodologies, may struggle to integrate AI tools into their research processes due to limited proficiency in digital technologies (Altbach & de Wit, 2020). AI-driven research tools often require a basic understanding of programming, machine learning models, or data analytics, which many lecturers lack (Teferra, 2023). Studies have shown that insufficient digital literacy significantly affects technology adoption in higher education, limiting the potential benefits AI could bring to research productivity (Montgomery, 2021). Without adequate training and hands-on experience, lecturers may find it difficult to maximize the efficiency and analytical power of AI, thereby slowing its adoption in academic research (Mohrman, Ma, & Baker, 2021).

Another major challenge is the limited accessibility of AI tools due to high subscription costs and software availability. Many advanced AI-powered research tools, such as Scite, Turnitin, and AI-based statistical software, operate on premium subscription models that may be unaffordable for individual lecturers, especially in developing countries (Bamberger, Morris, & Yemini, 2019). Universities with limited research funding may not prioritize investing in expensive AI tools, leaving lecturers without institutional support to access these technologies (de Wit & Altbach, 2021). In many cases, free AI tools offer limited features, reducing their effectiveness in handling complex research tasks (Montgomery, 2021). The financial barrier to AI adoption disproportionately affects researchers in low-income institutions, further widening the gap in global research output (Teferra, 2023).

Information literacy skills refer to the ability to locate, evaluate, and effectively use information in various formats, particularly in digital environments. In the context of research, these skills enable lecturers to navigate AI-powered tools for literature searches, data analysis, and academic writing (Bruce, 2020). The rapid advancement of AI in research has made information literacy even more critical, as lecturers must not only access information but also assess the credibility of AI-generated content (Johnston & Webber, 2022). Proficiency in these skills determines how effectively lecturers can integrate AI into their research workflows, influencing the speed and efficiency of knowledge creation (Lloyd, 2021). Research has shown that academics with strong information literacy are more likely to adopt AI-driven tools such as Scite, Turnitin, and AI-based reference managers, as they can critically assess their reliability and relevance in academic settings (Bawden & Robinson, 2022).

Proficiency in digital research tools plays a crucial role in shaping lecturers' ability and willingness to adopt AI for research purposes. A study by Shenton and Pickard (2021) found that researchers who possess advanced digital skills are more confident in using AI for literature synthesis, plagiarism detection, and automated data analysis. Conversely, lecturers with low digital literacy may struggle to engage with AI, perceiving it as too complex or unreliable (Julien, Gross, & Latham, 2021). This digital divide impacts research efficiency, as AI-literate lecturers can automate repetitive tasks, improve citation management, and enhance the accuracy of their findings (Beetham & Sharpe, 2020). Institutions that invest in developing lecturers' information literacy and digital research skills are more likely to see increased AI adoption, leading to enhanced research output and academic competitiveness (Koltay, 2021).

Several studies have established a direct link between information literacy, digital competence, and AI adoption in higher education. For instance, Martin et al. (2022) demonstrated that researchers with strong digital competencies are more inclined to explore AI tools such as ChatGPT for academic writing and AI-powered statistical software for data interpretation. Similarly, Okada et al. (2021) emphasized that lecturers who undergo training in digital research tools exhibit a greater willingness to experiment with AI-

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based solutions. Universities that integrate AI literacy into faculty development programs enable lecturers to harness AI's potential for research, reducing apprehension and increasing adoption rates (Head et al., 2023). Therefore, strengthening lecturers' information literacy skills is not only a predictor of AI adoption but also a strategic move towards enhancing research quality and institutional innovation in academia.

Institutional readiness plays a crucial role in determining lecturers' willingness and ability to integrate AI tools into their academic activities. Universities with well-established ICT infrastructure, clear policy frameworks, and robust administrative support are more likely to witness increased AI adoption among lecturers (Abubakar & Ahmed, 2024).

The availability of these resources significantly enhances lecturers' ability to utilize AI for research, from data analysis to literature synthesis and academic writing. However, many Nigerian universities struggle with inadequate ICT facilities, limiting the seamless integration of AI technologies into research practices (Eke, 2024). A study by Okonkwo and Adegbite (2023) found that lecturers in public universities in Nigeria face significant constraints in accessing AI-powered research tools due to poor ICT infrastructure, thereby reducing their adoption rates. Addressing these infrastructural gaps is essential for fostering a conducive environment for AI-driven academic research.

Policy frameworks supporting AI-driven research innovations are another crucial aspect of institutional readiness. Recent studies indicate that universities with well-defined AI policies, ethical guidelines, and research incentives report higher AI adoption rates among academic staff (Ibrahim & Salisu, 2024).

Research by Nwosu and Adebayo (2024) highlights that universities that provide financial support for AI-related research, subscription-based AI tools, and capacity-building workshops foster a more AI-friendly research environment. However, in many Nigerian universities, the lack of funding for AI training and research incentives discourages lecturers from fully exploring AI's potential in academic research.

While some studies have examined the general use of digital technologies in higher education, few have specifically investigated the extent to which lecturers in Ondo State are willing and prepared to integrate AI tools into their research (Afolayan & Ojo, 2024). This gap in literature necessitates a detailed empirical investigation to understand the predictors of AI adoption among university lecturers in the state. Although some Nigerian studies have explored AI's potential in education, more focus on students' digital learning experiences rather than lecturers' research practices (Adegbite et al., 2023). Moreover, the few studies that address lecturers' use of AI tend to offer broad national perspectives without specific attention to state-level variations in institutional readiness, digital literacy, and attitudinal factors influencing its adoption (Ogunleye, 2024). Given the disparities in ICT infrastructure, administrative support, and policy frameworks across different Nigerian universities, a focused study on Ondo State will provide a pronounced understanding of the challenges and facilitators of AI adoption among lecturers in this region.

Statement of the Problem

The global adoption of Artificial Intelligence (AI) in academic research has transformed knowledge production, data analysis, and scholarly writing. AI-powered tools such as ChatGPT, Grammarly, Turnitin, and AI-based statistical software are enhancing research efficiency and output quality. However, AI adoption among university lecturers in Nigeria, particularly in Ondo State, remains inconsistent. While some lecturers utilize AI for research, many face challenges such as limited digital literacy, lack of institutional support, and high subscription costs (Afolayan & Ojo, 2024). The extent to which these factors influence AI adoption among lecturers in Ondo State remains unclear. Existing research on technology adoption in Nigerian universities has largely focused on ICT integration and digital tools for teaching, with little attention to AI adoption for research purposes (Adegbite et al., 2023; Ogunleye, 2024).

This study therefore aims to fill this gap by examining the key predictors of AI adoption among university lecturers in Ondo State, focusing on information literacy skills and institutional readiness. Findings from this study will provide insights for policymakers and university administrators to develop strategies that enhance AI adoption for improved research productivity.

Objectives of the study

The following are the objectives of the study;

- i. examine the lecturers' intention-to-adopt AI tools for research output in tertiary institutions in Ondo State
- ii. assess the level of information literacy skills among university lecturers in Ondo State.
- iii. evaluate the level of institutional readiness for adopting AI tools for research output in Ondo State.
- iv. examine the relationship between lecturers' information literacy skills and intention-to-adopt AI for research output.
- v. determine the relationship between institutional readiness and lecturers' intention-to-adopt AI for research output
- vi. investigate the contribution of information literacy skills and institutional readiness to lecturers' intention-to-adopt AI tools for research output.

RESEARCH QUESTIONS

The following research questions were raised and answered in this study;

1. What is the level of lecturers' intention-to-adopt AI tools for research output in tertiary institutions in Ondo State?

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2. What is the level of information literacy skills among university lecturers in Ondo State?
3. To what extent are the institutions ready to adopt AI tools for research output in tertiary institutions in Ondo State?

Research Hypotheses

- H₀₁:** There is no significant relationship between lecturers' information literacy skills and their intention-to-adopt AI tools for research output.
- H₀₂:** There is no significantly relationship between institutional readiness and lecturers' intention-to-adopt AI tools for research output
- H₀₃:** Information literacy skills and institutional readiness do not significantly contribute to lecturers' intention to adopt AI tools for research output.

METHODOLOGY

The study adopted a correlational survey research design to explore the predictors of university lecturers' intention to adopt AI tools for research output in tertiary institutions in Ondo State. A total of 345 lecturers were randomly selected from three public universities in Ondo State, with 115 lecturers chosen from each university. One university was randomly selected from each of the three senatorial districts: Ondo South, Ondo Central, and Ondo North. A self-developed questionnaire titled "Lecturers' Intention-to-Adopt AI Tools for Research Questionnaire (LIATAIRQ)" was used for data collection. The instrument was divided into four sections as follows: Section A: Demographic information, including gender, institution, and academic rank. Section B: Ten items measuring lecturers' intention to adopt AI tools for research output. Section C: Ten items assessing lecturers' information literacy skills related to AI adoption. Section D: Ten items evaluating institutional readiness for adopting AI tools in tertiary institutions. A 4-point Likert Scale response format was used: Strongly Agree (SA = 4), Agree (A = 3), Disagree (D = 2), and Strongly Disagree (SD = 1). The questionnaire underwent face and content validation by two experts in Educational Technology and Research Methods from the Department of Educational Foundations and Counseling at Adeyemi Federal University of Education, Ondo, to ensure its clarity, relevance, and appropriateness. The reliability of the instrument was determined using the Cronbach Alpha technique, yielding a reliability coefficient of 0.883, which was considered satisfactory for the study. Data collected were analyzed using mean and standard deviation to answer the research questions, while the Pearson Product-Moment Correlation (PPMC) and multiple regression analysis were employed to test the hypotheses at a 0.05 level of significance.

RESULTS

Research Question1: What is the level of lecturers' intention-to-adopt AI tools for research output in tertiary institutions in Ondo State?

Table 1 Lecturers' Intention-to-Adopt AI Tools for Research Output

Item	SA	A	D	SD	Mean	Std. D
I am willing to adopt AI tools for research purposes.	191	106	38	10	3.39	.79
I believe AI tools can enhance my research productivity.	91	161	75	18	2.94	.83
I plan to integrate AI tools into my research workflow.	105	84	101	55	2.69	1.07
AI adoption will improve the quality of my research output.	125	107	89	24	2.97	.95
I am confident in my ability to use AI tools for research.	125	114	79	27	2.98	.95
AI tools can help in literature review and data analysis.	180	89	58	18	3.25	.92
I intend to use AI tools for research collaborations.	147	105	69	24	3.09	.95
The use of AI tools aligns with my research goals.	159	73	103	10	3.10	.93
I am motivated to learn more about AI tools for research.	120	86	89	50	2.80	1.07
I will recommend AI tools to my colleagues for research purposes.	87	133	104	21	2.83	.88
Weighted Average					3.01	

Key; SD = Strongly Disagree, D = Disagree, A = Agree, SA = Strongly Agree

Decision Value:Low =0.00-2.49, High = 2.50-4.00

Table 1 presents the level of lecturers' intention-to-adopt AI tools for research output in tertiary institutions in Ondo State. The findings indicate that lecturers strongly agreed with several statements regarding their willingness and motivation to adopt AI tools. They particularly agreed that they are willing to adopt AI tools for research purposes ($\bar{x} = 3.39$), AI tools can help in literature review and data analysis ($\bar{x} = 3.25$), they intend to use AI tools for research collaborations ($\bar{x} = 3.09$), and the use of AI tools aligns with their research goals ($\bar{x} = 3.10$). Furthermore, lecturers acknowledged that AI adoption will improve the quality of their research output ($\bar{x} = 2.97$) and expressed confidence in their ability to use AI tools for research ($\bar{x} = 2.98$). Furthermore, the lecturers showed moderate agreement regarding their belief that AI tools can enhance their research productivity ($\bar{x} = 2.94$), their motivation to learn more about AI tools for research ($\bar{x} = 2.80$), and their willingness to recommend AI tools to colleagues for research purposes ($\bar{x} =$

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2.83). Additionally, the lowest mean score was recorded for lecturers' plans to integrate AI tools into their research workflow ($\bar{x}$ = 2.69). Based on the weighted average of 3.01, which falls within the decision value for high intention (2.50–4.00), it can be inferred that lecturers in tertiary institutions in Ondo State generally exhibit a high level of intention to adopt AI tools for research output.

Research Question2: What is the level of information literacy skills among university lecturers in Ondo State?

Table 2 Lecturers' Information Literacy Skills Related to AI Adoption

Item	SA	A	D	SD	Mean	Std. D
I can identify relevant AI tools for my research.	189	107	31	18	3.35	.85
I have the ability to evaluate the credibility of AI-generated content.	21	56	130	138	1.88	.89
I can integrate AI tools into my research workflow effectively.	34	93	103	115	2.13	.99
I understand how AI tools process and analyze research data.	50	29	129	137	1.97	1.03
I can interpret and validate AI-generated research results.	59	65	103	118	2.19	1.09
I can use AI tools to manage and organize research references.	192	104	39	10	3.39	.79
I am proficient in handling ethical concerns related to AI in research.	20	73	158	94	2.06	.85
I have undergone training on AI tools for research purposes.	54	99	85	107	2.29	1.07
I frequently explore new AI tools to improve my research.	25	88	108	124	2.04	.95
My level of information literacy skills supports AI adoption in research.	29	78	114	124	2.03	.96
Weighted Average					2.33	

Key; SD = Strongly Disagree, D = Disagree, A = Agree, SA = Strongly Agree

Decision Value: Low = 0.00–2.49, High = 2.50–4.00

Table 2 presents the level of lecturers' information literacy skills related to AI adoption in tertiary institutions in Ondo State. The results indicate that lecturers demonstrated proficiency in some aspects of information literacy, particularly in identifying relevant AI tools for research ($\bar{x}$ = 3.35) and using AI tools to manage and organize research references ($\bar{x}$ = 3.39). However, the results show lower mean scores for most other aspects of information literacy. Lecturers reported limited ability to evaluate the credibility of AI-generated content ($\bar{x}$ = 1.88) and had a relatively low understanding of how AI tools process and analyze research data ($\bar{x}$ = 1.97). Similarly, their capacity to integrate AI tools into their research workflow effectively ($\bar{x}$ = 2.13) and interpret and validate AI-generated research results ($\bar{x}$ = 2.19) was also low. Additionally, proficiency in handling ethical concerns related to AI in research ($\bar{x}$ = 2.06) and exploring new AI tools for research improvement ($\bar{x}$ = 2.04) was found to be weak. Furthermore, the findings suggest that training on AI tools for research purposes is limited ($\bar{x}$ = 2.29), likewise, lecturers' overall perception of their information literacy skills supporting AI adoption in research was also low ($\bar{x}$ = 2.03). Based on the weighted average of 2.33, which falls within the decision value for low literacy (0.00–2.49), it can be inferred that the level of information literacy skills among university lecturers in Ondo State is generally low.

Research Question3: What is the level of institutional readiness for adopting AI tools for research output in tertiary institutions in Ondo State?

Table 3 Lecturers' Institutional Readiness for AI Adoption

Item	SA	A	D	SD	Mean	Std. D
My institution provides access to AI tools for research.	20	58	85	182	1.76	.93
There is institutional support for AI training programs.	25	68	108	144	1.92	.95
My institution encourages the integration of AI in research.	10	104	74	157	1.90	.93
Adequate funding is provided for AI-based research initiatives.	49	88	89	119	2.19	1.06
AI-related policies and guidelines are available in my institution.	20	102	134	89	2.15	.87
My institution collaborates with AI research organizations.	20	30	105	190	1.65	.87
AI tools are incorporated into research infrastructure.	20	54	133	138	1.87	.88
There is a culture of innovation supporting AI adoption.	35	89	103	118	2.12	.99
My institution offers AI workshops and seminars.	49	30	129	137	1.97	1.03
Institutional readiness positively influences AI adoption among lecturers.	60	64	104	117	2.19	1.09
Weighted Average					1.97	

Key; SD = Strongly Disagree, D = Disagree, A = Agree, SA = Strongly Agree

Decision Value: Low = 0.00–2.49, High = 2.50–4.00

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Table 3 presents the level of institutional readiness for adopting AI tools for research output in tertiary institutions in Ondo State. The findings reveal that institutional support for AI adoption is generally low across various dimensions. The majority of lecturers disagreed that their institutions provide access to AI tools for research ($\bar{x} = 1.76$), support AI training programs ($\bar{x} = 1.92$), or encourage the integration of AI in research ($\bar{x} = 1.90$). Similarly, lecturers indicated that AI tools are not well incorporated into research infrastructure ($\bar{x} = 1.87$) and that institutional collaborations with AI research organizations are minimal ($\bar{x} = 1.65$).

Additionally, respondents reported inadequate funding for AI-based research initiatives ($\bar{x} = 2.19$) and lack of clear AI-related policies and guidelines within their institutions ($\bar{x} = 2.15$). The culture of innovation supporting AI adoption was also perceived as weak ($\bar{x} = 2.12$), with limited AI workshops and seminars being offered ($\bar{x} = 1.97$). Furthermore, lecturers expressed skepticism about institutional readiness to positively influence AI adoption ($\bar{x} = 2.19$). With a weighted average of 1.97, which falls within the decision value for low readiness (0.00-2.49). It can be inferred that tertiary institutions in Ondo State are not adequately prepared for AI adoption in research.

Hypothesis Testing

Hypothesis One: There is no significant relationship between lecturers' information literacy skills and intention to adopt AI tools for research output.

Table 4 Summary of Pearson Product Moment Correlation Showing Relationship between Lecturers' Information Literacy Skills and Intention-to-Adopt AI Tools for Research Output

Variable	Mean	Std. D	N	r	Sig(p)	Remark
Information Literacy Skills	23.34	3.64	345	-.513	.001	Significant
Intention-to-Adopt	30.03	6.59				

Table 4 presents the Pearson Product Moment Correlation analysis examining the relationship between lecturers' information literacy skills and their intention to adopt AI tools for research output. The results indicate a negative and low correlation between the two variables ($r = -0.513$, $p = 0.001$). Hence, hypothesis 1 was not rejected.

Hypothesis Two: There is no significantly relationship between Institutional readiness and lecturers' intention-to-adopt AI tools for research output.

Table 5 Summary of Pearson Product Moment Correlation Showing Relationship between Institutional Readiness and Lecturers' Intention-to-Adopt AI Tools for Research Output

Variable	Mean	Std. D	N	r	Sig(p)	Remark
Institutional Readiness	19.75	6.09	345	-.204	.001	Significant
Intention-to-Adopt	30.03	6.59				

Table 4 presents the Pearson Product Moment Correlation analysis examining the relationship between institutional readiness and lecturers' intention to adopt AI tools for research output. The results reveal a negative and significant correlation between the two variables ($r = -0.204$, $p = 0.001$). Hence, hypothesis 2 was rejected.

Hypothesis Three: Information literacy skills and institutional readiness do not significantly contribute to lecturers' intention to adopt AI tools for research output.

Table 6 Summary of Linear Multiple Regression showing Joint Contribution of Information Literacy Skills and Institutional Readiness to Lecturers' Intention to Adopt AI Tools

R = .537						
R Square = .288						
Adjusted R Square = .284						
Standard Error of the Estimate = 5.57645						
Analysis of Variance						
Model	Sum of Squares	df	Mean Square	F	Sig.	Remark
Regression	4301.562	2	2150.781	69.164	.001	Significant
Residual	10635.087	342	31.097			
Total	14936.649	344				

Dependent Variable = Intention-to-Adopt AI Tools

Independent Variables = Information Literacy Skills and Institutional Readiness

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The multiple linear regression analysis in Table 6 assesses the joint contribution of information literacy skills and institutional readiness to lecturers' intention to adopt AI tools for research output. The model yielded an R-value of 0.537. The R^2 value of 0.288 suggests that 28.8% of the variance in lecturers' intention to adopt AI tools is explained by information literacy skills and institutional readiness. The remaining 71.2% is due to other factors not considered in this study. The ANOVA results reveal that the regression model is statistically significant ($F_{(2,342)} = 69.164$; $p < 0.05$). Hence, hypothesis 3 was rejected.

DISCUSSION

The study revealed that university lecturers in Ondo State have a high level of intention to adopt AI tools for research purposes. This finding aligns with recent studies that suggest academics increasingly recognize the potential of AI to enhance research efficiency, data analysis, and scholarly productivity (Zawacki-Richter et al., 2019; Lin & Lin, 2022). AI-driven tools, such as automated literature reviews, predictive analytics, and natural language processing applications, are transforming research methodologies (Yang & Evans, 2021). However, despite the willingness to adopt AI tools, actual implementation may be hindered by skill gaps and institutional constraints, as evidenced by other findings in this study.

The study found that the level of information literacy skills among university lecturers in Ondo State was low, indicating a gap in their ability to effectively engage with AI tools in research. Information literacy skills, particularly in evaluating AI-generated content, integrating AI into workflows, and managing ethical concerns, are critical for effective AI adoption (Mishra et al., 2022). Studies have shown that researchers with high digital and information literacy skills are more likely to adopt AI tools effectively (Luckin et al., 2020). The lack of adequate training and exposure to AI tools may be responsible for the low level of information literacy skills among lecturers, necessitating targeted interventions such as professional development programs (Al-Emran et al., 2023).

The findings also indicate that institutional readiness for AI adoption in tertiary institutions in Ondo State was low. Institutional readiness encompasses the availability of AI tools, training programs, funding, policies, and infrastructure that facilitate AI adoption (Goksel & Bozkurt, 2019). The lack of access to AI tools, insufficient training, and inadequate policies suggest that universities may not be fully equipped to support lecturers in leveraging AI for research. The absence of structured support may thus limit the practical use of AI tools, despite high adoption intentions.

A significant relationship was found between lecturers' information literacy skills and their intention to adopt AI tools. This result is consistent with prior studies emphasizing that researchers with high digital competencies are more likely to integrate AI into their academic activities (Chin et al., 2022). The ability to identify relevant AI tools, evaluate AI-generated outputs, and ethically implement AI in research are all crucial competencies for successful AI adoption (Ferguson et al., 2021). The study also found a significant relationship between institutional readiness and lecturers' intention to adopt AI tools. This finding suggests that the universities play a critical role in shaping AI adoption by providing necessary resources, policies, and incentives (Tang et al., 2021). Research indicates that institutions with clear AI strategies, access to AI-powered research tools, and training programs tend to have higher faculty engagement with AI technologies (Tondeur et al., 2019). The low institutional readiness observed in this study may hinder AI adoption, as faculty members often rely on institutional support to navigate new technologies (Almarashdeh, 2022).

The regression analysis confirmed that both information literacy skills and institutional readiness significantly contribute to lecturers' intention to adopt AI tools. This aligns with the Technology Acceptance Model (TAM), which posits that both individual competence and external support systems influence technology adoption (Davis, 1989). The findings also agreed with Hinojo-Lucena et al., 2019 that when institutions invest in AI training and infrastructure, and when faculty members develop strong digital literacy skills, AI adoption rates increase significantly. Thus, efforts to improve AI adoption should simultaneously target both individual skill development and institutional preparedness (Bates et al., 2020).

CONCLUSION

This study examined the predictors of university lecturers' intention to adopt AI tools for research output in tertiary institutions in Ondo State. The findings revealed that while lecturers exhibit a high level of intention to adopt AI tools, their information literacy skills remain low, and institutional readiness for AI adoption was insufficient. The study further established significant relationships between information literacy skills, institutional readiness, lecturers' intention to adopt AI tools. Regression analysis confirmed that these factors jointly contribute to AI adoption intentions. These findings suggest that enhancing lecturers' digital and AI literacy skills, along with improving institutional AI readiness, will facilitate the effective integration of AI in academic research.

RECOMMENDATIONS

Based on the findings and implication of this study, the following recommendations were made:

1. Universities should implement targeted AI literacy programs to equip lecturers with the skills necessary for AI adoption.
2. Tertiary institutions should develop and implement AI-related policies that support responsible and effective AI adoption in research.

3. Universities should allocate educational funding for AI tools and research projects, encourage grant applications and funding opportunities for AI-related research.
4. Universities should regularly update lecturers on AI trends, best practices, and new research tools through AI-focused webinars, seminars, and professional development programs.

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