

# Undergraduate Students' Awareness and Utilisation of Artificial Intelligence Tools for Learning in Katsina State, Nigeria

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## ABSTRACT

This study investigated undergraduate students' awareness and utilization of artificial intelligence (AI) tools for learning in Katsina State, Nigeria. Utilizing a descriptive survey research design, the study targeted a population of 59,780 undergraduate students across three universities, from which a sample of 382 students (251 males and 131 females) was selected via proportionate sampling. Data were collected using a structured instrument adapted from Adebayo et al. (2021), validated through expert panel review, and established as reliable ( $\alpha = 0.83$ ). Descriptive statistics (frequencies and percentages) answered the research questions, whereas independent samples *t*-tests evaluated the null hypotheses at the  $\alpha = 0.05$  significance level. The empirical results demonstrated that a substantial majority of undergraduates lack awareness of educational AI tools (75.1%) and do not utilize them for academic purposes (80.5%). Furthermore, inferential analysis revealed no statistically significant differences between male and female students regarding awareness ( $t(380) = 0.877$ ,  $p = 0.401$ ) or utilization ( $t(380) = 0.499$ ,  $p = 0.508$ ). These findings indicate uniform baseline competencies across genders, thereby refuting traditional assumptions within Gender Schema Theory that code advanced computing as a predominantly masculine domain. The study concludes that the primary impediments to AI adoption in higher education are institutional and structural rather than gender-dependent. Consequently, it is recommended that university administrators establish deliberate digital literacy programs, institutional stakeholders strengthen computing and internet infrastructure, and educational policymakers adopt gender-neutral guidelines for implementing educational technologies.

**Keywords:** Artificial Intelligence, Awareness, Utilization, undergraduate students

## INTRODUCTION

Artificial Intelligence (AI) stands as a primary catalyst of 21st-century innovation, fundamentally altering diverse areas of human endeavor. Broadly understood as the simulation of human cognitive processes in machines capable of autonomous learning and reasoning, AI has expanded rapidly due to exponential growth in computational capacity and data analytics (Russell & Norvig, 2020). Within the educational sphere, AI emerges as a dynamic mechanism capable of transforming pedagogical structures and social interactions; consequently, various AI-driven instructional frameworks are being tested globally to prepare learners for an increasingly automated future (Pedro et al., 2019).

Globally, the educational sector is shifting away from rigid, teacher-centered paradigms toward agile, personalized, and data-informed learning environments powered by AI. This transition is critical for tertiary institutions, where AI applications can manage complex instructional demands and heighten student engagement through interactive, analytical tools. Deploying modern systems such as intelligent tutoring systems (ITS) and automated grading instruments presents a strategic opportunity to bridge persistent pedagogical gaps by facilitating customized learning trajectories and real-time feedback (Holmes et al., 2019).

In Nigeria, however, the integration of advanced technologies like AI within education remains in its infancy, constrained by systemic deficits in digital literacy, infrastructural capacity, and institutional policy. As Popenici and Kerr (2017) note, higher education presents a distinct set of learning challenges for students, particularly as the capacity to leverage AI solutions fundamentally restructures the learning process. Meanwhile, the Nigerian educational landscape is frequently impeded by congested classrooms, deficit learning resources, and uneven technological access (Okebukola, 2020). To bypass these institutional bottlenecks, current implementations of AI e-learning models in Nigerian tertiary institutions predominantly center around collaborative learning architectures. This tech-driven paradigm aligns with the educational milestones outlined in the nation's strategic development plans, which mirror international goals by emphasizing the systematic adoption of Information and Communication Technology (ICT) and AI in education.

Cultivating awareness of AI tools among university undergraduates is a foundational prerequisite for successful adoption. Prior research indicates that students' conceptual knowledge of emerging technologies directly dictates their willingness to integrate these digital tools into educational practices (Scherer et al., 2020). Within the Nigerian context, minimal exposure to advanced computing resources and a scarcity of professional development frameworks often restrict undergraduate awareness of AI's instructional utility (Okebukola, 2020). Additionally, Ikedinachi et al. (2019) established that student awareness of and access to these tools represent critical long-term outcomes driven by the increasing proliferation of AI devices designed for educational purposes.

Higher education in Nigeria is currently transitioning from analog architectures to digital infrastructures, with AI serving as a cornerstone of this migration. Evidence suggests that digital familiarity is growing, with students showing awareness and readiness to adopt AI-supported learning environments even at the secondary school level (Adelana & Akinyemi, 2021). Furthermore, given that the majority of Nigerian universities already utilize social media and web-based platforms, leveraging students' inherent willingness to use AI necessitates the intentional design and deployment of these systems in tertiary institutions.

Conversely, a critical empirical contradiction exists: Alimi et al. (2021) established that a significant proportion of university students still lack adequate awareness of, and access to, AI utilities, leaving them under-skilled and digitally compromised in their academic tasks. This deficit largely stems from a lack of institutional professional development and limited exposure to international benchmarks in the use of technology for teaching and learning. Without sufficient cognitive awareness of these tools, undergraduates cannot effectively exploit AI for learning, thereby limiting their capacity to navigate the highly competitive, technology-driven workforce that awaits them after graduation.

Nevertheless, the trajectory of higher education remains explicitly tied to the evolution of smart machines and next-generation computing capacities. The rapid development of educational AI applications is radically altering the core delivery of higher education services. For instance, Shehu et al. (2023) observed that pre-service teachers in Northwestern Nigeria displayed highly receptive attitudes toward utilizing web-based technologies for language learning within online spaces. Because AI fundamentally dictates how individuals interface with and navigate the digital landscape, its systemic influence will inevitably accelerate in the coming years.

Beyond technological sophistication, the relevance of educational AI lies in its potential to advance equity and social inclusion. In many regions of Nigeria, geographic isolation, socioeconomic imbalances, and gender disparities severely restrict access to quality schooling. AI-driven interventions, such as adaptive learning platforms, offer a viable pathway to democratize educational access across physical and financial divides. For example, an AI platform explicitly mapped to the Nigerian curriculum could deliver bespoke learning resources to students in underserved, remote communities, allowing them to engage in self-paced learning and receive immediate evaluative feedback (Kintu et al., 2017).

Underpinning these dynamics of equity and technological adoption is Gender Schema Theory (Bem, 1981), which provides a robust psychological framework for understanding how undergraduate students perceive and interface with emerging technologies. Gender Schema Theory posits that individuals process information and guide their behavior based on socially ingrained definitions of masculinity and femininity. In the context of

educational technology, advanced computing and artificial intelligence have historically and culturally been coded as masculine domains (Adam, 2006). Similarly, Zawacki-Richter et al. (2019) reported that student gender significantly impacts perceptions of AI learning systems. However, a contrasting view by Bede et al. (2023) established that both male and female students can exhibit equally positive attitudes toward innovative technology. By filtering AI through these internalized gender schemas, students may exhibit varying degrees of technological anxiety or utilization. Therefore, examining AI awareness and utilization among undergraduate students requires an understanding of how gender socialization influences a student's cognitive decision to adopt or bypass modern educational tools.

Furthermore, despite the clear pedagogical promises of AI, its implementation introduces severe ethical and logistical dilemmas. Issues surrounding data privacy, algorithmic biases, and the magnification of the digital divide present substantial hurdles to equitable and responsible deployment. This situation is further exacerbated in Nigeria by the absence of a comprehensive national policy framework governing AI integration in education, creating deep operational ambiguities for institutional stakeholders. Mitigating these multi-layered challenges demands a synchronized effort from educators, technology developers, and policymakers to formulate standardized implementation guidelines. Consequently, to address these gaps in literature and practice, this study investigates university undergraduate students' awareness and utilization of artificial intelligence tools for learning in Katsina State, Nigeria.

## Research Objectives

1. To examine the level of awareness among undergraduate students regarding Artificial Intelligence (AI) tools for learning.
2. To determine if undergraduate students' level of awareness of AI learning tools differs based on gender.
3. To assess the extent to which undergraduate students utilize Artificial Intelligence tools for learning purposes.
4. To evaluate the extent of undergraduate students' utilization of AI learning tools based on gender.

## Research Questions

1. What is the level of undergraduate students' awareness of Artificial Intelligence (AI) tools for learning?
2. To what extent do undergraduate students utilize Artificial Intelligence tools for learning purposes?

## Research hypotheses

**HO<sub>1</sub>:** there is no significant differences between male and female undergraduate students' awareness of the use of artificial intelligence tools for learning

**HO<sub>1</sub>:** there is no significant differences between male and female undergraduate students' level of utilization of artificial intelligence tools for learning

## METHODOLOGY

A descriptive survey research design was adopted for the study. The target population of this study is fifty-nine thousand seven hundred and eighty 59,780 undergraduates from Universities in Katsina State, Nigeria.

**Table:1: Population of undergraduates Students in Universities of Katsina State**

| S/N                | University                            | Number of Undergraduate Students |              |               |              |               |
|--------------------|---------------------------------------|----------------------------------|--------------|---------------|--------------|---------------|
|                    |                                       | Male                             | (%)          | Female        | (%)          | Total         |
| 1                  | Federal University Dutsinma           | 19,384                           | 63.80        | 11,000        | 36.20        | 30,384        |
| 2                  | Umaru Musa Yaradua University Katsina | 16,861                           | 67.48        | 8,127         | 32.52        | 24,988        |
| 3                  | Alqalam University Katsina            | 3,011                            | 68.31        | 1,397         | 31.69        | 4,408         |
| <b>Grand Total</b> |                                       | <b>39,256</b>                    | <b>66.53</b> | <b>20,524</b> | <b>33.47</b> | <b>59,780</b> |

**Source: Universities' MIS (2026)**

As presented in Table 1, the total target population for this study comprises fifty-nine thousand seven hundred and eighty (59,780) undergraduate students across three selected tertiary institutions in Katsina State. Federal University Dutsinma accounts for the largest proportion of the population with thirty thousand three hundred and eighty-four (30,384) undergraduate students, followed closely by Umaru Musa Yaradua University, Katsina with twenty-four thousand, nine hundred and eighty-eight (24,988) undergraduate students. Alqalam University, Katsina represents the smallest institutional cohort with four thousand, four hundred and eight (4,408) undergraduate students.

With respect to gender distribution across the entire study population, male undergraduate students constitute the majority, amounting to thirty-nine thousand two hundred and fifty-six (39,256, 65.67%), while female undergraduate students were twenty thousand five hundred and twenty-four (20,524, 34.33%). This pattern of male majority is consistently observed within each individual institution. Alqalam University, Katsina exhibits the highest proportion of male enrollment with (68.31%), followed by Umaru Musa Yaradua University, Katsina with (67.48%), and Federal University Dutsinma recording (63.80%). Conversely, the highest institutional proportion of female undergraduates is found at Federal University Dutsinma with (36.20%).

### Sample and Sampling Technique

The sample of this study is three hundred and eighty-two (382) undergraduate students from three Universities in Katsina State, Nigeria. The Universities are: Federal University Dutsinma, Umaru Musa Yaradua University Katsina and Alqalam University Katsina. To determine representative sample size for this study, Research Advisors (2006) sample size determination table was used. The selection framework was guided by a 95% confidence level and a default 5.0% margin of error (degree of accuracy). Proportionate sampling technique was used in determining the sample size of male and female undergraduate students across the three universities.

**Table: 2: Distribution of Sample from the Population of Undergraduates in Universities of Katsina State**

| S/N                               | University                            | Number of Undergraduate Students |                     |            |
|-----------------------------------|---------------------------------------|----------------------------------|---------------------|------------|
|                                   |                                       | Male Sample frame                | Female Sample frame | Total      |
| 1                                 | Federal University Dutsinma           | 124                              | 70                  | 194        |
| 2                                 | Umaru Musa Yaradua University Katsina | 108                              | 52                  | 160        |
| 3                                 | Alqalam University Katsina            | 19                               | 09                  | 28         |
| <b>Grand Total and Percentage</b> |                                       | <b>251 (66%)</b>                 | <b>131 (34%)</b>    | <b>382</b> |

The corresponding sample distribution drawn from the target population is detailed in Table 2. Out of the total population, a sample frame of three hundred and eighty-two (382) undergraduate students was selected across the tertiary institutions. Federal University Dutsinma had a sample of one hundred and ninety-four (194) undergraduate students with Umaru Musa Yaradua University, Katsina having one hundred and sixty (160) undergraduate students. The remaining portion of the sample was drawn from Alqalam University, Katsina, with twenty-eight (28) respondents. In terms of gender stratification within the sample, male undergraduate students comprised of two hundred and fifty-one (251, 66%) of the total sampled participants, while female undergraduate students accounted for one hundred and thirty-one (131, 34%) participants.

The instrument for data collection was adapted from Adebayo, et al., (2021), and subjected to pilot test. The instrument was validated by three experts from the Educational Technology at Ahmadu Bello University Zaria, Nigeria. The comment and suggestions by experts, prompt modifications of the items in the questionnaire. All the items in the questionnaire were judged to be relevant to what is being measured thereby ensuring adequate face and content validity of the instrument. The instrument was subjected to a pilot test at Federal University Daura to ensure its reliability and a reliability index of 0.83 was obtained using Cronbach alpha. Descriptive statistics using mean and percentage was used in answering the research questions while t-test independent sample was used in testing the hypotheses.

## RESULTS

**Research Question 1:** What is the level of undergraduate students' awareness of Artificial Intelligence (AI) tools for learning?

**Table 3:** Undergraduate students' awareness of artificial intelligence tools for learning

| S/N | Items                   | Aware Freq. (%)   | Not Aware Freq. (%) |
|-----|-------------------------|-------------------|---------------------|
| 1   | Gemini                  | 97 (25.3)         | 285 (74.7)          |
| 2   | Astra                   | 59 (15.3)         | 323 (84.7)          |
| 3   | Alexa                   | 69 (18)           | 313 (82)            |
| 4   | Siri                    | 66 (17.3)         | 316 (82.7)          |
| 5   | ChatGPT                 | 252 (66)          | 130 (66)            |
| 6   | Lisa                    | 51 (13.3)         | 331 (86.7)          |
| 7   | Replica                 | 79 (20.7)         | 303 (79.3)          |
| 8   | Tetra                   | 84 (22)           | 298 (78)            |
| 9   | ELSA                    | 89 (23.3)         | 293 (76.7)          |
| 10  | Duolingo                | 107 (28)          | 275 (72)            |
|     | <b>Cumulative Total</b> | <b>953 (24.9)</b> | <b>2,867 (75.1)</b> |

**Benchmark Decision Percentage = 50.0%**

The empirical data presented in Table 3 illustrates the baseline awareness levels of undergraduate respondents regarding 10 distinct Artificial Intelligence (AI) tools. The cumulative indices show that a pronounced majority of total responses indicated a lack of awareness with Cumulative total of 2,867 representing 75.01%, compared to approximately one quarter of responses that confirmed familiarity with these applications with cumulative total of 953 representing 24.9% of the total responses. This overarching trend indicates that the level of undergraduate students' awareness of functional AI tools remains relatively low within the surveyed population.

However, a close look at the breakdown reveals a sharp divergence in the awareness level of the respondents for specific AI tools. Notably, ChatGPT emerged as the single most recognized tool, with a clear majority of undergraduates (252, 66%) indicating awareness of the AI tool. The language-learning platform Duolingo followed as the second most recognized utility with (107, 28%), while Google's Gemini was ranked third with (97, 25.3%).

Meanwhile, the lowest thresholds of awareness were observed for specialized or mobile assistant technologies. The application Lisa recorded the highest rate of obscurity, with (331, 86.7%) reporting non-awareness, followed closely by Astra with (323, 84.7%) and Apple's Siri recorded (316, 82.7%) indicating lack of awareness of the artificial intelligence tool. These metrics reveal that while conversational, generative text engines artificial intelligence tools like ChatGPT have successfully penetrated the academic consciousness of the undergraduate students, broader operational, customized, or instructional AI applications have yet to gain substantial awareness among undergraduate students. Meanwhile, the cumulative total percentage point scale of 75.1% which is greater than the benchmark of 50.0% indicated that the majority of the university students are not aware of Artificial intelligence tools for learning.

**Research Question 2:** To what extent do undergraduate students utilize Artificial Intelligence tools for learning purposes?

**Table 4:** Undergraduate students' utilisation of artificial intelligence tools for learning

| S/N | Items                                                                | Utilize Freq. (%)   | Not Utilize Freq. (%) |
|-----|----------------------------------------------------------------------|---------------------|-----------------------|
| 1   | I use Gemini study mode to learn on my own                           | 89 (23.3)           | 293 (76.7)            |
| 2   | I use Gemini to do my assignments                                    | 97 (25.3)           | 285 (78.7)            |
| 3   | I use Alexa to create to-do list                                     | 66 (17.3)           | 316 (82.7)            |
| 4   | I use Alexa to convert speech to text                                | 58 (15.3)           | 324 (84.7)            |
| 5   | I use Siri to create to-do list                                      | 66 (17.3)           | 316 (82.7)            |
| 6   | I use Siri to play audio book                                        | 69 (18)             | 313 (82)              |
| 7   | I use ChatGPT study mode to learn independently                      | 127 (33.3)          | 255 (66.7)            |
| 8   | I use ChatGPT to search content                                      | 117 (30.7)          | 265 (69.3)            |
| 9   | I use Lisa to select best media to illustrate my learning            | 31 (8)              | 351 (92)              |
| 10  | I use Lisa to create writing activities and receive instant feedback | 38 (10)             | 344 (90)              |
| 11  | I can use Tetra for recording and listing to class discussions       | 46 (12)             | 336 (88)              |
| 12  | I use Astra as my personal AI tutor                                  | 53 (14)             | 329 (86)              |
| 13  | I interact with Replica on my day-to-day activities                  | 76 (20)             | 306 (80)              |
| 14  | I use ELSA Speak to improve on my speaking skills                    | 81 (21.3)           | 301 (78.7)            |
| 15  | I use Duolingo Bots to practice reading and writing                  | 102 (26.7)          | 280 (73.3)            |
|     | <b>Cumulative Total</b>                                              | <b>1,116 (19.5)</b> | <b>4,614 (80.5)</b>   |

#### Benchmark Decision Percentage = 50.0%

The data detailed in Table 4 profiles the utilization patterns of undergraduate respondents across 15 distinct functional applications of Artificial Intelligence (AI) tools for learning. The cumulative baseline demonstrates a pronounced suppression in active utilization of artificial intelligence tools for learning with an overwhelming majority of total responses confirming non-utilization (4,614 responses, 80.50%), compared to a limited margin of 19.50% of affirmative responses of 1,116 in artificial intelligence tool utilisation. This metric establishes that while a conceptual awareness may exist in some of the AI tools, the functional transition into regular academic utilization remains minimal among undergraduate students.

A close look at individual items on the utilisation of AI tools shows that generative, text-based AI tools yield the highest utilization indices. Specifically, using ChatGPT to learn independently (Item 7) recorded the highest utilization rate with 127 responses (33.30%), followed by utilizing ChatGPT to search content (Item 8) with 117 responses (30.70%). For language and conversational support, utilizing Duolingo Bots to practice reading and writing (Item 15) and leveraging Gemini to execute assignments (Item 2) also indicated a notable utilisation rate, accounting for 26.70% (102 responses) and 25.30% (97 responses) respectively.

However, the data reveals significantly low utilisation of specialized educational or automated task-management AI tools. The lowest utilisation rate was observed for Lisa as a media selection mechanism for learning contents (Item 9), with a substantial majority of 351 responses (92.00%) indicating non-utilization of the AI tool. Similarly, utilizing Lisa for writing activity and feedback (Item 10) and utilizing Tetra for capturing class discussions (Item 11) remained highly underutilized, yielding negative response rates of 90.00% (344 responses) and 88.00% (336 responses) respectively. Meanwhile, the cumulative total percentage point scale of 80.5% which is greater than the benchmark of 50.0% indicated that the majority of the university students do not use to Artificial intelligence tools for learning.

**H0<sub>1</sub>:** there is no significant differences between male and female undergraduate students' awareness of the use of artificial intelligence tools for learning

**Table 4:** Independent sample t-test analysis of gender difference in the undergraduate students' awareness of the use of artificial intelligence tools for learning

| Gender | N   | X    | SD   | df  | T    | Sig. (2-tailed) | Remark   |
|--------|-----|------|------|-----|------|-----------------|----------|
| Male   | 251 | 1.87 | .081 |     |      |                 |          |
|        |     |      |      | 380 | .877 | .401            | Retained |
| Female | 131 | 1.73 | .094 |     |      |                 |          |

Table 4 indicated that, there was no significant difference between male and female undergraduate students' awareness of the use of artificial intelligence tools for learning. This is reflected in the findings of the hypothesis tested df (380),  $t = .877$ ,  $p > 0.05 = 0.401$ ). Thus, the hypothesis which states that "there is no significant difference between male and female undergraduate students' awareness in the use of artificial intelligence tools for learning" is retained.

**HO<sub>2</sub>:** there is no significant differences between male and female undergraduates' level of utilization of artificial intelligence tools for learning

**Table 5:** Independent sample t-test analysis of gender difference in the undergraduate students' utilisation of artificial intelligence tools for learning

| Gender | N   | X    | SD   | df  | T    | Sig. (2-tailed) | Remark   |
|--------|-----|------|------|-----|------|-----------------|----------|
| Male   | 251 | 1.95 | .098 |     |      |                 |          |
|        |     |      |      | 380 | .499 | .508            | Retained |
| Female | 131 | 1.87 | .078 |     |      |                 |          |

Results from table 6 shows that there was no significant difference between male and female undergraduate students' utilisation of artificial intelligence tools for learning. This is reflected in the findings of the hypothesis tested df (380),  $t = .499$ ,  $p > 0.05 = 0.508$ ). Meanwhile, the hypothesis which states that "there is no significant difference between male and female undergraduate students' utilisation of artificial intelligence tools for learning" is hereby retained.

## DISCUSSION OF FINDINGS

The empirical findings of this study revealed that a substantial majority of university undergraduate students are unaware of artificial intelligence (AI) tools designed for educational purposes. This pervasive deficit is likely due to the relative novelty of AI integrations within the Nigerian higher education landscape, particularly within the specific geographic scope of this research. This outcome strongly corroborates the findings of Alimi et al. (2021), who demonstrated that most university students suffer from an acute lack of awareness and structural access to AI resources, leaving them under-skilled in leveraging these tools for academic tasks. Similarly, this position aligns with the assertions of Ikedinachi et al. (2019), who noted that student awareness and access are long-term structural outcomes driven by the broader proliferation of educational technology devices. Conversely, these results contrast with the documentation by Shehu et al. (2023), whose research indicated that pre-service teachers in Northwestern Nigeria exhibited highly receptive and positive dispositions toward utilizing web-based digital technologies within online learning spaces.

Correspondingly, this study established that the majority of undergraduate students do not actively utilize AI tools in their learning workflows. This baseline trend reinforces the foundational premise that the practical adoption of any technological innovation is intrinsically dependent upon prior cognitive awareness. This outcome directly echoes the empirical conclusions of Alimi et al. (2021), who highlighted that deficiencies in digital skills and technical competence leave the student populace under-equipped to deploy AI for educational advancement. Furthermore, this operational gap is contextualized by Popenici and Kerr (2017), who argued that the higher education environment introduces unique structural challenges for learners, especially given that the capacity to successfully exploit AI solutions holds the potential to radically re-engineer the traditional architecture of the learning process.

Significantly, the inferential analysis demonstrated that gender does not exert a statistically significant influence on undergraduate students' awareness and utilization of AI tools for learning. This implies that biological gender is not a determining factor in how students interface with, comprehend, or adopt these emerging technologies within the study area.

This finding closely aligns with the empirical evidence presented by Bede et al. (2023), who established that male and female students exhibit equally positive orientations toward technological innovations. It further mirrors the conclusions of Alimi et al. (2021), who reported that gender variances do not significantly skew university students' awareness, access levels, or technical competencies regarding educational AI utilities. However, this finding stands in direct contrast to the global documentation of Zawacki-Richter et al. (2019), which indicated that student gender maintains a profound and statistically significant impact across educational stakeholders, particularly regarding the perception, design, and adoption of artificial learning intelligence systems.

## CONCLUSION

This study investigated undergraduate students' awareness and utilization of artificial intelligence (AI) tools for learning in Katsina State, Nigeria. The empirical evidence leads to the conclusion that despite the global paradigm shift toward AI-driven educational frameworks, university undergraduates in the study area remain largely disconnected from these innovations. The study has provided evidence that students' ability to explore digital resources such as AI is dependent on their awareness of digital technologies. Thus, lack awareness of this modern technological tools amounts to its non utilisation.

Crucially, from a theoretical perspective, this study concludes that gender does not exert a significant influence on students' awareness or utilization of AI utilities. Both male and female undergraduates exhibit uniform baselines regarding their current exposure and interaction with AI. These finding challenges traditional assumptions embedded in Gender Schema Theory, which historically coded gender to have influence how we perceive and utilise information. Instead, the study reveals that the primary barriers to AI utilisation are structural and institutional rather than gender-bound, signaling an equitable readiness among undergraduate students to use these tools if provided with the necessary access and training.

## RECOMMENDATIONS

The following recommendations are offered:

1. University managements in Katsina State should design targeted digital literacy orientations and workshops to aggressively improve undergraduate awareness of the pedagogical utilities of AI tools.
2. Institutional stakeholders and policymakers must invest in the requisite technological infrastructure such as reliable internet connectivity and modern computer repositories to transition universities from analog setups to digital architectures capable of sustaining AI software.
3. Educational policymakers should maintain gender-neutral approaches when designing ICT and AI implementation guidelines, leveraging the uniform readiness of both male and female undergraduates to optimize adoption strategies across the board.

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