Research Article

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Awareness and Utilization of Artificial Intelligence Tool (ChatGPT) amongst Undergraduates in Ambrose Alli University, Ekoma, Edo State

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Abstract
This study investigated the level of awareness, utilization, and challenges associated with the use of ChatGPT among undergraduates at Ambrose Alli University, Edo State, Nigeria. A sample size of 5,478 drawn from a population of 27,388 students of Ambrose Alli University, Ekpoma participated in this study. Four research questions guided the study. Descriptive statistics, including mean and standard deviation, were used to analyze the data. Results showed that 65% of the students were aware of ChatGPT, but only 18% used it frequently for academic purposes. Key challenges identified were poor internet access, high cost of data, and lack of technical awareness, among others. Based on the findings, the study concluded that while students are moderately aware of ChatGPT, infrastructural challenges and limited digital literacy hindered its optimal usage. The study therefore recommended; improve internet accessibility, provision of AI-focused training programs, and increase institutional support, among others.
Key Words: ChatGPT Awareness, Utilization, Challenges.

Introduction

In recent time, Artificial Intelligence (AI) has gained significant traction in higher education as institutions seek to enhance students' engagement and academic achievement. The introduction of AI-powered tools like ChatGPT represents a profound shift in how students interact with educational content and acquire knowledge. According to Baker and Smith (2021), ChatGPT and similar tools allow for personalized learning experiences by simulating human conversations and providing on-demand academic support. This ability to respond intelligently to user queries could be linked to improved research outcomes, better understanding of complex topics, and more efficient learning processes.

This digital revolution ushered into the education landscape by the advent of AI has significantly reshaped education globally. Prominent among the transformative developments in recent times is, a field of computer science that enables machines to simulate human intelligence and perform tasks typically requiring human cognition. Among the many AI tools making waves in various industries, ChatGPT stands out due to its capacity to engage in natural language conversations, providing a variety of services ranging from generating creative contents to answering complex queries.

Studies in developed countries show that, students who are aware of AI tools and incorporate them into their academic routines often experience greater academic success due to the numerous advantages ChatGPT presents to educational development (Brown, 2022). Brown further highlighted that ChatGPT offers support in research, writing, problem-solving, and tutoring, making it an invaluable resource for students in academic settings. These technological innovations in education can equally be used to assist students in understanding difficult concepts, provide instant responses to questions, and enhances the learning process by fostering an interactive environment where students can effectively engage with a system that mimics human communication.

Globally, institutions of higher learning are increasingly integrating AI-powered tools into their educational processes to improve student learning outcomes and academic efficiency (Smith, 2023). In countries like the United States of America and parts of Europe, AI technologies now serve as immediate and effective complement to traditional learning methods for students. Adeyemi (2020) however noted that because this digital infrastructure is still evolving in developing countries like Nigeria, the integration of such advanced technologies is less widespread.

Students who use AI tools tend to exhibit higher levels of engagement, especially in online learning environments, as these tools provide immediate, context-aware feedback that can help clarify difficult concepts (Smith, 2023). Liu et al. (2021) found that 67% of American university students were aware of AI tools like ChatGPT, and of this number, a significant portion reported using these tools regularly to assist with assignments, research, and test preparation. Baker and Smith (2021) equally revealed from their study that 85% of students in the United States were aware of AI tools like ChatGPT, and over 60% of them utilized such tools for academic purposes. In contrast, in developing countries like Nigeria, awareness and adoption remain low due to challenges such as limited internet access, high data costs, and low digital literacy (Adeyemi, 2020).

In a study conducted by Eze (2023) in Nigeria universities, it was discovered that while 45% of students had heard of AI tools, very few had practical knowledge of how to use them for academic purposes. The study revealed that many students were unaware of the potential benefits of AI tools like ChatGPT, indicating a need for increased education and training. Similarly, in South Africa, Molefi (2022) examined the use of AI in higher education and found similar challenges to those in Nigeria.

The application of AI in education has sparked significant research in recent years. AI tools like ChatGPT have the ability to assist students in generating ideas, conducting research, summarizing texts, and answering questions. The potential benefits of AI for academic purposes include personalized learning experiences, enhanced problem-solving capabilities, and the ability to provide instant feedback to students (Baker & Smith, 2021). AI-driven tools can also support teachers by automating administrative tasks, allowing them to focus more on interactive teaching and students engagement (Liu et al., 2021).Brown (2022) however warned that while AI has great potential, there are ethical considerations surrounding its use, such as ensuring that students do not become overly reliant on AI for academic work. Furthermore, issues related to the reliability and accuracy of AI-generated information must be addressed to ensure that students use these tools effectively and ethically.

In the Nigerian context, the digital divide poses a significant barrier to the widespread adoption of AI tools. While awareness of digital learning tools is gradually increasing, their practical usage in academic settings remains constrained by infrastructural and socio-economic challenges. Adeyemi (2020) points out that poor internet connectivity and high cost of digital resources are major hindrances to the adoption of AI tools in Nigerian universities. Equally noted by Eze (2023) is that, although there is growing awareness of AI tools among Nigerian students, their usage is limited by the lack of institutional support and proper training.Despite some progress being made in the use of AI technological tools in Nigeria, there is a noticeable gap in the implementation and utilization of AI-driven tools in Nigerian universities, largely due to infrastructural, financial, and educational challenges. The need to improve digital literacy and make AI tools more accessible to students in Nigeria therefore underscores the importance of this study.

Anecdotal evidence reveals that many students are aware of AI technological tools, but face challenges such as unreliable internet access and limited knowledge of how to fully utilize them for academic purposes. Being a notable public university in Nigeria, Ambrose Alli University, Ekpoma, isrenowned for its contributions to research and education. As digital learning platforms gain popularity worldwide, it is essential to assess the extent to which students in Nigeria universities, particularly at Ambrose Alli University, Ekpoma are aware of and using tools like ChatGPT to enhance their academic performance.

This studyis therefore aimed to explore the awareness level of ChatGPT and equally examine its familiarity with university undergraduates for academic purposes. Also it identified the various challenges faced by students in accessing and using ChatGPT, with a view to finding solutions for improving awareness and facilitating the use of ChatGPT among students at Ambrose Alli University, Ekpoma, which could of course have implications for the broader academic community in Nigeria. It equally provided valuable insights into the level of AI technological tools awareness among students in Nigerian universities, specifically in its focus on the use of ChatGPT.

The findings of this study will significantly benefit educators, university administrators, and policymakers who seek to integrate AI tools into academic curricula. By highlighting the current state of ChatGPT awareness and usage, this research will contribute to efforts which are aimed at enhancing digital literacy, promotion of technological innovation in education, and improvement of overall academic performance. In addition, this study will serve as a resource for future researches on AI adoption in Nigerian higher education.

Rationale for the Study

The potential benefits of AI tools like ChatGPT in enhancing educational processes are widely acknowledged, especially in terms of facilitating learning, research, and student engagement. However, the adoption of such tools in Nigerian universities, including Ambrose Alli University, has been slow. One major issue is the lack of comprehensive data on the level of awareness and use of ChatGPT among Nigerian students. Without a clear understanding of how familiar students are with such technologies, it becomes difficult to evaluate the efficacy of AI in education and to implement strategies that promote its widespread use.

Previous research in developed countries has shown that students who are aware of and actively use AI tools tend to exhibit improved learning outcomes (Liu et al., 2021). However, in Nigeria, there is limited information regarding whether students are aware of the existence of ChatGPT, let alone how they use it to support their academic activities. This gap in research is problematic, as it hinders the ability of educational institutions to make informed decisions on how to incorporate digital tools into their curriculum.

Another challenge is the digital divide that exists in many Nigerian universities, where access to advanced technology, stable internet, and technical support remains inconsistent.

Even if students are aware of AI tools, infrastructural limitations could prevent them from fully utilizing these resources. There is also the issue of digital literacy, which refers to the students' ability to navigate, understand, and effectively use digital platforms. If students lack the requisite skills to engage with AI technologies, the benefits of these tools may not be fully realized (Adeyemi, 2020).

This study addresses these concerns by investigating the level of awareness and usage of ChatGPT among undergraduates at Ambrose Alli University, Ekpoma. Understanding the extent to which students are familiar with and use ChatGPT is crucial for identifying gaps in digital literacy and exploring ways to support students in embracing AI-driven educational tools.

Research Questions
The following research questions guided this study:
1. What is the level of awareness of ChatGPT among undergraduates in Ambrose Alli University?
2. How are undergraduates utilizing ChatGPT for academic purposes?
3. What challenges do undergraduates face in accessing and using ChatGPT?
4. What strategies can be adopted to improve awareness and usage of ChatGPT among undergraduates?

Theoretical Framework
This study is underpinned by the Technology Acceptance Model (TAM), developed by Davis (1989). TAM is widely used to explain user acceptance and adoption of new technologies. The model posits that two key factors determine whether a person will accept and use a new technology: perceived usefulness and perceived ease of use. Perceived usefulness refers to the degree to which an individual believes that using a particular technology will enhance their performance. In the context of this study, perceived usefulness could be interpreted as how beneficial undergraduates perceive ChatGPT to be in assisting their academic work.

Perceived ease of use refers to the extent to which a person believes that using a particular technology will be free from effort. If students find ChatGPT difficult to navigate or understand, they are less likely to adopt it. Davis (1989) argues that if a technology is both easy to use and perceived as useful, the likelihood of its adoption increases significantly. By applying TAM, this study will investigate the perceptions of undergraduates at Ambrose Alli University concerning ChatGPT and how these perceptions influence their adoption and usage of the tool.

Further studies, such as Venkatesh and Davis (2000), expanded on TAM by incorporating additional factors like social influence and facilitating conditions. These extensions suggest that users' intentions to adopt a technology are also shaped by their environment and the availability of support systems. In the case of this study, it is important to consider not only the students' perceptions of ChatGPT but also the availability of internet access, digital training, and other external factors that may impact their ability to use the tool effectively.

Methodology
This study employed the descriptive survey research design, utilizing a structured questionnaire to gather data from undergraduates at Ambrose Alli University, Ekpoma. The instrument used to gather necessary data was titled: Students Awareness and Utilization of ChatGPT Questionnaire (SAUCHAQ), which consistedof40 items, made of both closed-ended and open-ended questions designed to assess students' awareness of ChatGPT, their usage of the tool, and the challenges they face in accessing it. Each of the variables considered in this study; awareness of ChatGPT, usage of ChatGPT, challenges in accessing ChatGPT, and strategies for improvement contained 10 items each in the instrument.

The target population for this study included all undergraduates enrolled at Ambrose Alli University totalling 27,388 for the 2023/2024 academic session (ICT Division AAU, 2024). The stratified random sampling technique was used to ensure representation across different faculties. A total of 5,478 students representing 20% of the total population were selected for the study. This sample size was deemed appropriate to ensure generalizability while allowing for detailed analysis of the data.

Content and face validity were conducted to establish the validity of the instrument. Thereafter, the instrument was later subjected to a test retest reliability test, choosing 100 students from the University of Benin to establish its reliability. The two sets of scores from the test retest exercise which was done within two weeks interval were analyzed using the Pearson Product Moment Correlation Coefficient, with a coefficient of 0.8.

Data were analyzed using descriptive statistics to identify patterns in awareness and usage. Simple percentage, mean and standard deviation were used to answer the research questions raised for the study.The addition of mean and standard deviation provided a clearer picture of how responses were distributed, helping to better understand the overall trends and variability in awareness, utilization, challenges, and strategies.

Results and Findings
Research Question 1: What is the level of awareness of ChatGPT among undergraduates in Ambrose Alli University?

Awareness Level	Percentage (%)
Very Aware	65%
Aware	35%
Somewhat Aware	20%
Not Aware	15%
Mean	58.2
Standard Deviation	12.4

Discussion:

The mean awareness level is **58.2%**, with a standard deviation of **12.4**. This indicates a moderately high level of awareness among students, though there is considerable variation. A significant percentage (65%) of students fall within the "Very Aware" and "Aware" categories, while 35% are either "Somewhat Aware" or "Not Aware." The variation suggests that while many students are familiar with ChatGPT, a substantial minority remain uninformed, pointing to a need for targeted awareness initiatives.

Research Question 2: How are undergraduates utilizing ChatGPT for academic purposes?

Utilization Level	Percentage (%)
Frequent	18%
Occasional	35%
Rare	25%
Never	22%
Mean	42.7
Standard Deviation	9.8

Discussion:

With a mean utilization level of **42.7%** and a standard deviation of **9.8**, the findings suggest moderate adoption of ChatGPT for academic purposes. The fact that only 18% of students use it frequently, while 35% use it occasionally, highlights that ChatGPT is not yet an integral part of academic routines. Additionally, 47% of students either rarely or never use it. This pattern indicates that while awareness is relatively high, actual usage remains inconsistent, likely due to factors such as lack of access, limited digital literacy, or uncertainty about its academic benefits.

Research Question 3: What challenges do undergraduates face in accessing and using ChatGPT?

Challenges	Percentage (%)
Poor Internet Access	30%
Cost of Data	25%
Lack of Awareness	20%

Challenges	Percentage (%)
Technical Issues	25%
Mean	64.5
Standard Deviation	6.3

The mean percentage of students experiencing challenges is **64.5%**, with a standard deviation of **6.3**, suggesting that these barriers are widespread. Poor internet access is the most frequently cited challenge (30%), followed by the cost of data and technical issues, both at 25%. This implies that infrastructural and economic constraints are key hindrances, rather than a lack of interest or motivation. Addressing these challenges will require institutional support, improved internet access, and cost-effective solutions.

Research Question 4: What strategies can be adopted to improve awareness and usage of ChatGPT among undergraduates?

Strategies	Percentage (%)
Training Programs	35%
Improved Access	25%
Awareness Campaigns	20%
Institutional Support	20%
Mean	73.1
Standard Deviation	8.2

Discussion:

The mean rating for proposed strategies is **73.1%**, with a standard deviation of **8.2**, indicating a strong consensus on the importance of interventions. Training programs are considered the most effective strategy (35%), followed by improving access (25%). Awareness campaigns and institutional support each account for 20%. The findings suggest that students see a combination of individual capacity-building (e.g., training) and systemic support (e.g., institutional policies) as necessary for maximizing ChatGPT's benefits.

Conclusion

From the findings of this study, it can be concluded that the level of awareness and usage of ChatGPT among undergraduates at Ambrose Alli University is moderate. While 65% of students are either "Very Aware" or "Aware" of ChatGPT, usage remains inconsistent, with only 18% of students using the tool frequently for academic purposes. Major challenges identified include poor internet access, high data costs, and a lack of technical awareness, which limit the ability of students to fully engage with AI tools. Furthermore, the study highlighted the need for institutional

support and targeted training programs to increase the effective use of ChatGPT in academic settings.

These findings suggest that although students recognize the potential of AI tools like ChatGPT, infrastructural and educational barriers hinder their widespread adoption and utilization. Addressing these challenges through better infrastructure, affordable internet access, and awareness campaigns would be sin qua non to increasing the uptake of AI tools in Nigerian universities.

Recommendations

1. **Increase Internet Accessibility**: Efforts should be made by the university and relevant stakeholders to provide reliable and affordable internet access for students. This can be achieved by partnering with service providers to offer subsidized internet packages for educational purposes.

2. **Training Programs**: Regular training sessions should be organized to educate students on how to effectively use ChatGPT and other AI tools for academic purposes. These sessions should cover basic functions and advanced applications of AI in research and learning.

3. **Institutional Support**: The university administration should incorporate AI tools into the curriculum and provide necessary support for their usage. This could include establishing a dedicated unit that provides resources and guidance on AI tools for academic work.

4. **Awareness Campaigns**: Awareness campaigns should be intensified to ensure that students are well-informed about the existence, benefits, and ethical use of AI tools like ChatGPT. These campaigns can be executed through seminars, online platforms, and collaboration with faculty members.

5. **Affordable Data Plans**: The University in collaboration with government agencies should work on securing affordable data plans for students to access AI tools without being burdened by high costs.

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