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Demography and Adoption of Artificial Intelligence (AI) in Nigerian Higher Institutions: Implication on the Needs for Policy Implementation

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ABSTRACT

Demography plays a crucial role in understanding the adoption of Artificial Intelligence (AI) in Nigerian Higher institutions as different demographic factor can influence the rate and extent of the adoption. This paper analyzed Demography and adoption of AI in Nigerian Higher institutions with the focus of examining the factors influencing the adoption of Artificial Intelligence in Nigerian Higher Institutions and the needs for policy on its adoption. The paper relied on secondary sources of data such as documented Journals, articles and books written in the area of Demography and adoption of AI in Nigerian higher institution for its analyses. Drawing from the Social Learning Theory the article argued that graduate students' self-efficacy is correlated with their beliefs about their capacity to use and benefit from AI-powered technologies, and outcome expectations are correlated with their beliefs about the possible consequences and outcomes of using AI. Findings suggest that AI adoption in Nigerian Higher institutions is still in its early stage, with many participants recognizing both the potential benefits and the challenges associated with AI integration. More importantly, interactions with artificial intelligence (AI)-based educational tools might be influenced by various demographic factors, including age, gender, marital status, prior technology experience, learning preferences, the type of academic programs, level of education, urban / rural location of the institutions, and socio-economic status of students. The paper recommends among others that policy makers and educators should address potential disparities and ensure equitable access to AI education considering factors like age, gender, location of the institution and socio-economic status in order for Nigerian to prepare its students for the digital age and foster economic growth and development.

KEYWORDS: Demography, National development, Nigeria, Artificial intelligence, Universities

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INTRODUCTION

The adoption of artificial intelligence (AI) for an academic activities in higher institution has recently advanced in the educational sector globally. AI encompasses machine learning, natural language computer vision, and robotics, among other advanced technologies, which collectively have the capacity to redefine traditional practices and frameworks (UNESCO, 2022). Globally, AI-powered tools and platforms such as algorithms, k-mean algorithms, support vector machines, a priori algorithms, expectation maximization algorithms, ChatGPT and Quillbot are reshaping how students learn, how educators teach, and how universities operate. The deployment of intelligent tutoring systems, adaptive learning software, and automated administrative processes exemplifies the disruptive influence of AI in education (World Bank, 2023). Demography play a crucial role in understanding the adoption of AI in Nigerian higher institutions as different demographic factor can influence the rate and extent of the adoption. The reason for the adoption of AI in Nigerian higher institutions can be traceable to several benefits associated with AI in higher education. This includes assignment, project work, dissertations/ theses writing, prepares power points, and calculating equations, personalized learning, skills enhancement and improved employability among others (Kiburu et al, 2023). AI tools like intelligent

tutoring systems offer round-the-clock support, enabling students to access guidance and clarification whenever needed. These systems can provide immediate feedback, helping learners identify and address their weaknesses in real time. This level of personalization fosters self-paced learning, which is especially beneficial for students juggling academics with other responsibilities, such as part-time jobs or family obligations

Despite the benefits with the usage of AI in higher education, there are some challenges associated with the adoption of various AI platforms, such as ChatGPT and Quillbot OpenAI's GPT models and Meta's AI systems in Nigerian universities (Pillai et al., 2023). The usage, benefits, and challenges associated with AI platforms for academic activities in Nigerian higher institution could have varied influences on Nigerian students depending on the adopter's demographic factors. The demographic characteristics of the graduate students included gender, age, nationality, marital status, type of undergraduate program, socio-economic status and the graduate academic program pursued. Several studies has shown that demographic characteristics such as age, sex, tenure of study, nationality, marital status could determine differences in technology adoption among students in higher institutions (Ouyang et al., 2023, Lohana and Roy 2023, Kiburu et al 2023, Broffman et al. 2023, and Drazich et al. 2023). On the other hand Drazich et al. (2023); Lohana & Roy and (2023) have also considered gender and the use of technology. All these studies concentrated more on gender and the use of technology in general without focusing on how other demographic factors such as age, level of education, location of the institution and socio-economic status influence the adoption AI in Nigerian higher institutions as well as the need for policies on its adoption. Understanding how AI should be adopted and having adequate policies for its adoption is crucial for informing curriculum development and institutional policy. Arising from the foregoing, this paper examined demography and adoption of AI in Nigerian higher institutions with focus of discussing the extent to which AI is adopted, their associated benefits and challenges identifying various demographic factors influencing AI adoption and implication of the need for policy implementation. With the view that findings and recommendations from this study would help in the intervention and policies that will address potential disparities and ensure equitable access to AI education considering factors like age, gender, location of the institution and socio-economic status in order for Nigerian to prepare its students for the digital age and foster economic growth and development. Concept of artificial intelligence, demography, demographic factors influencing the adoption of AI in Nigerian higher institutions, benefits and challenges associated with the adoption of AI in Nigerian higher institution and the need for policy implementations were some of the sectorial assessment presented;

LITERATURE REVIEW

Concept of Artificial Intelligence

Artificial intelligence is characterized as computer programs designed to solve complex problems by implementations of processes similar to human cognition. This is the area of computer science where intelligent machines and software are researched and created. The area of research was based on the claim that a fundamental human trait, intellect, the knowledge of Homo sapiens can be so accurately defined that a computer would replicate it. This presents philosophical problems concerning the nature of the reality and the behaviour of artificial entities, concerns that have been answered since ancient times by legend, literature and theory. Lexcellent (2019) further noted that AI has now become a key part of the technology industry, delivering strong lifts for many of the most complex informatics issues. AI is concerned with reasoning, understanding, organizing, studying, communication, vision, and the ability to manipulate and move objects. AI utilizes an enormous number of tools including search and analysis, intuition, probability- and economics-based approaches, and many others (Arun 2019).

Supporting the above, Kana (2024) posit that AI is the branch of computer science that is concerned with the automation of intelligent behaviour. AI is based upon the principles of computer science namely data structures used in knowledge representation, the algorithms needed to apply that knowledge and the languages and programming techniques used in their implementation. In a broader term, AI is the computer-based exploration of methods for solving challenging tasks that have traditionally depended on people for solution. Such tasks include complex logical inference, diagnosis, and visual recognition, comprehension of natural language, game playing, explanation, and planning.

More importantly, AI emerges as a dynamic force capable of reshaping social interactions, particularly in education. AI-driven teaching and learning solutions are undergoing testing to prepare students for an AI-driven future. The adoption of AI technologies in education seeks to enhance knowledge acquisition, leading to a surge in online learning. Artificial Intelligence (AI) is at the forefront of revolutionizing education, driving innovations that transform teaching methodologies, learning processes, and institutional operations (Agbo, Sanusi, & Onyeka, 2023). The proliferation of AI powered tools and platforms has enabled a shift from traditional, one-size-fits-all approaches to more dynamic and personalized educational experiences. For Nigerian university students, these developments offer the potential to overcome entrenched educational challenges and prepare for a competitive global economy.

Concept of Demography

Demography refers to the study of both the quantitative and qualitative aspect of human population. The quantitative aspect has to do with the composition, density, distribution, growth, movement, size and the structure of population. Qualitative aspects are the sociological factors such as education quality, diet and nutrition, race, crime, wealth, race and social class (Dangana-Onuche, 2020). More importantly, demography describes the size, composition and age structure as well as the geographical distribution of human populations taking into account features such as sex, ratio, spatial distribution, and population density. In addition demographers looks at how a population develops, changes and reproduce over a certain period of time. Thus, the demography of Nigeria, offers you a clear analysis of the prevailing living condition in the country. Demography shows how people are distributed in the world by continent, countries, regions, urban versus rural areas, or desert, native, foreigners and races. Population distribution depends on environment and the environment has a great deal to do with population density. (Dangana-Onuche, 2021).

Demographic Factors Influencing the Adoption of Artificial Intelligence in Nigerian Higher Institutions

Various Demographic variables such as gender, age, Type of academic program, location of the institution, socio-economic status and academic level significantly influence how university students engage with AI tools globally and Nigeria in particular. For instance, studies have shown that technological adoption and usage have been shown to be influenced by the gender of users, suggesting that various technological platforms do not appease users the same (Franzoni, 2023; Patón-Romero et al., 2022). Similarly, studies by Ahn et al., (2022) and Nouraldeen, (2023) also shows that gender influences the adoption and usage of AI platforms. This means that graduate students' use of AI technology for academic work could be influenced by the sex/ gender of the student. Gender could moderate the level of challenges and benefits associated with AI usage in higher education. In the same vein Dzifa et al (2024) found male students' preference for AI tools over that of their female graduate student's which means that male graduate students were more likely to use these AI tools for academic activities. A possible reason for the higher level of preference for these AI tools among male graduate students could be the level of interest, curiosity, and willingness to explore new technology. These AI tools are quite new in developing countries such as the study area. While ChatGPT is a generative artificial intelligence software for writing purposes, the Quillbot AI tool is used for paraphrasing purposes. Thus, male graduate students were more interested, curious and willing to experiment with these AI tools than their female counterparts. Wang et al. (2019) further noted that male graduate students demonstrated greater interest, curiosity, and willingness to explore and use AI-based technologies than female graduate students.

There is a clear statistical difference in usage frequency of AI across age groups, with younger students and traditional college-age brackets (18-24 years old) adopting AI generated tool at much higher rates than their older cohorts. Michal (2025) research indicates the existence of significant differences in individuals' attitudes towards the provision of personal data depending on various demographic factors, especially age. Younger people such as Z or Y Generation are generally more open to sharing personal data because they have grown up in a digital world where sharing personal information is considered a normal part of life. Their higher digital literacy, as well as their higher trust in technology platforms, make them more willing to adopt new technologies, including AI. Conversely, older Baby Boomers or the Silent Generation tend to be more cautious, exhibiting a higher sensitivity to privacy and personal information. Their experiences with digital technologies are often less intense, which may lead to higher levels of insecurity and lower willingness to accept new technologies that require the disclosure of personal information (Wilems, 2023, Schepman 2023, Jones, et al, 2022 & Scarpi et al, 2022,)

In terms of the duration and type of program Deng et al (2025) in his research indicates that students in higher academic years are more likely to use AI tools and prefer them over traditional resources. Duro et al., (2023) noted that STEM-related academic programs such as Science, technology, engineering, and mathematics have been found to be more inclined toward AI usage for academic activities than non-STEM-related programs. It can be inferred that graduate students pursuing STEM-related academic programs could also experience more challenges and benefits associated with AI adoption for academic activities. Apart from the differences in AI usage among graduate students pursuing either STEM-related or non-STEM-related academic programs (inter-academic program differences), there could also be intra-academic differences where the usage, benefits, and challenges associated with AI in higher education differ within non-STEM-related academic programs such as social sciences and humanities. Kohnke et al., (2023) observed that the levels and length of an academic program may affect graduate students' usage of AI, as well as its advantages and disadvantages. Students who enroll in longer academic programs have more time to study AI principles, algorithms, and applications. Their capacity to employ AI will improve as a result of their increased comprehension and practical experience (Zawacki-Richter et al., 2019). This implies that compared to students who use AI tools for a shorter time. Students who use them for a longer amount of time will likewise stand to gain more (Zawacki-Richter et al., 2019). The use and efficacy of AI technologies such as ChatGPT and Quillbot could be influenced by the academic program level in higher education. The use and efficacy of AI technologies tools could be influenced by the level and the length of an academic program in higher education, as well as its advantages and disadvantages (Kohnke et al., 2023). Students who enroll in longer academic programs have more time to study AI principles, algorithms, and applications. Their capacity to employ will improve as a result of their increased comprehension and

practical experience (Zawacki-Richter et al., 2019). This implies that compared to students who use AI tools for a shorter time, graduate students who use them for a longer amount of time will likewise stand to gain more (Zawacki-Richter et al., 2019).

With regard to rural/urban influence on adoption of AI Ibe and Siyanbola (2022) argued that the introduction of AI in Nigerian higher education could exacerbate educational inequalities. Access to AI technologies is often concentrated in urban areas, leaving students in rural or underserved regions at a disadvantage. The possible difference in the institution location could be due to the country's economic challenges, which limit both public and private investment in AI solutions. Without addressing these disparities, AI could inadvertently deepen the gap between the 'haves' and 'have-nots' in Nigerian higher education.

Benefits and Challenges with the Adoption of AI in Nigerian Higher Institutions

Globally, the rapid advancement of artificial intelligence (AI) technologies has had a profound impact across various sectors, with education being a significant beneficiary. In recent years, AI tools have evolved from simple automated systems to more complex generative models capable of creating human-like text, images, and even code. These generative AI tools, such as ChatGPT, OpenAI's GPT models and Meta's AI systems, offer tremendous potential for enhancing learning experiences, research activities, and creative projects (Adarkwah, et al 2023). Their ability to produce content based on minimal input has led to increased interest in their use within tertiary education settings, particularly among university students who are often tasked with producing a wide range of academic materials and research (Wood, et al, 2024).

Baidoo-Anu and Ansah (2023) in their research in supports of the view that generative AI tools enhance research efficiency and personalized learning found that students valued generative AI for its ability to simplify complex academic tasks, such as data analysis, literature reviews, and report generation. Similarly, Gozalo-Brizuela and Garrido-Merchan (2023) noted that AI tools like ChatGPT allow for personalized, on-demand learning support, which fosters self-directed learning and adaptability. The emphasis on the tools' role in transforming education resonates with studies suggesting that AI has the potential to influence learning by providing equitable access to quality educational resources. Generative AI tools, by their very design, have revolutionised how students approach academic tasks. With the ability to generate essays, solve complex problems, and simulate real-world scenarios, these tools provide students with opportunities to streamline their work processes and engage more deeply with their studies (Essien, 2024). This transformation is especially evident in tertiary education, where students are required to balance extensive coursework, research, and project development. The availability of AI tools such as ChatGPT, DALL·E, and Google Bard offers significant advantages, including personalized learning experiences and instant feedback on assignments, allowing students to make real-time improvements (Krause, 2024). In Nigeria, universities students are beginning to witness increased awareness and utilization of GenAI tools, especially for tasks such as drafting assignment, project writing and other research, offering new possibilities for personalised learning, academic support, and knowledge creation. These tools provide real-time assistance in academic writing, content generation, and problem-solving, thus reshaping traditional modes of teaching and learning.

Despites these benefits challenges are not left out with the adoption of AI among undergraduates in Nigerian higher institutions. Kohnke et al (2023) noted that regarding the difficulties posed by the use of AI technology in higher education, it can be said that if difficulties are related to usage and benefits, then increased usage and benefits will undoubtedly result in more difficulties for graduate students who employ AI tools for longer periods of time in their academic work. There are growing concerns about the ethical implications of using generative AI in academic settings. Issues such as plagiarism, intellectual property rights, and academic integrity are of particular concern, especially in environments where students may not fully understand the ethical boundaries surrounding the use of AI-generated content (Abbas, 2024). Furthermore, access to AI tools is often influenced by infrastructural challenges. In Nigeria, issues such as limited internet connectivity, outdated educational technologies, and financial constraints may affect students' ability to fully engage with generative AI tools (Adarkwah, et al 2023).These barriers highlight the broader issue of the digital divide, which can exacerbate inequalities in access to advanced technologies in education. There is no doubt that AI holds considerable promise for transforming Nigerian higher education, particularly in areas such as personalized learning, administrative efficiency, and data-driven decision-making. However, the effective integration of AI in Nigerian universities requires addressing a range of challenges, including infrastructure limitations, digital inequality, ethical concerns, and the need for strong policy frameworks. While the opportunities are significant, the threats associated with AI adoption must not be underestimated. Moving forward, a balanced and inclusive approach to AI implementation is essential to ensure that its benefits are realized equitably across Nigeria's higher education system.

THEORETICAL FRAME WORK

The study anchored on the social learning theory (SLT). Social learning theory (SLT) originally known as social cognitive theory (SCT) was developed in the 1960s by Albert Bandura. It is a theoretical framework that characterizes learning as a social process that is embedded in a social context and is characterized by the reciprocal and dynamic interaction between an individual, his or her environment, and his or her behavior. SCT is distinctive in that it emphasizes the role of social influence and the significance of both internal and external social reinforcement (Carillo, 2010; Bandura, 2012). SCT investigates the various mechanisms through

which individuals acquire and uphold habits, taking into account the social environment in which these actions occur. This theory emphasizes how important it is for an individual's past experiences to shape his or her inclination to participate in certain activities. The expectations, anticipations, and reinforcement mechanisms that are shaped by these experiences play a pivotal role in determining the likelihood of a particular behavior being adopted, as well as its underlying causes (Lorenzo, 2016 et al.; Carillo, 2010; MPLM Bouten, 2008; Ismail & Ali, 2020; Kabir & Rashid, 2019). Clarifying how people use reinforcement and control processes to carry out goal-directed behaviors that can be sustained over time is the major goal of SCT (MPLM Bouten, 2008). According to the SCT constructs, graduate students' self-efficacy is correlated with their beliefs about their capacity to use and benefit from AI-powered technologies, and outcome expectations are correlated with their beliefs about the possible consequences and outcomes of using AI. The social, institutional, and technological elements that influence how students interact with artificial intelligence can also be connected to environmental aspects. Therefore, learners' self-efficacy, outcome expectations, and interactions with artificial intelligence (AI)-based educational tools might be influenced by demographic factors, including age, gender, marital status, prior technology experience, and learning preferences. Understanding how these demographic characteristics influence the causes and effects of AI adoption and deployment in higher education can be facilitated by applying SCT. Student adopt AI tools like ChatGPT or Grammarly because they watch others in their demographic groups use them to save time and boost grades.

METHODOLOGY

The method used in this paper is the secondary source of data collection, which includes the review of documented Journals, articles and books written in the area of the adoption of Artificial Intelligence in Nigeria higher institution. This paper adopted this method as it helped the researcher to access existing datasets without the need for additional resources or fieldwork. Secondary data also, play a crucial role in advancing knowledge, informing decision-making and addressing research questions across various domain and discipline including the extent to which AI is adopted, associated benefits and challenges with the use of AI, demographic factors influencing the adoption of AI in Nigerian higher educations and implication of the need for policy implementation.

Discussion: Implications on the Needs for Policies Implementation for AI Adoption in Nigerian higher Institutions.

There is no doubt that the integration of Artificial Intelligence (AI) into higher education has become a transformative force globally, and its potential in reshaping the educational landscape in Nigeria presents both significant opportunities and challenges. As noted by Alimi et al., (2020) AI holds the potential to revolutionize the teaching, learning, and administrative processes, offering novel solutions to long-standing challenges such as inadequate infrastructure, large class sizes, and limited access to personalized learning. As the world becomes increasingly digital, Nigeria universities are being encouraged to explore AI's capabilities in enhancing academic performance, improving student engagement, and streamlining administrative tasks (Akinyemi et al., 2021). Nigerian students could benefit from AI's ability to provide tailored learning experiences. This is particularly crucial in a country where diverse learning needs and varying levels of preparedness among students are prevalent. AI technologies such as chatbots, virtual tutors, and adaptive learning systems could enable students to learn at their own pace, with content adjusted to their abilities. While the promise of AI in transforming education is immense, there are considerable hurdles that must be addressed for its effective integration, particularly in the context of Nigeria's challenges, such as economic disparities, inadequate technology infrastructure, and a lack of skilled personnel to manage AI systems (Nwokolo, 2022). Concerns also persist regarding academic integrity, diminished critical thinking, and potential overreliance on AI-generated content. A noted concern is lecturers' fears of plagiarism facilitated by AI and heavy reliance on AI dialogue systems to reduced cognitive capacity among students. These issues echo findings in Nigeria, which reported lecturer concerns about digital assessment security and academic misconduct (Eleje, et al 2024). Similar reservations have been documented by Rodrigues et al (2023), who identified widespread fears about AI-facilitated cheating and its implications for academic standards. However, such concerns appear more pronounced in Nigeria, possibly due to long standing challenges in maintaining assessment credibility, limited institutional safeguards, and the relatively new exposure of many institutions to AI tools. As noted by Eleje et al, (2022) Nigerian lecturers are especially wary of technological disruptions that lack clear policy guidance or regulatory backing.

Additionally, Tang et al (2022) in their research suggests that while AI offers technical enhancements, its pedagogical value remains contested, particularly in contexts where critical thinking and nuanced reasoning are key learning goals**.** While these tools may enhance learning efficiency, their widespread use raises concerns about academic integrity, student overreliance, and the development of critical thinking skills. These developments highlight the growing responsibility of educators in guiding appropriate AI usage and assessing its pedagogical value**.** While AI tools are increasingly available online, students from under-resourced regions may not have the same opportunities to explore and benefit from these innovations. Moreover, there is little evidence to suggest that AI tools have been systematically integrated into the curricula of Nigerian universities. AI can enhance creativity and efficiency, its use in teaching and learning remains limited in many African higher education institutions (Nikolopoulou, 2024). This lack of integration raises questions about whether students are receiving the necessary guidance and support to use AI tools

effectively and responsibly. In the absence of structured institutional support, students may rely on self-directed learning, which could lead to uneven levels of proficiency and understanding. This implicated the need for Nigerian universities to introduce AI literacy programs and clear ethical guidelines to help faculty navigate implementation. As pointed by Ali and colleagues, such interventions are critical to reducing misinformation and building trust in AI technologies alongside clear and comprehensive policies on artificial Intelligence (AI) that are essential to bridge infrastructural gaps, ensure academic integrity and guide responsible technological integration.

Adoption of policies on AI presents an opportunity for increased training and professional development programs to improve understanding and implementation strategies. As AI continues to evolve, Nigerian higher education institutions can benefit from targeted initiatives aimed at enhancing the skills of both academic and administrative staff in AI-related technologies which will help institutions remain competitive in an increasingly digital world, improving learning outcomes, administrative efficiency, and research capabilities (Yusuf & Muktar, 2020). More importantly, the successful implementation of AI in Nigerian higher education requires a robust policy and regulatory framework. Its integration must be carefully managed to address the country's unique challenges. Alimi et al. (2020) pointed out the need for government policies that support the development of digital infrastructure, ensure equitable access to AI technologies, and promote digital literacy among both students and educators. Furthermore, Ibe and Siyanbola (2022) suggest that policies should address the ethical implications of AI, ensuring that data privacy and fairness are prioritized in AI applications. In the absence of comprehensive national policies on AI in education, universities in Nigeria are left to navigate AI adoption on their own. This has led to fragmented efforts in AI integration, with some institutions making strides while others struggle to catch up (Ogunyemi et al., 2020). Policymakers must collaborate with educational leaders, technology developers, and other stakeholders to create a framework that fosters the responsible use of AI while addressing the challenges unique to the Nigerian context for enhanced national development.

CONCLUSION AND RECOMMENDATIONS

This paper reviewed demography and AI adoption of in Nigerian higher institutions: an implications on the needs for policies on the adoption of AI in Nigerian higher institutions. On a general note arguing that AI adoption in Nigerian universities is still in its early stages, with many participants recognizing both the potential benefits and the challenges associated with AI integration. The adoption could significantly differ from one graduate learner to another depending on their gender, age, type of program, location of the institutions and the level of academic program pursued. Student uses AI tools especially for tasks such as drafting assignment, project writing and other research, offering new possibilities for personalized learning, academic support, and knowledge creation. These tools provide real-time assistance in academic writing, content generation, and problem-solving, thus reshaping traditional modes of teaching and learning. However they are associated challenges with its adoption such as plagiarism, intellectual property rights, and academic integrity are of particular concern, especially in environments where students may not fully understand the ethical boundaries surrounding the use of AI-generated content. Access to AI tools is often influenced by infrastructural challenges such as limited internet connectivity, outdated educational technologies, and financial constraints may affect students' ability to fully engage with generative AI tools in Nigeria higher institutions.

The study demonstrated that AI is in early stage of its adoption in Nigerian higher institutions. It highly recommends a collaborative effort of governmental and institutional attention on the implementation of clear policies and guidelines for the ethical use of AI tools in academic work. This should include mechanisms to prevent misuse, such as cheating or plagiarism, and strategies to promote the responsible use of AI for academic tasks. Nigerian institutions should explore ways to incorporate AI tools into the curriculum in ways that support and enhance student learning, rather than replacing essential skills like critical thinking. Faculty members could consider using AI tools as a complement to traditional teaching methods, rather than outright replacement. Nigerian government should provide targeted training and professional development programs focused on AI integration, including how to address concerns related to academic integrity, over-reliance on technology, and fostering critical thinking skills.

Administrators such as deans and registrars should provide a clear demographic policy on AI usage in higher education in Nigeria. This is because the usage of AI tools in higher education appeals to graduate students differently based on their demographic variables. In terms of the education challenges associated with AI usage for graduate studies and levels of academic programs, it is recommended that the government and institutions provide support systems such as workshops and AI literacy courses, among others, to reduce the challenges associated with AI usage for academic activities. The support systems to be provided should vary depending on the kind of challenges that is associated with the usage. This is because the challenges differs based on the location of the institutions, levels and types of academic programs.

REFERENCES

1) Abbas M, Jam FA, Khan T.I (2024). Is it harmful or helpful? Examining the causes and consequences of generative AI usage among university students. Int J Educ Technol High Educ.;21(1):10. https://doi.org/10.1186/s41239-024-00444-7.
2) Adarkwah MA, Amponsah S, van Wyk MM, Huang R, Tlili A, Shehata B, (2023). Awareness and acceptance of ChatGPT as a generative conversational AI for transforming education by Ghanaian academics: a two-phase study. J Appl Learn Teach 6(2); . http://journals.sfu. ca/jalt/index.php/jalt/index.
3) Akinfala, F.F., & Komolafe, T. (2017). Sexual harassment as a predictor of organisational outcomes. *African Journal for the Psychological Study of Social Issues,* 20(1): 60-73.
4) Ali O, Murray PA, Momin M, Dwivedi YK, Malik T (2024). The effects of artificial intelligence applications in educational settings: challenges and strategies. Technol Forecast Soc Change;199: 123076. https://doi.org/10.1016/j.techfore.2023.12307 6.
5) Alimi TO, Okafor CN, Adeyemo O (2020). Artificial intelligence in Nigerian higher education: Current status and future perspectives. Afr J Educ Res.5(2):89- 102.
6) Arun Singh, (2019). Concept of Artificial Intelligence. Journal of Emerging Technologies and Innovative Research. Volume 6, Issue 3 www.jetir.org (ISSN-2349-5162) JETIREO06128 (JETIR) www.jetir.org 566
7) Ayuba, A.O & Adegboyega K, (2020). Implication of the workplace sexual harassment of the working women in Nigeria. *International Journal of Development and Management Review* (INJODEMAR) Vol. 15(1): 195-211
8) Baidoo-Anu D, Ansah L.O (2023). Education in the era of generative artifcial intelligence (AI): understanding the potential benefts of ChatGPT in promoting teaching and learning. J AI. 7(1):52–62. https://doi.org/10.61969/jai.13375-00. 50.
9) Baidoo-Anu D, Asamoah D, Amoako I, Mahama I. Exploring student perspectives on generative artifcial intelligence in higher education learning. Discover Educ. 2024;3(1):98. https://doi.org/10.1007/s44217-024-00173-z.
10) Dangana-Onuche G.O, (2020). "Element of Population Studies'' in Adesola Ogidiolu. & David Ajibade (eds) *Topical Issues in Social Sciences,* Faculty of Social Science Kogi State University Anyigba. Pp 282- 307.
11) Dangana-Onuche. G .O, (2021).'' Demography and National Development in Nigeria'' in T.I Gomment (eds). Sociology and National Development, Kogi State University Press, Anyigba, Kogi State. pp 113-132.
12) Deng N, Liu EJ, Zhai X (2025). Understanding University Students' Use of Generative AI: the roles of demographics and personality traits. arXiv preprint arXiv:2505.02863.
13) Dzifa , A, Akua N .A, · Moses S. (2024). Antecedents of artificial intelligence and learners demographic characteristics in higher education: implication for human resource managers. *Current Psychology* https://doi.org/10.1007/s12144-024-06732-9
14) Eleje LI, Metu IC, Ikwelle AC, Mbelede NG, Ezeugo NC, Ufearo FN, (2022).Influence of cyber- security problems in digital assessment on students' assessment outcome: lecturers' perspective. J Sci Res Rep.28(10):11–20. https://doi.org/10.9 734/JSRR/2022/v28i1030551.
15) Essien NP, Ododo E, Nathaniel J.T (2024). Perception of Generative Artificial Intelligence Technologies in Academic Writing among Postgraduate Students in South-South, Nigeria.AsiaAfrJRecentSciRes4(1);.https://journals.iapaar.com/index.php/AAJRSR/article/view/ 206 8.
16) Gozalo-Brizuela R, Garrido-Merchan E. C(2023). ChatGPT is not all you need. A State of the Art Review of large Generative AI models. From https://arxiv.org/pdf/2301.04655. Accessed 20th February, 2025.
17) Ibe AN, Siyanbola WO. Digital inequality and the implications of AI in Nigerian higher education. Glob J Digit Educ. 2022;14(4):23-38.
18) Jones, Linda A et al., (2022). Public opinion on sharing data from health services for clinical and research purposes without explicit consent: an anonymous online survey in the UK. BMJ Open. Vol. 12, no. 4, p. e057579. https://doi.org/10.1136/bmjopen-2021-057579
19) Kiburu, L., Boso, N., & Njiraini, N. (2023). Exploring how demographic factors influence consumer attitudes and technology usage. Serbian Journal of Management, 18(2), 353– 365.
20) Kohnke, L., Moorhouse, B. L., & Zou, D. (2023). Exploring generative artificial intelligence preparedness among university language instructors: A case study. Computers and Education: Artificial Intelligence, 5, 100156.
21) Krause S, Panchal BH, Ubhe N. (2024). The evolution of learning: assessing the transformative impact of generative AI on higher education. In: International conference on artificial intelligence in education technology; p. 356–371. Singapore: Springer. https://doi.org/10. 1007/978-981-97- 9255-9_24 4.
22) Lohana, S., & Roy, D. (2023). Impact of Demographic Factors on consumer's usage of digital payments. FIIB Business Review, 12(4), 459–473.

23) Malkewitz, C. P., Schwall, P., Meesters, C., & Hardt, J. (2023). Estimating reliability: A comparison of Cronbach's α, McDonald's ωt, and the greatest lower bound. Social Sciences & Humanities Open, 7(1), 10-12

24) Michal Kubovics (2025).The Impact of Age Groups' Attitudes Towards Artificial Intelligence and Data Protection. *International Journal of Business and Economic Research 14(3): 99-108*

25) Nikolopoulou K. (2024).Generative artifcial intelligence in higher education: exploring ways of harnessing pedagogical practices with the assistance of ChatGPT. Int J Changes Educ.;1(2):103–11. https://doi.org/10.47852/bonviewIJCE42022489.

26) Nwokolo C. Addressing the digital divide: Overcoming barriers to AI adoption in Nigerian universities. J Afr High Educ. 2022;19(1):102-16.

27) Ogunyemi L, Ajayi B, Adebanjo O. The potential of AIdriven tools in Nigerian higher education. Int J Learn Technol. 2020;15(4):56-72.

28) Rodrigues MMM, Silva R, Borges A, Oliveira C, Franco M. Artificial intelligence: Threat or asset to academic integrity? A bibliometric analysis. Kybernetes. 2023. https://doi.org/10.1108/K-09-2023-1666

29) SCARPI, Daniele, PIZZI, Gabriele a MATTA, Shashi, 2022. Digital technologies and privacy: State of the art and research directions. Psychology & Marketing. Vol. 39, č. 9, s. 1687– 1697. https://doi.org/10.1002/mar.21692

30) SCHEPMAN, Astrid and RODWAY, Paul, 2023. The General Attitudes toward Artificial Intelligence Scale (GAAIS): Affirmative Validation and Associations with Personality, Corporate Distrust, and General Trust. International Journal of Human-Computer Interaction. Vol. 39, no. 13, pp. 2724-2741. https://doi.org/10.1080/10447318.2022.2085400

31) Tang Y, Zhang K, Liu X. Teachers' acceptance of artificial intelligence in higher education: an empirical study. Comput Educ. 2022;182: 104463. https://doi.org/10.1016/j.compedu.2022.104463

32) WILLEMS, Jurgen et al., 2023. AI-driven public services and the privacy paradox: do citizens really care about their privacy? Public Management Review. Vol. 25, no. 11, pp. 2116-2134. https://doi.org/10.1080/14719037.2022.2063934 [9] ZHANG, Ceciley (Xinyi),

33) RICE, Ronald E and WANG, Laurent H, 2024. College students' literacy, ChatGPT activities, educational outcomes, and trust from a digital divide perspective. New Media & Society. p. 14614448241301741. https://doi.org/10.1177/14614448241301741

34) Wood D, Moss SH. (2024).Evaluating the impact of students' generative AI use in educational contexts. J Res Innov Teach Learn. 17(2):152–67. https://doi.org/10.1007/978-981-97-9255-9_24. 6.