Title

Exploring the concept of trustworthiness in the use of generative artificial intelligence: perspectives from higher education stakeholders in Nigeria

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Chapter 1: Introduction

1.1 Research Background

The rapid evolution of digital tools has completely revolutionized most sectors across the world, with one of the major sectors which has been most affected being education (Lim et al., 2023). In recent years, the appearance and widespread use of Generative Artificial Intelligence (GAI) has been of particular note, i.e., to AI technologies that generate original content in the form of different formats, based on learned patterns in the datasets (Chang et al., 2023). Platforms such as OpenAI's ChatGPT, Google's Gemini, and image generators, such as Midjourney, and DALL·E, have revolutionized communication, ways of learning, creative expression, and productivity (Wong, 2024).

In the world of higher education, these tools are to be used more extensively in the instructional methods, student assessment, scholarly activities, and research endeavors. However, the role of these tools triggers essential doubts as to their trustworthiness another name for the reliability, openness, responsibility, and ethical use of these systems (Lim et al., 2023). This research focuses on evaluating the credibility of these innovations in the Nigerian higher education context and draws upon the input from students, faculty members, and administrators.

The Rise of Generative AI in Education

Generative AI denotes a leap beyond traditional algorithmic computing in that systems are capable of producing human-like outputs, innovative outputs, and a flexible solution. In schools, generative AI provides personalized learning, automated assessment, assistance in academic writing and support of research (Pedersen, 2023). The ChatGPT and similar AI technologies enable students to summarize academic texts, create structures of expositions and trigger creative thinking, but the educators investigate AI capabilities for better learning, more convenient grading, and content creation.

Scholarly bodies in the rest of the world, and most in highly industrialized technologically advanced countries are beginning to formalize AI policy frameworks that enable innovation while at the same time protecting academics from ethical bondage. The sound ethics, digital competency, and transparency standards, are being personalized into academic curricula and academic honesty guidelines (Fisk et al., 2023). Wherever the adoption of generative AI progresses, unique conditions and opportunities emerge in educational systems of countries that are developing digital economies, such as Nigeria's.

The Nigerian Higher Education Landscape

The number of universities in Nigeria exceeds 170 ranging from federal, state and private. Since a considerable part of its population is under 25 years, there is continuous pressure on its universities to increase enrollment and serve the increasing calls for higher education (Murugesan et al., 2023). However, there are perpetual challenges on the system including shortage in funds, limited resource availability, large numbers in classes, low student, teacher ratios and inadequate infrastructure (Walczak et al., 2023). As at recently, there have been strides made to digitalize education delivery in the midst of continued disruptions, especially from the COVID-19 pandemic.

Despite infrastructural issues, the students and scholars in Nigeria are participative in the contemporary developments in technology throughout the world. Owing to general smartphone ownership and growing mobile internet accessibility, students often try out AI-powered platforms independently, often ignoring institutional oversight or control (Alasadi et al., 2023). Therefore, generative AI poses a complex problem: While generative AI has an inherent opportunity to bridge the educational divide and improve the user potential, it does introduce dangers in the form of a spread of misinformation, plagiarism risks, enhanced academic dishonesty and reliance on un-checked content (Gruenhagen et al., 2024).

Understanding "Trustworthiness" in AI

Trustworthiness is one of the multiple aspects of AI that scholars of both disciplines have identified. Both the OECD's AI principles and the AI ethics guidelines that the European union has articulated provide a requirement that trustworthy AI must be lawful, ethical, and robust. For educational institutions trustworthiness refers to AI tools that provide accurate, unbiased, definitive, culturally appropriate, and educational standard respecting outcomes (Tang et al., 2024). This also requires openness on where data originates, how algorithm functions and how users relate with the system.

Trust in the technology is rather personal and affected by cultural backgrounds. Trustworthiness discussions, in technologically-favoured countries, normally center around the defense of user data, algorithmic visibility, and placing a responsible check (Alshamsi et al., 2024). In these parts of the world such as Nigeria where resources are scarce trustworthiness of AI may depend on digital skills, socioeconomic status, lingual barriers, the state of infrastructures of education, and the expectations that society has about technology from advanced countries (Yusuf et al., 2024).

For Nigerian students, criteria for trustworthiness can include alignment with academic requirements, respect for local traditions and clarity in language, instead of only technical precision. To teachers, trustworthiness may be measured by how well the tool corresponds to the academic values, facilitates learning objectives, and respects the role of traditional educators in the classroom (Adedoyin et al., 2024). Trustworthiness is assessed more meaningfully in terms of how stakeholders see and engage with systems, and in terms of institutional practices.

Ethical and Pedagogical Concerns

One of the major issue points of debate over the use of GAI in the higher education worlds centers on the idea of academic integrity. Universities across the globe are experiencing problems with students utilizing GAI tools for essay writing, completing homework or research without correct citation, or understanding the sources of quotes (Wordu, 2024). This generates concerns regarding academic misconduct, plagiarism and degradation of quality of learning outcomes. Besides, as generative AI works with uncertainty, it is able to produce false information that may seem genuine, which is a serious danger towards assurance for the lack of accuracy and reliability of academic research (Bali et al., 2024).

Introduction of GAI in the curriculum engages faculty and administrators toward updating pedagogical models, evaluation systems, and institutional rules. Another issue emerges with regards to the ethical treatment of data whether these tools gather or exploit private details on a person or institution without loaded consent or whether TCAs reinforce the westernized approach to the detriment of the indigenous approach (Olatunde-Aiyedun, 2024).

The dearth of structured AI policies across most campuses in Nigeria, coupled with a general shortfall of faculty training on responsible adoption of AI undermines these ethical concerns (Reggi et al., 2021). In the absence of guidance, there is a danger that both the educators and students will try ad-hoc or untested practices regarding GAI and misuse of them can, by degrees, erode confidence in their application.

The Digital Divide and Local Relevance

Although generative AI appears to make the playing field level, there are huge gaps in terms of who has access and benefits from these tools. Internet connectivity, digital devices, power reliability are all distributed unevenly in Nigeria; institutions in urban areas experience a stark contrast with those in rural areas. The digital environment builds a divide regarding the ability to access GAI tools, frequency of use, and results (Morris et al., 2022). Less resourceful institutions

might discover that students get left behind by new technologies, while more well-endowed institutions may use AI in excess to compensate from incompetence of teaching assistance.

Additionally, generative AI models are mostly trained on western context datasets which lowers the descriptive capacity for Nigerian locales, dialects, cultural references and academic norms. Such a student, for example, when investigating Nigerian constitutional law through prompts for ChatGPT, may receive a response that ignores local legal peculiarities (Lythreatis et al., 2022). Such discrepancy can affect the confidence of the users in the tool and diminish its role in fulfilling the learning needs on a local level.

The Need for Stakeholder-Centered Inquiry

There is a growing body of scholarly thought concerning the ethical application of AI in education at a global level, but the dialectic is dominated by perspectives from North America, Europe, and select Asian states (Liu et al., 2022). Despite the global debate on AI ethics in education being driven largely by North American, European and Asian perspectives, African contexts, and more specifically the Nigerian higher education contexts, are relatively unexplored in empirical research on ethically integrating GAI (Adam et al., 2021). Such underrepresentation can lead to adoption of policies not applicable to local contexts, or even make institutions stagnate without creating any guidelines.

To narrow this gap, it is critical to engage university staff, student and student administrators in the GAI tools learning process on how they are perceived and utilized. In taking a stakeholder-centered approach we can create a trustworthiness from the ground up, instead of depending upon artificial metrics that do not depict the realities with respect to local situation (Ferreira et al., 2021). This entails the analysis of students' resolution of reliability, lecturers' solutions to ethical dilemmas and administrators' visions towards policy formulation.

The implementation of generative AI in schools is no exception – it is accompanied by great possibilities as well as serious challenges. With the established structural inefficiencies in Nigerian educational systems, the introduction of new tools ought to be undertaken with keen thought (Chugh et al., 2023). At the core of this analysis is trustworthiness as it is understood, observed and practiced by scholars and administrators.

At the crossroads of digital progression, values, and the administration of higher education lies this research. By incorporating Nigerian stakeholders' perspectives, the study aims to provide a contextual definition of trustworthiness in generative AI and to suggest practical advice for its

ethical usage (Cheng et al., 2022). This way, the study fills a huge gap in the current intellectual discussion and institutional architecture, enabling Nigeria's academic environment to be a co-participant in the revolutionizing transformation of the process of technology adoption.

1.2 Problem Statement of the Research

The increasing penetration of Generative Artificial Intelligence (GAI) into higher education causes a significant shift in the terms of knowledge production, distribution, and evaluation. Such generative AI systems as ChatGPT, Claude, DALL·E and Google Gemini are more and more used by students and educators for any individual activities of education from writing the essay to preparing the course materials and coding support (Adhikari et al., 2023). These developments hold promises of better productivity, greater personalised learning opportunities, and wider dissemination of knowledge; but these also ignite serious concerns about trustworthiness as educational integrity, fairness and data reliability are the bedrock of the modern academic setting.

Scholarly and institutional reaction in highly developed nations focuses on developing of ethical standards, introduction of usage policies, and strengthening of digital literacy. In countries such as Nigeria where development has been more uneven the responses have been coming out more unstructured, casual and often reactive (Mertanen et al., 2022). While Nigerian students and faculty continue to embrace GAI, especially on mobile platforms and informal networks, very few universities have formal policies governing, supervising, or evaluating the use of the technology.

A range of multifarious and location-specific variables are needed to establish the trustworthiness of GAI. Technically, trustworthiness refers to the reliability, openness, impartiality, clarity, and responsibility of AI-formatted materials. Educational, trust is based on such aspects as the quality and accuracy of information, cultural appropriateness and academic consistency with responsible ethical use (Sauvola et al., 2024). In Nigeria, scholarship concerning the way in which stakeholders in higher education conceive of or judge these facets of trustworthiness is scarce. Because of such lack of data, it becomes challenging to create actionable recommendations for local academic cases.

An important point is that trustworthiness has a different meaning in both contexts. For example, a U.S. student can have different ideas about transparency and accountability from a Nigerian student who has problems such as spotty internet, lack of appropriate contextually relevant data, or unknown language interfaces. For example, Nigerian university professors might

not believe in generative AI systems because of people issues such as data mis-use, intact scholarly rigor, or educational power changes (Essien et al., 2024). These scenarios, which are used to raise particular concerns, are frequently disregarded in modern global AI ethics guidelines that tend to favour a single approach that is Western-focused.

Also, Nigerian universities are in a unique socio-political and infrastructural terrain. Differences in electricity, slow Internet access, lack of resources, and lack of digital competence among the faculty and the students make the implementation of new technologies even more difficult (Chang et al., 2023). Even with these AI tools available at hand, students and faculty themselves are left with flimsy institutional direction, digital training to create high ethical and efficient use of these AI tools (Wong, 2024). This might make users either too trusting of the tools without challenging them or reject them out of fear or a lack of understanding, both of which are harmful to academic honesty.

Another complication comes into play in connection with academic integrity and educational standards. The problem of plagiarism, the threat presented by "AI ghostwriting," and even possible loss of critical thinking as reliance on generative- type AI increases confront higher education institutions worldwide (Lim et al., 2023). Such issues are particularly crucial in Nigeria because of the prolonged challenges such as examination malpractice, insufficient research practices, and already tensed students becoming successful with little resource (Pedersen, 2023). Lack of clear instructions for the use of GAI will threaten the authenticity of academic work and destruction of the quality of education in Nigeria.

Further, while there are early conversations on AI at the national level which are illustrated by the draft National AI Strategy released in 2023, these endeavors are nascent and primarily touch on economic, healthcare as well as security applications. The extensive impacts of GAI on the education sector, including higher education, have not been studied systematically (Fisk et al., 2023). Therefore, the Nigerian universities do not have an integrated approach to deal with the advent of GAI in a creative and ethical way. Consequently, technology developments are not in tandem with institutional readiness and this inspires more distrust and caution (Murugesan et al., 2023).

In important terms, the absence of stakeholder input to this dialogue worsens the issue. Many of the existing analyses of trust in AI are conducted outside Africa, leaving out the way local communities define and value AI in the setting (Walczak et al., 2023). It is a threat to come up

with impractical or inadequate strategies if the perspectives of the students, lecturers, and the administrators who frequently work with the GAI are not reflected in the process.

Finally, we need to explore how trustworthiness related to generative AI is lived and understood by practitioners in Nigerian higher education. Addressing this problem is more than just an academic problem. it has far-reaching implications in policy setting, upgrading teaching strategies, and steering the moral course of computer-based teaching in Nigeria (Alasadi et al., 2023). With learning settings on a global view being so rapidly transformed by generative AI, Nigerian universities have a pressing need to develop a practical, culturally sensitive attitude on trust that addresses their unique situation, resources, and aspirations.

1.3 Research Question(s)

The increasing use of generative artificial intelligence (GAI) in academic settings and the increased concerns about the trust worthiness of these technologies in Nigerian universities has driven the need to examine the central concern:

Main Research Question:

- How do higher education stakeholders in Nigeria perceive and interpret the concept of trustworthiness in the use of generative artificial intelligence tools?

The most important research question is the one arising from the need to understand the contextual influences, values, and barriers that affect the way stakeholders trust GAI technologies in Nigerian universities. The research seeks to uncover students', academic staff's, and institutional leaders' views on the dependability, ethics and suitability in an academic context of AI-generated materials, and the environmental factors that promote or hinder their use.

The study will address several sub-questions, such as:

- What factors do Nigerian higher education stakeholders consider important in determining the trustworthiness of GAI tools?
- How do infrastructural, institutional, and cultural contexts influence trust in the use of GAI in academia?

1.4 Research Aim(s) and Objectives

Research Aim

The primary objective of the investigation is to study the view, definitions, and assess those who are involved in Nigerian higher education trustworthiness of the GAI tool. The study seeks to investigate the students', lecturers' and institutional leaders' viewpoints on GAI's reliability,

ethical implications, and educational value, as well as its social background, technical knowledge, and organizational environment influences.

Using this approach, the research is aimed at providing actionable recommendations, which can guide the policy, digital literacy initiatives, and the practice of ethical AI implementation in Nigerian higher education institution.

Research Objectives

To achieve that goal, the study will be involving the following specific, measurable, achievable, realistic, and timely research objectives:

- To examine how key stakeholders (students, lecturers, and administrators) in selected Nigerian higher education institutions understand the concept of trustworthiness in relation to generative AI tools.
- To identify the contextual factors technological, infrastructural, pedagogical, and cultural that influence stakeholders' trust or distrust in the use of GAI in academic settings.
- To assess the perceived risks and benefits of using generative AI in teaching, learning, and assessment processes from the perspectives of various stakeholder groups.
- To develop practical recommendations for Nigerian higher education institutions on how to foster trustworthy and ethical use of GAI tools.

1.5 Significance of the Research

ChatGPT, Bard, and other GAI tools are being more embedded in educational environments across the world, the demand to address the matter of trust, ethical practices, and academic integrity preservation increases (Tang et al., 2024). In the Nigerian higher education's scene, characterized by infrastructure hiccups, digital divides, and a dynamic pedagogy; the relevance of appraising the legitimacy of emerging technologies is highlighted. This research therefore enriches education, technology, and policy stakeholders, and academia with valuable and relevant insights.

Contribution to Higher Education Institutions and Stakeholders

This research is most useful to university administrators, academic staff, and students of the higher learning establishments in Nigeria. The study will provide a practical perspective for academic staff and administrators on how stakeholders view the reliability of GAI tools. This knowledge may be used to develop policies about academic integrity, digital literacy, AI based assessments as well as classroom interaction. If the concerns of educators' trust are identified,

higher-ed institutions will be in a better position to develop effective policies on ethical integration of AI, and which will minimize misuse and reinforce pedagogical goals (Alshamsi et al., 2024).

A more aware population of ethical AI practices in learning will be given to students through this research. Since many students depend on GAI tools to go about tasks such as essay writing, research, or completion of assignments, the research findings could be used in developing educational frameworks that could teach students to evaluate GAI generated material, encourage responsible academic practices and ensure that the tool is used accordingly with institution standards.

Contribution to Policy and Educational Governance

The implications of the research are relevant for future policy both locally and nationally with regards to AI in university education. The findings of this research will help to provide insight on how institutions such as the National Universities Commission (NUC), the Joint Admissions and Matriculation Board (JAMB) and university senates should design or revisit AI management protocols. For the time being, there is little to no control or direction in regards to the use of generative AI in education in Nigeria (Yusuf et al., 2024). The contribution of this study is to flesh out the subtleties of stakeholder trust and anxieties so that policymakers can identify necessary protections and implement big picture structures that support transparency, accountability and inclusiveness.

It also informs policymakers on digital transformation strategies that take into account Nigeria's infrastructural and socio- cultural contexts. For instance, universities located in urban areas heavily populated will face peculiar trust issues that could be drastically different from those that exist in rural or less endowed societies (Adedoyin et al., 2024). The findings of this investigation will contribute more just and well-informed choices on the part of policymakers.

Contribution to the Technology Sector and AI Developers

These findings are interesting for AI developers, edtech companies, and technology providers in the African and Nigerian markets. A study on Nigerian users' attitude towards GAI tool's trustworthiness can inform developers about the type of features that are more compatible to users who advocate transparency, reliability, culture-appropriateness and privacy (Wordu, 2024). This research will encourage technologists to rethink trust beyond its technicality, which is something that is socially and culturally constructed and must be recontextualised for local contexts and which should actively involve users in the design.

The research can arouse ethical design norms and encourage collaboration of developers and academic bodies to localize AI tools responsibly identifying trust barriers such as misinformation or lack of explain ability in AI generated materials.

Contribution to Global and African Academic Discourse

The project is developed in order to enrich current academic discussions that revolve around the issue of AI ethics, trust, and education, by including the underexplored African angle, which is rarely seen in the sphere of scholarly work. The bulk of previous work on AI trust in the education arena has been in Western or Asian settings, with their own particularities of infrastructure, pedagogy, culture (Bali et al., 2024). It will also transcend significant lacunae in existing literatures and foster diversity of episteme towards conversations about AI, trust and ethics.

This is of particular importance, given that global adoption of GAI tools extends to many different educational settings. With African voices added into the conversation, this study seeks to broaden global norms and best practices to include coming from a variety of experiences in the Global South (Liu et al., 2022). Its discoveries can inform future scholarly work which tries to incorporate AI adoption in different parts or contexts of Africa.

Contribution to Future Research and Curriculum Development

The impact of this research will form part of a discussion in academic circles about AI adoption in education, with particular attention to postcolonial technologically advancing regions. This study will be a useful enabler for scholars researching on digital trust, AI ethics challenges, or innovations in higher education in Nigeria and similar regions.

The research is also worth to be used for informing educational programs in teacher training, educational technology, computer science and ethics. The research-driven case studies and frameworks can be more successfully applied to the preparation of teachers and students for dealing with the ethical challenges of GAI technologies.

Broader Societal Impact

The findings of this study have the potential to advance greater digital inclusion and responsible AI adoptions across the country. Trust plays a significant role in the public alongside the government acceptance of digital innovations hence the building of trust in AI technology can positively shape people’s perception of digital advancement (Adam et al., 2021). This is particularly relevant given the ambition of Nigeria to lead the digital economy in Africa. By adding

trust-oriented AI practices to teaching, learners will have an opportunity to extend their digital capabilities, improve analytical skills, and acquire key readiness for innovation.

1.6 Structure of the Dissertation

This study comprises five interconnected chapters that incrementally advance the examination of trustworthiness in using generative artificial intelligence (GAI) for Nigerian higher education stakeholders. Structure of the dissertation are as follows:

Chapter One: Introduction

This chapter presents the origins of the research problem, the ground for its investigation, and the relevance of trustworthiness when using GAI in higher education. It identifies the research problem, formulates research questions, states the research aim and objectives, explains the need for the study, and gives an outline of how the dissection of the paper is organized.

Chapter Two: Literature Review

The literature review discuses previous studies on generative AI, trustworthiness of technology, ethical implications of digital tools, and the higher education sector. It critically addresses the major theoretical positioning and studies in its field around the area of trustworthiness and AI, highlights the gaps to be filled in investigation, and creates a foundation for comprehension of the studied subject.

Chapter Three: Methodology

The approach and the methods of the study are described in this chapter. The philosophical perspective, the research methodology, the sampling technique, procedures for data collection and data analysis, and important ethical guidelines are outlined in this chapter.

Chapter Four: Research Findings

The results of the study reported in this chapter relied on data collected from various stakeholders in Nigerian higher education. It provides the results of the research construed in the light of the research questions and current literature, highlighting key themes and trends relative to the trust associated with GAI applications.

Chapter Five: Discussion of Research Findings

The concluding chapter summarizes the key findings, revisits the intentions and objectives of the research, and provides practical recommendations to the pertinent stakeholders. Furthermore, the chapter recognizes the limitations of the study and presents suggestions for further research.

Chapter Six: Conclusion and Recommendations

The concluding chapter summarizes the key findings, revisits the intentions and objectives of the research, and provides practical recommendations to the pertinent stakeholders. Furthermore, the chapter recognizes the limitations of the study and presents suggestions for further research.

Chapter 2: Literature Review

2.0 Introduction

This chapter examines the underlying concept of trustworthiness in generative artificial intelligence (GAI) in higher education and in the context of Nigeria. In the course of GAI tools, such as ChatGPT, DALL·E, and other machine learning-based technologies gaining momentum in the academic settings questions about their reliability, ethical deployment, and perceived trustworthiness become an increasingly salient topic (Wakil et al., 2024). The chapter conducts an extensive literature review that integrates the current scholarly discourse within diverse fields such as education, ethics, computer science, sociocultural research, to account for how the general trustworthiness in GAI is conceptualized and understood by all relevant stakeholders (educators, students, administrators and policymakers) as prevalent in Nigerian higher learning institutions

2.1 Theoretical Framework

The current study's theoretical framework is based on three major theoretical lenses. Technology Acceptance Model (TAM), Trust theory, as well as Sociotechnical Systems Theory.

2.1.1 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) firstly proposed by Fred Davis in 1989 is still one of the most influential theoretical models of users' acceptance and adoption of novel technologies. The essence of the model is constructed over two key determinants of user behaviour (Funda et al., 2024). Perceived Usefulness (PU) & Perceived Ease of Use (PEOU). Perceived usefulness is the extent to which a person finds the use of a given system worthwhile for the purpose of assisting him or her in job performance, while perceived ease of use is the extent to which a person believes that using the system would be effortless (John et al., 2024). These are constructs that help predict an individual's intention to use a technology which in turn influences system use.

While investigating the role of TAM in the context of GAI in the Nigerian higher education context, TAM offers a useful lens from which to examine how various stakeholders, including students, academic staff, and institutional administrators, perceive and respond to the AI systems' implementation in learning and administrative processes (Arueyingho et al., 2025). For example, stakeholders will tend to accept GAI tools such as ChatGPT, text-to-image models, or automated grading systems more readily if the users believe it will improve academic performance, ease workload, and create personalized learning or teaching (PU) experiences (Maart et al., 2024).

Similarly, if these stakeholders perceive the tools as intuitive and fit in with the current systems or levels of skills (PEOU), their willingness to adopt also increases.

The fact that TAM is simple and has a predictive capacity has made it popular in various technology adoption studies in different industries such as education, healthcare, and business. Up to date, researchers have developed extensions to the initial model so as to account for contextual and social variables (Oludipe et al., 2025). An extended form of TAM called TAM2 suggested by Venkatesh & Davis (2000) introduced such variables as subjective norms, image, job relevance, output quality and result demonstrability (Gahamanyi et al., 2023). These additions are particularly relevant to higher learning institutions where external factors like peer behavior, institutional policies, and attitudes towards academic integrity, amongst other factors, directly influence technology use.

In Nigeria, where infrastructural constraints, cultural expectations, and regulatory ambiguities play huge parts on the adoption of new technologies, these expanded TAM variables take further significance (Oyemolade et al., 2024). Such facilitating conditions such as access to stable internet, training availability, and administrative support may influence how the university staff and students conceptualize the ease of use and utility of GAI tools. Likewise, social influence, which could be from colleagues, institutional leaders, or academic communities at large, could either increase or minimize the perceived legitimacy and desirability of embracing generative AI technologies (Ngonso et al., 2025).

Further, the emergent nature of GAI and ethical and pedagogical nature of concerns it generates makes trust a key moderating variable in the TAM implementation. Although TAM does not entail trust as a construct, many studies have reported trust as having a critical role in the adoption of intelligent and autonomous systems (Abubakar et al., 2024). In GAI, the trust in the technology (for example reliability of output, safety of personal data, absence of bias) as well as the trust in those who developed this technology or promote its application (for example governmental agencies, universities or AI companies) may considerably influence PU and PEOU (Theodorio, 2025). For instance, a university lecturer in Nigeria might find a GAI tool to be useful and convenient, but still be hesitant to use it because of fears of data security, accuracy of content and possible misuse by students.

2.1.2 Trust Theory

Trust Theory provides a helpful framework for analyzing a complex nature of trust both around interpersonal environments and in technology contexts. On this point, Mayer, Davis, and Schoorman's (1995) integrative model of organizational trust is particularly relevant. It describes three crucial component requirements to govern trustworthiness. These three elements form a strong foundation upon which researchers can address the issue of how people and institutions are destroying or building trust within various societies including technological ones (Afolabi et al, 2024).

For the case of generative artificial intelligence (GAI) in the Nigerian higher education setting, Trust Theory enables the researchers to examine the ways in which students, lecturers, and administrators evaluate the degree of trustfulness of GAI technologies (Adeoye et al., 2023). Such GAI tools, such as AI-powered writing assistants, content generators, grading algorithms, or academic integrity detection systems, are used by these stakeholders quite frequently without full insight into the real bases of those systems' work. Absence of visibility can create doubt, which means that trust becomes a crucial aspect when deciding to procure or discard a similar tool (Inah et al., 2024).

For students, they may trust in GAI if they would base it on whether or not the technology can make accurate, impartial, and relevant academic outputs. If the AI is to be seen as misunderstanding context, fabricating information, or creating culturally inappropriate content, students may believe that it cannot be trusted (Alhubaishy et al., 2021). Here, ability is an essential dimension: students should view the AI as having enough linguistic, academic, and contextual competence to assist their learning purposes. On the same note, integrity becomes important when students explore whether AI platforms are respectful of academic honesty, free from plagiarism, and adhering to the institutional values.

On the other hand, lecturers and academic staff might be more interested in benevolence and integrity. Trust in GAI does not only relate to functionality but to cooperation with pedagogical principles and academic ethics. For instance, when the lecturers are convinced that the AI tools discourage critical thinking or encourage reliance on machine generated content beyond the natural limit, they will withhold trust (Surahman et al., 2022). Similarly, the issue of bias in the AI training data commonly filled with Western-centric content may make the lecturers wonder if GAI tools are culturally appropriate for the Nigerian educational environment. These concerns are amplified when trust is taken from individuals to institutions. staff members might be skeptical of

institutional initiatives to require or support AI usage without proper consultation and openness (Nwozor, 2025).

Then, the administrators, who are often responsible for making strategic decisions about implementing technology, judge trust at an organization level. They need to determine whether the GAI tools conform to national data laws that protect reputations of institutions and provide value without posing ethical risks (Balalle et al., 2025). Integrity is especially relevant at this level given that administrators must guarantee that the systems that they aright embrace not only meet but exceed the regulatory standards, but also the societal expectations (Evangelista, 2025). Additionally, the ability is measured by the scalability, sustainability, and compliance by the system with the established digital space the aspects that are particularly significant in the resource-limited context of Nigerian higher education institutions.

One other critical feature of Trust Theory in this regard is the dynamic relationship between initial and developed trust. Initial trust is that initial base that users bring with them to a new technology most commonly stamped by brand reputation, peer pressure, or promotional story-telling (Ibrahim et al., 2024). Developed trust on the other hand, is based on one's personal experience and frequent contact. In Nigeria where the use of advanced AI tools has not been prevalent yet to most of the academic stakeholders, initial trust can be low (Olatunde-Aiyedun, 2024). This makes the institutions and developers responsible for earning the users' trust bit by bit through transparency, user education, ethical design, and open discussions.

The cultural influences play a very great role when it comes to development and maintenance of trust. Nigerian society is known for being high-context, community-based, and generally distrustful to institutions and external tools throughout its history. As such, establishing trust in GAI goes beyond technical performance; it requires cultural contextualization, inclusiveness, and response to the local needs (Abayomi et al., 2021). For instance, stakeholders might be more likely to trust AI tools that have been co-designed with the Nigerian educators or that provide transparency in several local languages.

2.1.3 Sociotechnical Systems Theory

STS Theory is a theory that points out the fact that social and technical subsystems are closely interrelated in any organization. This theory was developed in the 1950s by researchers working at the Tavistock Institute of London as a result of investigations of British Coal Miners, in which it was evident that technological tools could not operate at the maximum level without

proper integration with human process, work culture and arrangement of organization (Uriri et al., 2025). The central idea of STS theory is that organisations comprise two systems, social system (people, roles, culture and structures) and technical system (tools, technologies, and processes), and both have to be simultaneously optimised to deliver key effective, sustainable results.

This theory is very applicable in the context of the incorporation of Generative Artificial Intelligence (GAI) in the Nigerian higher education. The adoption of the GAI here does not only then translate to an exercise of tech nature, installation of software or deployment of AI tools. it demands considered conformity with, and support from, the well-established social phenomena like pedagogical practices, institutional hierarchies, cultural values, user competencies, and governance models (Yakubu, 2024).

In Nigeria, there is a combination of traditional approaches to education and attempts at a digital transformation in the higher education system. Many lecturers are still using didactic and lecture-type teaching, whereas infrastructural constraints such as unreliable electricity, limited access to high-speed internet, and low levels of digital literacy still make it difficult to integrate technology seamlessly (Nnorom, 2025). In this background the STS theory can assist to conceptualise the advent of which the success or failure of GAI implementation will depend much on the technical capability of the tools and not the fact that how well the tools will be embedded within the social fabric of educational institutions (Mauti et al., 2024).

The technical subsystem of GAI comprises AI-powered writing assistants, content creation platforms, automated grading systems, intelligent tutor systems, and plagiarism detection software. These tools are aimed to improve productivity, personalize learning, and automate academic workflows. These technologies however are not neutrals, they imply certain epistemological assumptions, linguistic taste, and algorithmic bias which should be subjected to deconstruction, particularly in multicultural educational settings such as Nigeria (Opesemowo et al., 2024). For example, a GAI tool developed using Western data and essentially trained on Western students' homework and standards of what the students should do or accommodate could be misaligned with the local curriculum, cultural nuances, and academic expectations; limiting its effectiveness, or introducing subtle academic exclusion (Shittu et al., 2024).

As opposed to this, the social subsystem is made up of human agents and their roles, behaviors, motives, and interactions. This all includes lecturers, who have to adjust their teaching styles to introduce AI tools; students, who need to learn how to critically treat the content generated

with the AI; administrators, who need to develop policies and guidelines of the AI usage; IT personnel, who are responsible for the infrastructure and maintenance (Chan et al., 2025). Whether or not GAI is accepted and can be effective in universities will depend on how these actors understand the role of AI in education, how much faith they put into it, and whether they perceive it as a threat or an empowerment (Al-Samarraie et al., 2024).

The concept of joint optimization is one of the fundamental insights of the STS theory. According to this principle, none of the two systems should dominate the technical system or the social system. instead, both should be maximized concurrently. In the context of Nigerian higher education, this may involve creating AI systems which are technically sound as well as culturally adaptive and pedagogically relevant (Chaudhry et al., 2022). For instance, the institutions may come up with GAI tools embedded with Nigerian historical, literary and social content to make them relevant and inclusive. Likewise, they could provide professional development courses to upskill the faculty and students to develop enhanced competence and confidence in implementing AI systems (Chukwuere et al., 2024).

Additionally, STS theory emphasizes the value of participative design; a scheme in which the end-users actively participate in design and implementation of technological systems. By also involving Nigerian lecturers, students, and administrators in the customization and deployment of GAI tools, more alignment to the institutional goal can be attained, greater trust of the system and less change resistance (Damiano et al., 2024). For example, feedback systems can be implemented to continue fine-tuning AI tools using the experiences of its users, so as to make it a more user-friendly environment towards technology.

STS also helps to provide insight into the emergent challenges inherent in GAI adoption. These can be ethical dilemmas (such as academic dishonesty, issue of surveillance), organizational resistance (fear of job displacement, lack of incentive structures), as well as policy gaps (absence of national AI guidelines or data protection rules) (Dogru et al., 2024). These problems cannot be addressed by technology solutions only. they involve social negotiation, institutional governance and cultural sensitivity staples of the sociotechnical approach.

The Nigerian educational landscape has a highly centralized system of governance in which decisions on curricula, technology policy, and funding are often taken from the federal or state level. The STS theory encourages us to think about how these governing structures come in contact with technical systems and institutional cultures that would promote or deter innovation

(Dotan et al., 2024). For example, national investment in digital infrastructure can substantially increase the technology readiness of universities, yet without similar investment in changes management, faculty training, and student involvement, GAI systems might fail to deliver the potential (Farhi et al., 2023).

The Sociotechnical Systems Theory presents a holistic approach for creating meaning out of the ambivalent relationship between technology and society when implementing GAI tools in Nigerian higher education. It moves it from the technology as a sole solution to the technology being part of the broader ecosystem of the social relationships, institutional practices, and cultural norms (Johnston et al., 2024). Drawing attention to joint optimization, participative design, and system integration, STS theory together with technological transformations is for a balanced, inclusive, and context-oriented approach to technological innovation (Kasneci et al., 2023). Applied to the Nigerian context, this theory brings out the significance of co-designed, culturally applicable, and ethically guided AI interventions that not only improve educational performance but also support the values of society and the pedagogic aims of higher learning institutions.

2.2 Theme One: Stakeholders' Understanding of Trustworthiness in Generative AI

Trustworthiness in Artificial Intelligence (AI) and especially in Generative AI (GAI) is multi-faceted and disputed. The fundamental elements that are often cited in scholarly works are transparency, accountability, and reliability, fairness, and maintaining ethical alignment (Khowaja et al., 2024). These dimensions are at the heart of establishing the ability of the AI systems to be safely and properly employed in sensitive areas like higher education. However, trustworthiness is not static and universal concept. it is influenced by the socio-cultural, institutional, and disciplinary contexts. The meaning of trustworthiness in the context of Nigerian higher education in GAI among different stakeholders (students, lecturers and administrators) is essential to its ethical, effective and sustainable adoption.

2.2.1 Conceptualising Trustworthiness in Generative AI

In GAI, the concept of being trustworthy implies the degree to which the users believe AI systems are safe, reliable, ethical, and beneficial. It is closely associated with trust, which refers to a willingness to be vulnerable to another party's actions (Lancaster, 2023). Such trust in the case of AI must be won by transparency (the users know how the system works), accountability (responsibility mechanisms in case of harm), fairness (outputs do not reinforce bias), reliability (the systems perform as expected), and alignment with the societal values (ethical compliance).

Generative AI is especially problematic for trustworthiness. By construction, GAI systems generate new content (texts, images, or code) that usually copies human output but is generated on the basis of opaque, probabilistic algorithms. Users may not understand where and why AI-generated content comes from, this might be a problem when it comes to the question of accuracy, authorship, and bias. In addition, GAI tools including ChatGPT, Grammarly Go, or Google Gemini are created and updated by private companies which may not always comply with educational morals or openness in their business activities (Liang et al., 2023). These apprehensions are amplified in under-resourced, pressure cooker situations such as Nigeria where digital infrastructure, light-handed regulation, and, AI literacy is still emerging at best.

2.2.2 Students' Perspectives on Trustworthiness

For those Nigerian University students, trustworthiness in GAI is usually discussed in terms of information provided and ethicality of using such devices. There is a lot of interest among students in the speed and efficiency of GAI systems, but there are also worries as to whether what they receive is factually correct, culturally relevant and educationally appropriate (Pan et al., 2024). Some students especially related to humanities and social science students have reservations against over dependence on AI for assignments based on fears of plagiarism or intellectual dishonesty.

Anecdotal evidence and initial surveys indicate that while students commonly experiment with GAI tools for activities such as summarising readings or composing essays, they are not sure about the rules of their institutions regarding the use of these tools. Such regulatory ambiguity influences their perception of trust (Lu et al., 2024). If by using a GAI tool, one may face possible academic repercussions, then the perception of the student toward it as a reliable companion in the learning process will be minimized, even when its output is helpful.

In addition, students are also sensitive to limitations related to ethics and culture of GAI systems. Some point out that the examples or metaphors produced by GAI are frequently based on Western contexts, missing their lived realities (Rawas, 2024). For example, if a student requests an AI tool to create an essay about Nigerian political history, he or she may get excessively simplified or West-centered content, and thereby decrease the belief in the system's adequacy and impartiality.

Nevertheless, students have a pragmatic side too. A lot of people are ready to forgive slight errors in AI-generated content if the tool saves time or enhances their writing. This pragmatic trust

is conditional: students can exploit GAI when generating ideas or checking entries for spelling mistakes, but will still wish to use manual writing for the final submission (Venkatesh et al., 2000). Notably, this conditional trust is moderated by access. Better internet connectivity, digital skills, exposure to international platforms, all work in favour of the adoption of GAI and reaching nuanced judgments as to constrictions of GAI.

2.2.3 Lecturers' Perspectives on Trustworthiness

In most Nigerian universities, the lecturers tend to treat GAI with caution. In their cases, trustworthiness is highly associated with academic integrity, pedagogical congruency, and disciplinary guidelines. A number of lecturers consider GAI a sword with two edges (Royer, 2024). Although it provides the teaching aids and feedback mechanisms, it also triggers the issues of plagiarism, shallow learning and the undermining of critical thinking.

STEM field lecturers might be more open to the use of GAI to generate codes, simulations, or data interpretation if outputs are easier to verify. On the other hand, lecturers in humanities and social sciences is more concerned about originality, depth and critical engagement (Damiano et al., 2024). Numerous educators are concerned about the possibility that the students will submit AI-generated essays without understanding the content, thus compromising the goals of higher education.

The question of transparency is very relevant. When lecturers are not able to easily detect or verify AI-generated content, they can view the technology as not reliable. This apprehension is heightened by lack of institutional guidelines. In most Nigerian universities, there is actually no defined policy on how to use artificial intelligence in coursework and research (August et al., 2024). Lecturers are left to their discretion in the absence of a regulatory framework; resulting in inconsistent methods that are often conservative.

In addition, GAI is doubted by lecturers concerning its pedagogical relevance. Some point out that AI tools facilitate shallow engagement, where students learning become focused on "getting the answer" instead of truly understanding concepts. Others see that GAI is, quite often, devoid of contextual sensitivity which is very important to disciplines such as African literature, indigenous knowledge systems or Nigerian law (Morocco-Clarke et al., 2024). Such perceived deficiencies diminish the perceived trustworthiness of these tools when it comes to facilitating disciplinary learning goals.

However, not all lecturers oppose GAI wholesale. A smaller group, specifically the younger generation, or those who have been exposed to global teaching methods, recommend it for inclusion in the curriculum as a critical debate point, research asset, or formative test (Ghimire et al., 2024). For these educators, being trustworthy is in the tool only if applied in guided ways reflective of critical insights with institutional support.

2.2.4 Administrators' Perspectives on Trustworthiness

From the administrative view, consideration of trustworthiness in GAI is informed by the policy compliance, data protection, institutional reputation, and regulatory alignment. The university administrators such as deans, ICT directors, and curriculum planners are more interested in the safety, ethical, and legal issues of using the GAI tools in their institutions (Dwihadiah et al., 2024).

Data security is a major concern. Most GAI tools run on cloud-based platforms which are owned by external companies. What worries administrators is where the student data is stored, who uses it and if it is being used within the confines of Nigeria's Data Protection Act (NDPA) laws (Hong, 2023). Without strong data governance at the local level, too many institutions play it safe, waiting until they have a clearer guardrail.

Institutional reputation is another driver. Administrators fear the media scandals that could emanate from AI-based plagiarism, misinformation, or biased output. Such precaution usually leads to restrictive policies or even prohibitions, which are then used to define how other stakeholders view the legitimacy and trustworthiness of GAI (Kramm et al., 2023) .

However, administrators are also able to see the potential of GAI for optimizing the operating efficiency, student engagement, and global competitiveness. There are some universities who are experimenting with AI-supported administrative roles like chatbot for admissions or automated performance analytics (Bobula, 2024). In these situations, fidelity is determined on the grounds of performance, cost-efficiency, and adherence to the strategic objectives as opposed to pedagogical considerations.

The administrators find themselves at times in a balancing act: promoting innovation, controlling compliance and institutional dominance. For GAI to be perceived as trustworthy, it is required to coordinate nicely with national policy directive, accrediting standards and internal governance structures (Dabis et al., 2024). This all too often means that even the best intentions of pilots or grass roots innovation are stalled by bureaucratic caution and regulatory inertia.

2.2.5 Cross-Stakeholder Tensions and Convergences

There are varying priorities and risk sensitivities that form the basis of the perceptions of trustworthiness across different stakeholder groups. Usability and ethical permissibility are valued by students. lecturers highlight academic standards and pedagogical rationality while the administrators pay attention to legality and institutional stability. Such differences may cause friction students may be complaining about the unfair punishment for using useful instrument; lecturers might not feel supported in dealing with new forms of academic dishonesty; the administrators can get overwhelmed by the speed of technology development (Olufemi et al., 2023).

There are also the points of convergence. Every stakeholder agrees that transparent guidelines, training, and inclusive decision-making is crucial to build trust. Students want to know what is permitted. lecturers at the same time, seek helpful tools, administrators want policy clarity (Akwara et al., 2023). These experiences and emotions appeal to the need for a contextual framework for GAI adoption that is participatory and transparent in Nigerian higher education.

2.2.6 Toward a Contextual Framework for Trustworthiness

Institutions need to have a common ground regarding trustworthiness that is grounded in local realities as well as the global standards. This could involve:

- Policy development: Creating clear, inclusive guidelines that define permissible uses of GAI across academic, research, and administrative domains.
- Capacity building: Offering training for students, faculty, and staff to understand both the capabilities and limitations of GAI tools (Aghiomesi et al., 2024).
- Feedback loops: Establishing mechanisms to collect and respond to user experiences, helping refine both technological use and institutional practices.
- Ethical auditing: Regularly reviewing AI tools for bias, data security, and relevance, especially in relation to Nigerian cultural and academic contexts (Daniel et al., 2025).
- Participatory governance: Involving all stakeholder groups in decision-making to foster ownership, accountability, and mutual trust.

2.3 Theme Two: Contextual Factors Influencing Trust in Generative AI

Trust in generative artificial intelligence (GAI) is not a predetermined concept everywhere; Instead, it is deeply influenced by the contextual environment into which, such technologies are introduced and used. In Nigerian higher education, this notion of trust in GAI tools is a mediator

between a configuration of interconnected technological, infrastructural, pedagogical, and cultural factors (Nyaaba et al., 2024). Together, these factors play a role in shaping the ways students, lecturers, administrators, and policymakers see and use AI tools within an academic environment.

2.3.1 Technological and Infrastructural Determinants

A fundamental pre-condition for trusting GAI tools is the capability in terms of technology and infrastructure to roll out and use such systems optimally. In Nigeria, challenges of technological readiness are still a big hindrance towards trust. Availability of devices, steady electricity and high-speed internet is not uniform between one institution and another (Chukwuere et al., 2024). While some private-based universities and urban institutions are blessed with fairly robust infrastructure, most public universities in semi-urban and rural areas suffer from frequent power failures, a lack of bandwidth and a dearth of modern computing facilities.

These infrastructural gaps are a direct way of discouraging trust in AI tools. Stakeholders are not likely to embrace or believe in systems that are perceived to be unreliable or always unavailable. Besides, the imbalanced distribution of resources between institutions creates inequalities in AI literacy and experience that further degrade common trust. For example, students who frequently have system crashes, delayed response, or poor user interface design will not consider GAI platforms reliable or valuable (Agbarakwe et al., 2024). This corresponds with the research provided by Morley et al. (2020), who state that trust in the AI is dependent not only on the capabilities of the system but also is reliant on local conditions that influence the usability of the system.

Apart from that, absence of local development of AI increases mistrust. Most GAI tools are created within Western contexts based on data and design norms, and pedagogical principles that may not correspond with Nigerian realities in education (James et al., 2025). This concern for the appropriateness of such tools in a particular academic and cultural context has been repeatedly voiced by stakeholders and still contributes to skepticism and detachment.

2.3.2 Pedagogical Frictions

Pedagogical architecture of Nigerian higher learning system adds another important layer of context to components of trust in GAI tools. Conventional teaching models are usually didactic in nature (lecture-based), teacher-centered and heavy in content (Okafor et al., 2025). These techniques usually place rote memorisation ahead of critical thinking or problem- solving, skills central to competence to interact with the GAI systems in a meaningful way.

Generative AI platforms, particularly involving content production, adaptive study, and student information, presume a pedagogical model that embraces interactivity, autonomy by the learner, and constructivist premises. This forms a disjunction between logic programmed in AI tools and the instructional practices that rule the Nigerian universities (Ezeh et al., 2024). For instance, if a student is conditioned in an environment where deviation from lecture notes is frowned upon, then they may doubt AI-produced responses, which present different perspectives or produce new material outside the curriculum.

Pedagogical friction exists for lecturers as well. Although educators do not know many of AI's operational logics, there is a precise degree of doubt as to how GAI outputs are constructed/generated and assessed. A lack of clear institutional direction over the usage of AI tends to intensify concerns around plagiarism, misinformation, and academic integrity. According to Shittu et al. (2024), in such situations, distrust springs up from "epistemic opacity"- the lack of understanding or being able to trace the processes that run behind AI decision-making. In the context of Nigerian setting where the academic credibility is tightly maintained and limited resources for education are at stake, this opacity may result into outright refusal or avoidance of GAI platforms.

In addition, pedagogical resistance is exacerbated by the lack of opportunities for professional development. Rarely, faculty receives formal educational technology training, and even less likely is AI integration training (James et al., 2025). With the lack of dedicated support systems, lecturers can feel threatened by GAI or that it adds an unnecessary burden on their work as teachers instead of viewing it as a tool to improve their practice.

2.3.3 Cultural Norms and Perceptions of Authority

Cultural influences are significant contributors to understanding trust in generative AI, especially in understanding knowledge and authority. There is a strong tradition of respect for hierarchical authority in many African societies, like in Nigeria (Okafor et al., 2025). In learning situations, lecturers are usually perceived to be the owner of knowledge and it is expected that the students were simply to accept and rehash this knowledge with minimal questioning.

This culture orientation may affect the response of stakeholders to machine generated knowledge. Students might not be willing to use AI-generated content that is contrary or differs from their lecturers' teachings. Likewise, GAI tools may be perceived by lecturers as a threat to their authority or as something that reduces them to knowledge gatekeepers (Ezeh et al., 2024).

This may lead to performative distrust in which the stakeholders publicly dissent or condemn AI tools even after recognising their potential usefulness.

Also, the feeling of artificially intelligence as “foreign” or even “Western” can remold perceptions about its trustworthiness. When the GAI platforms are perceived as external impositions and not solutions that are developed locally, then the users might take a cautious or defensive position (Akokodaripon, 2024). Arising from mistrust is that most GAI tools lack culturally relevant content, integration of local languages or indigenous knowledge systems. Stakeholders might feel AI tools are not sensitive enough or considerate of their lived realities in such occasions.

This overlaps with the concept of "situated trust" (Christian, 2024), according to which trust in AI does not only concern said technology but also its social and cultural contexts. Once AI tools are perceived to be in harmony with local values and needs, and expectations, they are likely to be trusted. On the other hand, tools that ignore the contextual specificities are at risk of being rejected or misused.

2.3.4 Policy and Regulatory Frameworks

The lack of solid policy frameworks also plays a role in bringing uncertainty and distrust in GAI deployment. Although numerous Nigerian universities have instituted general policies on Information and Communication Technology (ICT), few have defined explicit guidelines for the use of AI, ethics, or for accountability (Wakunuma et al., 2024). This regulatory vacuum places stakeholders at a loss in terms of a consistent yardstick to conform to what could be considered as appropriate or trustworthy in AI practices.

There is a common concern among administrators and IT personnel regarding the privacy of data, intellectual property, and the bias of algorithms, but no legal tools or institutional resources for systematically helping these concerns. Formal assurance mechanisms such as audit trails, bias detection protocol, or open data governance are lacking, meaning that trust in AI is fragile and context-dependent (James et al., 2025). Furthermore, the lack of accountability mechanisms would mean that AI errors or misuse instances go unaddressed, compounding the lack of confidence of users.

2.3.5 Psychological and Experiential Factors

Lastly, personal experience and psychological dispositions play a role in GAI tools’ trust. Consumers, who previously encountered AI in non-academic environments (social media,

customer service), can expect beforehand and hold preformed opinions regarding AI in the classroom (Kukharuk et al., 2024). The positive encounters can create curiosity and open-minded approach or bad interactions may cause skepticism or fear.

The psychological barrier to trusting GAI is often high in Nigerian universities, where the level of digital literacy is very uneven. Some students are anxious about being replaced by machines or receiving their work incorrect judgements due to opaque algorithms. Some fear being overly reliant on AI which causes skill atrophy or ethical complacency (Nacheva, 2024). These fears are compounded when institutional support is frail, peer networks are scarce, and the discourse about AI is either fanciful or scary.

And experiential learning can be a cornerstone for establishing trust. Students and lecturers provided with the chance to work with AI tools in a safe, exploratory mode are more likely to gain familiarity and confidence. Such exposure would de-mystify the technology and make it possible for the users to assess the strength and weaknesses of the technology in a reflective manner (Nam, 2025). However, this type of iterative engagement is not possible within the curricular structures of many Nigerian universities at present, which still further restricts the development of situated trust.

2.4 Theme Three: Perceived Risks and Benefits of Generative AI in Higher Education

Generative Artificial Intelligence (GAI) is emerging in higher education, and it is both a major transformative opportunity as well as a wide range of challenges. With GAI tools transforming educational landscape, there is a need to evaluate the experienced benefits and risks for participants in the Nigerian higher education such as students, lecturers, administrators, and policymakers (Rudolph et al., 2024).

2.4.1 Benefits of Generative AI in Higher Education

Enhanced Efficiency in Grading and Administrative Tasks

The most commonly identified benefit of GAI in higher education is the ability to increase the efficiency in marking and administrative processes. Automation of the routine and time-consuming tasks like grading assignments, quizzes, and exams, can potentially decrease the burden of educators thereby helping them focus on other intricate details of teaching and student engagement (Katsamakas et al., 2024). In Nigeria, where the lecturers are often overwhelmed by many students in comparison with the number of teachers, and lack the resources, GAI tools that automate grading can provide much-needed assistance.

AI can quickly go through the large numbers of assessments, giving students immediate response. It is this timely feedback that is very important in reinforcing learning so that students are able to better understand the course content. In addition, GAI can help in detecting the most common student errors and recommending personal resources to fill the knowledge gaps supporting a more personalized learning journey. As Al-Emran et al. (2025) observes, AI-powered software that facilitates instant grading and personalized feedback can be beneficial on two counts for both learning outcomes and student satisfaction.

For administrative staff, GAI tools can automate such procedures as registration, scheduling and allocation of resources. In Nigerian universities, where the administrators are often overwhelmed with work, automation of the tedious tasks can lead to improved resource uses, quicker responses, and increased organizational efficiency (Alshamsi et al., 204). This can in turn improve the overall student experience as this would minimize delays and bottlenecks on the administrative processes that affect the daily operation.

Personalized Learning Experiences

Generative AI promises to revolutionize personalized learning by providing learners with individualized educational experience. AI based learning platforms can monitor a student's success, locate strengths and deficiencies, and tailor the curriculum in real time to fit a student's unique requirements (Al-Zahrani, 2024). This individual attention strategy is especially helpful in Nigeria, in which the student bodies are so heterogeneous and their levels of preparedness and access to resources so different.

AI's capacity to offer adaptive learning environments gives the students room to learn at their own pace, ensuring that those that may require additional help get it without feeling stigmatized. Furthermore, AI can help to find students who risked falling behind, come up with interventions in a timely manner to prevent academic failure (Wakunuma et al., 2024). Personal learning experiences enhance students' engagement and motivation because he/she perceives him/herself as the master of his/her education process.

Furthermore, generative AI tools can provide individualized content recommendations, as they have access to huge collections of learning materials, such as textbooks, academic articles, video tutorials, and interactive exercises. Such customization can really add a lot to learning experience as it can allow students to get the material which might be the most relevant for their needs and interests as learners (Folorunso et al., 2024). When it comes to Nigerian universities

with limited access to high-quality textbooks and educational resources, AI could help fill this gap as it brings a wide range of learning resources to students.

Broader Access to Educational Resources

Generative AI can ultimately be used to democratize educational resources as well. From the perspective of Nigeria where inequality of the opportunity to use learning materials and technological infrastructure is the thing that is always there, the AI can be the equalizer for young people from different socio-economic backgrounds because it will give them an array of educational resources at their disposal (Leghemo et al., 2025). Students in the rural or deprived communities are in a position to receive high quality learning tools and platforms provided by AI through internet connectivity.

AI-embedded learning platforms may support translation of academic material to the local language, hence, making learning fair. Reducing barriers of entry GAI might be useful in promoting educational equality across Nigeria, particularly among those learners who might struggle with traditional learning material due to a language problem or lack of appropriate resources (Cranfield et al., 2021).

2.4.2 Risks of Generative AI in Higher Education

Data Privacy and Surveillance Concerns

Data integrity is another serious danger of generative AI to higher education in Nigeria. AI tools require enormous individual data to function best, from individual students' academic record, preferences to even behavioural data obtained while interacting with learning platforms. In the Nigerian environment where the laws surrounding data privacy and regulation are so immature, the question then becomes; how do institutions go about collecting, storing and using this sensitive information (Salmi et al., 2021).

Nonetheless, lecturers and students fear that AI systems may be used in order to monitor their students. their academic results, their learning habits, their personality, with no or poor transparency and consent. In a trust environment where inflation of institutions is already low, such concerns can be severely upsetting regarding stakeholders' interest in AI tools (Rossouw et al., 2023). Fear of misusing data, gaining unauthorized access to information, and losing the independence to own personal information, underlies the resistance of many stakeholders to embrace wide use of generative AI.

The absence of sound data protection systems in Nigeria continues to make such concerns more dire. Lack of strict mechanisms of regulation might lead to such perception of AI systems as potentially exploitative, if data can be sold to third parties, or employed for other purposes aside from educational ones (Khoza et al., 2022). With the information of data breaches and misuse in other industries there has been an uprising of skepticism of tech companies offering AI-powered platforms.

Algorithmic Bias and Inequality

AI-driven grading systems could bias the evaluation towards particular writing styles or linguistics, which could be prejudicial to those students who do not dispose of the archetypical characteristics. Similarly, AI-generated content recommendations can take the lead by featuring resources that express western views at the expense of indigenous knowledge or local academic setting (Azıonya et al., 2021). This may result in unfair learning opportunities and continued educational inequality with the marginalized groups in particular.

Lecturers can also fear that their professional judgment would be overcome by AI systems that would make judgments by algorithms rather than human expertise. The fear of being replaced by AI in the assessment of students or curriculum development may result in resistance of embracing AI. According to Maphalala et al. (2021), the increasing use of AI can affect the professional autonomy of the educators, who are traditionally regarded as the custodians of academic standards and values.

Over-Reliance on Machine Outputs

Generative AI tools, in and of themselves, are tools that will generate content and solutions by relying on algorithmic and pre-existing data. Although, these outputs could be useful in equipping students with instant responses or feedback, the danger arouses that students will become over dependent on machine-generated content replacing their thinking skills and independent research (Mpungose, 2023).

In the Nigerian system of higher learning where rote memorization and the exam-oriented learning are still predominant in many universities, the concern emerges that the students may become passive consumers of the knowledge created by the AI tools as opposed to active knowledge learners (Landa et al., 2021). Over-dependence on AI generated content may lead to the student missing out on the critical analytical skills required for academic development and personal growth.

In addition, there remains a possibility that AI tools may lead to lack of sense of academic integrity. Students might take advantage of AI technologies to perform assignments or produce results without deeply involving in the learning process, which raises plagiarism and academic dishonesty issues (Naicker et al., 2022). Lecturers, already concerned with cheating and misconduct, might be concerned that AI will instead make it easier for students to circumvent the traditional academic norms, further diminishing the credibility of academic evaluation.

2.4.3 Contextual Factors in Nigerian Higher Education

The Regulatory Vacuum

In Nigeria, the lack of thorough regulation of AI drastically increases the risk of generative AI. Unlike in some Western countries where learning bodies and governments are beginning to enact AI policies that guide the use of AI in education, Nigeria has no clear legal frameworks that guide how the tools can be implemented in learning environments (Laufer et al., 2021). This regulatory vacuum has hindered implementation of AI systems in universities with ease since there are not many guidelines or standards to guide them on ethical use of these technologies.

Higher-education administrators in Nigerian institutions are frequently placed in a situation where they must balance the desire to innovate and the requirement to follow international standards and local regulations. The fact that there is no national AI policy or higher education focus on AI ethics means that institutions are left to their own devices when it comes to the decision on whether and how they should incorporate AI tools into their curricula, thereby creating a disparate approach to the adoption of AI (Wakil et al., 2024).

Cultural Resistance and Trust Issues

Apart from regulatory issues, Nigeria higher education cultural resistance influences the perception of AI considerably. As indicated above, Nigerian lecturers and students might mistrust AI tools as they fear that the process of teaching and learning becomes beyond control. Nigerian academic culture with its hierarchical structures and lecturers being the only authority figures can make people resist the AI-based changes that reduce their authority or change the established student-teacher interactions (Dansarki et al., 2025).

Additionally, there is the element of trust. In the country where the problem with corruption, inefficiency, and political instability is prevalent among educational institutions, there is underlying distrust to both institutions and foreign technologies (Omeh et al., 2024). This distrust is fueled by the fear that AI may itself enhance the inequality that is already present or by the

apprehension that AI might be deployed without proper safeguards and specific considerations of local contexts.

2.5 Literature Gaps

With the rapid rise of artificial intelligence (AI) in changing the face of learning worldwide, giant strides have been taken for measures of AI in higher learning. However, despite the scaling of research on AI in the education settings, some literature gaps still exist that limit comprehensive understanding of potential and challenges in non-western and developing areas such as Sub-Saharan Africa (Abdullahi et al., 2024). This section will seek to address the existing literature gaps in AI adoption in education, with geographical gaps as a primary focus, whereby there are no empirical data on Nigeria and broader Sub-Saharan African contexts.

2.5.1 Geographical Gaps in AI in Education Literature

Most of the empirical knowledge about AI in education comes out from western countries, Europe, United States, and with a strong emphasis on East Asia, Japan, South Korea, and China. These areas have much more resources and infrastructure, as well as governmental support for developing and researching AI applications in education (John et al., 2024). Literatures from such regions are usually bias towards the technical aspects of AI, deployment of AI powered learning tools and the tied pedagogical shifts thereafter. The main topics of interest are the use of AI for personalization of learning, automation of administrative work, and enhancement of student outcomes (Funda et al., 2024).

In comparison to the copious research in the West and East Asia, there is a glaring deficit in empirical data and study of Artificial Intelligence (AI) in higher education in Sub-Saharan Africa, especially a dearth of investigations of the focus on Nigerian higher education institutions. This geographical gap means that the particular context, challenges and potentials of AI adoption in African countries are under-explored (Arueyingho et al., 2025). Although there exists some research on generally the use of technology in learning in Africa, there are very little research carried out on the use of AI particularly generative AI.

For example, study on AI adoption in African higher education is usually concerned with lack of access to technology, digital divide problems, and infrastructure concerns (Maart et al., 2024). Such research repeatedly focuses on the necessity for basic infrastructure and technological wealth, including reliable electricity, internet, and availability of computing devices. However, the

more fundamental, nuanced issues about trust, ethical concerns, and the application of AI in reconfiguring teaching and learning practices are rarely discussed in African contexts.

Moreover, although the Western literature looks at the integration of AI into educational designs in comprehensive detail, there is a lack of understanding about AI relations with African cultural norms, socio-political systems, and educational policies (Oludipe et al., 2025). When it comes to using artificial intelligence in African countries, the approach must be more localized to take into consideration unique socio-economic, political, and educational realities of the continent that are very different from those in the Global North.

2.5.2 Lack of Focus on Nigerian Higher Education

The largest lacunae of the literature are the lack of research focus on Nigerian higher education context, in particular, in respect to AI. Nigeria is one of the most populous countries in Africa with a rather large number of students at higher learning institutions, a case that offers unique insights to learn about AI adoption and its effects (Gahamanyi et al., 2023). However, there are only a few studies that explore how Nigerian higher education stakeholders, such as students, lecturers, and administrators, perceive and interact with AI, particularly with the use of generative AI tools.

Higher education in Nigeria is experiencing radical changes under the impact of growing number of students, lack of funds and necessity of innovative pedagogical systems. AI might be able to provide solutions to these challenges through automating grading, making personalized learning easier, and offering administrative services (Oyemolade et al., 2024). However, published literature is devoid of empirical studies that seek to identify the views and perceptions that Nigerian University systems hold about the risks and benefits of AI, their approach to incorporating it and its integration into the overall education system.

This gap is due to several factors. To begin with, there is a lack of data regarding the technological preparedness of Nigerian universities to adopt AI. Although there are research studies on the West on technical needs for AI integration such as infrastructure, teacher training and policy frameworks about AI, such research works in Nigeria is virtually non-existent (Abubakar et al., 2024). Nigerian universities face severe infrastructural constraints including poor electricity, low speeds of internet and lack of basic technological tools which make it difficult to adapt to AI-based educational tools (Ngonso et al., 2025). These, however, are never mentioned in the context of AI adoption in the academic literature.

Second, there is a lack of studies on cultural and ethical issues regarding AI in Nigerian higher learning. Nigeria has its specific cultural pattern with its unique system of education and norms, which may impact how AI is perceived and embedded into the curriculum. For example, Nigerian lecturers might have doubts regarding the ways AI can compromise professional autonomy or its effects on the quality of academic integrity (Theodorio, 2025). Such concerns are rarely discussed in literature, and without conclusions on this matter, it will be complicated to comprehend all the implications of AI in the Nigerian higher education system.

Also, there is a shortage of empirical research that explores the opinions of students in Nigeria on AI in education. Students in the Western world are frequently surveyed on their experiences with AI-powered learning tools but there are few accounts of Nigerian students' perceptions of AI, trust, utility, and privacy (Ogunode et al., 2024). Nigerian students, especially from marginalized communities, might have different expectations and fears of AI, especially related to the questions of data privacy/surveillance, and the ethical aspects of AI-generated content.

Additionally, little research has been conducted on how policy and regulatory frameworks have influenced adoption of AI into Nigerian higher institutions. In most Western countries, AI policies have already been implemented, which regulate where it should be used in the educational settings and how it should be used concerning the biases, transparency, and data privacy (Ifeoluwa et al., 2022). There are no proper AI policies in Nigeria, and the educational institutions are left to define their approaches to AI implementation. This vacuum in regulation leaves uncertainty behind and slows the adoption rate of AI in Nigerian universities.

2.5.3 Regional and Socio-Political Contexts

There is also a gap in the literature about the adoption of AI in Sub-Saharan Africa beyond Nigeria. Although there is an emerging understanding of the contribution AI can make in solving educational struggles within the region, there is no research; hence, many questions remain.

For instance, the African universities, such as those of Kenya, South Africa, and Ghana, have specific problems associated with access, equity, and quality of education. These challenges are further exacerbated by minimalism in research and development of AI technologies for African educational requirements. When region-specific AI tools do not exist, African countries end up depending on solutions that were created in the Global North where the context may not really apply to local contexts (Udegbunam et al., 2023).

Stakeholder-Specific Perspectives: Disaggregating Perceptions of Generative AI

1. Students' Perspectives on Generative AI

The students, being the main recipients of educational technology, are the most affected parties in terms of the introduction of AI in learning settings. Their views on AI are usually based on the topics associated with the academic integrity, learning enhancement, and data privacy. For students, trustworthiness in generative AI often implies the credibility and ethical consequences of AI content (Inah et al., 2024).

Students are bound to appreciate AI tools which offer personalized learning, for example, adaptive learning systems which customize their contents according to the needs of students and this will enable them to learn at their own pace. AI-based systems that increase student engagement including virtual tutors or AI-empowered learning platforms can also help to create better learning experiences due to more involving and immersive educational environment (Alhubaishy et al., 2021).

Nevertheless, students also raise major concerns especially in cases of academic integrity. With the advent of generative AI tools that can write essays or even compositions, students may be tempted to cheat or plagiarise. This has raised fears of decline in academic integrity, particularly in places where conventional modes of testing fail to tackle the possible abuse of AI-generated content. Some students may consider AI as a shortcut leading to an undermined academic success and the status of their degrees. Moreover, in the Nigerian context, students might fear data privacy and observation, which may be the case when AI systems will track students' learning behaviors or their personal data (Surahman et al., 2022). In that regard, for students, the trustfulness of generative AI is not only tied to the content it produces but also to ethical concerns about its use and people's personal data protection.

2. Lecturers' Perspectives on Generative AI

The lecturers who are responsible for facilitating learning and student performance and monitoring the academic standards often have a different outlook about AI compared to students. Whereas students take more interest in the usability and ethical implications of AI, lecturers pay more attention to the impact of AI tools on the quality of teaching, the integrity of the students, and professional autonomy (Nwozor, 2025). Trustworthiness, by default of the lecturer's perspective, is frequently associated with how pedagogical value and academic integrity of AI applications are perceived.

Lecturers are more likely to accept AI tools that will help with administrative duties such as grading or managing the course material, thus leaving more time for interacted and engaging modes of delivery. AI can benefit lecturers as well as they would be able to personalize the delivery of content to address the variegated needs of students as AI can give real-time results and also adjust as per the learning needs of different individuals (Balalle et al., 2025).

However, lecturers also have concerns about the use of AI. The potential erosion of their professional autonomy is one of the most discussed issues. The AI systems which automate grading or create content could be perceived as removing lecturer's role in the academic process, and cause the sense of disempowerment (Evangelista, 2025). The frightful dependency on AI to accomplish tasks that were hitherto humanistic can put lecturers off the full adoption of these technologies.

In addition, there is the question of AI's effect on the quality and honesty of studies. If appropriate design and monitoring of AI tools is not implemented, there is a risk of producing biased, inaccurate or ridiculous content. Lecturers may also fear that students might misuse the AI tools and compromise an aspect of the learning process (Ibrahim et al., 2024). In a country like Nigeria where the problem of academic dishonesty is usually evident, the implementation of AI may create difficulties when it comes to maintaining the level of academics and guaranteeing fair and reliable examination.

Another issue impeding lecturers is the requirement for professional training and development in AI technologies. Many lecturers may feel unprepared about incorporating AI in their teaching practice, especially if they are not deeply informed about the technology and the possible benefits. Such lack of technical knowledge can generate resistance to the use of AI tools even if it can provide them with great pedagogical benefits (Olatunde-Aiyedun, 2024). Such confidence, therefore, is also a factor to which there is a link of lecturers' trust in AI.

3. Administrators' Perspectives on Generative AI

The managers in higher learning institutions have a special position that allows them to develop policies, allocate resources and facilitate a school's smooth functioning. When it comes to administrators, trustworthiness in generative AI is usually associated with such issues as policy compliance, data security, and institutional reputation (Abayomi et al., 2021). It is likely that administrators will focus on applications of AI that can increase operational efficiency, improve the student experience as well as bring institutional benefits such as better student outcomes, better

resource management and more efficient administrative procedures (Obiano et al., 2022). AI tools, which automate administrative duties like scheduling, resource allocation, and management of students' records, are usually viewed positively in the sense of boosting the overall efficiency of the institution.

Furthermore, administrators are wary of the cost and distribution of resources that would be needed to adopt AI systems properly. In the Nigerian setting, where universities are usually plagued by insufficient funds and insufficient facilities, the monetary outlay to incorporate AI in the curriculum may be the stumbling block to adoption. Administrators may also be worried about the viability of AI initiatives when there are no long-term plans to maintain or scale AI projects (Yakubu, 2024). The use of AI in higher education will necessitate substantial training, infrastructural spending, and continued backing, and decision-makers will need to balance them with possible returns.

Conceptual Clarity on Trustworthiness: Defining a Multi-Dimensional Construct in Academic Settings

In the context of artificial intelligence (AI), the concept of trust was discussed widely, with regard to its relevance to the application of AI and education. However, whereas trust in AI is a broadly-recorded field, the concept of trustworthiness, one of the three elements of trust, is still fairly under-theorized, particularly in academia. While trust is behavioral, trustworthiness relates to the qualities or traits that make a system or an agent worthy of trust (Nnorom, 2025). When it comes to generative artificial intelligence (GAI) in higher education, trustworthiness is multi-faceted and has to be considered through different lenses, such as transparency, accountability, reliability, fairness, and ethical alignment.

Under-theorization of trustworthiness in AI, and especially in academic settings, could be explained by the complex and dynamic nature of AI technologies. While trust is usually measured according to past experiences and the perceived credibility level of an agent, trustworthiness is more fundamental and is about the internal merits of the AI system that makes it trustworthy in the first-place. The situations in educational settings are more serious, as the trust in AI tools has a direct connection with the level of education, academic honesty, and moral issues (Mauti et al., 2024).

1. Trustworthiness in AI

Trustworthiness are not isolated. they are interrelated and complimentary. Conversely, lack of transparency, for example, might distrust an AI system's perceived accountability and reliability, whereas ethical misalignment could even erode trust despite the transparency and reliability of the system (Farhi et al., 2023). In order for AI to be considered trustworthy in higher education, it must at least deliver on the expectations placed along all these dimensions and this is by no means a small job.

2. Trustworthiness in the Context of Higher Education

In higher education, the complex nature of stakeholders is also extended and these stakeholders have different needs, concerns, and expectations. The multi-dimensionality of trustworthiness should be examined with respect to such stakeholders as students, lecturers, and administrators (Johnston et al., 2024). Every group interprets the assessment of the trustworthiness of AI tools in various ways based on the effects of the system on their positions and duties.

For Students: AI generated outcomes are frequently related to trustworthiness in terms of fairness and accuracy. Students can consider AI tools to be reliable if they are always capable of providing results that correspond to what students expect and what the institution expects in terms of academic results. However, if students realize that the AI system is opaque, biased, or unfair, their trust in the technology will be low (Kasneci et al., 2023). The element of trustworthiness, from a student's point of view, also concerns the ethical aspect of AI, which addresses data privacy and surveillance.

For Lecturers: Lecturers are worried about both ethical and pedagogical implications of AI. The trustworthiness of a system in AI is connected with its capacity to foster academic integrity and the teaching process without infringing the professors' autonomy. For example, when it comes to an AI system being used for grading, lecturers should believe that the system is not only reliable but also transparent in its decision-making (Khowaja et al., 2024). They may also fear that AI can undermine their authority and creativity, as generative AI tools can produce the content that may be misused by the students.

For Administrators: Administrators focus on the ways that AI tools can benefit the efficiency of the institutional systems while fulfilling the institution's policy requirements, securing data, and maintaining their ethical standards. Trustworthiness from an administrative perspective entails the AI system's congruence with the institutional values and directives. AI tools should not compromise the reputation of the institution or infringe any law e.g. data protection law

among other areas (Lancaster, 2023). Also, it is the practicality of undertaking AI ensuring that the tools that are used are reliable and scalable and cost-effective, at the same time doing so through institutional oversight, that administrators consider.

Therefore, trust in AI, in general, has the meaning of confidence that users have in the technology, while trustworthiness describes the internal qualities of the system together with its compliance with the expectations, values, and guidelines of the stakeholders (Pan et al., 2024). The scholarly literature on AI in education more highly tries to sustain the former while underexploring the latter, especially in a non-Western setting such as Nigeria, where infrastructural and cultural considerations might influence how trustworthiness is experienced and accomplished (Lu et al., 2024).

3. Challenges in Defining Trustworthiness for GAI in Nigerian Higher Education

In the Nigerian context, it is especially difficult to define and understand playing the role of trustworthiness in generative AI because of several peculiar features. These account for lack of proper infrastructure in technology, low digital literacy among the educators and the learners, and socio-cultural attitudes towards technology (August et al., 2024).

Infrastructure and Access: One of the common problems that Nigerian higher education institutions are prone to facing is related to the technological infrastructure: unreliable internet connection, lack of computing power or reliable technical support. These factors compound the reliable use of AI tools, which may influence the perceived trustworthiness of these tools negatively (Rawas, 2024). These infrastructural issues impact the systems negatively where the AI systems may malfunction or deliver unreliable results and this brings mistrust upon its dependability and whether it is fair or not.

Cultural Attitudes and Digital Literacy: There are also cultural barriers in Nigeria, where there is usually a lot of distrust of technology, particularly amongst the older generation of academics. The traditional pedagogies that focus more on face to face learning and human interaction are too deeply rooted in the education system (Damiano et al., 2024). As such, it is necessary to overcome the cultural barriers to introduce AI being perceived as reliable, transparent, and ethically in line with the educational goals.

4. Moving Towards Conceptual Clarity

For the notion of trustworthiness to be fully appreciated and adopted in the perspective of GAI in higher education, there is need to develop theoretical clarity and empirical study. This includes:

Broadening the Existent Models of Trustworthiness. The existing models of AI trustworthiness should be tailored and developed further to fit the peculiarities of the educational contexts. With the increasing role of AI systems in teaching and learning, ethical, social, and pedagogical considerations should be addressed (Morocco-Clarke et al., 2024).

Contextualizing Trustworthiness: The cultural, infrastructural, and educational environments where such systems are being implemented should be accounted for when understanding trustworthiness in AI (Dwihadiah et al., 2024). In cases such as Nigeria, where educational systems are in the state of flux, and access to technology is uneven, contextual factors should be paramount in the way trustworthiness is perceived and put to practice (Hong, 2023).

Lack of Contextual Analysis: Cultural and Infrastructural Specifics of Nigerian Institutions in AI Research

With the emerging field of native generative artificial intelligence (GAI) in education, the prodigious body of scholarship invariably favors the generalized global narrative at the expense of the distinct cultural and infrastructural realities of places such as developing nations like Nigeria (Kramm et al., 2023). This omission creates a huge gap in exploring the ways that generative AI can be integrated in higher education systems in such contexts, where issues of insufficient infrastructure, low digital literacy, and socio-cultural impediments leaning towards technology are impediments to the reception and effectiveness of AI tools (Bobula, 2024). If one is to understand the role of AI in learning in the real sense, the actual realities of the Nigerian higher education sector must be addressed.

The absence of the contextual analysis in the existing work not only reduces the applicability of the findings to Nigerian institutions but also hinders the creation of proper AI adoption models that meet the culture, educational approach, and technological context of the areas (Dabis et al., 2024). This part explores the exact problems with culture and infrastructure of Nigerian institutions that have led to the way generative AI is implemented and perceived by people.

1. Infrastructural Challenges in Nigerian Higher Education

Electricity and Power Supply: Nigerian universities and colleges are prone to be hit by power cuts and unreliable power supply. Numerous AI applications, particularly those using generative technologies such as GAI, must be constantly connected to servers while having high processing power and steady power supply. This absence of a safe power grid heavily hinders the application of cloud-based services or instant processing data which requires the tools of AI (Akwara et al., 2023). This may affect stakeholders' trust in the technology because the constant system downtimes or failures because of power problems affect the perceived reliability and efficiency of the AI systems in educational contexts.

Internet Connectivity: Numerous Nigerian institutions have poor internet infrastructure, particularly in remote areas. High-speed internet that is essential to AI systems which need to process and trade data at all time, is not available in most areas. Without reliable internet access, the use of generative AI tools is impossible, narrowing down their application potential and eroding stakeholders' confidence in their viability and applicability in education (Aghiomesi et al., 2024). Unreliability of the internet services also has an impact on the usage of AI for research and collaboration as students and educators are unable to have access to online resources or even collaborative learning practices.

Limited Technological Resources: Although, some Nigerian universities might have adequate AI resources and tools, most institutions continue to deal with antiquated computing processes. Many classrooms and labs lack enough computers as well as required software to approximate the use of AI tools. In order for the AI tools to be implemented successfully, universities have to invest in both hardware and software that are compatible with advanced technologies (Daniel et al., 2025). Unfortunately, the financial limitation of many Nigerian institution leads to poor investment in this area. This disparity in access to technological resources worsens the gap between institutions that are able to execute AI solutions and those incapable of doing so (Nyaaba et al., 2024).

Such issues with infrastructures complicate efforts to make sure that AI systems can function in Nigerian higher education, thereby instilling skepticism of their reliability and sustainability in this context. It is vital to fill these infrastructural gaps in order to promote trustworthiness in AI and successful integration of this technology into the academic setting.

2. Cultural Resistance and Attitudes Toward Technology

Apart from infrastructural challenges, the cultural context of Nigerian higher educational institutions also seems to be very influential to the adoption pattern of generative AI tools. Culture-related issues, such as long-established educational traditions, widespread mistrust of technology, among other societal perceptions concerning the use of AI, influence how different stakeholders (students, lecturers, and administrators) perceive AI systems (Chukwuere et al., 2024).

Educational Traditions and Pedagogical Resistance: The Nigerian higher education is classically depicting a teacher centered model in which the lecturer becomes the primary user of knowledge. This model of face-to-face interaction and manual learning is replete with an opposition to technological changes. The use of AI tools may be especially hesitant to be implemented by lecturers, as they are feared to negatively influence their authority, autonomy, or the quality of their teaching (James et al., 2025). There is a consensual view among some educators that AI threatens to destroy the personal relationship between teachers and students, or even create a displacement of work.

The cultural context has a meaningful influence on the perception of and the adoption of AI technologies in Nigerian higher education, where it plays an important role in the stakeholders' assessment of the trustworthiness of AI tools (Okafor et al., 2025). The success of AI systems in this regard requires sensitization and education of the people concerning benefits, risks, and ethical issues of AI.

3. The Need for Contextualized Research on AI in Nigerian Education

The absence of contextual analysis in the current AI research with respect to higher education in Nigeria leaves a major gap in understanding how AI technologies can be adapted in the local framework of the educational environment. Most studies generally use the global models and frameworks that may not be applicable to the particular infrastructural, cultural, and socio-economic condition in Nigeria (Christian, 2024). Without doubt, taking these contextual considerations into account, research findings are unlikely to give pertinent insights or prescriptions that can be applied in Nigerian institutions.

To bridge these lacunae, it is imperative to do contextually rooted research in Nigerian realities. This includes:

Examining Local Infrastructure Challenges: Studies should aim at understanding the infrastructural limitations experienced by Nigerian universities and the implications for use of other AI tools. Studies should focus on practical solutions to these problems like creating cheap,

offline AI tools or ways to enhance internet connection and electricity supply (Wakunuma et al., 2024). These studies would be useful in understanding the ways of implementing AI in such resource-constrained settings.

Cultural Sensitization and Stakeholder Engagement: Research should explore the perception about AI, from different stakeholders in Nigerian higher education, as it relates to culture. It is important that there is understanding of how students, lecturers and administrators perceive AI and strategies on how concerns in the adoption of AI can be countered and how to generate positive attitude towards the technology (James et al., 2025). Interacting with such stakeholders through surveys, interviews, and focus groups will reveal their needs, fears and expectations, towards the formulation of culturally relevant strategies for integrating AI.

2.6 Conceptual Framework

The framework includes specific contextual factors found to affect the way different stakeholders within the educational system approach and evaluate trustworthiness of GAI technologies.

The emphasis laid by the framework is on the intersection between contextual realities like technological, infrastructural, pedagogical, and cultural factors with theoretical strands of trustworthiness like transparency, reliability, accountability, fairness, and ethical use with regard to shaping stakeholder perceptions and practices (Nacheva, 2024). Through an exploration of such relationships, the framework aims at providing an enhanced understanding about the perception and trust in generative AI tools in the Nigerian higher education context, an important issue for the adoption and implementation of such tools into the educational practices (Rudolph et al., 2024).

2.6.1 Independent Variables

Factors that are independent in this framework include the groups of stakeholders, contextual factors, as well as perceived risks and benefits of GAI. These variables are central to an understanding of divergent views and determinants of how various stakeholders perceive GAI integration into Nigeria's higher learning.

Stakeholder Group (Student, Lecturer, Administrator)

Students: Their trust might be undermined by fears of academic deceit, surveillance, privacy of data, and algorithmic biases likely to distort the conditions of their learning.

Lecturers: For lecturers, the trust in GAI is strongly associated with the influence of the technology on academic integrity and teaching-learning process. Lecturers are worried about the

ways in which AI tools would influence pedagogical practices, modify the teacher's role, or debase academic standards. They are equally interested in how AI can improve the quality of education, individualize it, and provide content delivery without infringing their professional autonomy (Katsamakas et al., 2024). Therefore, lecturers should rely on the fairness of the AI system and its potential for contributing to learning without undermining their authority.

Administrators: University administrators are focused on GAI implementation, policy compliance, data security, and high-order institutional GAI effects. They are likely to put GAI under public governance lens where the focus will be on improvement in efficiency, saving costs and how well the students are engaged (Al-Emran et al., 2025). Concerns regarding reputation of institutions, regulatory compliance, and protecting student data are also the determinants of the trust in GAI from the administrative perspective.

Contextual Factors (Technological, Infrastructural, Pedagogical, Cultural)

Contextual factors are key in influencing stakeholder attitudes with regards to GAI tools. These factors may either make or break the implementation of AI in the Nigerian higher education institutions' setting.

Technological Factors: Among them are the presence of the relevant AI tools, and hardware and software, which can sustain GAI technologies. The suitability of AI systems with the existing educational technology infrastructure is an important factor in their success (Alshamsi et al., 2024). Some of the technological factors also include internet connectivity, existence of AI training resources, and the level of digital literacy among stakeholders.

Infrastructural Factors: Infrastructure, especially reliable electricity and fast internet, is a great issue in Nigerian universities. The AI tools will find it difficult to deliver when there is no reliable power supply and constant internet connection (Al-Zahrani, 2024). The absence of adequate technological resources in most Nigerian institutions may dissuade them from the implementation of GAI and undermine the stakeholders' trust in the technology.

Pedagogical Factors: The pedagogical environment: teaching and learning methodologies influence how GAI will be received. If AI tools viewed as complementing the old pedagogical practices or the mission of the university, then they are more likely to be trusted (Wakunuma et al., 2024). On the other hand, if they are viewed as challenging current practices, the amount of confidence placed on their usefulness will be less.

Cultural Factors: Culture plays a critical role in influencing the perceptions of GAI. In Nigeria, cultural resistance to new developments in technology, unfamiliarity with AI, and fears behind ethical issues including privacy invasion, surveillance, and bias in AI algorithms can erode trust (Folorunso et al., 2024). It is important to understand these aspects of culture in order to integrate the GAI into the Nigerian higher education successfully.

Perceived Risks and Benefits of GAI

Perceived risks and benefits are a vital aspect of the framework, which affects how the stakeholders would consider GAI's potential. Stakeholders compare the benefits of AI, including enhanced personalization of learning, efficiency of operations and more access to resources, with concerns including data privacy, surveillance, algorithmic bias and replacement of jobs.

Benefits: These include: possibilities of better academic performance due to provision of personalized learning experiences, time savings in grading and administrative work, increased access to worldly learning materials, and capacity to cater to diverse learning needs (Leghemo et al., 2025). Trust in AI is usually erected on these potential advantages, particularly when AI systems match stakeholders' interests and empower them to benefit from education.

Risks: These are fear of academic dishonesty, algorithmic decision-making bias, data privacy violations, and the risk of AI systems can exacerbate inequality. These risks could be especially pertinent in Nigerian higher education, as many issues with ethical usage, data safety, and capability of AI for upholding academic standards exist. Such concerns need to be addressed to create trust in the AI tools (Cranfield et al., 2021).

2.6.2 Mediating Constructs

The mediating constructs in this framework are the dimensions of trustworthiness which are basic in developing perceptions of stakeholders regarding GAI tools. These dimensions are the metrics on which the stakeholders base their judgment on the reliability, credibility, and the ethical congruence of the AI tools.

Transparency

Transparency relates to the extent to which GAI systems disclose their process, decision, and underlying algorithm in an open way and with clarity. For the stakeholders to trust the GAI tools they should know how these systems operate and how decisions are made. Transparency in AI operations also refers to the notion that AI system should be built to enable questioning and auditing of the operations in their processes to prevent AI's inner workings from being thought of

as a “black box” (Salmi et al., 2021). In the Nigerian setting, transparency becomes essential, as stakeholders might not know how the AI tools work and might distrust the systems whose underlying mechanics cannot be described.

Reliability

Reliability refers to the consistency with which AI tools carry out their tasks and produce the results. If the GAI tools prove to be unreliable, the stakeholders will lose confidence in their capability to produce accurate and reliable outcomes. In Nigerian higher learning, reliability is of extreme necessity because institutions could be faced with infrastructural issues that impair the productivity of the AI tools (Rossouw et al., 2023). Making GAI systems reliable and reliable in delivering results in a consistent manner will be a critical component in trust building among stakeholders.

Accountability

Accountability is the obligation of AI systems and their developers for the results produced with the help of such instruments. Belief in GAI tools relies on the confidence that there are checks to account for failures or harm from AI decisions. Accountability guarantees that there is recourse in case of errors as well as the fact that people responsible for implementation of AI systems are also regulated ethically and professionally (Khoza et al., 2022). In the Nigerian setting, this aspect of trustworthiness is particularly important given the fears of data misuse, violation of privacy, and larger AI effect on academics.

Fairness

The principle of fairness is what AI tools must perform without prejudice such that all stakeholders (be they students, lecturers, or administrators) are treated fairly. AI systems which are seen to be biased or discriminatory erode belief in their capability to objectively evaluate performance or make decisions (Adeniyi et al., 2024). In the Nigerian context, fairness is an important issue due to social concerns about inequality, representation, and concerns that AI systems can further extant biases in education.

Ethical Use

Ethical use implies how GAI systems are consistent with ethical principles, including regard for privacy, consent, and autonomy. Surveillance, data privacy, and algorithmic discrimination in the domain of AI are the main elements of stakeholder trust (Azıonya et al., 2024). In higher education in Nigeria, the level of attention to the ethical use of AI tools is

increased due to the absence of clear rules and regulations for data protection and an ability for AI tools to violate students' and faculty members' rights.

2.6.3 Dependent Variable

For this framework, stakeholder trust in generative AI tools is the dependent variable. Trust is formed by balances and interactions between the contextual factors, perceived risks and benefits, and the mediating constructs of trustworthiness. Stakeholders will judge their trust in GAI tools according to how these tools sync with their expectations, needs and concerns. Trust management in the Nigerian higher education sphere will depend significantly on the quality of use of AI tools in the educational landscape, their transparency and accountability, and the degree of conformity with the ethical standards (Maphalala et al., 2021).

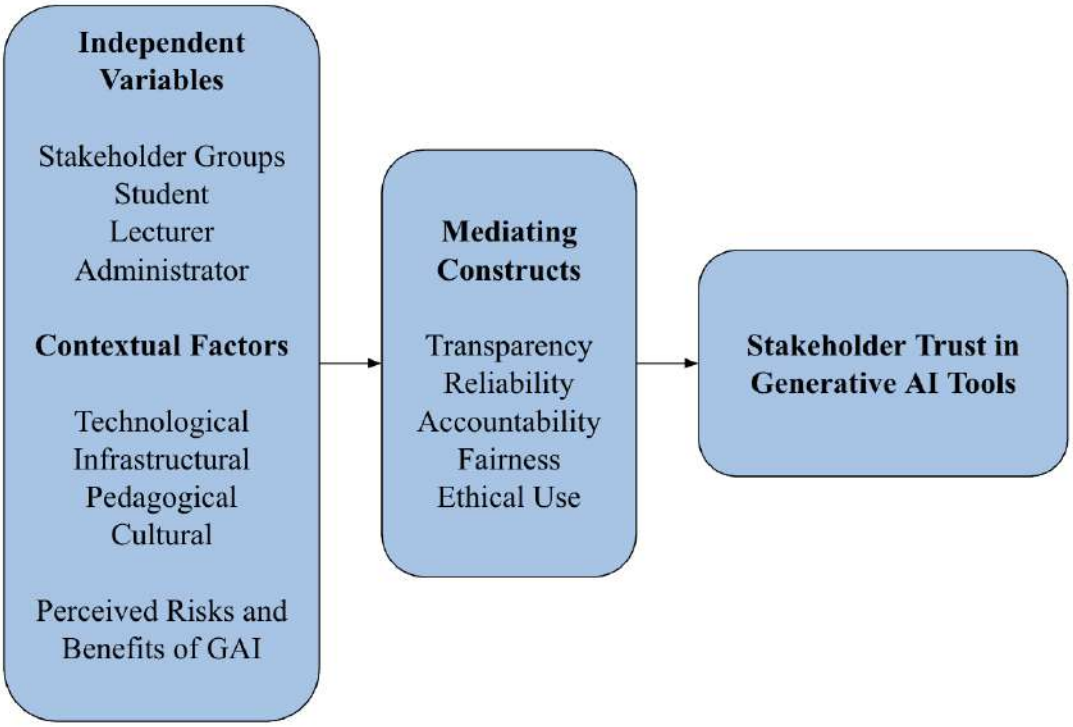

Figure 1: Conceptual Framework

Chapter 3: Methodology

3.1 Research Philosophy

A well-designed and meaningful research study depends on selecting the right research philosophy. The philosophical approach shapes how research is designed, including choosing topics, collecting evidence, ways of analyzing it, presenting results and sharing these in findings. According to Saunders et al. (2019), philosophy in research may be seen as many connected layers, just as the shape of an onion, where the outside layers describe choices in strategy and methods and the inside layer shows the guiding research philosophy that influences everything.

This section explains the key ideas in the Research Onion framework and looks at them from the viewpoints of ontology, epistemology and axiology. It is clearly argued in this study why choosing an interpretivist philosophy is appropriate. The study takes a stand in the interpretive tradition by looking at the subjective perspectives of students, lecturers and institution leaders which is especially valuable for learnings about social phenomena in various cultures.

Saunders Research Onion

Saunders research Onion (2019) is a good way to explain how research is designed, starting with the basic foundation of the research philosophy. It includes the assumptions researchers depend on to guide how they see reality (ontology), interpret knowledge (epistemology) and uphold values and ethics (axiology). Because of these beliefs, the methods and analysis used in the project take a certain form.

Saunders et al. (2019) point out that most philosophical approaches in business and social research are positivism, realism, interpretivism, postmodernism and pragmatism. These theories provide unique sets of assumptions which influence researchers' approach to learning and analysing their information. A focus on the social, contextual and interpretive aspects of this study makes it necessary to select a suitable philosophical perspective.

Positivism

The natural sciences are the basis for positivism which uses scientific techniques to examine social life. It is believed in ontology that reality exists separately from any observer. According to positivist ontology, there is just one real world that can be examined and measured the same by everyone, no matter what anyone believes. For positivism, the main ways to produce knowledge are with positive data and hypothesis testing. For information to be considered correct, it should be checked directly and with statistical analysis (Abdu, 2024). Positivists believe that

personal beliefs and values should be held apart from the research process to ensure the results are the same for other researchers.

Even though positivism forms the basis of studies in physics, biology and economics, it cannot be widely used when studying things such as trust, ethics and different cultural perceptions. Among the main criticisms of positivism here is that it fails to address the wide range of human experiences. A positivist approach would not be able to fully understand how trustworthiness in GAI use is shaped by culture, feelings and institutions based on this research (Adeyemi, 2024). Using this strategy would mean using clear variables and quantifiable measures which might not fit with the goals of this research.

Realism

In the same way as positivism, realism believes an objective reality exists. The approach departs from strict empiricism because it sees that all our perspectives of reality are affected by social, cultural and psychological factors. Things exist outside our minds in realism, but our pictures of reality have gaps and are not fully accurate. From a study of knowledge, realism holds that both reason and observation can give us truths, so it is more flexible than positivism (Afuwoqi et al., 2011). Realism believes that researchers cannot be completely impartial, as trying to be so is not always realistic or preferred. Realism is most often linked to studies guided by theories and includes two schools: empirical realism and critical realism.

As proposed by Ajala (2024) critical realism is of major importance to social science researchers. It believes that reality is made up of different parts such as the things we see and feel (experiences), the occurs (events) and the things that truly cause those experiences (the real). In spite of including more details than positivism, critical realism keeps a focus on understanding real and impartial facts about social systems. For this study, critical realism could give insight into the wider background such as rules and culture, that help determine how people trust AI. Even so, trust remains a subjective concept for stakeholders and this perspective is not fully understood in Nigerian higher education (Åkerlind, 2005). So, while realism is able to change with new information, it still does not pay enough attention to the ideas and meanings that are explored in this research.

Interpretivism

Interpretivism takes a position that is completely different from positivism. Because it holds a relativist ontology, people who study the subject believe reality depends on social factors

and can differ among both individuals and cultures. They argue that people can see and understand things differently, as shapes and settings play a big role in their views. Perspectives on understanding view knowledge as valid when it is related to the way people view their environment. From the axiological point of view, interpretivism means that data collection and interpretation are shapes by the researchers' beliefs, experiences and personal position (Akinyemi, 2013).

Interpretivism is best applied in qualitative research which seeks to explore the meaning of whats being studied, look at phenomena as they appear in context and let participants speak for themselves. For this study, understanding trust within GAI is flexible and not always the same for everyone. Someone understanding of technology is partly shaped by stakeholder's guarantee met roles, rules set by institutions, cultural surroundings and their background with technology. AI adoption in Nigeria universities occurs where matters of online infrastructure, teaching approaches, data privacy rules and community expectations come together (Akpan, 2024). Without imposing categories of their own or assuming all people see things the same way, an interpretivist approach helps the researcher study these complexities.

Furthermore, the approaches used in this study such as semi-structured interviews and thematic analysis, suit interpretivism well. These approaches value the views of participants, motivate detailed answers and allow themes to be drawn from the information provided. Because of its interpretivist approach, the research can create a rich collection of insights that knowledgeable readers can use and apply.

Postmodernism

Postmodernism assumes that reality cannot be understood in a steady or clear way. It claims that there are no powerful universal stories or truths because it finds that different realities exist in many pieces. For postmodernism, the idea of knowledge is influenced by the ways people speak, the hierarchy of power and the specific historical moment in which or from which they speak (Ameh, 2024). Postmodernism reflects an axiology that asks us to review commonly held values, reject major dominating beliefs and embrace many ways of thinking.

In postmodern cases, research is generally critical and troublesome, working to uncover the hidden beliefs that form the bases for knowledge systems. Within literature, cultural studies and critical theory, postmodernism is well known for opposing Eurocentrism, patriarchal systems and believing that technology controls our lives. With regard to this study, postmodernism can

help analyze how AI ethics draw on Western-centred AI developments and policies. Yet, the abstract and deconstructive focus of many postmodern approaches could prevent this study from reaching its goal of providing practical guidance (Awodele, 2011). When the purpose is to make helpful recommendations for leaders and educators in Nigeria, the tools philosophy might complicate and destabilize the findings. Because of this, the main theory used in this work does not come from postmodernism.

Pragmatism

Researchers are guided to target outcomes in their work using pragmatism. Instead of supporting a single philosophy of mind or belief system, pragmatists decide if knowledge is useful. Applying something to solve a real issue makes it real for pragmatists and it becomes true if it is useful in practice (Brady et al., 2010). According to epistemology, pragmatism values both quantitative and qualitative strategies, depending on what is being studied. Axiologically, pragmatist researchers accept the part values play, but they prefer utility and relevance to having consistent philosophical beliefs.

Many researchers in mixed-methods choose to be pragmatic since combining numerical and qualitative information helps them cover all sides of a complex subject. When studying education and technology, it is very useful to use practical methods to assess interventions, experiment with tools and learn about user opinions (Bruner, 1991). Even so, the ability to adapt that is attractive in pragmatism might water down the way it comprehends the meaning of experiences in a given culture.

Without the purpose of interventions or analyzing results, this study focuses on viewpoints which makes pragmatism not applicable. While the project is not organized as mixed methods, its goal is simply to explore the various ways things are interpreted in a particular culture and organization (Bumbuc, 2019). So, although pragmatism is useful in many applied studies, it does not fit the objectives of this exploratory, interpretive study.

Justification for Selecting Interpretivism

On critical consideration of different research philosophies in the Saunders Research Onion, this paper selects interpretivism. A variety of connected motives guide this decision because they match the goals, type and backdrop of the study. The first point to note is that how we study trust in generative AI is strongly subjective. Trust cannot be defined or measured in the same way everywhere (Chimbga, 2023). This framework is created by blending personal

experience, the roles practitioners hold, cultural expectations, ethics and history with technology. It is uniquely fit for addressing these topics because it emphasizes importance of understanding over measurement and acknowledges the existence of several viewpoints.

The research is focused on Nigerian higher education which has a wide range of features in its infrastructure, approaches to teaching and methods of administration. By using interpretivism, researchers can pay attention to how access to the internet, digital skills, policies and ethical questions change the way GAI is understood in each place. In the third step, both the used interviews and the thematic analysis follow interpretivism concepts (Clandinin et al., 2000). Under these methods, you may hold a broad conversation, help create new understanding together and tailor the process as your data shows the themes.

Involved in this perspective is encouraging researchers to consider how their own values, ethics and power shapes their findings. Participating in research means for the researcher to acknowledge their stance, potential biases and the relationships with participants. By being so thoughtful, the study improves the honesty and value of its findings. Lastly, the interpretivist approach supports the study goal of highlighting the voices of different stakeholders (Corbin et al., 2003). Because the research relies on what participants share and make sense of, it provides insights that are both significant for theory and for real-world application.

Link to Research Aim and Objectives

Using an interpretivist method helps our study reach its main goal of looking at the perceptions of trustworthiness in generative AI among groups in Nigerian higher education. This purpose involves exploring people's experiences, instead of trying to measure and predict their behaviour. The research aims share valuable points with the philosophy of interpretivism (Eze, 2024). First, it allows the study to look at how different cultural, technological and institutional conditions impact trust perceptions. They can change in time and depend on local situations.

Second, the research wants to identify how the risks and benefits of GAI are judged by the different stakeholders, who may interpret them differently. A case in point, a lecturer might regard GAI as causing problems with academic honesty, but a student can find it very useful for education. Only the interpretivist perspective is able to include the broad and multi-layered perspectives found here. Third, this work proposes practical advice for both policy and practice, mirroring the experiences of those directly affected (Ezema, 2021). Ideas should work better if they are built on knowing the specific ways that people visualize trust, ethics and expectations. By applying an

interpretivist approach, the study generates results that are accurate, connected to the community and of use in dealing with the ethical and practical problems that GAI brings to Nigerian higher education institutions.

3.2 Research Approach

A research project has to begin with a clear statement of its approach to be reliable and follow proper practices. It shows how questions will be answered, how information is collected and looked at and how conclusions are formed (Gambo, 2024). The decision of which approach to use in this study is especially important because generative artificial intelligence (GAI) is still a new topic. Based on the explanation of interpretivist research philosophy in the previous section, this chapter applies an inductive approach.

The idea behind this approach is to gather understanding from stakeholders by looking at their values, what they've gone through and their specific realities. With the help of the well-known Saunders Research Onion framework (Saunders et al., 2019), this section discusses and introduces the three research approaches deductive, inductive and abductive before supporting the decision to use an inductive approach for this research work.

Understanding Research Approaches

Research approaches are seen as organising ideas from theory with practical steps in research. According to Saunders et al. (2019), research approaches help determine how data and theory are connected and guide the whole design of the research. The main research methods are deductive, inductive and abductive (Gómez, 2015). Every school has its own beliefs, methods and main aims. With a deductive strategy, the theory leads to precise empirical tests and with an inductive approach, specific observations direct the formation of general theories.

This scientific method which lies intermediate between deduction and induction, aims to create sensible explanations for unexpected findings in experiments. These strategies do not rule out each other and show distinct methods for developing theories (Gomez et al., 2013). Selecting the right approach is influenced by the type of research question, knowledge beliefs and how much theory already exists.

Deductive Approach

It is usual for the deductive approach to be tied to the positivist tradition and referred to as a "top-down" reasoning method. An idea that is called a theory or hypothesis is tested in the form of an experiment first. The method is mainly based on scientific rationalism, as it seeks to confirm

if ideas from theories can be observed in practical studies (Gómez et al., 2006). Most of the time, the deductive approach is used in quantitative studies that follow a methodical system, rely on data and use statistics to examine previously defined hypotheses. Some main traits of deduction are building theories without data, relying on surveys or experiments and making sure results can be generalised and viewed objectively.

Despite the deductive method's precision, planned outcomes and repeatability, its use in the current study is limited by several related issues. Researchers in the area do not yet have the theories to make and test hypotheses about how trust in GAI is developing among stakeholders (Humphreys et al., 2015). Because there is little research in the area, using the deductive method could create strict theories that don't connect with what the participants live through.

In addition, trust involves multiple perspectives and is linked to a number of social, institutional and technical factors. Using a deductive approach to shrink variables into things that can be measured may not represent the detailed and complex views of the stakeholders. Finally, the interpretivist approach taken in this study focuses on meaning-making, personal understanding and co-building knowledge, none of which is adequately addressed by deductive approaches (Ibrahim, 2024). Consequently, deductive methods are beneficial in investigations that study one hypothesis or variable, but they do not fit the broad, qualitative character of this research.

Inductive Approach

Inductive thinking is the opposite of deductive thinking, starting from the grass roots. The first phase is to gather data from the real world and identify from it certain patterns, themes and ideas. Inductive reasoning begins by looking at data and allows researchers to develop theory from what they discover which makes it popular for exploratory and qualitative studies (Kalu, 2024). In this way, this approach closely matches interpretivism which looks at social phenomena based on the meanings people give them. Key points about inductive research are being flexible with data, ready for surprise answers and aiming to produce detailed and relevant findings.

I have chosen the inductive approach in this study for a number of strong reasons. As a first point, stakeholder trust in generative AI at Nigerian universities is something that is just starting to appear and is not widely studied. There is not much written about how African stakeholders think about green accounting issues. So, following an inductive approach allows scientists to spot new finds beyond the limits of existing theories or ideas (Lawal, 2024). In addition, trust has many aspects and depends on the situation in which it occurs. Personal

experiences, cultural stories, ways institutions operate and the nature of technology all affect stakeholder perceptions. An inductive logic allows the researcher to study complex, social meanings by directly observing the participants, giving a richer outcome than a deductive approach.

Also, grounded theory development was a key aim of this study and was supported by inductive research. The rich information from semi-structured interviews allows the researcher to spot patterns across participants and construct models that reflect their real experiences. The approach makes it possible to further examine the ways trust is formed, explained and changed through various social contexts (Letherby, 2003). It particularly helps because themes are recognized by observing the data, not by inserting ideas from other studies. In addition, the research methods selected semi-structured interviews and qualitative thematic analysis depend on being inductive. These techniques allow researchers to gather data again and again, responding to participants' ideas throughout their work.

Abductive Approach

Abduction is considered a combination of induction and deduction. Typically, the process is set off by something unexpected being noticed, as it cannot be explained using today's theories, so the researcher tries to find the best explanation. Through abduction, researchers move fluidly from reviewing evidence to coming up with new insights from that evidence (Mahoney, 2010). Much of the time, it is applied to research that tries to rework or expand theories with the help of strange theory-related facts. To do abduction, scientists first build temporary theories, revise old insights and introduce new ideas to theoretical thinking.

Although abduction is strong in flexibility and useful for detailed research, we focus on a different approach in this investigation. The decision is made after considering three major points. The beginning of the study does not depend on a puzzling or unusual fact that demands us to look at theories in a new way. First, the study is aimed at finding out how various stakeholders look at an area that has not been well studied (Marton, 1981). Second, abduction often follows existing theories in its interpretations, while this study seeks to construct its own new theory.

Third, when using abduction, researchers can go back and forth between theory and data which can weaken the overall value of the context and experience. For this reason, although abduction is regarded as a valuable method and the debate focuses on it, induction is more in line with what the study aims for, its philosophy and the research questions.

Logical Structure of Inductive Reasoning

Inductive reasoning starts with certain instances and ends with generalising those instances. For this research, inductive reasoning is planned to follow a set structure but can be flexible. In the beginning, data will be collected from semi-structured interviews with a chosen group of students, lecturers and leadership at higher education institutions in Nigeria. It provides participants an opportunity to explain themselves fully and lets the researcher seek more input (Morgan, 2016). Now, they go through thematic analysis and look for themes, worries and experiences that happen more than once in the data. Equal statements will be arranged into categories and these categories will uniformly represent broad trends.

Then, the researcher interprets the themes to discover how people trust GAI which reasons guide or impede trust in GAI and which elements from society and culture support or challenge trust. The last phase is when findings are organised into ideas or suggestions based on the research data (Muazu, 2024). Because the process is ongoing and thoughtful, the researcher can spot new ideas and ensure the theory fits well with the research.

Relationship Between Research Philosophy and Approach

The research approach used in this study fits well with the interpretivist paradigm used throughout. With interpretivism, researchers seek to understand how people feel about and make sense of their experiences. It suggests that reality is formed differently by different individuals through their social life together (Nwozor, 2025). These philosophical views are supported through inductive research which involves flexible inquiry, listens to what participants have to say and makes room for shared interpretation.

Because the methods are compatible, the study remains methodologically consistent. Besides, inductive research makes it easier for the researcher to notice their own beliefs and how they affect the study. The approach ensures ethical and epistemological integrity by focusing on what participants say and by basing analysis on verified data (Obiekezie et al., 2016).

Challenges and Mitigations in Inductive Research

The inductive method is suitable for this study, yet it still has its own set of difficulties. The results developed in this field do not apply to everyone. Since small within-context inductive research studies are qualitative, their results are site-specific and difficult to generalize (Okafor, 2024). For this reason, this study is cantered on how results can be transferred instead of how

general they are. The thick descriptions and in-depth narratives in the research make it easier for readers to decide whether the lessons can be used in different places.

A further problem is the researcher's personal influence on the findings. Because inductive analysis depends a lot on the researcher's understanding of the data, it may result in introducing personal bias (Okafor et al., 2025). Thus, this study uses different validation approaches such as recording and reflecting on the researcher's own assumptions, comparing data from different stakeholder groups and consulting with others to evaluate the study results.

Doing inductive qualitative research is slow, making it difficult for many. To collect and analyse stories in detail takes a good amount of time. For this reason, the study will choose participants using a purposive strategy that covers a manageable yet wide variety.

Contribution to Research Objectives

By using the inductive approach, I managed to meet my research goals. The framework shows how stakeholders assess and trust GAI, without being bound by previous concepts or ideas. This type of qualitative research becomes useful when people express what they think, feel and anticipate, because the data serves as input for research and practice. For this reason, it becomes simpler to recognize the cultural, ethical and technology aspects related to trust. In addition, the design makes it possible to customize recommendations and frameworks to suit each area. As a result, this study supports the existing literature and provides useful suggestions for policy-makers, educators and technology developers in Nigerian higher education.

3.3 Research Methods

The main goal is to understand Nigerian higher education stakeholders' views about the trustworthiness of Generative Artificial Intelligence (GAI). Research methods mean all the tools and techniques people use to collect, inspect and explain data (Potokri et al., 2013). For this purpose, the section outlines the research design used, the interviews, sampling, data collection methods, analysis approach, ethical matters, paying attention to the researcher and ensuring the study is valid. Because of this detailed approach, the study holds true to both its interpretivist background and open approach.

Qualitative Research Design

A qualitative approach was used in this study as it allows in-depth investigation of feelings and ideas related to trust in emerging technologies. To do qualitative research, focus on the depth, surrounds and true stories of individuals (Quaye, 2024). Unlike measuring or testing using

numbers, qualitative research looks into why and how people understand their world. Due to the many factors involved in trust in GAI, qualitative methods make it possible for the researcher to grasp participants' feelings, thoughts and cultural surroundings.

This research uses qualitative design to focus on several related factors: the understanding of "trust" among diverse stakeholder groups; the wide cultural, social and ethical backdrop in which these understandings arise; and the particular features of technology adoption, hesitation and preparedness in Nigerian universities (Reale et al., 2018). As a result, this design supports going back over the research process which helps new lines of inquiry emerge from participants' descriptions. Therefore, this framework allows for a detailed and inclusive viewpoint of what hard to provide hard to describe stakeholders have to say about GAI in higher education.

Research Strategy: Semi-Structured Interviews

Most data for this study have been gathered through semi-structured interviews. For these purposes, this method matches the study's exploratory objectives and how the research is interpreted rather than measured directly. This format provides participants with structure as well as the opportunity to talk about issues that really matter to them (Reinharz, 1992). By using this method, all interviews stay comparable and you can investigate particular subjects based on someone's replies.

The researchers used a topic outline that was built through prior study of trust in technology, AI ethics and higher education. There were several main topics mentioned in the interviews, for example how participants knowledge and used GAI tools (ChatGPT, DALL·E) in educational settings, what they believed about GAI's accuracy and openness, their concern about academic integrity and possible bias and the presence or absence of any rules on using AI in school (Sadiq, 2024). Because the method can be tailored to individuals of any background, more people could join and the data became more informative.

Sampling Strategy

A purposive strategy was used to recruit people who could give significant and varied opinions on the problem under study. This kind of sampling is performed deliberately, where individuals are included because they meet the research's objectives (Palinkas et al., 2015). For this study, the authors interviewed both students, academic staff and university administrators. The GAI groups were selected because they each play a special part in the application, review and management of GAI tools in education and research (Stanley et al., 1983).

To qualify, participants had to be persons from Nigerian higher education institutions (public or private), aware of or using GAI tools and agreed to participate in a 30 to 45-minute interview. Taking into account diversity of subject, gender and seniority, individuals were invited to participate. The study involved 18 people, organized so that six came from each category of stakeholder. Data saturation was achieved with this sample size, so no further interviews were felt necessary to gain new insights (Suleiman et al., 2022). However, the method was flexible, letting additional participants be involved if the existing ones didn't provide enough data.

Data Collection Procedures

The data was collected over the course of five weeks with the use of interviews in person, by phone and on Zoom and Google Meet. Because of this approach, the team managed to surmount problems like widespread campuses, uneasy travel and campus shutdowns (Suleiman, 2024). It was especially handy that digital tools made it possible for participants from all over Nigeria to be included.

At the beginning, participants were approached by email, offered a study information sheet and informed about the study's purpose, process and guidelines for ethics. As soon as I received confirmation, I set up interviews that worked for both parties. Every interview was recorded by audio and what was said was copied word for word as a written record for accuracy. Along with the recordings, written observations were made during and following the interviews to include external details, gestures and tentative thoughts (Suleiman et al., 2022). Interviews took anywhere from 30 minutes to an hour, according to how much participants shared and how long the discussions were. The method used to gather data meant that valuable and well-placed information was collected.

Data Analysis: Thematic Analysis

Researchers analysed the interview data by using thematic analysis. By using this method, researchers find, examine and interpret the main ideas found in the data which makes it ideal for research based on interpretivist understanding (Uche, 2024). The steps of thematic analysis chosen for this study were those outlined by Braun and Clarke.

To start, I went through the answers from the interviews several times and wrote early notes. Being involved in the data allowed the researcher to understand the content and discover what looked interesting. At this stage, I both manually created and used NVivo to create my initial codes. They included repeated highlights and major ideas mentioned by the participants. The third

phase was about grouping the codes into larger categories which became “Transparency and Bias in GAI Tools,” “Institutional Policy Gaps,” and “Fears about Academic Integrity.”

During the fourth phase, the themes were studied and improved to confirm they line up with the data and are unlike each other. In the fifth phase, all themes were clearly named and representative quotes were added to the main body of findings. Lastly, a narrative report was prepared that organised the themes according to their position in the literature and discussed what these themes mean for improving practice and policy in Nigerian universities.

Researcher Reflexivity

In qualitative research involving the same person as the main research instrument, reflexivity is very important. To be reflexive, a researcher must observe their assumptions, influence on the process and their own role in the study (Usman, 2025). This study is carried out by a postgraduate student who has studied and used AI before which could identify the subjects studied and how they participate in the investigation.

Heading off any biases and boosting transparency, the researcher kept a journal documenting their progress. I wrote down thoughts, ideas and the way I made decisions throughout the study. In addition, the researcher took part in peer discussion and asked for suggestions to check the reliability of the results. Doing different forms of reflexive work helped me better understand the data and made the study’s results more reliable.

Ethical Considerations

Maintaining ethical values was given top priority during the research. Participants met all the requirements for being involved in the study and their IRB approved it. Everyone took great care to respect informed consent, confidentiality, voluntary involvement and withdrawal rights (Yusuf, 2024).

Each participant got detailed information on the study, the interview method, any risks involved and how their information was to be used before interviews were held. Participants were asked and agreed in writing or electronically to take part. To keep people’s information safe, personal names and other identifying details were changed and removed from all materials used. We kept all the audio recordings and transcripts on gadgets that could only be accessed with passwords and were also encrypted on clouds. Those taking part were reminded that they could remove themselves from the study whenever they wanted, with no negative consequences.

Because this topic is sensitive, we took care to act respectfully and to be non-judgmental and compassionate during all interviews.

Validity, Trustworthiness, and Rigour

This research uses the trustworthiness standards set by Yusuf (2024) to ensure it is rigorous. Such qualities are credibility, transferability, dependability and confirmability.

To ensure accuracy, participants were invited to look over the interview summaries to verify what they said. By collecting input from students, lecturers and administrators through triangulation, the study got more complete and reliable results.

The transferable nature of findings means that they might be used in different settings. To assist this, the study carefully describes each participant's situation, making it possible for readers to decide if the findings apply to similar schools.

An audit of the research process was kept to check how decisions on methodology, coding and themes were made. It makes the study more open and gives others the option to compare it carefully over the years.

Confirmability is connected to the accuracy and objectivity of what is found. To reduce researcher bias and make sure the research covered what participants truly felt, we used reflexive journaling and peer debriefing.

Limitations of the Methodology

The way this study was carried out is fitted to its goals, even so, some shortcomings must be considered. Because there are so few cases in such a narrow environment, the study results cannot be applied to most conditions. Since this was a qualitative study, the findings show rich details but cannot be applied to the wider public.

Moreover, access only to certain texts may have made the included ideas more repetitive. For some respondents, access to information or skills in using tools made it harder to share all they knew about GAI. Also, there's the risk that participants may have given answers that please their interviewers or the organization or ones that avoided discussing private matters.

Limits were minimized by using purposive sampling, selecting a variety of participants and producing an interview atmosphere that permitted honest and open exchanges. In addition, relying on triangulation and reflexivity made the study's findings more dependable and meaningful.

3.4 Research Strategy

This section presents the methodology applied in this study to discover stakeholder ideas and opinions about the trustworthiness of Generative Artificial Intelligence (GAI) in Nigerian higher education institutions. A research strategy helps link the study's philosophy with specific methods and collected data (Adeyemi, 2024). It guarantees that research aims, the philosophy used, the methods chosen and the tools for collecting and analyzing data all fit together well.

In this study, the authors designed the strategy to support an interpretivist worldview, encourage inquiry by induction and use a qualitative method that highlights subjective experiences, influences from the context and the creation of meaning from inside a participant's perspective. For this reason, the strategy approaches the research problem and objectives by designing a roadmap that provides in-depth, flexible and contextual insights into the phenomenon: trust in GAI among different individuals in Nigerian universities (Akpan, 2024).

GAI trust is understood in this strategy as a dynamic concept that is shaped by the situations people are in, their relationships and their values. People such as students, lecturers and university administrators all come to AI with different experiences, beliefs and worries. As a result, the way the research was carried out had to lead to detailed data that reflected the different perspectives gathered. The research strategy was mainly to carry out a qualitative multi-case study through semi-structured interviews and afterward use thematic analysis (Ameh, 2024). Using this design, the researcher could look closely at stakeholder opinions and see which similarities and differences existed between institutions.

Justification for the Strategy

The reason for this strategy is that it supports the key ideas and aims of your research. Researchers claim that how GAI is trusted is influenced by culture and context and cannot properly be studied just with data or experiments. Therefore, it was necessary for the strategy to help a researcher's understanding by supporting a process that can change and value each participant's personal experiences. The research sought to understand: (1) the various ideas about trust related to GAI shared by stakeholders, (2) what affects people's trust or distrust and (3) the likely effects of trust on the development of educational policies and practices.

For these reasons, a multi-case qualitative study was decided on as the best strategy to use. Not only does this approach help explore every case, it also promotes comparing cases and ensures the results are strong, valuable and able to apply to various fields. Semi-structured interviews help

ensure participants can prioritize and at the same time, keep discussions on the main topics similar (Bumbuc, 2019). This approach is used to identify, examine and make sense of patterns in the information collected.

Multi-Case Qualitative Study

For the multi-case study, three higher education institutions were chosen from Nigeria, with one federal university, a private university and one state-owned university. For these three cases, I selectively chose institutions that vary in their structure to show how different groups interact with GAI technologies. Every university was its own case in the study, offering the opportunity to see how trust in GAI is understood and formed by its particular environment.

The federal university was represented because its operations are guided by national policies. The private university was added to discuss how it might use new technologies, while the state university offered feedback on local challenges and best methods in that area. In every case, three key groups were used as the analysis units: students, lecturers and university administrators (Chimbga, 2023). These groups were part of the survey because they play different roles, have different goals and communicate with GAI systems in their own ways.

By using this strategy, it became possible to highlight similarities and differences among institutional and stakeholder groups. As a rule, each university faces common infrastructure issues; however, the private university could handle these through more flexible governance. Besides, many students in universities could share doubts about the fairness of GAI, with differences in these experiences thanks to the technical support and literacy levels at their institutions.

Operationalising the Concept of Trust

For the study to remain consistent, a specific definition of trust was needed that could be used in GAI. Eze (2024) influenced this work by showing that trust consists of competence, integrity, benevolence, transparency and accountability. Competence means people see GAI systems as trustworthy and correct. Integrity means the technology must be used ethically and its processes open to view. It explores if users perceive tech helps their educational development. GAI operates transparently when information about what it does is easy to understand and find for the public.

Accountability is about making people responsible in case of errors or bad results. Based on these dimensions, questions for the interviews were created and interview data were categorized

during analysis. As a result of operationalising trust, its role in the study was deliberate and it became easier to relate research findings to theory.

Stakeholder-Centred Strategy

This research strategy centered on the needs and interests of stakeholders. The fact that trust arises from everyone's actions was recognised which is why the study intentionally brought in students, lecturers and administrators. Every participant group has a different function in promoting and applying GAI in universities. Many students use AI in learning systems, have their work graded by AI and find content created with AI. Being curators and guardians of academic knowledge, lecturers contribute a serious viewpoint on the ethical and educational effects of GAI (Ezema, 2021). It is the responsibility of administrators to lead in institutional governance and to decide on policies and laws governing the use of technology. Because it brought together all three angles, the strategy added trust and value to the conclusions.

A purposive sampling strategy was used to select participants who varied by discipline, gender, their level of experience and their digital competence. Some marginalised voices included were students from low-income countries with little digital technology and early-career lecturers not used to having a say in important university matters. As a result of this strategy, the data gathered gives a full picture of trust in GAI and also helps identify practical issues that matter to various stakeholders.

Role of the Researcher

The researcher's role, as guided by interpretivist beliefs, was acknowledged as proactive and shaped by local context. The research was co-created by the researcher, whose beliefs and personal experiences played a part in every step of the research. A reflexive approach was maintained for the study to monitor these influences and to follow scholarly guidelines (Ibrahim, 2024). They were trained to regularly record in a journal how their views and ideas changed, what ethical challenges they faced and which personal biases could influence their research.

Evaluators often questioned their beliefs when analyzing information that dealt with sensitive emotions or sensitive politics. As a postgraduate student, the researcher had both positive advantages and challenges to deal with in the study. While rapport was formed thanks to the first meetings, I needed to reflect on my approach to prevent influencing the participants' answers. Being honest with myself about my limits made the research result more credible.

Contextualising the Research in Nigeria

Nigeria's background was important in deciding how the research would be conducted. Many social and infrastructure details needed to be taken into account while planning the study. Since technology is not well distributed across Pakistan, people are limited by unreliable supply of electricity, limited access to broadband and expensive data (Kalu, 2024). Because of limited infrastructure, participants found it hard to obtain GAI and this led to uncertainty about its reliability.

Attitudes toward artificial intelligence are not simple. While a few responded voyantely to the use of AI in education, some others had religious or moral concerns about it. Because there aren't many strong rules for using GAI, it makes the situation more difficult in universities. Meanwhile, because of worries about academic integrity such as plagiarism, contract cheating and grade inflation, some stakeholders are concerned about GAI technologies (Lawal, 2024). In view of these real-world factors, the research strategy had to be changeable, consider culture and use real-world approaches.

Data Triangulation Strategy

For this study, the researchers used triangulation by combining two types of triangulation: methodological triangulation and source triangulation. The study combined data from exploring cases in semi-structured interviews, along with a review of policy documents and statements from the institutions. As a result, the researcher could link the accounts of participants with the overall stories of the institutions. The data collected were checked by comparing what occurred in different contexts and among separate stakeholder groups.

The researcher was able to create more detailed and informed conclusions by studying how trust in GAI was understood and experienced by students, teachers and administrators in various universities. By bringing several aspects of trust together, the researchers avoided thinking of it as always, the same but saw it as varying and linked to people's surroundings.

Ethical and Logistical Strategy

The research team organized both ethical and logistic activities properly to protect participants' dignity and to ensure results could be collected in Nigeria. Approval for the study was obtained from the researcher's university's ethics board in advance. Each participant received a form explaining the purpose of the study, their rights and how their data would be processed. Participation was confirmed in writing for some methods and for others, through email. Participants used pseudonyms and all recorded audio was kept encrypted and safe. Both at the

beginning and the end of every interview, participants were reminded they were free to leave at any time.

The research team collected data by conducting interviews in both person and virtually, using Zoom or Google Meet. The researcher was flexible which permitted participants to take part when they had time, regardless of where or how they lived. Participants were offered appointments on weekends and evenings to ensure their everyday routines would not be interrupted. Researchers created a standard way to communicate to manage recruitment, organise interviews and give feedback so all interactions stayed professional and regular.

Timeline and Phases of Strategic Execution

The researchers carried out the research strategy across four phases during a period of almost three and a half months. Phase One was dedicated to making and testing the research tools, like the interview guide, consent forms and recruitment emails and lasted about three weeks. During Phase Two, we recruited individuals to take part and held pilot interviews as well, all over a period of three weeks. During Phase Three, we interviewed staff at all three case institutions for six weeks to collect the main data. During Phase Four, the interview responses were transcribed, themes were identified and an initial analysis took place over four weeks. Every week, check-ins took place to observe how things were progressing, handle new issues that appeared and match with research objectives.

Phase	Activity	Duration
Phase 1	Development of instruments (interview guide, consent forms, recruitment emails)	3 weeks
Phase 2	Participant recruitment and pilot interviews	3 weeks
Phase 3	Main data collection (interviews)	6 weeks
Phase 4	Transcription, coding, and preliminary analysis	4 weeks

Addressing Strategy Limitations

The approach to research had some limits and they were recognized and handled to keep the study reliable. Many administrators became tired of interviews because of their limited time. Therefore, the researcher held sharply planned interviews and arranged extra interviews when needed. Being able to get inside these institutions was an issue at times, because the bureaucracy

slowed things down (Muazu, 2024). To solve this problem, they started talking with the new authorities immediately and drew on personal and professional connections to speed up the request. A further barrier for participants was the digital divide which influenced their ability to do virtual interviews. So, where suitable, students could record or write their answers in WhatsApp message threads. Because of these measures, the study could continue following proper methods even with the practical difficulties.

Alignment with Research Objectives

The research strategy supported the three main objectives of the investigation. Stakeholders' definitions of trust in GAI were investigated by means of multi-stakeholder interviews, with the aid of a conceptual framework defining trust. The second main goal of identifying what influences trust involved using the comparative multi-case method which recorded the different experiences and diverse settings of case countries. In order to meet the third goal, administrator views and analyses of key institutional papers were considered. The research methodology enabled a strong and adaptable guide for studying trust in GAI among students and staff in Nigerian higher education.

3.5 Data Collection

During this part of the research, I gathered information from stakeholders to connect the ideas from literature with what really happens in Nigerian higher education institutions regarding GAI. Due to the use of an interpretivist approach, a data-collection process was carefully crafted to highlight depth, careful context and rich detail about the views of students, lecturers and administrators across a wide range of educational institutions.

It covers every step of data collection, outlines the reasons for the approach used, explains recruiting study participants, developing tools, testing them, implementing them and protecting participants. The approach also demonstrates the problems faced and the adjustments taken to maintain the accuracy and strength of the qualitative data.

Overview of the Data Collection Strategy

The main way data was collected in this study was through semi-structured interviews. This type of discussion was picked since it is adaptable, so anyone could talk about their thoughts, while also helping the discussions remain centered on the study's key ideas. Through semi-structured interviews, it is possible to explore how people feel and think about Generative Artificial Intelligence (GAI) in the challenging setting of Nigerian higher education.

Interviews were arranged at three universities that each follow different systems of management and fund allocation: federal, state and private. Researchers needed this diversity to learn how differences among institutions, resources and technological infrastructure affect stakeholders' trust in GAI. The study considered different types of universities to see how GAI use and trust differ among them.

Each university chose three stakeholders: students, lecturers and administrators, to get several points of view. Students are the main group who use GAI tools, giving us important feedback on how they work and what they trust. Academic instructors examine both the impact of GAI on teaching practices and its ethical standards. School leaders provide information on institutional guidelines, division of resources and problems in managing global academic integration.

There were three participants from each stakeholder group at each university, so a total of 27 interviewees took part. We used a sample where the number of involved stakeholders was important, but only detailed interviews were included. Because we used a semi-structured format, participants were able to share their views and experiences openly, leading to useful findings. Using this approach matched well with interpretivist research, because it values the opinions and experiences of people in the social world.

University Type	Stakeholder Group	Number of Participants per University	Total Participants
Federal	Students	3	
	Lecturers	3	
	Administrators	3	9
State	Students	3	
	Lecturers	3	
	Administrators	3	9
Private	Students	3	
	Lecturers	3	
	Administrators	3	9
Total			**27**

Participant Sampling and Recruitment

This study used purposive sampling to seek out participants who were either using or could be affected by Generative Artificial Intelligence (GAI) tools in their work. The criteria for selecting participants were carefully listed to allow those involved to share useful and valuable insights on GAI trust and usage in Nigerian universities.

Students had to apply to either an undergraduate or postgraduate program and show that they are aware of or can use GAI technologies, like ChatGPT or similar writing programs. As a result, what they went through was connected to areas within their academic fields. The lecturers involved were chosen from subjects closely associated with AI or that have greatly incorporated it. Computer science, business, education and social sciences were all part of these disciplines, giving people different opinions on pedagogical and ethical questions. Only administrators with knowledge of digital strategy, IT services or academic policy governance issues were invited, so that a wider, institutional perspective could be added to the study.

Federal, state and private universities all had about the same number of participants from each stakeholder group. The planned distribution of students matched the number required for both comparison within the institutions and comparisons with other institutions.

There were many steps involved in the recruitment process.

1. Approvals were given by registrars and ethics committees from the university to follow both institutional and ethical rules.

2. To reach the best participants, potential invitees were identified from mailing lists, discussed at faculty meetings, connected via student unions and reached through related professional channels.

3. Participant information sheets were shared to let them understand the reasons for the study, what would happen to their information and what taking part voluntarily means.

4. By asking some initial respondents to suggest colleagues or peers that met the study criteria, we were able to involve individuals who would normally be challenging to recruit.

The way we recruited people resulted in better representation and richer data since gender, age, education level and digital abilities were diverse in the sample.

Stakeholder Category	Inclusion Criteria	Recruitment Channels	Sample Size

Students	Enrolled undergrad/postgrad with AI awareness	Student associations, mailing lists	9
Lecturers	Teach AI-related or AI-affected disciplines	Faculty meetings, professional groups	9
Administrators	Manage digital transformation or policies	Administrative offices, IT departments	9

Instrument Design: Semi-Structured Interview Guide

The interview was structured in the semi-structured form to ensure that each participant discussed GAI with similar themes and that flexibility remained when exploring unique aspects of their work. The idea behind the design was guided by theories on trust and adopting technology (Nwozor, 2025). These were changed to suit the setting in Nigerian higher education institutions. Five principal thematic areas were the focus of the structure of the interview guide.

1. The purpose here was to test participants' GAI knowledge, focusing especially on tools such as ChatGPT and Bard. I asked about how regularly students, teachers and administrators accessed technology in their studies, revealing the average skill and interest in technology for everyone concerned.

2. People in the study were asked to explain what made them trust or distrust GAI tools. By investigating possible flaws, privacy issues and problems of conscience, the study was able to capture detailed reactions about the reliability and security of these technologies.

3. This area was concerned with how much participants understood about university policies on GAI usage. The study also investigated how they understand the effectiveness of the institution in applying GAI tools to its regular functions.

4. In this section, the guide covered the influence of GAI on educational integrity, different teaching methods and students' achievements. This encouraged people to evaluate both useful and negative impacts of education.

5. Participants were invited in this section to share any hopeful ideas, concerns or suggestions about how higher education will be managed and coordinated in the future by the GAI. The participants were given the opportunity to share ideas about policies and safeguards that might support trust and responsible practices.

First the participants were questioned about their job which part of the organization they work in and how experienced they are, so analysts could connect their comments to these demographics.

Thematic Domain	Sample Questions
General Awareness of GAI	How familiar are you with GAI tools like ChatGPT?
	How are these tools used in your academic environment?
Perceptions of Trustworthiness	What factors influence your trust or distrust in GAI?
	Have you seen any misuse of these technologies?
Institutional Role and Policy	Are there guidelines at your university for GAI use?
	Do you believe the institution manages GAI introduction well?
Ethical and Educational Implications	Do you think GAI supports or undermines academic integrity?
	How does it affect teaching and assessment?
Future Expectations and Concerns	What changes do you foresee in GAI use?
	What policies would enhance your trust?

Pilot Testing of the Interview Protocol

The semi-structured interview guide was first tested in a pilot to make sure it is clear, flows nicely, reflects local cultures and is ultimately practical. The researchers involved three students, three lecturers and three administrators from a Nigerian university that was not part of the main study group. Running the pilot in another location allowed the feedback to fit the context, as it did not influence the primary set of data.

After testing the pilot phase, we gained important knowledge that helped improve the interview protocol. A key issue was how complex terminology such as large language models, along with jargon used in AI, was not accessible to many of the participants. Air table explained this in simpler terms by calling it “AI that generates text” and “programs designed to write.” Because of this, participants had all the information needed to understand and answer questions better.

It was also clear that using more formal question guides would help. Calls at the start of the recruitment didn’t have a lot of detail since participants gave short and simple replies. As a

result, the guide now contains unique questions and suggestions for each area which help keep participants actively participating and thinking more deeply about what they feel and believe.

The pilot pointed out that questions regarding ethics such as plagiarism and cheating, are sensitive for international students. Handling these problems is necessary in Nigeria, since they affect an institution's and an individual's reputation. People found the original way these questions were written to be somewhat accusatory. As a result, the ethical questions were corrected to be friendlier and highlight responsibilities everyone has, not just who is to blame.

Table below summarizes the main issues identified during pilot testing and the corresponding revisions implemented:

Issue Identified	Revision Implemented
Complex technical terms	Simplified language; added clear, relatable explanations
Insufficient probing	Included specific follow-up prompts for each theme
Ethical question sensitivity	Rephrased questions to align with cultural norms and values

Conducting the Interviews

During the weeks of March to May 2025, participants were interviewed using a hybrid format that enhanced the process for everyone and was easy to manage. Using this process, the study was able to study a variety of stakeholders in various places and still stay methodologically accurate.

Personal interviews took place with 16 participants who were reachable for the researcher, as they lived nearby the research location. Traditionally, the fact that interviewers met candidates in person made it possible to measure their body language and make stronger connections. These little interactions often enriched the information gathered from the study. But there were times when facial conversations picked up some environmental sounds, like nearby talks or city noises which negatively affected the audio. Also, it was necessary to organize in-person meetings very carefully to fit everyone's availability.

Since some people were scattered across the nation and could not make it to a face-to-face interview or a central location, ten respondents were interviewed virtually by phone on Zoom or by text on WhatsApp. Because of this mode, people could access videos from any place at any time. These interviews were very helpful for reaching lecturers and administrators who were very busy. At times, the sessions held online were disturbed by unstable networks that broke up our

conversations and made us repeat different parts. Because non-verbal cues could not be observed much in virtual interviews, the level of interaction might be affected.

Individuals reacted differently across studies; some shared their thoughts comfortably online, although others felt better talking in person. Allowing people to use either method allowed them to use the option that fit best with them which most likely made their answers more honest.

Every interview was recorded after we got the participant's consent and it lasted between around 35 and 70 minutes depending on how involved the individual was.

Interview Mode	Number of Participants	Advantages	Challenges
Face-to-face	16	Rich interaction; observation of non-verbal cues	Environmental noise; scheduling difficulties
Virtual (Zoom/WhatsApp)	11	Accessibility; convenience	Network instability; reduced non-verbal cues

Ethical Considerations

It was essential to think ethically about the research every step of the way, as we discussed trust and possible challenges that institutions may have with generative AI. It was possible for the study to start after the University's Ethics Review Board approved the project and satisfied strict ethical standards for participants. Authority from every participating university was also obtained, underlining the institutions' support and openness in the study.

It was important that informed consent was part of the ethical rules. Each participant was provided with specific information about what the study aimed to do, how their information would be used, that everything would be kept confidential and that they could pull out at any time without punishment. In person interviews required signatures and for online or over the phone interviews, participants were asked for verbal consent. This design was set up to provide participants with a clear understanding and the right to take part.

To preserve privacy and confidentiality, we swapped every person's or school's original names with new and similar-sounding ones for instance, "Student A, Federal University." Doing this was essential to guard the anonymity of participants and get honest answers. Also, all the data

we gathered was put onto encrypted gadgets with access available only to the key research members.

Due to the sensitive concerns in the conversation, the researcher paid special attention to participants' worries about prying or possible negative consequences at their institutions. In order to address their fears, the underpinning of the study as a non-commercial, academic project was clearly explained right away. The researcher captured reflexivity by regularly recording their biases, how they felt about each event and how their understanding changed over the process. Because of this approach, the influence of individual biases was reduced and data analyses were more ethical.

Data Management and Transcription

The research process was supported by strict rules for handling data to guarantee everything was safe, reliable and easy to access. Every audio file, transcript and field note was safely kept in locked folders that met regulations set by GDPR and Nigeria. Besides, we used safe and tightly controlled cloud services to store backup data.

All the interviews were transcribed by the researcher, since it made the analysis of the data more complete. Pauses, laughter and shifts in tone were marked, apart from the words, to add more details to how the interpretation was written.

To maintain organization and reliable analysis, the transcripts were assigned codes showing the type of university, the role of the stakeholder and the sequential number of each participant (e.g., INT_FU_Lect_03). Because of this coding, it was easy to compare information among different organizations and groups of people. Besides, to simplify the analysis, a data matrix was created to connect themes with types of stakeholders and university situations.

Transcript Code	University Type	Stakeholder Group	Participant Number
INT_FU_Stud_01	Federal	Student	1
INT_SU_Lect_02	State	Lecturer	2
INT_PU_Admin_03	Private	Administrator	3

Field Notes and Observational Data

The interviews were accompanied by detailed notes taken in the field during or right after every session. Such notes recorded what was around the interview participants, including noise,

dim lighting, problems with the internet or any distractions that could affect their engagement or make it harder to follow the conversation. The team noted how participants behaved, noticing their words and actions, because this sometimes-uncovered feelings and viewpoints that transcripts might not capture.

The field notes included the first signs of main ideas, disagreements or strong emotions that came up during the interviews. These first discoveries guided later discussions and aided in forming the developing research framework. Reporting personal observations, methodological issues and analysis insights improved the overall chances of reliable and trustworthy research in the study.

All of this information together gave the analysis more detail and allowed a comparison between what people said and the meaning of their environment. They made some confusing statements clear and spotted subtler factors that affected participants' viewpoints on GAI which made results more reliable.

Reflections on the Data Collection Experience

Gathering the data exposed us to the many sides of how technology, culture and institutions are all linked. Participants in our study showed interest in generative AI, though not everyone was as involved as the others. Many students tried out things differently, using GAI for their course projects. Unlike the lecturers, administrators were mainly bothered by difficulties in the university's policymaking and threats to its good standing.

The attempts to integrate online learning were shaped by factors such as digital and internet differences, prior use of technology, academic expectations and each person's digital knowledge. Students from universities with better resources indicated that GAI was more approachable which raised concerns about sharing knowledge in Nigeria's schools.

Also, participants regularly explained their opinions using ethical, teaching and political concepts, bringing up ideas of equality, plagiarism and justice. They bring attention to the fact that feelings of trust in technology depend on the values and power within society.

3.6 Data Analysis

Data analysis forms a key part of qualitative research, linking the collected information from participants to the detailed understandings that respond to the research goals. The research for this study used data in an interpretivist paradigm to explore how Nigerian higher education views the trustworthiness of Generative Artificial Intelligence (GAI). This approach means that

the researcher and participants mutually make sense of what they discover, as realities are considered to be socially made and not neutral. For this reason, attention was given to finding patterns, relationships and themes as they arose, rather than confirming ideas that had already been proposed which suited the exploration and induction in this study.

This section describes the analytical framework in depth and explains every step of how the coding and theme development were performed. It discusses the way the researcher constantly reviews their assumptions, outlines which programs were used to manage the data and explains how credibility, dependability and trustworthiness were made sure during the analysis. In addition, it highlights the difficulties seen and the steps taken to resolve them.

Analytical Framework: Thematic Analysis

Okafor et al. (2025) definition of Thematic Analysis (TA) served as the main guide for this study. Thematic Analysis is an accepted approach for studying and reporting the recurring "patterns" or important themes found across data. Being adaptable, the approach helps researchers handle data closely and reveal insights from the groups involved.

Many reasons led to the choice of TA for the Dane Fisher experience. In addition, flexible anthropology is good for the study's constructivist viewpoint since it can have rich interpretation without limiting itself to defined theories. Second, using TA allows researchers to gain thorough experiences from participants and share finely detailed examples from students, lecturers and administrators related to GAI. Third, the six-phase process designed by TA ensures quality while allowing for the continuous changes seen in qualitative studies.

To guide the analysis, Braun and Clarke's six-step method (2006) was applied.

- Familiarisation with the data
- Generating initial codes
- Searching for themes
- Reviewing themes
- Defining and naming themes
- Producing the report

Data Preparation

The first task was to organize the primary data for examination. These semi-structured interviews were carried out with 27 people from the following groups: students, lecturers and university management. Consenting participants were secretly interviewed with a recording device

and the researcher then manually wrote down the interviews to quickly get familiar with the data. Since the researcher did the transcription manually, she was able to notice facial gestures and voice changes that weren't captured by automatic transcription.

Each participant's interview was anonymised and their details were given a unique number that showed if they were from a public or private school. When we saw the code "Student_PU_01" it meant the person was a student at a public university and "Lecturer_PrU_05" indicated a lecturer at a private university. Because of this labelling system, data was arranged in an orderly manner and could be examined across different groups.

When the transcription was complete, the data were transferred into NVivo 14 which makes it possible to arrange code, take notes and build on important themes. NVivo improved how data was kept and helped me find and look at covered topics in my coding. By using specialized software, accuracy and order were upheld as the team coded multiple times.

Phase 1: Familiarisation with the Data

The first step in the process involved the scientist reviewing the interview data on many occasions. By reading the accounts closely, the researcher understood the whole picture and the background of the participants. During this time, researchers wrote notes in the side of the transcripts and further wrote down their analysis in memos. I recorded the things I discovered, meaningful quotes, various moods, disagreements and ideas that appeared often.

Some early thoughts formed after this immersion, for example:

- The language of "doubt," "assist," "cheating," "innovation," and "bias" was used often to describe the wide range of attitudes toward GAI.
- Stakeholder groups showed different awareness of GAI; students tried it more and understood it better, whereas some lecturers questioned or misunderstood it.
- Finding both appeal in the prospect of new GAI advances and concern about what they might mean for ethics and the quality of education.

At this point, the researcher started approaching the work as a participant, recording their personal feelings and possible biases that might play a role in interpreting things. It was very important to reflect at this step to keep the voices of participants authentic and to deal with the researcher's initial interest in educational technology.

Phase 2: Generating Initial Codes

For the next step, comprehensive coding was carried out on the entire data set. Labelling the text with concise labels or codes, was a major task when coding data. In this phase, the researcher allowed codes to develop from the data instead of using a fixed set, ensuring that the result of the analysis was based on what the participants described. All the transcripts were coded in NVivo which made it easy to systematically compare data among different roles and organizations. At this stage of inductive coding, we were able to discover the fine points of what participants went through with GAI.

A total of 83 unique initial codes were found during the coding process. For example:

Code	Description/Example Segment
Unclear institutional policy	"There's no clear guideline on using AI tools in assignments."
AI as a threat to originality	"Students might just copy from AI instead of thinking."
AI helps reduce workload	"Using AI tools helps me draft faster and focus on analysis."
Fear of data misuse	"I worry about who controls the data generated by AI."
Students experimenting with ChatGPT	"Many students try ChatGPT to see if it can write essays."
Distrust due to hallucinations	"AI sometimes produces wrong facts, so I don't trust it fully."

Phase 3: Searching for Themes

During the next phase, the researcher grouped the 83 early codes under thematic headings, known as themes and subthemes. This required putting codes together that had similar meanings, were used alongside the same types of data or commonly appeared in the same context. The idea was to put the different codes together into general categories that represented main aspects of GAI's credibility and effect.

For example:

Academic Integrity includes the codes "plagiarism concern," "undermines critical thinking," and "shortcuts assignments."

Lack of policy, silence from institutions and unclear rules were all contributing to the Policy Vacuum subtheme within Institutional Readiness.

As a result of using inductive thematic grouping, six main themes appeared at an initial stage.

- Understanding and Usage of GAI
- Perceived Benefits
- Concerns and Distrust
- Impact on Academic Practice
- Institutional Context and Policy Gaps
- Visions for the Future

Phase 4: Reviewing Themes

During theme review, I made sure that each initial theme matched both the findings in the coded data and the overall dataset. The criteria applied were internal consistency (every piece of data within a theme must relate to each other) and uniqueness between themes.

As part of the review, I did the following:

- Confirming that all significant codes were placed within the correct themes (inclusivity).
- Considering whether overlapping themes should be merged to make the report clearer (to avoid repeating the same thing).
- Clustering quotes to assure that a variety of voices were captured (panel representation).
- The development phase brought some changes to how the organization was structured.
- To properly highlight their relation, Perceived Benefits and Understanding and Usage were merged to become User Experience of GAI.

To better focus on moral topics, religion and concerns of fairness, a new theme called Ethical and Cultural Dimensions was included.

Table lists the five main themes and twelve subthemes that formed the final framework of the review.

Theme	Subthemes
1. User Experience of GAI	Awareness and Use, Practical Benefits, Unclear Capabilities
2. Trust and Distrust Dynamics	Perceived Accuracy, Transparency and Accountability, Risk of Misuse
3. Academic Impact	Pedagogical Shifts, Plagiarism Concerns, Reduced Student Effort
4. Institutional Context	Policy Vacuum, Infrastructure Inequality

5. Ethical and Cultural Dimensions	Moral Concerns, Religious Interpretations

Phase 5: Defining and Naming Themes

Every theme was clearly outlined and named, with a well-developed explanation of what it means. By defining the themes, it became easy for readers to understand what each theme meant and how to analyse participant answers accordingly.

For example:

- GAI's User Experience found that participants realized GAI, started to use it, viewed benefits including lowered workload and had some concerns about its capabilities.
- Trust and Distrust Dynamics looked at beliefs about the accuracy of what AI produces, worries about understanding how AI works and apprehensions concerning ethical AI uses.
- The paper investigated how teaching methods changed, as well as problems with students plagiarizing and being less concerned with actual effort.
- Institutional Context revealed that both policy and infrastructural differences prevented some countries from properly adopting GAIs.
- Participants' moral values and religious ideas related to GAI were studied under Ethical and Cultural Dimensions.

Reflexivity and Researcher Positionality

During the analysis phase, reflexivity served a key role. The researcher wrote a journal to capture their thoughts, feelings and the way their perspectives changed. It helped me better recognize myself and how what I believe can affect the interpretation of my research findings.

Initially, the researcher expected that AI might be beneficial for learning as a postgraduate student in educational technology in Nigeria. Continuous reflection was necessary because it was shown by participants' reactions that these assumptions might not be accurate. Records of my thoughts about the connection between excitement for new ideas and attention to ethics aided in giving the participants' views priority.

Ensuring Trustworthiness of the Analysis

Credibility and rigour in the analysis were maintained by following the four criteria for trustworthiness outlined by Quaye (2024): credibility, transferability, dependability and confirmability.

We increased the credibility of the research by having 10 participants check and offer feedback on the summaries of their interviews which led to making a few adjustments for accuracy. By consulting students, lecturers and administrators, we deepened and increased the field of our findings.

It was easy to apply the findings of this study to other settings thanks to the detailed descriptions of the people and institutions involved.

An audit trail of coding decisions, software questions and theme adjustments were created to ensure continuity. Regular discussion with academic supervisors made sure the analysis I used was transparent and correct.

It was made easier to confirm results by storing coding matrices, analytic memos and thematic maps and using NVivo to organize the data and limit the risk of interpreting them differently.

Challenges in the Analysis Process

Several challenges were encountered during the analysis.

- All the Qualitative Information: The extensive and detailed nature of the qualitative feedback made it difficult to sort and properly look into every detail, so considerable skill and attention were necessary.
- Nigerian Academic Culture: Some of the language used was colloquial or metaphoric, so some were not always clear and participants had to ask for explanations.
- Themes Share Space: Trust and policy were regularly linked, so I had to frequently readjust the theme announcements to avoid confusion and similar theme labels.

The approach of continuously coding software cycle, making daily notes and applying computer-guided recognition techniques helped the team beat these obstacles. These approaches provided balance so the final analysis could handle many variables but wasn't too difficult to manage.

3.7 Ethical Implications

Ethical issues should be central in qualitative research studies and this is especially important when research involves sensitive topics about people, for example, trustworthiness of GAI used in higher education in Nigeria. Since there are many complexities and lots of new ideas about AI in Nigerian education, it was important for the researcher to use a thorough ethical

approach. The section explains the ethical values and specific activities put in place to guarantee high ethical standards for all involved.

At the beginning, formal approval for the study was granted by the university's Research Ethics Committee. It conformed to the principles of **Sadiq** (2024) and the Association of Internet Researchers (AoIR) for carrying out research in learning and online settings. The principles expressed in these codes were informed consent, keeping information private, allowing for voluntary participation, no harm to people taking part and researchers taking a methodical approach to their research. These principles were especially valuable because this study brought together students, lecturers and administrators who held different rankings and had differing degrees of digital literacy and trust in technology.

It was considered mandatory to obtain informed consent because it follows from the principle of respect for autonomy. Each participant was given a thorough participant information sheet explaining why the study existed, what would occur in it, possible risks and benefits and the steps taken to ensure ethics. They covered how many meetings would take place, their design, that participants could leave at any time and that all responses would be kept private (**Suleiman, 2022)**. For those coming in person for interviews, a written record of their approval was obtained and for remote participants, we audio recorded their approval and saved it securely. Care was taken to help participants understand the discussions on topics like the use of GAI by institutions and any doubts were cleared up before participation.

Considering how easily controversial opinions could put participants' reputations at risk, keeping everything private and anonymous was an essential priority. To hide who they are and what school they are from, all participants were given pseudonyms and coded labels (such as Lecturer_PU_01 and Student_FU_02). During the transcription, every name, email address and other way to identify a person was deleted. All data was managed with NVivo which uses pseudonymised profiles so that confidentiality would be maintained throughout the study. All quotations from participants were redacted to prevent indirect revealing of identities and the presentation of research findings was controlled so that no participant could be identified from their context.

Throughout the process, participants were told that it was up to them to decide if they wanted to take part. Only individuals relevant to the study's main questions were selected purposively, but their involvement was completely voluntary. Not only was the right to withdraw

present in the first invitation, but it was brought up again before and during the interviews. Those who chose to take part agreed that they were free to withdraw their information within the initial period following their interview (**Yusuf, 2024)**. After the interview, one private university professors decided to withdraw out of concern about the way their words could impact the school. After they requested it, all necessary data were promptly deleted. Because of this incident, the researcher placed renewed importance on ensuring that participants felt comfortable and were in charge of their own participation.

Even though the research avoided traumatic subjects, being careful with both mental and reputational risks was mainly important to the ethical framework. Talking about preparedness in institutions, ethical guidelines and academic uses of AI might place participants at risk of sharp criticism or impact to their professional life. This was most evident when students admitted to using GAI tools for their work or when faculty pointed out that the institution had no official governance. All interviews took place in private to encourage people to speak openly and decrease their anxiety (**Usman, 2025)**. Everyone was made aware that the goal of this session was to understand their opinions and not to judge them. Following the interview, participants were free to read through their transcripts and indicate changes or erasures if they thought anything was inappropriate.

Since both the research focus and how data was collected were digital, it was very important to keep data secure. With regards to the UK General Data Protection Regulation (UK GDPR), strong data protection steps were taken. All of the digital files interview recordings, transcripts and consent forms were kept on a password-protected server at the university, backed up on a cloud system protected by two-factor authentication (**Lawal, 2024)**. Researchers kept the physical versions of consent forms locked in their workplace at the university. Access to the data was given to only the researcher to keep it secure. Audio files were erased right away after confirming they were correctly transcribed. In addition, information provided will remain available for a maximum of five years following its submission, then it is deleted permanently as required by tradition.

Because Nigerian academia is very hierarchical, it was important for me to care about how I used my power when interacting with others. The researcher could have appeared to students as a powerful figure, whereas lecturers and administrators might have imagined their comments might be taken out of context. The researcher made a deliberate effort to write in a neutral way

and to refrain from judging individuals. Interview questions did not call for specific complaints but invited participants to talk about thoughts and feelings. All participants were told that their opinions were confidential and that the goal was to see how people saw the organization, not to check its ratings.

Careful thought needed to be given to cultural sensitivity and ethical contexts as part of the study. The background of participants, covering many religions and educational levels, meant they had unique perceptions of AI. While a few people saw AI as a danger to sacred truths, other people believed it suited only Western ideas of culture. Instead of rejecting such viewpoints, the researcher respected and featured them honestly (**Chimbga, 2023)**. Using tech language was kept to a minimum and questions were always presented in language that included everyone, whatever their level of digital understanding. Such methods highlighted the significance of local situations in determining how research should be done ethically.

At all stages of the research process, the researcher focused on both being self-aware and acting ethically. Being a postgraduate student in the same environment as other participants, the researcher realised they could have biased and insider assumptions. I used journaling to record situations when I felt unsure about what was right or wrong and talking regularly to my supervisors helped me see and address any unnoticed ethical challenges. After the data was collected, an ethical checkpoint took place to review procedures, discuss any new issues and update the dissemination approach as needed. Because scientists were always reviewing their ethics, the research remained true to its ethical principles.

Finally, research ethics were applied during the distribution of results as well. Results were reported in a way to make sure that everyone's views were acknowledged and honored. Decisions about including direct quotations were made to make sure the themes were shown accurately and honestly. The analyses did not overgeneralize the findings and instead noted the subtle differences among participants' lives. Those interested in learning about the findings will receive a summary which should help them continue the conversation with the project team. Every effort will be made to make sure no individual or organization is singled out, especially when exploring weaknesses in policy, training or use of technology.

3.8 Limitations

This research is constrained by certain limitations, even after careful preparation and application which must be acknowledged to ensure the findings are viewed accurately. The study

had major limits tied to the study context and the cultural aspects involved. The researcher only explored specific institutions in Nigeria, since digital tools, access to artificial intelligence and attitudes towards them are very diverse in this country. For this reason, though, the results of the research may not be able to be applied to other education systems that differ in terms of socio-cultural, technological or institutional areas. The individuality of the Nigerian education system, with its disparities in advancements and literacy, causes these findings to be mainly tied to the Nigeria environment.

The approach to selecting and using a sample may also cause limitations. A purposive sampling design selected only a small portion of students, lecturers and institutional leaders so the study could study their perspectives in detail. This design suits qualitative research, but it doesn't allow researchers to generalise the results. Still, the group of participants includes students and professors of various backgrounds, reducing the chance that the results only reflect one aspect of what is happening with Generative AI. So, the results point to trends that may not be fully generalisable in a statistical sense.

There is also a limit because data is based on interviewees recalling their experiences. It is possible that those taking part in the research gave answers they thought were better expected, rather than expressing their real views. It is most important to consider this when speaking about trust, ethics and academic dishonesty which can lead to students or teachers feeling penalized by the school or their reputations. Even though the researcher assured participants that everything they said would be kept safe, a few, specifically many students, seemed reluctant to share openly which might have restricted the truth in the data.

The researcher's role should be accepted as a possible source of bias. Since the researcher knows about Nigerian higher education, how they perceived participant opinions and facts might have played a role in the findings. Reflexivity was continually part of the process by either keeping a journal, having sessions with fellow participants or being straightforward with coding yet such work always involves subjective meaning. In other words, what the researcher believes can have an impact on the meanings that were found in the data.

The changing nature of Generative Artificial Intelligence creates a limitation. The speed of GAI tool growth in education means that the ideas presented here mark a particular point in time. With changes in education rules, tools and practices, the views of stakeholders are likely to evolve

as well. As a result, the results of this study might not represent the future of GAI integration within higher education.

Chapter 4: Research Findings

4.0 Introduction

The purpose of this chapter is to report on the findings from qualitative interviews with higher education stakeholders regarding their views on trust in generative artificial intelligence (GAI) tools in Nigeria. The ideas and themes in the chapter are grouped by research aims and themes analyzed together. The results are based on the opinions of 27 participants and these opinions are split among students, lecturers, administrators and university types such as federal, state and private. The results are expressed using significant statements, narratives and explanations. Every subsection highlights important points and subtopics to respond to particular research questions.

4.1 Data Presentation and Thematic Overview

Participants for the study consisted of 27 people selected from key groups: students, lecturers and administrators. University participants belonged to federal, state and private educational organizations, in order to include different experiences and opinions on how they interact with and trust GAI technologies including ChatGPT, DALL-E and similar AI educational tools (Abayomi et al., 2021).

The data gathered during semi-structured interviews were looked at using thematic analysis to spot major themes supporting the research topics. Analysis was done in several phases, including coding, working on themes and refinement so that the study could be thorough. The section first explains the details of the participants and it then thoroughly presents the main themes and subthemes spotted in the data. It also covers a conversation about how these themes work together and display the challenges found in trust within GAI tools in Nigeria.

Participant Profile and Distribution

There were nine students, nine lecturers and nine administrators equally represented in the study sample, so that all groups were balanced. To ensure more diversity, participants were chosen from all three types of universities: federal, state and private. Table 4.1 outlines the breakdown of participants based on who they are (stakeholder or student) and their school. This equal distribution was meant to give a wide range of views on trust in various professions and departments.

Table 4.1: Participant Distribution by Stakeholder Group and University Type

Stakeholder Group	Federal University	State University	Private University	Total Participants

Students	3	3	3	9
Lecturers	3	3	3	9
Administrators	3	3	3	9
Total	9	9	9	27

The arrangement of data made it possible to analyze differences in trust among GAI tools depending on the type of institution or people involved. Making sure every group and type of institution got the same number of votes makes the conclusions more reliable and reduces any one group's influence on the results.

Thematic Analysis Process

All the interviews were transcribed exactly and loaded into software to help with the coding. This research project was guided by Abdullahi et al. (2024) approach: staring with getting familiar with the data, then creating codes, hunting for themes, reviewing the ideas found, defining and categorizing them and ending with producing the final report. Coders worked on important parts of the text that showed participants' opinions on trustworthiness, risks, benefits, institutional aspects and recommendations about GAI tools.

Four main themes came to light in this process, each containing a set of subthemes that highlight what stakeholders think about these issues. These themes link personal trust, the environment of healthcare institutions, ideas people have about risks and benefits and their opinions on ways to support safe GAI practices.

Overview of Themes and Subthemes

The main themes found in the study are summarized as shown in Table 4.2. The table below shows the four key themes and also lists their subthemes which serve as a guide for further analysis.

Table 4.2: Summary of Themes and Subthemes

Theme	Subthemes
Understanding Trustworthiness in GAI	Definitions of Trust, Attributes of a Trustworthy Tool, Exposure and Knowledge of GAI
Contextual Factors Influencing Trust	Institutional Readiness, Technological Infrastructure, Cultural and Ethical Perceptions
Perceived Risks and Benefits	Concerns about Academic Integrity, Efficiency and Creativity, Data Privacy and Security

Recommendations for Trustworthy Use of GAI	Policy Development, Capacity Building, Stakeholder Engagement and Communication

The first theme explores how participants see trustworthiness in GAI tools by discussing the attributes they consider credible and reliable. The second theme points out that trust is affected by surroundings such as the strengths of institutions and important ethical concerns in Nigeria's educational system. The third theme explores what people think about the positives and negatives of GAI, especially regarding academic integrity, innovation and keeping data secure. The final area includes suggestions from participants on how to establish and keep trust during GAI deployment.

Theme 1: Understanding Trustworthiness in GAI

People's ideas about trustworthiness in GAI differed somewhat but mostly centered on being reliable, transparent and consistent. For many, trustworthiness meant that the GAI tool supplies correct, impartial and valid data. They regularly noted that the tools should answer correctly and be user-friendly so there are no errors (Abubakar et al., 2024). Many lecturers saw trust as depending on whether technology helped learning and teaching without reducing overall academic quality.

This aspect involved having transparency about the data used, explaining the results outputted and pointing out any areas where there is doubt contained in the data. Experience or knowledge of GAI was equally crucial, since individuals more familiar with AI expressed stronger confidence in using them (Adam et al., 2021). At the same time, when people did not know much about the business, this often made them suspicious or mistrustful, showing there were gaps in what they knew that affected their trust.

Theme 2: Contextual Factors Influencing Trust

There was no trust in GAI tools by themselves, but it was affected by the surrounding organization and culture. Stakeholders in different groups stated that having smart policies, needed infrastructure and the right support was essential for their universities to successfully apply AI (Adedoyin et al., 2024). Technology was also seen as a major factor. It was often pointed out that having unreliable internet, not enough computer equipment and little software support meant people had trouble with and felt unsure about the GAI tools. This happened more in state and federal universities than in private ones which had access to better resources.

Trust was also affected by cultural and ethical views. A number of participants expressed their worries that AI might not be in line with Nigerian traditions, values and education (Adeniyi et al., 2024). Participants often discussed potential plagiarism, the potential for AI to be biased and other ethical issues related to using AI which highlighted how AI affects society.

Theme 3: Perceived Risks and Benefits

The third theme dealt with how GAI tools are expected to affect learning outcomes in classrooms. Academic integrity issues were often mentioned, especially by lecturers and administrators, who were concerned that simple access to generative AI could increase cheating, hurt originality and reduce the ability to think critically (Adeoye et al., 2023). At the same time, it was acknowledged that GAI could be useful for tasks where efficiency is important such as drafting, research and coming up with creative solutions.

According to some students and a few lecturers, GAI tools make it easier and quicker to find information, support creative work and reduce the amount of work one needs to complete. There were strong concerns in every group about the privacy and use of their personal and educational information (Adhikari et al., 2023). Data protection and ethical treatment of sensitive data were important reasons people trusted.

Theme 4: Recommendations for Trustworthy Use of GAI

The participants proposed numerous ideas to help establish trustworthy adoption of GAI tools in universities. It was frequently suggested that reliable rules be created to control AI, ward off misuse and maintain university standards (Afolabi et al., 2024). Stakeholders were considered in great need of training and workshops to help them become more confident with AI and recognize its advantages as well as its limits.

Opening lines of communication and being sincere in social responsibility were ways to gain trust. The group supported coming together with students, faculty and administrators to ensure that everyone had a shared understanding, their concerns were addressed and paths for integrating AI were tailored to follow the school's main principles and ethics.

Comparative Insights: Stakeholder and Institutional Perspectives

Differences in how themes were emphasized could be found among types of stakeholders and types of universities. They mainly considered the practicality and ways GAI could help them, with some trust being shaped by what they went through with it. Lecturers were mainly worried

about academic integrity and pedagogy, whereas administrators focused mainly on policies, the condition of buildings and managing the institution (Agbarakwe et al., 2024).

Similarly, private universities were ready to adopt GAI because they see it as a way to be more innovative and flexible. Alternatively, federal and state universities encountered more infrastructure issues and pointed out that well-defined regulations are required to control risks. They emphasize that building trust in AI tools depends a lot on the situation.

4.2 Understanding the Concept of Trustworthiness in GAI

It is important to learn how different stakeholders view the trustworthiness of GAI technologies to judge their responses to using them. In this part, we examine in detail what people mean by trustworthiness, the qualities they assign to reliable GAI platforms and how learning and experience influence their opinions (Aghiomesi et al., 2024). Using qualitative methods, the research illuminates the unique ways trustworthiness is developed by students, lecturers and administrators in Nigerian universities.

Conceptualizing Trustworthiness

The participants described trustworthiness in a GAI tool as a combination of different qualities. All stakeholders often linked trustworthiness to the reliability and dependability of getting accurate, relevant and verifiable results (Akwara et al., 2023). Some people involved in the discussion felt that precision was not enough and that technical governance should include transparency, ethical values and user self-control.

A university lecturer explained trust as “feeling sure that the AI will not give false or dishonest replies, that it works with accurate data and that it can give an explanation for its answers.” This approach points out that reliability, the correctness of results and transparency which helps users understand how those results were drawn, are both indispensable. On the same note, a private university student said they trust the AI when its answers can be verified elsewhere (Al-Emran et al., 2025). If the information it gives isn’t supported by proof, then using it is risky. It shows that users believe GAI tools should provide knowledge claims that external observers could confirm are valid and not invented.

Being trustworthy also depends greatly on having good ethics. An administrator in a state university said, “Trustworthy AI has to uphold our standards of academic honesty and fairness. Anytime an exam supports cheating or plagiarism, people lose faith in it (Al-Samarraie et al.,

2024). It means that reliable tools must follow the rules and principles set by the institution and academics.

All things considered, GAI trustworthiness is something that needs to be viewed from several dimensions. Accuracy, transparency, conformity to morals and accountability are all part of it, so to build trust in AI we should concentrate on both technical and ethical factors.

Attributes of a Trustworthy GAI Tool

Using participants' definitions of trustworthiness, we created a list of specific qualities that show a GAI tool is trustworthy. They are useful criteria for students, lecturers and administrators to check the reliability and trustworthiness of GAI systems (Al-Zahrani, 2024). They mostly represent how users think AI should serve higher education which eventually dictates whether they trust such tools.

The two attributes that came up most often were Accuracy and Consistency. People taking part said for a GAI tool to be trusted, it should always provide accurate, helpful and well-structured information. There were reports from users saying that sometimes an AI tool produced conflicting answers to similar questions which made them doubt the technology (Alasadi et al., 2023). One student said, "If the answer changes often or differs from what it said before, I won't trust it anymore." The inconsistency made people worry that AI-created knowledge might not be trustworthy in academic settings, where it should be reliable.

Transparency and Explain ability were a key feature for these systems. A lot of the participants, primarily lecturers, complained about AI tools that give answers but do not explain what justifies them. There was a strong call for future tools that provide insight into their data sources, explain their methods and explain their limitations (Alhubaishy et al., 2021). Being able to inspect the process behind AI helps users judge if the information provided by AI is reliable.

People believed User Control and Autonomy were essential for trust. People liked tools that let them interact with, adjust and sometimes contest the AI's decisions. For example, you should be able to check the data, alter how data is provided or notify someone about a wrong answer. By letting people to participate more, these systems strengthen a person's feeling of influence which has been repeatedly linked to higher trust in the AI (Alshamsi et al., 2024). Users who feel they have control will commonly interact with AI openly and with good judgement.

The incorporation of Ethical Safeguards was found again and again. Some stakeholders were worried about fraudulent use of GAI tools in schools, making plagiarism possible or

encouraging content that favors one opinion. The systems within AI tools should help avoid dishonesty and support the important values of the educational institution. It means they use filters for content, check for plagiarism and set up strategies to prevent bias (Alshamsi et al., 2024). According to an administrator, "Fairness should be considered during the design of AI and it should never be used to make academic shortcuts."

At the end of the process, Privacy and Security proved to be very important. People at the event were worried that their personal data might be stored or accessed in ways they didn't expect by AI tools. Staff were advised many times to follow robust data protection methods and comply with set information security policies (Arueyingho et al., 2025). People were more confident about using tools that detailed their privacy policies and the use of encryption, given the possibility of handling sensitive academic information.

Reviewing accuracy and consistency, transparency, user options, ethical precautions and how data is secured together helps determine if GAI tools are trustworthy. If any of these components is missing, participants pointed out, trust could be greatly reduced, highlighting the need for education AI that is balanced, ethical and focused on users.

The Foundation of Trust

Trustworthy GAI tools depend significantly on how much and how well stakeholders in Nigerian higher education are familiar with such tools. Trust in GAI tools among all participants was greatly influenced by their prior experience, training and active involvement. People who had interacted with AI by participating in workshops, tutorials or experiments were more likely to assess AI tools as trustworthy and positive (August et al., 2024). In comparison, participants who did not have much experience often showed skepticism, uncertainty or doubt because they believed misleading information or only understood the technology in a limited way.

Participants in AI workshops felt surer about the usefulness and integrity of GAI tools. These fellows had better skills to understand AI results, spot where the results might be incorrect and understand the difference between using machines and doing the work themselves. For example, a computer science student from a federal university said, "Using it more makes me aware of its behaviour (Azıonya et al., 2021). I know when the AI gives the right response and when it is guessing. This allows people to trust each other more easily. In other words, a person's ability affects how much their expectations are balanced and how well they trust the service.

A teacher from a state university mentioned that he originally thought AI tools were only meant for cheating. I no longer worry about the way I use medication; I feel easier trusting them since I know what they can do. It demonstrates that trust in GAI is not something people have always, but grows or diminishes based on different circumstances (Balalle et al., 2025). When a user gains more knowledge, they can dismiss earlier suspicions and see the help as worthwhile, as long as they carefully identify between real help and academic deception.

Participants who had not used GAI tools before usually felt uneasy or had wrong impressions. While a number of students saw AI tools as quick fixes or ways to cheat, there were those who worried about how AI might alter or replace school learning. Many cases like this suggested that the lack of trust came from not feeling at ease with new technology, uncertainty about its impact and false claims from others (Bali et al., 2024). An official from a private university said, “A great number of students are negative about AI because they do not understand its workings.” Seeing the animal usually helps people defeat their fears.

This data implies that trust in GAI tools is built upon how much exposure people have and increased usage results in better knowledge and more balanced outlooks. Seminars, interactive demos and policy briefings help build trust between users and the platform (Bobula, 2024). With more exposure, people get better at assessing what GAI can and cannot do which helps them trust the AI system more realistically. Actually, trustworthiness in AI comes from the tool as well as the learning and involvement of the user.

Trust as Relational and Context-Dependent

Participants commonly shared that trust in GAI tools depends a lot on the specific circumstances and relationships involved. Instead of believing trustworthiness is always there with the technology, stakeholders explained it as changing based on the situation, person using it and the environment (Chan et al., 2025). These notions are also found in sociotechnical theories that believe trust develops through interactions done by people, tools and surroundings.

A number of people reported feeling more comfortable using GAI tools for simple or creative tasks, including coming up with ideas, making summaries or arranging outlines. People felt that they controlled the process and could check and see if the AI was correct. According to a student from a private college, “I will rely on it just to give my essay a strong start, especially for ideas.” I take care of the other things by myself.” (Chang et al., 2023). Nevertheless, when dealing with significant responsibilities such as grading students, judging research did they take more care

and making final decisions. According to the speaker from a federal university, I wouldn't assign it that role. Humans have to do that part since AI doesn't understand how to think in context.

Besides only concentrating on individual tasks, the context of use also took into account elements related to the organization. People studying at universities that communicated AI rules, provided training and had proper infrastructure reported more trust in GAI tools. In this way, AI was viewed and treated as a managed and fair resource for everyone and users trusted it. Those in places with vague rules or limited tools often had doubts about the benefits of using GAI tools (Chaudhry et al., 2022). An administrator at a state university stated that, without proper rules, support or guidance, people get confused. Because they aren't sure what's allowed, many people refrain from using profanity or think they shouldn't use it.

This supports the belief that trust in GAI is formed with the influence of particular social and institutional conditions. Trust in a tool depends on its abilities as well as the presence of proper policies, usual behaviors, guidelines and helpful support mechanisms (Cheng et al., 2022). That's why, to increase trust in GAI, it's important to make sure people understand and follow responsible guidelines and they have the necessary support, as well as suitable applications.

Contrasting Perspectives among Stakeholder Groups

It was found that there were clear differences in how each group viewed and evaluated the trustworthiness of generative artificial intelligence (GAI) tools. Even though all shared a focus on accuracy, transparency and ethics, each group put more importance on some aspects than others which depended on what their role was like in the academic ecosystem (Christian, 2024).

Most students focused on learning how to use GAI tools in practice and by doing. Trust was most connected to how useful, easy to learn and instantly beneficial the tools turned out to be for students in their studies. A number of reports listed GAI as a helpful resource for tasks including drafting essays, formulating research questions and summarizing texts. A student at a federal university found that the app makes writing more manageable and gets them going with their writing (Christian, 2024). When it quickens my work and gives me logically-sound tips, it means it works well for me." Many students found trust in a tool by first having consistent, good experiences with it.

Meanwhile, lecturers chose a more formal and assessing stance. They designed their concepts of trustworthiness around school values such as encouraging thinking for oneself, learning by oneself and making academic work honest. While ridding the idea of tech involving

students with computers, many experts warned against overusing it. One lecturer pointed out that he uses the AI to assist, but wants students to continue thinking for themselves. Any situation that makes someone too lazy or more likely to plagiarize is a problem (Chugh et al., 2023). They relied on the tool only if it helped education and did not hinder it.

The administrators made sure to look at the programs using a structure and strategy-based approach. Besides individual usage, they also took care of organizational policies, proper control of data and avoiding risks. GAI tool trust matched with regulations being clear, ethical oversight in place and the ability to apply them in various sections of the organization (Chukwuere et al., 2024). According to one administrator, “The question is less if AI can do what it promises and more if our systems are equipped to use it safely.” The main focus of this group was successful long-term implementation, strict compliance with rules and the organization’s reputation.

Such differences underline the complex nature of trust in GAI tools and stress that each stakeholder group should be supported with tailored strategies. To be trusted such a system not only has to perform well technically but also needs to respond to the different tasks and duties of its users.

Challenges to Trust

Even though those surveyed had good insights into trustworthy AI and what GAI can do, a number of challenges that harm the development of lasting trust in GAI in Nigerian higher education were identified. There are technical, ethical and infrastructural challenges to trust which highlight how different aspects of trust-building interact in modern technology.

Many stakeholder groups are concerned about the lack of transparency in many GAI systems. People felt uncomfortable with the lack of information about the decision-making process of AI tools. Because these systems were not transparent, it was difficult for users to examine or confirm the answers, especially when the AI-authored ones seemed legitimate though they had no credible backing (Chukwuere et al., 2024). A lecturer from a federal institution asked, “I sometimes wonder where exactly the AI looks for its answers.” Because the program works “behind the scenes,” how can I be sure it’s giving me the right result? Being unable to show how Artificial Intelligence learns leads some educators to doubt how accurate and credible its research is.

Misinformation and bias in AI results also posed a big issue. People noticed that there could be missed information, biases or Western views in the huge datasets behind GAI tools. If AI

displays these distortions, it may cause academic debates to be wrong or represent local conditions in a different way. It was observed by a student that sometimes, the information from the AI has a confident tone, although it is misleading or wrong in the given circumstance (Cranfield et al., 2021). This weakens trust, mainly in areas where details and relevance matter a lot.

People also pointed out that academic integrity is a major issue. A number of lecturers and administrators mentioned that GA tools could be used for cheating or to avoid learning. Teachers and professors worried that using AI, students could skip writing real assignments (Dabis et al., 2024). If there are no institutional controls, these threats could destroy the core ideas of academic trust.

Shortfalls in who has internet access and the necessary skills further limited fair digital trust. Some participants from institutions with less resources reported a lack of good internet, not having access to AI technology and low digital literacy as reasons behind excluding others from the academic community (Damiano et al., 2024). This inequality makes it more difficult for people to become users and increases the feelings of those who doubt technology's advantages.

4.3 Contextual Factors Influencing Trust

Trusting GAI tools happens when many different factors work together and all impact one another. They are influenced by what is happening in technology, society's customs, organizational policies, economic state and the interactions of individuals in Nigerian universities (Damiano et al., 2024). These contextual factors must be considered to understand how trust develops, is kept or breaks down among parties that use GAI tools in Nigerian higher education.

This section covers these factors in detail, relying on what students, lecturers and administrators say about their experiences in different universities. It shows that people trust GAI tools depending on the combination of infrastructural readiness, established government policies, popular beliefs, digital knowledge and other sociocultural impacts.

Technological Infrastructure and Access

Trusting GAI tools is influenced first by the technology and options for use provided in schools and universities. Most participants said that being prepared in the digital world affects their capacity to use, assess and believe in AI (Daniel et al., 2025). Insufficient infrastructure means people have fewer chances to learn about GAI which leads to skepticism and a lower opinion of its reliability.

Many people from both public and select private institutions often mentioned a lack of proper resources that affected their work with AI. Common issues were frequent disruptions from poor or unreliable internet, old computers, using few AI-based tools and receiving little assistance from the institution for online learning. Because of these barriers, there is not as much or good interaction with AI. One lecturer from a state university complained that "Due to the slow or sometimes non-functioning internet, we have trouble using AI tools properly." (Dansarki et al., 2025). We think maybe they aren't actually reliable and only generate hype. That illustrates that if a crash happens or a user doesn't have regular access, it can cause the tool to lose credibility, even though it has dependable technology.

Those who used their own mobile devices for education felt similar problems. Because these devices do not have much processing power and data, the experience of using GAI platforms can be unsatisfactory due to slow internet and small screens. This means that students can experience slow responses, gaps in functionality and sometimes app crashes which raises questions about the system's dependability and use (Dogru et al., 2024). The reason trust is damaged here is due to limits in technology, not to the GAI itself.

People with federal or well-off private-sector backgrounds tended to report a better experience. Better internet on campus, modern computer labs and IT investments in learning were typical in these places. With these settings, lecturers, students and administrators could easily, frequently and confidently rely on the GAI tools (Dotan et al., 2024). One student told me: "Our school has reliable Wi-Fi and our library provides seminars on the proper use of AI." Because of this, I rely on the tools more because I can experience how they function.

Besides, these institutions had both IT staff and digital learning specialists to help users which also contributed to building trust. These benefits in infrastructure allowed those involved to become skilled with GAI tools which then helped to form views that GAI was trustworthy.

It is clear that how much people trust GAI is tied to larger concerns about data privacy in technology. Even though GAI tools are generally designed the same, their actual use can vary a lot and this can greatly impact how much trust is present (Dwihadiah et al., 2024). Everyone must be able to rely on secure and advanced digital infrastructure because it is vital for building trust in AI across universities.

Institutional Policies and Governance

Trust opinions among academic stakeholders are strongly influenced by the set of policies for using GAI tools within institutions. It was repeatedly stressed by participants in different roles students, lecturers and administrators that without solid direction and oversight from the institution, trust in GAI cannot be formed (Essien et al., 2024). When AI is used under proper rules, open management and strong support from the organization, trust is more likely to be built.

Many participants pointed out that there were not clear, enforced policies about the correct use of GAI tools. People from state universities in particular felt that their institutes remaining silent on the issue made them and others in the institution vulnerable to possible misuse, errors in communication and problems with following protocol. According to an official at a state university, without set guidelines, people may use AI any way they want which could create issues such as plagiarism (Evangelista, 2025). Therefore, it is difficult for us to have confidence in the tools or those who use them. This statement shows that when there are no policies in place, users must navigate ethics on their making trust look uncertain and unstable.

In contrast, people studying at universities that have formalized policies commonly held higher levels of trust. Such policies mostly focused on ethical AI use, upholding academic integrity, safeguarding personal data and setting the limits on when a machine makes a decision instead of a person. Such guidelines acted as both a way to stop misuse and as a signal that the institution cared about responsible use of technology (Ezeh et al., 2024). Encouraging signs said AI use was being looked after with care and not left until a problem emerged.

Also, the participants underlined the need for leaders in organizations to support and boost the adoption of AI policies. Expressing what was expected from faculty and staff in AI, along with leading through accountable governance, made people trust AI decisions more. Many lecturers considered mandatory workshops for teachers and students on ethical AI as strong evidence of the school investing in this field (Farhi et al., 2023). By making these initiatives important, trust in the department's systems was built and departments worked more consistently with GAI tools.

It was explained that strong governance should include making policies and also putting in place ways to track progress and accept feedback. AI logs, plagiarism detecting tools and platform for student reports made it easy for universities to monitor GAI and fix concerns as necessary. According to a lecturer from a private university, being able to count on any problems being dealt with encourages them to rely on AI (Ferreira et al., 2021). This statement explains that good governance helps create a feeling of trust in the technology and the ways it is managed.

In essence, trust in GAI tools depends strongly on solid institutional policies and governance. Such practices make things clearer, lower doubt and signify that the institution is responsible. If they are lacking, trust usually becomes divided and insecure. Their influence helps to make trust something stable and valued within academics.

Socio-Cultural Attitudes Toward Technology

The way academic communities trust and accept generative AI depends greatly on the values and expectations within society. People in Nigeria had a range of opinions about technology, ranging from being excited about it to being cautious (Fisk et al., 2023). Such attitudes represent people's personal experiences and also deeper trends in the community regarding innovation, progress and the trust in institutions.

Younger students at university, those who have grown up with technology, were generally very positive and open to learning. Several students highlighted how technology plays a major role in their education and are ready to use AI tools to help them succeed academically. A student attending a federal university said, "We need to focus on technology for the future." I am convinced that using AI correctly will help us improve our learning." (Folorunso et al., 2024). The approach suggests that AI is a real benefit for students familiar with technology, only if it is handled responsibly. When teachers have a positive view, they start to trust GAI more when its tools are simple, helpful and support what they want to do in class.

However, senior lecturers and administrators usually approached AI with more care than the others. The experts were concerned, over the years, about how automation affected human work, job relevance and integrity. Some people have concerns that GAI might make it appear that teaching and research do not matter as much as before. As a senior lecturer pointed out, many fears that AI might mean teachers will lose their jobs which makes it hard for officials to trust AI (Funda et al., 2024). Such feelings are found in many societies going through rapid changes in technology, due to the general worry that advanced technology is threatening the roles of humans.

There was also a lot of concern about how safely data is secured, collected and accessed. The worries were embedded in society's negative views of authorities, both those from the government and those in large companies. Some people were concerned AI tools might invade their privacy or keep track of their online activities and this concern also appears at the national level due to fears about digital surveillance and misusing personal data (Gahamanyi et al., 2023).

Because of this, users in educational institutions could begin to distrust GAI tools as a result of distrust in the systems and people handling them.

Even more, religious and philosophical beliefs played an important part behind the scenes. Certain people noted that there are cultural views that view technology as dangerous or as a threat to old-fashioned teaching (Ghimire et al., 2024). In some conservative places, people saw AI as taking the easy way out and some even doubted its ethics when it came to issues of cheating or dishonesty.

Trust in GAI depends not only on GAI's performance but also on the way's individuals understand risk, who to trust and why new technologies are needed. To engage meaningfully with GAI in schools, knowing these cultural dimensions is necessary (Gruenhagen et al., 2024). Trust can be increased by focusing on both technical improvements as well as cultural strategies that address peoples' anxieties, encourage useful and moral habits and encourage being digitally literate.

Digital Literacy and Competence

Digital literacy and competence play a vital role in shaping users' trust in generative artificial intelligence (GAI). Many stated that a lack of digital technology knowledge, especially AI skills, can lead students not to trust or use these tools in school.

More tech-literate individuals saw how AI works and what its boundaries are which made them trust AI more. People with digital training or knowledge of AI said they were more confident in critically examining the results from AI. That's why they judged if the results of AI analysis were up to date and reliable or needed further verification by people (Henadirage et al., 2025). Critical reflection lets us trust authorities correctly, not too much or too little. As a lecturer put it, knowing more about AI helps people act as responsible users, using technology instead of relying on it.

People with limited digital skills often felt unsure and worried about using AI. People who did not have the basic skills to use GAI were more likely to mix up how results were interpreted. Because of this gap, people might either trust AI without question, believing it is always correct or become overly wary and avoid it just because they are unsure about it (Hong, 2023). A student at a state university stated, "Sometimes it's difficult for me to decide if the AI is correct or not because I lack full understanding of its workings. Being fully confident in it is intimidating to me." Trust is harmed and GAI does not work as well because of these feelings.

It was obvious that digital literacy differed greatly among universities and important stakeholders. The presence of solid digital education helped institutions create users who were smarter about AI and believed in more in the company. At the same time, those coming from resource-constrained universities which did not offer much digital skills training, showed less confidence in using the GAI tools (Ibrahim et al., 2024). Because of this divide, those in schools lacking technology must overcome extra hurdles to rely on AI.

In view of these circumstances, the group pointed out that capacity-building should be focused and urgent. AI education in digital literacy courses would help users fill knowledge gaps, understand errors and use GAI tools safely (Ifeoluwa et al., 2022). Having workshops, tutorials and ongoing support was considered key to improving users' knowledge, setting their minds at ease and promoting a climate of informed trust.

Digital literacy is also about being aware of what is right and wrong in the digital world, not just about technological skills. Knowing about data privacy, biases in AI and the ethical issues involved with AI encourages users to be confident and takes responsibility when deciding on an AI system (Inah et al., 2024). Thus, digital literacy initiatives should cover all these areas to build strong and all-round skills.

In all, being knowledgeable and skillful online helps build the confidence needed for using GAI tools. Teaching people more about AI helps to turn it from an intimidating field into a trusted assistant for learning. Systematic education and training in literacy will help support sustainable trust and improve the benefits from AI in colleges and universities.

Educational Context and Academic Culture

The context of education and the main academic culture at Nigerian universities are major influences on how people view the trustworthiness of generative AI tools. Those involved commented that trust arises because of the unique blend of traditions, tools for evaluation and teaching methods at every university.

Competition and challenging tests have a big influence on academic culture in Nigerian universities. In these environments, it is very important to follow strict guidelines, subject students to standardized testing and watch carefully for people trying to cheat. Here, many students expressed major doubts and worried that using these tools might be seen as taking advantage of the system (James et al., 2025). People were mostly concerned that AI would increase the likelihood of cheating, plagiarism or other dishonest acts. "When everything relies on exams, any

device that could be abuse becomes questionable. People often find it hard to trust AI when students might try to use it to skip studying (John et al., 2024). As a result, many who have this climate have trouble trusting GAI and often feel it can negatively affect the fairness of education.

Besides, because there are no clear rules or systems to oversee AI use in testing, this added to the concerns that participants had about possible abuses. Because formal guidelines are missing, it becomes unclear to both faculty and administrators how to work with technology while ensuring the school's educational quality (Johnston et al., 2024). For this reason, many are cautious about GAI tools unless they get assurances that they are not against the most important values in education.

Contrarily, universities that support innovation, teamwork and self-learning are more likely to have a positive and trusting view of GAI technologies. GAI experts view these tools as aiding students to improve in thinking logically, being creative and investigating issues on their own. Those taking part in the survey said that AI was a helpful technology that could support students in coming up with ideas, conducting research and resolving issues, but not replace human judgment (Jummai, 2021). As one student at a private university put it, "When AI becomes a part of our studies, I feel it encourages me to think differently and helps me discover new things, so I trust it." It demonstrates a belief in educational goals being helped, rather than threatened, by the use of AI.

Also, using formative assessment, project-based lessons and regular feedback may encourage students to be more open to AI. Teachers and students use GAI in such educational settings to support ongoing learning and personal help. AI is trusted more as students enjoy successful outcomes where the technology helps prepare them to be responsible and skilled members of the society (Kasneci et al., 2023).

Trust in the Graduation Assessment Initiative is mostly formed by how the educational system and school values affect assessment approaches, beliefs and teaching practices. Transformative institutions that give more weight to innovation and student choice are more likely to be viewed positively by people concerning AI in education, whereas restrictive universities struggle to build people's confidence in AI (Katsamakas et al., 2024).

Socio-Economic Factors

Socio-economic circumstances strongly influence how much trust people in the Nigerian higher education system have in generative artificial intelligence (GAI) tools. Money problems

prevent many people and organizations from exploring and relying on these new technologies. It is very difficult for public organizations to cover the expenses of equipment and software needed for GAI. Due to their families' low incomes, some students struggle to afford technology needed to work with AI successfully.

Besides, having dependable internet access regularly costs a lot, so access is not always affordable for everyone. Because of the cost involved and weak connectivity, people find it difficult to use AI tools regularly (Khowaja et al., 2024). A student reported that because she does not have enough data, she cannot always use AI regularly and that it seems like these resources are intended for privileged students. Because of this, being left out, those who live in poverty may develop a lack of trust in GAI tools for their success in school.

Some Nigerian universities are constantly limited by insufficient funds which makes it tough to maintain contemporary technology on their campuses. Lab computers that are out of date, not many licenses for premium software and inadequate speed of the internet all reduce engaging with GAI tools for both staff and students. Because of this lack of resources, users face difficulties with slow performance, regular disruptions and missing out on modern features (Khoza et al., 2022). Many lecturers and administrators working in these areas are doubtful about how useful and trustworthy AI can be, linking it to hype more than real world uses. According to a university administrator, "If reliable technology is not available for all, both staff and students lose faith in AI tools which operate effectively only if the infrastructure is good." (Kramm et al., 2023).

All of these barriers, taken together, lead to a digital divide that cuts off many from AI and also forms opinions about its reliability. It is possible that those with fewer resources see GAI as a way to increase existing inequalities, not as a democratic improvement in education. Therefore, social equity should guide the way we observe and measure technological trust (Kramm et al., 2023). Failing to resolve underlying financial problems could make AI adoption lead to further inequality and drive some people even further away.

Also, challenges at economic and societal levels intersect with digital abilities and help from institutions to impact trust. Some people struggle with AI because of inadequate financial situations, further limiting their education and the workshops open to them. Richer students and schools with greater financial resources can encourage trust by always providing access, practical training and individual attention.

Leaders in policymaking and education must realize and solve the socio-economic barriers that prevent some from using GAI tools. Providing cheap internet for students, modernizing university buildings and providing AI software that everyone can access can help narrow the difference (Kukharuk et al., 2024). It is also necessary to teach socially disadvantaged people the tools and self-assurance to work with AI effectively and openly.

All in all, factors related to a person's social background and economic circumstances are key in forming trust towards GAI tools at Nigerian universities. Difficulties due to finances can create or increase differences in how AI is accessed and used which affects both its usefulness and reputation on college campuses (Lancaster, 2023). Tackling these difficulties is needed to achieve fair and lasting use of AI in education.

Personal Experience and Peer Influence

Individuals' beliefs in GAI tools are affected by what they go through personally and the feedback from peers in their field. Such factors significantly impact how each group sees the dependability and worthiness of AI to be used in education.

Using GAI tools personally is usually the biggest reason people decide to trust them. Successful use of AI such as for generating concepts, simplifying complicated areas or aiding with assignments, helps people gain confidence in it. Suppose a student finds that AI allows easier drafting or gives helpful insights while writing an essay; this could make the student consider AI as an important tool in their academic life (Lancaster, 2023). This positive experience helps users build trust as they actually experience useful outcomes. At the same time, wrong, biased or confusing results from AI can cause trust to diminish quickly. Any single misunderstanding or wrong suggestion from AI might make users less willing to use it (Landa et al., 2021). As a student said, "Not checking the incorrect answers from the AI led me to lose points in my grades. I have to be very cautious about believing it from then on.

Through peer influence, personal experiences have an even stronger effect by shaping what all people in the academic community think. When deciding to use a GAI tool, students tend to pay a lot of heed to the opinions and advice of their classmates and friends. Accounts from others talking about the strengths and weaknesses of AI become common knowledge and help new people who are learning (Laufer et al., 2021). Examples include students helping each other figure out the AI tools that create the most dependable content or those with helpful features for coming up with

new ideas. The opinions of peers can lead someone to explore or be wary, based on whether they are mostly for or against pursuing such activities.

Academic staff meet with peers to exchange and ask about their AI methods, efforts and experiences. Using forums, regular faculty meetings and informal conversations helps staff share their experiences and discuss possible educational impacts of AI. How faculty talk about AI in their programs can result in new institutional attitudes and guidelines, since they are shaped by collective experiences with AI (Leghemo et al., 2025). Raising trust among academics often happens when respected colleagues discuss AI's benefits or outline good security measures. When cases of misuse or failure are known by many, people become more cautious together.

Furthermore, peer influence and personal experience combine in many different ways. An individual with little main contact with AI but who listens to mostly negative chatter with peers might view devices with hesitation which could lessen how much they interact with them (Liang et al., 2023). Alternatively, getting support from friends can persuade users to give AI a try which often leads to positive experiences for them.

It demonstrates that trust in technology comes from social networks, not personal situations. It points out how important it is for academics to communicate honestly and openly about using AI tools. Forums for discussing experiences, workshops directed by others and joint research on what AI can do can be encouraged by the institution (Lim et al., 2023).

4.4 Perceived Risks and Benefits

The opinions of Nigerian stakeholders on generative AI tools have a big impact on their trust in educational technology. It analyzes how individuals in schools and universities think about the advantages as well as the difficulties of GAI (Lu et al., 2024). Such reviews involve thoughts about the integrity of schools, the advancing education, choosing between right and wrong practices in education and the consequences of such studies on schools.

By highlighting different people's experiences, discussions explore several major topics, including the positive effects of AI, concerns about its use, privacy and security, accuracy of the data and the possible effects on culture and ethics (Lythreatis et al., 2022). The research states that believing in GAI technologies is based on an evaluation of their strengths and weaknesses.

Educational Enhancement and Productivity Gains

Generative artificial intelligence (GAI) tools are consistently appreciated for their role in raising the quality and productivity of education by all stakeholders. Those part of the study shared how these devices make learning, teaching and running institutions easier and more effective.

Students generally consider GAI tools to be very useful academic resources. A lot of students said they relied on AI to make tough topics easier to understand, create outlines for assignments and offer feedback. With these features, students spend less time and mental effort sorting out their tasks. “AI is useful because it gives me straightforward explanations when I don’t understand which helps me with my readings,” said the student from a federal university (Maart et al., 2024). Using notes is quicker and it is easier on your stress level while studying. It stood out in cases where students had many educational tasks, a job and little human academic help, like tutors.

Apart from learning assistance, using GAI tools helped students learn how to be more independent. With iterative drafting, instant feedback and custom-made study help, they support students in learning by themselves (Maphalala et al., 2021). Many low-resource students and institutions saw GAI as a way to fill in gaps by providing useful learning resources.

Lecturers mentioned that GAI improves the productivity of students. Several mentioned that AI can lessen the amount of time that needs to be spent doing tasks like making lesson materials, creating exams and editing homework. The lecturer said, “Since AI can assist in routine tasks, we have more time to spend with students and work on our course material.” (Mauti et al., 2024). When lecturers were relieved of routine teaching, they were able to focus more on making the lesson engaging and helping students.

In addition to personal benefits, administrators pointed out that GAI can have a strong impact on the institutions as a whole. Several examples were mentioned such as checking how students do, spotting common patterns and creating a better curriculum. For example, AI helped with informed decision making, indicators to track college progress and the efficient use of funds (Mertanen et al., 2022). A staff member from a state university stated that these tools might lead to an environment where everyone uses data to keep improving in education.

Crucially, GAI tools were seen as making education more efficient and also helping all students get similar opportunities. The ease of using these tools was mentioned by participants, who say they make academic support accessible for many students, many of whom cannot use private tutoring or have a low number of educators (Morocco-Clarke et al., 2024). Larger reach

for personalized learning can level the playing field for students and build a more inclusive classroom environment for all.

Based on the data, the reason to implement GAI tools in Nigerian schools was largely to improve education and boost productivity. It was generally believed that GAI technologies are useful in helping students learn, aiding teachers and assisting school leaders during decision-making (Morris et al., 2022). All these benefits can be realized, according to participants, when all people are accepted and treated equally in the system.

Academic Integrity and Misuse Concerns

Generative artificial intelligence (GAI) in education was most frequently discussed in terms of academic integrity by the respondents. A lot of people such as students, instructors and administrators, found that GAI tools were useful in education, but still had worries about how they might encourage breaking usual moral rules in learning (Mpungose, 2023).

Many lecturers and administrators were worried about students using AI to produce work passed off as their own. Most considered this lazy practice as breaking the academic rules and they thought it could weaken the value of degrees. A lecturer pointed out that AI could lead students to do less work themselves which makes learning and fair evaluation harder (Murugesan et al., 2023). Other institutions said similar things, since stakeholders were afraid that relying more on AI could lead to less careful work and reduce effort in in-depth learning.

The issue of AI possibly allowing for both deliberate and unintentional plagiarism was talked about often. Young students who do not know the limits of AI might borrow explanations and paraphrased material from AI and fail to give credit (Nacheva, 2024). Because of this area, it becomes complicated to classify and spot academic misconduct, mainly when the rules for using AI at the institution are not well-developed.

Administrators focused on the difficulty of catching students cheating using AI tools. These traditional software tools are mainly unable to spot content that is similar to known sources, because AI often produces cool and interesting outputs. Therefore, many people attending the discussion wondered if academic standards can still be maintained in classrooms with more AI integration (Naicker et al., 2022). According to an administrator working at a federal university, “The tools for detecting AI-generated content are falling behind what is being created by AI systems.”

Because of these concerns, participants argued for active strategies to prevent bad use instead of banning these tools. There was a suggestion that universities should put in place clear policies explaining when and how AI can be used correctly in their academic work. Thanks to such policies, web users would become more responsible for their actions and there would be more transparency behind their actions (Nam, 2025). At the same time, teachers encouraged coming up with new ways of testing such as giving oral presentations, writing reflective essays and collaborating in projects, to discourage people from abusing AI.

Another important point was making sure AI literacy is included in school and university courses. Institutions should inform students about the proper use, citation and limits of AI to build responsible behavior. Campaigns and workshops were proposed to help everyone in the community understand the importance of academic integrity in AI.

All in all, GAI tools bring significant gains but also lead to considerable ethical issues. People rely on these resources, both depending on how tech works and how institutions manage the changing problems of AI-related cheating (Ngonso et al., 2025). Those in charge believed that blending policy, pedagogy and education was the best strategy.

Data Privacy and Security

Data privacy and security were a primary concern for Nigerian higher education stakeholders, showing that one major reason they distrust GAI is because of safety. Because GAI platforms include uploading and using personal and academic information, some students, lecturers and administrators are nervous about where this data ends up, how it is handled and who manages it (Nnorom, 2025).

Many students worried that using AI tools that need account registration can be dangerous. Several people shared doubts about the safety of their education, personal records and web activities (Nwozor, 2025). A student based in a state university gave feedback, “I have concerns about the security of my information when I use AI apps.” Is it managed by someone safe and reliable?” This feeling comes from a wider worry among Nigerians about digital monitoring, losing personal data and lack of proper oversight.

Since data protection laws are not stringent in Nigeria, this adds to these problems. It was added that a lot of AI platforms are operated by foreign companies and their service rules are rarely clear and in words that most users do not understand. Because of this, people ask about how ethical standards are followed and who is responsible if a breach occurs (Nyaaba et al., 2024). Because

there are no enforceable rules for data governance at a national level, individuals fear their privacy could be put at risk.

Many lecturers and officials noted that lack of data security could lead to users having their information accessed and the institution's reputation becoming damaged. If an AI system is implemented without proper examination, there could be a breach of private data or research materials at the university (Obiano et al., 2022). An administrator told us that if AI technology was to be part of our university, security of those platforms should be guaranteed. If not, the risks become higher than the benefits."

People were also concerned about how good AI systems can track their activities. There were concerns that using AI to keep an eye on students' activity might not be acceptable if they hadn't provided their consent first. Even though educational apps solve many pedagogical challenges, they also prompt us to reconsider questions about self-determination and being aware of their features (Ogunode et al., 2024). People are becoming more aware of digital rights and want to make sure innovation does not threaten people's freedoms.

Again, and again, participants hoped for official rules that describe how information gathered by GAI tools should be handled. Such policies must address topics such as ownership of data, permission, how long data is kept and letting others use it (Okafor et al., 2025). Trust in AI is high when people know their data will not be abused, so openness becomes very important.

All things considered, data security and privacy are key factors in forming or breaking, trust in GAI tools within Nigerian universities. These issues can be handled by both increasing regulatory actions at the national level and making sure institutions have strong data governance frameworks (Olatunde-Aiyedun, 2024). If such safeguards are not implemented, Fear might keep people from fully embracing GAI which may affect its positive role in transforming higher education.

Reliability and Accuracy of AI-generated Content

It was found that how reliable and accurate AI-generated content is shapes the trust that stakeholders place in generative artificial intelligence (GAI) tools at Nigerian universities. They agreed that these tools are very fast and can serve a wide range of purposes, but also had concerns about the accuracy, depth and suitability of the information which made them less confident in using GAI for academic tasks.

Students seem to have had different experiences. A lot of students found the tools helpful for fast understanding of complex or unfamiliar topics. But some students pointed out these tools did not give correct or reliable information. A student at a private university noticed that the AI can answer questions correctly sometimes but sometimes it's off or omits necessary information (Oludipe et al., 2025). Be sure to be careful. Because of this, people become doubtful and verify the information which makes them less confident in the tool.

Some professors pointed out that too much reliance on AI might lower the standards in the classroom. They stated that if AI-generated content is not regulated, false information or shallow information could spread widely. It was pointed out by a lecturer that not careful use of AI outputs can lead students to present work filled with errors, harming their school performance (Olufemi et al., 2023). As a result, people and academics are needed to direct and guide GAI applications.

The relevance of context to literature kept coming up as well. Many people pointed out that AI systems often use data that mainly comes from the West and may not pictures Nigerian society accurately. For this reason, AI-created content might use examples, references or assumptions that are not appropriate for Nigerian educational standards (Omeh et al., 2024). When there is no cultural and contextual sensitivity, there is a higher risk of misunderstanding and doubts about the reliability of findings.

An important issue was the risk of bias in algorithms. Staff and students pointed out that because GAI tools are trained on biased sources, they could increase or repeat the same biases. Such biases could be seen by being partial to some views, ignoring voices from marginalized people or giving all sides of a topic little space (Opesemowo et al., 2024). Questions were asked about fairness, representation and inclusivity in learning that uses AI tools and resources.

It was emphasized by many that both critical thinking skills and knowledge of digital resources play a key role here. The groups argued that schools should include AI literacy lessons so students understand what GAI tools are good at and where they struggle. This requires showing how to check if sources are reliable, notice possible biases and back up machine-generated information with details from real people (Oyemolade et al., 2024). Lecturers are asking for AI that gives explanations of how it comes to its results so users can understand and judge its trustworthiness.

All in all, although GAI tools help in education, the fact that their accuracies and reliabilities are doubted is troubling. A lack of proper control over such tools could result in errors

or the spread of false facts which could hurt the quality of education (Pan et al., 2024). To build trust in AI, its algorithms should be regularly enhanced, it must adapt to each culture and everyone using it should be well educated in technology.

Socio-Cultural and Ethical Concerns

During the study, the participants brought up several cultural and ethical reasons for concern about using Generative Artificial Intelligence (GAI) in Nigerian universities. This analysis indicates that implementing GAI means more than a technical or organizational change; it touches the core of educational principles, cultural beliefs and moral standards.

The possibility of losing both independent thinking and creativity in students was a major concern for lecturers and administrators. The participants were concerned that students might begin to use AI as a major help for writing, researching or creating ideas. A top academic from a federal university said, “If students keep letting AI do their tasks, we could end up with graduates who are not very creative or knowledgeable.” (Pan et al., 2024). It illustrates a broader issue that GAI might go against the main purpose of education which is to promote critical thinking, personal ideas and a strong understanding.

The way culture sees learning and understanding affected these issues as well. Many Nigerian schools still consider traditional ways of teaching, like sharing knowledge by speaking, offering personal guidance and leading group work, as very important. They focus on learning how to relate to people, improving moral values and considering various learning contexts (Pedersen, 2023). On the other hand, GAI tools mark a change to producing knowledge that is automated, impersonal and often outside any meaningful context. These cultural differences make some educators, especially the ones in charge, a little apprehensive or doubtful about GAI.

Also, people began to ask about the ethics of accountability and transparency. There were concerns stated about the mysterious ways in which AI arrives at its results, especially when users cannot understand how the results were reached. Because of the lack of openness, people may have a hard time trusting AI and it is not always clear who should be held accountable if AI creates content that is misleading or difficult (Rawas, 2024). The lack of clear ways to hold people accountable might discourage students and teachers from fully using these technologies.

It was also noticed that whether AI systems are inclusive could cause important ethical issues. It was noted by several people that most GAI tools are created outside Africa and this means they may not accurately represent Nigerian realties, languages or knowledge systems. Because of

this exclusion, global inequities continue and could marginalize traditional knowledge held by local communities (Reggi et al., 2021). A participant commented: “If the AI fails to grasp our setting, it can’t truly assist us in our learning.” This shows why AI tools should be made sensitive to different cultural needs of people in various regions.

Ethical rules and proper systems were stressed by participants as necessary to use AI properly in schools. They should seek to ensure AI supports human teachers, guarantees fair access to education and boosts instead of diminishes the core values in teaching (Rossouw et al., 2023). When education about ethics and culture is given priority, universities can manage the use of AI successfully and still preserve both technological advances and the integrity of learning.

Balancing Risks and Benefits: Trust as a Conditional Outcome

From the study, it is clear that stakeholders in Nigerian universities have varying amounts of trust in Generative Artificial Intelligence (GAI) tools. Actually, it differs based on a constant judgment of what might go wrong versus what could go right. Many took part in the discussion, seeing GAI as helpful for learning, teaching and managing schools, but realized right away that it has its drawbacks, ethical issues and barriers in some circumstances (Royer, 2024).

There was a common belief among students, lecturers and administrators that they would trust GAI tools only if the good things it could do was greater than any worries. Students really valued how AI-based tools help them by making readings more digestible, suggesting fresh ideas and clarifying complicated ideas. Lecturers were satisfied with the way AI supported them in paperwork and delivered quick feedback (Rudolph et al., 2024). But the positive results were not accepted by all scientists without reservations. Much of the time, they were met with regulations, mainly about academic integrity, misinformation, using content too much and data privacy.

The way trust changed depended on people’s experiences, the rules of the institutions involved and their level of digital literacy. When institutions set up clear rules for using AI, arranged training courses for personnel and put in place safety measures for data and academic integrity, people felt more confident about trusting them. Our lecturer at the private university showed us how to use the AI systems safely which made one of us begin to depend on them (Salmi et al., 2021).

Meanwhile, stakeholders’ trust dropped when there were mistakes with the AI, the policy was unclear or support for using the technology was lacking. At universities that lacked well-established rules or fuzzily set them, the participants explained that they felt lost and suspicious.

"We don't know what rules to follow and that makes it difficult to trust the system," said the lecturer (Sauvola et al., 2024).

It also underlines that building trust needs to match the unique needs of different situations. Strongest trust was found among institutions embracing innovation, electronic changes and teamwork. This helped people to think closer to the issues raised by AI, rather than just letting AI happen without question (Selesi-Aina et al., 2024). On the other hand, when schools had few resources, traditional study methods or students did not use many digital tools, trust was not very strong.

It was commonly agreed that trust in GAI tools needs to be built and developed throughout time by talking about, evaluating and adjusting to new circumstances. People encouraged the addition of ethics, stronger regulation and inclusive approaches to help trust thrive responsibly (Shittu et al., 2024). Being open, providing clear guidance and making users in charge mattered a lot to earn users' trust.

Summary of Perceived Risks and Benefits

A review of the opinions and viewpoints of stakeholders in Nigerian higher education on GAI shows there are both advantages and disadvantages. Many of the presentations in the panel focus on a few themes, revealing both hope for what AI could do and worries about its impact. This table shows main viewpoints, contrasts the advantages with the risks involved and identifies the main group of stakeholders representing each view.

Theme	Perceived Benefits	Perceived Risks	Stakeholder Emphasis
Educational Enhancement	Improved learning support, productivity gains	Overreliance may reduce critical thinking	Students, Lecturers
Academic Integrity	Encourages efficient study	Plagiarism, cheating, academic dishonesty	Lecturers, Administrators
Data Privacy and Security	Facilitates personalized learning	Data breaches, unauthorized data use	Students, Administrators
Reliability and Accuracy	Quick access to information	Errors, bias, misinformation	All stakeholders

Socio-Cultural and Ethical	Supports innovation, democratizes access to academic tools	Dependency, loss of creativity, ethical concerns	Lecturers, Students

All the groups mentioned Educational Enhancement as a key theme. Students typically praised the tools from GAI because they summarized key points, explained tough concepts and helped them write their essays which increased their productivity. Teachers agreed that AI makes it easier to handle both teaching and administrative tasks (Shittu et al., 2024). But they all suggested that students using these tools too much could reduce their ability to think creatively and come up with solutions.

Maintaining academic integrity was a major issue, especially for university lecturers and the management team. Even though educators saw the potential of AI to improve studying, they were very concerned that this advancement could be used in cheating by submitting work without acknowledging it is AI-generated (Surahman et al., 2022). As this risk was perceived to harm education standards and fairness, it led to introducing clear institutional policies and teaching people about AI.

In Data Privacy and Security, people were concerned that private and academic information was being given to third parties by the school system. Although personalized learning brought many advantages, people were concerned about the possibility of data being misused or experienced a breach since there were few effective data protection laws in Nigeria (Tang et al., 2024). Such fears indicate that it is very important for institutions to make sure they have clear policies for handling data.

Everyone involved questioned the dependable nature and correctness of AI-generated content. Users mentioned several situations where GAI tools gave incorrect, shallow or biased responses. Convenience and rapid information access were mentioned as pros, but users agreed that critical checks and human monitoring of AI outcomes are still needed to screen for mistakes and misinformation (Theodorio, 2025).

Finally, Socio-Cultural and Ethical Concerns considered what AI adoption means for society on a wide level. People involved in education asked whether depending on technology was good, whether it was replacing human creativity and if reverting to schooling without mentoring

and discussion was the right approach (Udegbunam et al., 2023). Even though AI aimed to make academic resources available to all, it brought challenges to the usual ways of learning.

4.5 Recommendations for Trustworthy Use of Generative Artificial Intelligence (GAI)

Ensuring that higher education in Nigeria uses generative artificial intelligence (GAI) systems properly is vital to reaping their pros while managing their cons. It is clear from this study that students, lecturers and administrators in different Nigerian universities experience many opportunities and challenges together (Uriri et al., 2025). Based on these points, this section provides detailed advice for ethical, safe and useful adoption of GAI tools by academic institutions.

These recommendations apply to technological, institutional, pedagogical, regulatory and ethical factors, all of which stakeholders perceive as parts of trustworthiness. The goals of these strategies include promoting transparency, accountability, competence for users and inclusion which supports GAI in backing education while upholding integrity and privacy.

Establish Clear Institutional Policies and Guidelines

One of the first things needed to build trust in GAI tools in higher education is the creation and implementation of well-documented institutional policies. Many stakeholders, for example students and lecturers, expressed confusion and uncertainty about how AI should be used in education (Venkatesh et al., 2000). Such uncertainty arises because there is no clear set of rules on what is right and wrong in issues like plagiarism, claiming authorship and intellectual property in AI.

To answer these concerns, universities ought to set up thorough rules that clearly list how much AI should be used in classwork and studies. Any such policies should explain what is and is not allowed by AI, outright requirements for giving credit to AI and note what happens to those who break the rules (Wakil et al., 2024). They can assist in telling apart real academic support from misuse that negatively affects education or breaks set guidelines.

Each member of the university staff and all students, should be informed in a clear and open way. Well-developed handbooks, orientations, workshops and online platforms guarantee that expectations are followed by all employees (Wakunuma et al., 2024). The presence of trust and compliance in the workplace often depends on how often policies are shared and discussed.

Institutional policies need to change when needed. As AI advances very fast, reviewing policies often is required to adapt to new technological advances and ethical issues. Universities

should keep reviewing their policies with many stakeholders to guarantee they remain up to date, useful and inclusive (Walczak et al., 2023).

The process of enforcement must be fair and should support learning as much as holding people accountable. Besides enforcement, institutions should also support people's digital literacy and explain proper use of AI through educational campaigns. If AI literacy is introduced in academic courses, it will help students and staff use GAI products safely and with certainty.

Integrate AI Literacy and Digital Ethics into Curricula

It shows that it is now vital for students, teachers and leaders in education to obtain the proper skills to effectively interact with Generative Artificial Intelligence (GAI) tools. This aim can be met by making sure AI literacy and digital ethics are consistently included in both college and work-related training.

Having AI literacy means someone understands AI systems well beyond technical skills, including their features, the risks of errors and the chance of bias. Teaching students to review AI results, know where the information comes from and confirm the data is necessary before letting them depend on it academically (Wong, 2024). All this information is needed to keep us from being careless with trusting the results of AI.

Along with this, making sure people know about digital ethics is important to inform good use of AI. Some key issues to cover are academic honesty, private information, giving proper consent, potential bias of AI algorithms and the general influence of AI on society (Wordu, 2024). The integration of AI should be part of education in all disciplines to benefit everyone.

Self-control and good judgment with AI can be taught to students during their basic courses, making it easier for them to use AI wisely throughout their studies. They will also get ready to use technology in the evolving digital world outside school. Programs for professional growth help lecturers and administrators know more about AI, detect suspicious behavior and support students in proper usage of AI tools (Yakubu, 2024). This makes it simpler for academics to make tests that encourage greater use of students' original work instead of AI support.

Education that covers AI literacy and digital ethics builds a setting where students are honest, responsible and cautious about the use of technology. Making this cultural shift is vital to stop misinformation, plagiarism and abusing AI services. In addition, it strengthens the trust stakeholders have in the institution as it deals with AI.

When universities train students and staff to use these elements, it helps Nigeria's education institutions be recognized as leaders in responsible and fair AI use (Yusuf et al., 2024). As a result, academic standards improve, learning is enhanced and students are ready to make ethical AI-related decisions in their careers.

Implement Robust Technological Safeguards

Strong technology measures are essential to create trust in GAI for higher education. Those interviewed kept mentioning the importance of improved data security and the trustworthiness of content produced by AI. If these safeguards were not included, potential problems such as breaching privacy, spreading errors and dishonest actions might outweigh the help GAI offers.

Stakeholders were worried about how their personal information and school records would be handled and protected using AI systems. For this reason, financial institutions are urged to invest in AI technologies that fulfill global data privacy rules like the General Data Protection Regulation (GDPR). End-to-end encryption, tight access management and data hiding techniques should be required by law to stop unauthorized access to personal data (Yusuf et al., 2022). Universities have to ensure that the AI vendors they employ are transparent about collecting, storing and sharing data. Such partnerships ought to specify clearly how data will be used and who owns it (Abayomi et al., 2021).

The problems with accuracy and biased results from AI systems became a serious worry. They should thus apply AI-powered checks that ensure that information is accurate and do not contain hints of hidden bias. It should be supported by having humans take a role in assessing the results from AI, mainly when important tasks in academics are concerned (Abdullahi et al., 2024). The process of academic checks should ensure credibility and avoid spreading false information and this can be done by including AI assistance with human control.

Schools ought to invest in more advanced systems that can discover educational materials that make use of AI. Such tools can be added to common plagiarism checkers so that student submissions are more thoroughly checked against plagiarism. It will help those in charge ensure that academic rules are fair and discourage students from misusing AI.

Foster Collaborative Governance and Stakeholder Engagement

Trust in GAI should not depend only on orders given by upper management in higher education settings. On the other hand, collaborative and all-inclusive management is important, involving people such as students, lecturers, administrators and experts (Abubakar et al., 2024).

The research showed that various groups have their own worries, experiences and goals about AI and these should be noticed and added to AI governance policies.

Therefore, universities ought to create special AI governance committees or working groups that have members representing faculty, students, IT support and administration. With these bodies in place, members can openly talk, discuss and jointly develop rules that suit everyone in the academic community (Adam et al., 2021). Involving a range of perspectives during decision-making efforts helps institutions be both open and inclusive which supports trust.

Such cooperation also makes it possible to continuously watch over and improve how AI is handled. Being in constant dialogue with different stakeholders' aids institutions in facing both current and future problems and benefits (Adedoyin et al., 2024). By using this method, AI is always in line with what is meant by education, ethics and the practical needs in the classroom.

As well as following their own rules, universities can gain a lot from partnering with external experts, bodies that make rules and civil groups. Working with professionals in AI ethics, data privacy and advocacy groups allows you to gain knowledge and support for creating reliable AI systems that comply with international and national rules (Adeniyi et al., 2024). Such partnerships improve how the university is run and add to its legitimacy by keeping its decisions in line with the expectations of society.

Promote Ethical AI Design and Transparency

Trust among users in higher education is built on strong AI development and design. The study participants stressed that everyone should be aware of how generative AI produces output, what sources these tools rely on and their actual limitations. A lack of proper understanding among users may make them trust AI more than they should or begin to doubt it, both of which prevent AI from being used correctly (Chang et al., 2023).

Institutions and AI vendors need to support the use of explainable systems to gain trust. People should be able to find explanations showing how AI works and what data and logic led to the results it produced. Sharing transparency reports, clear user instructions and disclaimers allows users to examine any errors or biases in the output and decide if they want to trust the information (Christian, 2024). Because the information was clear, this reduced the chances of misusing AI and encouraged proper use.

Ethical thinking needs to be included directly as the AI is being created. To address bias, identify mistakes and serve all groups well, developers must focus on fairness, accountability and

inclusion (Chugh et al., 2023). Using these ethical ideas, AI tools become in line with main principles of education, ensuring equality, honesty and appreciation for diversity.

Because Nigerian universities have their own unique cultural and educational environment, it makes sense to adjust AI tools to suit the local context. External and internal stakeholders may form local collaborations to build AI systems distinctly for use in Nigeria. They would account for local languages, the culture of the area, various teaching methods and what needs to be taught in schools (Cranfield et al., 2021). Making AI relevant to a region increases user trust by showing it responds to that area's local challenges, instead of using generic solutions for everyone.

Encourage Responsible and Reflective Use of GAI

All stakeholders at universities should learn to practice responsible and thoughtful use of GAI tools. Ensuring people check and review AI-made content carefully is important to avoid anyone trusting these results without looking into their reliability, usefulness and moral issues.

A key element of this culture is suggesting that users always compare AI-generated information with different dependable sources. Users ought to see the results from AI as additional information rather than the only answer (Dogru et al., 2024). Doing this allows people to play a key role and prevents them from letting AI guide them too much which can lead to mistakes or false information.

Professors and staff set an example for the proper use of AI. If assignments include a clear requirement to state the role of AI, teachers make it normal for students to understand and respect how AI is used in their work. Students may have to annotate passages of their essays produced or informed by AI tools and submit reflections on its role in their research and writing work (Essien et al., 2024). Doing these activities helps students reflect on how they think and teaches them to balance using AI while still creating original work.

Organizations can grow this type of atmosphere by making available resources and teams that assist with AI-related subjects and issues of ethics. Seminars, workshops and online help services provide training in the right ways to use AI and help users understand its ethics. They give people an opportunity to share information about challenges, good practices and new norms for institutions.

In addition, initiatives started by peers can be very effective at encouraging responsible use of AI. Learners participating in student ambassador programs act as models for ethical AI in their

local schools. Such ambassadors might plan events to inform students, join in peer discussions and offer their help to students discovering AI resources (Ezeh et al., 2024).

Develop National and Sectoral Regulatory Frameworks

Clear guidelines from the institutions are necessary, but a strong and uniform national regulatory system is key to maintaining trust and well-managed GAI use in higher education across Nigeria. Those interviewed stressed that there are no national guidelines which exposes schools and universities to issues such as variety in practices, unclear laws and ethical concerns (Funda et al., 2024).

Officials in the field should give priority to building new regulations that fit AI technology in education. These frameworks are required to deal with important topics like data protection, the accountability of AI makers and users, ownership over what AI generates and keeping academic integrity (Gahamanyi et al., 2023). These regulations must follow global guidelines by learning from GDPR and UNESCO recommendations, while at the same time adapting to the specific situations in Nigeria.

It is very important to strike a good balance between encouraging innovation and keeping things protected. Guidelines should motivate the use of AI tools in schools and colleges, yet also take steps to prevent bias, misuse, data leaks and weakening the standards of education. Making sure there are rules for consent to use data, openness in AI systems and means to address harm caused by AI would give greater assurance to everyone at the institution (Henadirage et al., 2025).

Also, by setting up regulatory bodies or oversight commissions, it is possible to ensure that AI is used appropriately and correctly in education. They could give recommendations, certify AI systems allowed for institutions, investigate complaints and resolve conflicts concerning how AI is used improperly or there is a data breach (Hong, 2023).

Teamwork plays an important role in how regulatory efforts fare. Cooperation among universities, government, technology companies and civil groups can help create standard guidelines and best practices. If centralized policies, workshops and support are shared, nobody is left at a disadvantage no matter their resources. Joining these efforts will make sure AI is used pleasantly in all Nigerian universities.

Invest in Infrastructure and Capacity Building

Trustworthy and successful adoption of GAI in Nigerian higher education depends a lot on both advanced technology and knowledgeable personnel. People from state and federal

universities said issues with internet, not enough bandwidth and old computers make it difficult for students, teachers and administrators to use AI tools properly.

Governments and schools should make it a top priority to keep spending on technology resources. Among the steps taken are making sure more students and staff have access to strong and stable internet, changing computers to run AI applications and providing safe and expandable places to store data that comply with rules on privacy (Ifeoluwa et al., 2022). Since this infrastructure is yet to be established, many in the academic community still cannot have fair access to AI's assets, widening the digital gap between them.

Doing what it takes to build human resources is equally necessary for growth. Training courses ought to help workers understand AI tools as well as offer technical assistance as needed for updates and new problems. It is crucial that IT departments have training and the right tools to take care of AI systems, solve difficulties and secure data for the long-term success of AI in organizations (Inah et al., 2024).

Also, it is key to fund research and creative ideas that fit Nigeria's educational and cultural situation when developing AI applications. Sponsoring local AI research helps to make tools that handle the specific issues found in many Nigerian universities such as content in several Nigerian languages, culturally appropriate classes and lack of full resources (Jummai, 2021). Having local experts builds the nation's ability to take part in major AI developments and makes sure technology is used in an ethical way that matches the community.

Encourage Cross-institutional and International Collaboration

Collaborating with other universities and those abroad would allow Nigerian universities to make major progress in artificial intelligence and digital education. Because AI is growing and affecting the world so much, no one institution is able to handle its issues alone (Khoza et al., 2022). Sharing information and experiences allows universities to help capacity building, the development of new policies and responsible AI integration.

Taking part in collaborative studies allows people to develop AI models fit for Nigerian education, cultural practices and languages. These projects may also study the social and educational results of using AI which helps form strategies to improve its benefits and address potential risks (Kramm, 2023). If institutions cooperate, AI systems designed with local cultures and requirements can be made which will help them fit well into student groups and decrease rejection.

Being involved in AI ethics gatherings, educational groups and industry networks keeps Nigerian universities informed about global guidelines, examples and rules. They present opportunities to talk about ethical dilemmas, openness and making AI inclusive which helps companies comply with global principles (Liang et al., 2023).

Furthermore, joining forces with organizations in other countries helps access sources of outside funding, skills and latest technologies that could be hard to find at home. The external assistance fits well with national steps to promote trustworthy AI use in Nigerian universities (Lythreatis et al., 2022). It contributes to faculty, administrator and IT staff professional development by offering exchange programs, workshops and training courses.

4.6 Summary of Findings

This study examined how deserving of trust these GAI tools appear to higher education stakeholders in Nigeria, specifically including students, teachers and administrators from federal, state and private universities. Using qualitative thematic analysis, 27 participants' views revealed the detailed reasons that influence trust in GAI in Nigerian higher education.

The research shows that there are several parts to trustworthiness in GAI, including transparency, reliability, respect for ethics and protecting user data and privacy. Most people believed that AI systems build trust by revealing their methods and limitations and by ensuring the users are competent in using them. Trust means different things for students and lecturers: for students, it's about believing AI offers true and fair solutions, while lecturers most often focus on maintaining proper learning and preventing copying. Administrators paid special attention to rules and systems meant to preserve trust in the institution.

Factors in the environment can strongly affect the way people trust institutions. Depending on whether an institution is federal, state or private, people's access to infrastructure, digital literacy and support systems changes, making a difference in their use of GAI tools. The way society views technology and the digital divide plays a part in forming trust, so more inclusive approaches to working with AI are needed.

People mentioned both the advantages and the potential challenges found in GAI. Advantages pointed out by some included better efficiency in research, the chance to learn from a mix of sources and new ways to teach. On the other hand, concerns about misinformation, plagiarism, privacy breaches of information and putting too much trust in AI were speaking points.

Because of the perceived dangers, people are becoming more cautious about accepting GAI and calling for stricter controls.

The findings lead to the study offering valuable guidelines to help make AI more reliable. Some of the most important things you can do are define policies on ethical AI involvement, make digital ethics and artificial intelligence part of the curriculum and set up protective technologies to keep data safe and ensure accuracy of content. For transparency to be maintained, all stakeholders started working together. Also, by emphasizing clear AI designs and teaching everyone to be careful with their use, we can prevent misuse and increase user trust.

It was found at the national level that the lack of a unified regulatory framework was a major deficit. Building sector-wide guidelines and overseeing regulations is necessary to make AI in education reliable and secure. Developing digital systems and providing training, especially for institutions that lack resources, was considered very important for successful and just adoption of AI.

Chapter 5: Discussion of Research Findings

5.0 Introduction

This chapter is a critical discussion of the findings presented in Chapter 4 by the research objectives articulated in Chapter 1. It uses the theoretical background presented in Chapter 2, including Technology Acceptance Model (TAM), Trust Theory, and Sociotechnical Systems Theory (STS) to examine perspective values of trustworthiness in generative artificial intelligence (GAI) between stakeholders in higher education institutions in Nigeria. The discussion relates the empirical themes to the extant literature, situational context and practice, offering a situated comprehension of how trust in GAI is conceptualized, negotiated and manipulated in an environment of sociotechnical complexity.

5.1 Stakeholders' Understanding of Trustworthiness in Generative AI

5.1.1 Summary of Findings

The research indicates that the notion of worth in Generation Artificial Intelligence (GAI) by the view of stakeholders in the Nigerian higher education can be described as distinctively broad and highly contextual. There is no general and unfaceted view of trustworthiness across the three key groups of stakeholder's students, lecturers and administrators there is instead a multi-dimensional view of trustworthiness that results in a composite view of trustworthiness that is comprised of several inter-related dimensions **(**Abayomi et al., 2021**).** These are accuracy, ethicality, transparency, and cultural relevance, all of which are prioritized differently according to the role and expectations of the stakeholder in the academic setting.

Students' Perspectives

The aspects of usability, accuracy, and practical relevance dominated the ways in which students conceptualized trust in GAI systems. Generally, students were more likely to use GAI tools like ChatGPT, Grammarly, and other artificial intelligence-driven educational websites as productivity aids (Abdu, 2024)**.** Their opinion of trustworthiness was directly connected to the ability of the AI to help them with academic assignments, including summarizing readings, organizing thoughts, writing citations, and making writing clearer.

To most students, accuracy was the anchor. The GAI instruments which presented only factually sound, academically agreeable and logically coherent knowledge had the best chances of being seen as reliable. But doubts were raised about the lack of accuracy or misrepresented information and misrepresented content that some AI systems can produce **(**Abdullahi et al., 2024**).**

Students reported that producing information that went against what is in the text books or what they are being taught in class felt like a blow to the credibility of the tool. In this matter, students showed reluctance to trust all of the outputs without hands-on checks.

Cultural and contextual relevance is another fundamental issue of the students. They found that frequently GAI tools did show linguistic fluency but, in many cases, did not capture local contexts, realities or curricula. As an example, students studying Nigerian law, history, or literature were satisfied with the answers frequently being too generic, Euro hegemonic, or reliant on Western academic paradigms **(**Abubakar et al., 2024**).** Such a lack of fit undermined the perceived usefulness and by extension, the trustworthiness of GAI in certain academic areas or tasks that needed local expertise.

Ethicality was also highly emphasized by students especially with regard to plagiarism. Although there were a few who admitted to using GAI in generating ideas or in organizing essays, there was a general concern regarding the risk of unintentional academic offending. This was further augmented by the absence of crisp institutional policies on the nature of acceptable use of GAI when doing coursework **(**Adam et al., 2021**).** Due to this, students would end up in a state of a grey area where they will not know whether their application of these tools can either be deemed as legitimate or not by the academic authorities and might result in punishment.

On the one hand, trustworthiness on the side of GAI was always dependent on three interrelated factors, namely, the extent to which the tool correctly executes its functions, the extent to which such an instrument is aligned with academic rigors, as well as the extent to which the outputs are relevant to the Nigerian context **(**Adedoyin et al., 2024**).** The respondents were more likely to accept support uses of GAI such as proof reading or brainstorming than to permit use of GAI in a substantive academic task like essay writing or research where there was danger of misinformation or plagiarism.

Lecturers' Perspectives

The perception of GAI reliability by lecturers was significantly more nostalgic and judgmental than the perceptions of GAI reliability by students. Academic integrity, critical thinking, and pedagogical alignment to them had an inseparable connection to trust **(**Adeniyi et al., 2024**).** Although others recognized the possible advantages of GAI tools in stimulating creativity or automating cognitively unchallenging chores, the prevailing mood was that of fear.

The top concern of lecturers was the decline of critical thinking. Most people feared that students were becoming excessively dependent on the products made by AI without paying much attention to the mental exercise of reading, analyzing and synthesis of data **(**Adeoye et al., 2023**).** Other lecturers described cases where students handed in suspiciously organized written assignments or used terminology that did not match earlier achievement or implied making excessive or uncritical use of GAI.

Academic dishonesty and plagiarism were at hand. Lecturers observed that it has grown very hard to identify whether the work produced by a student is truly original or CA supported by use of GAI tools. The older forms of plagiarism detection software that rely on matches to available sources become ineffective against GAI-generated text, which is substantially original in form, but remains uncreative in academic contribution (Adeyemi, 2024**).** It has resulted in an increased feeling of mistrust not only of the tools but of the students operating them.

Pedagogical misalignment was another great issue. Lecturers noted that the majority of GAI tools lack local educational goals, curriculum designs, disciplinary standards. The GAI responses to assignments in indigenous knowledge systems or any topics related to Nigeria were regarded as irrelevant, too vague or wrong (Adhikari et al., 2023). Lecturers denoted this as further affecting the educational benefits of using such tools in a classroom, and the veracity of their reliability as academic support.

Interestingly, generational difference in perceptions occurred. Lecturers younger in age, and those who have recently been exposed to international experiences, tended to view GAI as a potentially possible tool that can be incorporated in the pedagogy, albeit with necessary precautions. This group promoted critical thinking about AI, including the idea that the students should be educated, not using it in place of learning, but as an aide to the thinking process (Afolabi et al., 2024**).** However, the general attitude of lecturers was that of conditional trust: GAI tools can be handy, but only given very specific pedagogical and moral conditions.

Administrators' Perspectives

Vice chancellors, college and university deans, ICT coordinators, policy officers considered trustworthiness in GAI comprehensively as a strategic and governance phenomenon. In their case, the main issues included institutional credibility, data protection, and legality. One of the greatest concerns was the absence of any regulatory framework at both the institutional and at the national level (Agbarakwe et al., 2024**).** At the time, most universities had not generated in-

depth policies to regulate the utilization of GAI. Administrators increased the tense: the threat of data leakage, a PR problem due to errors or false information created by AI, and the legal responsibilities related to the unregulated application of AI. Data protection issues were especially urgent considering the Data Protection Act in Nigeria (NDPA) with numerous administrators inquiring about whether or not the practice of AI tools developed abroad adhered to national data sovereignty initiatives (Aghiomesi et al., 2024)**.**

Administrators also talked about the use of reputation management. An incident of AI-engineered plagiarism or even bias may hurt the reputation of an institution and their accreditation. Therefore, a prudent and policy-first adoption to GAI was preferred by many (Ajala, 2024)**.** In contrast to students and some lecturers, administrators seldom used GAI tools directly but did have a massive effect on shaping the institutional narratives of trust, ethics, and innovation.

Performance reliability and scalability were also considered by administrators in terms of trustworthiness. Some wondered whether existing AI tools would allow them to work consistently and efficiently across departments, student groups, and academic disciplines. The possibility of localized customization or control by their organization on the AI systems was never an option; administrators were not ready to sanction their large-scale usage (Akpan, 2024)**.**

5.1.2 Emerging Themes and Interpretations

The study results show a filigree of attitudes towards the concept of trustworthiness in generative artificial intelligence (GAI) among the most important stakeholder groups in Nigerian higher education. Although the general opinion seems to be that trust is the key to the responsible and sustainable application of GAI technologies, substantial differences in the perceived characteristics of trustworthiness also exist according to the role of and responsibility of a particular stakeholder, as well as institutional risks exposure (Akwara et al., 2023)**.** The overlapping points about the significance of trust, and the discrepancies in the operationalization of trust lead to a number of themes, which are interconnected and provide a more detailed understanding of how GAI is perceived within an intricate educational environment.

1. Trust as Role-Dependent and Contextual

The most noticeable theme to come out is that trust is highly a dependent issue based on the role. These three groups of people (students, lecturers, and administrators) speak in different cognitive and institutional terms to describe and evaluate the credibility of GAI depending on their practical reality, cognitive pattern, and role (or specific aspects of it) in the institutions (Al-Emran

et al.,2025). As an example, students will look at trustworthiness mainly through a more practical perspective of academic valuation; a tool will be deemed trustworthy when it defines trustworthiness in terms of abundant and obtainable detailed content both accurize as well as usefully relevant to them and their educational edification. But even the students are not blindly trusting (Al-Samarraie et al., 2024). This is driven by the awareness they have of the expectation of the institutions, fear of plagiarism as well as the cultural and context sensitivity of the tool.

On the other hand, lecturers express a more conservative, normative approach to the concept of trust, alluding to the need to follow academic integrity, to maintain critical thinking, and to comply with accepted pedagogical values. To them, trust cannot be disconnected with the ability of a technology to support the moral and educational values of higher learning (Al-Zahrani, 2024). The danger of GAI being used by students to cheat in a dishonest manner largely contributes to student skepticism.

Institutional and regulatory trust is the main definition of trust among administrators. It comprises of issues related to data security, legal conformity within the country, the public image of the institution, and the strategic opportunities and consequences of either adopting or not adopting GAI (Alasadi et al., 2023). The latter are not influenced by the daily realities of the classroom but broader policy horizons and risk management requirements.

2. Trust vs. Control: Navigating Institutional Uncertainty

Another recurrent theme is that of the tension between trust and control through the institutions. The absence of formal structures, guidelines, or support systems by institutions usually impedes the readiness of stakeholders to trust GAI. This structural opacity gives rise to an atmosphere of ambiguity where trust is hard to maintain. As an illustration, students sometimes stated that they were uncertain, whether the use of GAI tools will be a violation of academic honesty when there are no specific policies or teacher instructions (Alhubaishy et al., 2021). Consequently, they disorient between relying on the tool to support an academic task, and the risk of institutional punishment.

Similar sentiments were expressed by lecturers. Several pointed to control mechanisms (e.g. standardized rubrics, detection mechanisms and departmental discussions regarding acceptable AI use) as requirements in advance of trust. Without them, the implications of GAI are seen as disruptive, possibly beneficial, but with no responsibility or accountability to be added to the stratum of educational practice responsively (Alshamsi et al., 2024).

On the other hand, the workers indicated that they preferred clear top-down regulations. They prioritized on the importance of having policies that govern the university at large, when it comes to privacy, ethical uses and legal compliance (Ameh, 2024)**.** Their risk-adverse attitude can be explained by more general institutional desire to control the narrative regarding GAI adoption and reduce risks to reputation.

Finally, there is more to trust in GAI than believing in its technical abilities; there is the belief in the systems in which it is used. In the complete absence of institutional infrastructure, trust becomes shaky, personal and much less consistent across and between universities.

3. Trust as Negotiated Between Innovation and Integrity

One of the main interpretive tensions that was formed out of the data is the balance between innovation and academic integrity. The stakeholders are fighting with the paradox that GAI is both an innovative educational instrument and something that threatens to destroy precious values established in academia (Arueyingho et al., 2025). However, some fear that there are social and ethical issues with excessive use of AI in content creation as well.

Administrators and lecturers in particular fear that GAI will undermine such fundamental educational outcomes as the development of the ability to think independently, and originality, and academic rigor. The lack of transparency in GAI tools compounds this issue since they tend to present streamlined results and not shown how the output was generated or why decisions were reached (August et al., 2024)**.** Because trust is also about whether the AI is worth using in that environment, not merely whether it works, and whether its use reinforces or negates the wider purposes of education.

These two opposite-side perceptions of GAI as both an enabler and a threat make introducing a space of conflict where confidence is always negotiated. Other stakeholders pursue a conditional trust paradigm, insisting on a more regulated GAI employment within institutional control, whereas others wait until the stronger ethical and pedagogical models are adopted (Azıonya et al., 2021)**.**

4. Cultural and Contextual Alignment as a Precondition for Trust

A strong and consistent theme in all stakeholder groups was a lack of contextual relevance in GAI outputs. The topics of GAI tools having a tendency to take the form of Western academic and cultural traditions such that they were harder to practically apply to Nigerian curricula, histories or even instances were brought up repeatedly by both students and lectures (Balalle et al.,

2025). As an example, they said they have trouble using GAI to research Nigerian legal systems, literature, or local policies, because ChatGPT and other tools often do not provide a specific or accurate answer to their questions given local realities.

This disproportion between on-site academic demands and training data furnished by GAI undermines the effect of trustworthiness. Outputs that do not recognize or consider socio-cultural and academic background of stakeholders are unlikely to gain their trust. This has been a source of grave concern to many lecturers in the context of epistemological colonization whereby the likelihood of the AI tools replicating the hierarchies of knowledge in the world at the disadvantage of local or indigenous material (Bali et al., 2024).

There were also fears of institutional sovereignty (especially concerning data storage, ownership, and control over education contents) in the mind of administrators. Such apprehensions were heightened in organizations which did not possess the technical prowess to screen or localize AI tools. Therefore, one should not consider trust in GAI to be just a technical matter, as it is not only deeply cultural and political, but also profound (Bobula, 2024). In absence of a functionality that would allow these contextual customizations or giving local training, stakeholders will always perceive this tool of little relevance and credibility.

5. Conditional and Situational Trust

These results indicate that the trust towards GAI does not need to be absolute in terms of predominance, but it is dependent and context-dependent. GAI tools are typically trusted in specific boundaries by the stakeholders and this trust is usually hinged on institutional support, individual experience, and the task. Such as, students can be confident that GAI will assist in simplifying language editing but not analysing and interpreting (Chan et al., 2025). They are likely to accept GAI-created quizzes but can be opposed to AI-composed essays. Policymakers and administrators can pilot GAI in administrative services and withhold policy-level decisions on whether to introduce GAI to assessment design.

This pick and choose trust show that there is a pragmatic relationship with GAI since users evaluate the risks and their advantages in real time. It also highlights a possibility of development of trust with the experience, exposure, and institutional learning (Chang et al., 2023). When stakeholders gain a better understanding of the strengths and flaws of GAI, as well as when more systematic infrastructures to use GAI are provided by the institutions, trust can increase, though only when coupled with attention to ethical, cultural, and instructive issues.

5.1.3 Theoretical Alignment

The complexity of trust in generative artificial intelligence (GAI) as discussed by the various stakeholders in Nigerian higher education should be envisaged through the amalgamation of various complementary theoretical frameworks. In particular, the results are very consistent with the Trust Theory (based on Mayer, Davis, and Schoorman, 1995), the Technology Acceptance Model (TAM) (based on Davis, 1989), and the assumptions of the Sociotechnical Systems Theory (STS). These frameworks offer vital insights into the interpretation of how trust is conceptualized, negotiated, and operationalized in a sociotechnical context that deals with limited infrastructure, development of policy frameworks, and competing academic values.

Trust Theory

Trust Theory by Mayer et al involves a triadic model to inclusive basis designed around three fundamental elements which comprise ability, integrity and benevolence. This framework provides a practical model to study the differentiated perspective of trust among students, lecturers, and administrators.

Ability In this model, ability is an impression of competence or technical ability. The trustworthiness of using GAI was mostly measured by the students in this study in terms of performance outcomes: the ability of the AI to produce correct, consistent, and academically useful information. Their judged trust was related to the perceived capability of GAI to satisfy their scholarly endeavors all-be-it as a summarizer of the texts, a grammar proofreader, or an essay structure organizer (Chaudhry et al., 2022). In places where the tool has done a good work, there was an increase in trust. Nonetheless, there were problems with the hallucination of the content, the materialistic examination, or the absence of examples that really occur in Nigeria, which weakened the image of competence by damaging trust.

The concept of integrity addresses conformity of a system (or an individual) with a set of principles agreeable to the trustor. This is more in accordance with the issues raised by lecturers with regards to GAI and academic integrity. The lecturers were concerned with the threat of plagiarism and undeserved credit and depreciating of the academic principles. It was no doubt a GAI system, technically capable (high ability), that lacked the transparency or any reference to its sources or that otherwise enabled academic dishonesty and was distrusted (Cheng et al., 2022). Here, integrity was less the abstract ideal but quite literally the working component through the legitimacy of education.

Benevolence is an opinion that the trusted party has the well interests of the trustor. This is especially pronounced in the perceptions of administrators as they stressed on protecting the institution, complying with the law and protecting reputation. They were relying on commitments that using these systems would not put the university under lawsuits and privacy breaches or bad reputation against the university (Chimbga, 2023). To an administrator, the given benevolence is federated into the protective administration, which decrees policy, an infrastructure, and supervision systems that foresee risk and guard the welfare of stakeholders.

In this way, the Trust Theory exhibition will enable a more subtle interpretation of variation in trust in GAI depending on the stakeholder role. It emphasizes the fact that trust is not the blanket belief in technology, but an embedded construct that is influenced by how stakeholder perceives competence, ethicality and alignment of GAI and institutional interest (Christian, 2024).

Technology Acceptance Model (TAM)

According to the Technology Acceptance Model (TAM), formulated by Davis (1989), users adopt a certain technology majorly due to two perceptions that consist of perceived ease of use (PEOU) and perceived usefulness (PU). Students in the Nigerian higher education context was highly positive with regards to the usefulness and usability of GAI tools (Chugh et al., 2023). Lots of people perceived AI as a handy tool that could be used to simplify academic work or find quick explanations or better their writing.

Nevertheless, the perceived usefulness did not directly lead to adoption. The research found that trust can be used as a moderating variable- the students showed a readiness to use GAI under the condition that they could trust that it would not put their academic getting into trouble or that it was against the regulations in their institution (Chukwuere et al., 2024). This discrepancy between attitude and behaviour not only confirms extensions of TAM by incorporating trust in particular sensitive- and ethical situations.

As an example, in some situations when students considered GAI tools to be intuitive and helpful, using them was hindered because of the fear of being accused of cheating, policy ambiguities, or doubts about the correctness of the tool. This implies that trust as both a psychological and institutional factor is a key determiner when influencing the behavioral intention to use GAI especially within setting where acts of misdoing may bring serious consequences such as within academic settings (Chukwuere et al., 2024).

Lecturers and administrators, in their turn, described their perceived usefulness and ease of use as lower, which could be explained by the lack of exposure and insufficient training as well as by the fear of policy deficits. This once again affirms the claim of TAM that user education, institutional support, and perceived benefit are essential in technology acceptance. Without trust and transparency, even the most competent technologies can potentially be affected by low adoption.

Sociotechnical Systems Theory (STS)

In Sociotechnical Systems Theory (STS), adoption is seen as a combination of technical optimization with alignment of the social structures and technical systems. It states that trust cannot be regarded as an independent effect of technological design, and it is an interactive product of integration of technology delivery within cultural, institutional and pedagogical systems of an organization (Cranfield et al., 2021).

The theory applies especially to the Nigerian higher education setting, which is characterized by the inability of infrastructural constraints and hierarchical styles of teaching to meet the demands of a social system (educational practice and governance structure) that is mismatched to technical systems (GAI tools) (Dabis et al., 2024). To give an example, learners may be using advanced tools of the GAI, yet unless the program has a focus on rote learning or unless instructors present an open attitude to the use of external digital materials, the technology is socially misaligned and its trustworthiness lowered.

It was found that GAI was not accepted by many lecturers not due to a technical failure, but because it did not align itself in a meaningful way to existing pedagogical standards. The generative abilities of GAI were perceived to foster shortcuts or adopt intellectual sloth of students-disrespecting the social intentions of higher learning (Damiano et al., 2024).

Governance misalignment even applied to administrators who also had access to GAI tools and were lacking confidence in GAI tools on the grounds that mechanisms of oversight were not clearly established, clarity of policies, expertise in how the output of the AI can be summed up in a morally or legal way (Daniel et al., 2025). STS theory elaborates that under these circumstances, no trust can form due to the inability of the social system to absorb, control and learn to accommodate technology change.

Synthesis of Theoretical Insights

These three theoretical frameworks provide a complementary, yet an in-depth description of trust dynamics in GAI in the Nigerian higher educational context:

Trust Theory reveals the influence of individual and group perceptions of ability, integrity, and benevolence that modifies trust in various categories of stakeholders.

TAM puts perceptions of usefulness and perceptions of usability into context in combination with institutional trust into determining actual adoption of technology (Dansarki et al., 2025)**.**

STS makes us aware of the wider system- trust is not only an aftereffect of user perception, but also a matter of institutional preparedness, governance and cultural conformity.

The convergence points of these frameworks are the observation that trust in GAI cannot exist out of the blue; it should be developed, controlled, and integrated into the sociotechnical core of higher education (Dogru et al., 2024)**.** Sustained trust can only be attained when technical systems are aligned with social requirements concerning ethical norms, institutional policies, and cultural values.

5.1.4 Comparison with Literature

The results of the study in terms of the stakeholder comprehension of trustworthiness in generative artificial intelligence (GAI) in the higher education institutions of Nigeria find a resonance and, importantly, expand upon the extant scholarship. The level of consistency with international bodies of scholarship on the topic of trust in AI, especially as it pertains to transparency, morality, and explain ability, is high but is complemented by new and distinct insights in the Global South that encroach upon prevailing, Western-dominated thinking (Dotan et al., 2024). It is also noteworthy that it puts at the forefront cultural relevance, contextual infrastructure, and institutional preparedness as critical, yet, commonly dismissed factors of trust in AI systems.

Alignment with Global Literature

In the literature on AI ethics and AI trust, key constructs (such as transparency, explain ability, fairness, data protection), are reoccurring concepts deemed central to users trusting AI systems. Scholars like Dwihadiah et al. (2024) contend that when users have the possibility to figure out how the outputs are produced, check the decision logic, and examine the moral soundness of the technology, they will trust GAI tools more. Such works touch on advancing the

transparency of algorithms the power of existing AI systems to explain their actions in a manner that users are able to understand and judge.

The present study replicates these results. As an example, Nigerian students worried about a lack of clarity in the outputs of AI especially when the process that generated AI-created content was ambiguous or unknowable. In the same vein, lectures were cautious of AI uses which lacked clear references, lacked credit to reference data, or delivered the kind of information that could not be justified in teaching/learning. These issues are consistent with the conclusions of Essien et al. (2024) that the AI systems should be explainable-by-design, which will promote user trust and responsibility.

Moreover, the ethicality of AI applications forms one of the driving forces towards trust highlighted in the literature. In academia, this includes notions of acts against academic integrity, mischief and subjugation of human agency. Autonomous AI application in learning has been cautioned against by Evangelista (2025) with specific references to plagiarism, bias and over-reliance among students. Such anxieties were typical even in the Nigerian environment where lecturers and administrators echo the international appeals to introduce ethical guardrails and institutional guidelines to control the GAI use in educational contexts.

Gaps in Western-Centric Literature: Cultural Relevance and Contextual Fit

The work presents a meaningful shift in the prevailing literature by bringing cultural and infrastructural specificity as essential elements of AI trust. The majority of worldwide investigations on AI trust presuppose a comparatively homogenous, well-resourced, and institutionally moderated setting--presumptions that cannot be arrived at in numerous locales of the Global South (Eze, 2024).

Specifically, this paper has noted the role of GAI alignment with local cultures and the academic environment in fostering trust in GAI among students and faculty members in Nigeria. Although the global AI models were usually relevant to western epistemologies, curriculums, and linguistic conventions, Nigerian residents felt they were not relevant locally (Ezeh e al., 2024). Unless it was prompted such as when querying information on Nigerian legal frameworks, indigenous literature, or national policies, the AI-generated responses could be generalized or false. This lack of connection did not only destroy the usefulness of the tool but trust as well.

In this respect, the study can provide an important contrast with a study like the one by Lundberg et al. (2022) that praises the universality of GAI applications without taking into account

localized knowledge systems to sufficient levels. Comparatively, this paper supports the claim of Ezema et al. (2021) who promote AI decolonization, or the understanding that the AI models trained in the West can replicate global knowledge disparities until being adapted to account for the experiences of many sociocultural contexts.

Additionally, the problem of infrastructural alignment became a trust determinant that remains almost wholly peripheral in mainstream writings. Whereas most studies in technologically oriented environments presume the presence of ubiquitous access to the internet, constant electricity, and robust digital literacy, this paper highlights that technological trust cannot thrive in infrastructural vacuum. Lecturers and students in the rural Nigerian universities also indicated intermittent connection, power supply, and lack of ICT support as some of the primary factors in hindering the ability to trust and utilise GAI tools.

This result complements but is a step further than research studies such as Farhi et al. (2023) which addresses electronic inclusion in higher education on the African continent. The present study introduces another layer to this by illustrating how precarious infrastructural conditions change our perceptions of trust. Even in the instances where students felt that there was a conceptual value of GAI, lack of access to such tools could often lower their confidence regarding reliability of such tools. By doing so, the paper provides a modified definition of trustworthiness, which refers not only to technical or moral aspects, but also to the logistic feasibility and the socioeconomic accessibility.

Trust as Relational and Institutionally Mediated

The other significant divergence in the prevailing literature is the consideration of trust as relational and institutionally rooted. Most Western research focuses on trust to AI depending largely on the human-machine interface, including such design factors as user experience ad interface transparency and performance quality. Nevertheless, this paper points out that institutional ecosystems are equally important in trust formation.

The role of trust is negotiated, in the case of Nigeria, by an incident (or lacking) institutional support framework comprising: existence of AI policies, training schemes, ethical directives, and feedback schemes (Ferreira et al., 2021). In situations whereby stakeholders were sure that the institution had erected guardrails to be used, they were better placed to trust GAI tools. In this respect, trusting is not only about the technical performance of the AI but with regards to whether

users have confidence that their university has carefully overlooked and tackled the risks that come about with adoption of AIs.

This intuition is consistent with recent criticism by researchers such as Ferreira et al. (2021) who point out that trust in AI needs to be conceived as being both socially constructed and politically regulated, not merely technological design. The present paper adds some empirical evidence to this claim by demonstrating that institutional ambiguity, which refers to vague policies, incoherent support, and poor digital infrastructures, constrains the willingness of stakeholders to adopt GAI, irrespective of its technical advantages.

Toward a Global South Perspective on Trust in AI

The most notable contribution that this research brings is the furtherance of the Global South approach to trusting AI. As the world literature starts to understand the dangers of algorithmic bias and surveillance, as well as data colonialism, few empirical studies have looked into how trust is lived and built within the confines of under-resourced and culturally different academic contexts (Fisk et al., 2023)**.** With a focus on the Nigerian higher education facilities and their varied stakeholders, this study overcomes the "one–size fits all" assumption in the scholarship of AI trust.

It reveals that making GAI trust-worthy will not only be through clarified algorithms or an interface that is easily accessible. It does not just require cultural competence, contextual awareness, infrastructural preparedness, inclusive policy framework (Folorunso et al., 2024)**.** This understanding of trust does not imply that it is universal but placed, fluid and heavily entangled with place.

5.1.5 Implications

Theoretical and practical implications emerge in the perceptions identified in this study regarding stakeholder's trustworthiness on generative artificial intelligence (GAI) in higher education in Nigeria. They demonstrate how complex and socially contextual the notion of trust is and that it could not be easily comprehended or developed within common models that are framed within technologically sophisticated or culturally homogeneous environments (Funda et al., 2024)**.** The implications are both conceptual, institutional, and design-related, which would necessitate a more context-sensitive, inclusive, and participatory experience of AI integration in learning.

Theoretical Implications

In theoretical terms, this research puts into question the adequacy of universalist approaches of trust that are predominant in AI discourse, especially in Western academia and the technological sector. Useful frameworks like Technology Acceptance Model (TAM) and Trust Theory may not be sufficient to understand the interaction between elements, as they focus on individual cognition (perceived usefulness, ability, integrity, etc.) without paying full attention to contextual, cultural, and institutional contexts that create trust perception in complex sociotechnical systems (Gahamanyi et al., 2023)**.**

This study expands on these models to include socio-cultural factors, which include respect of hierarchic knowledge systems, local applicability of curriculum and anticipation ethical supervision, as central variables in the creation of trust. These issues are not just a supplement to classic models of trust, they re-establish the concept of trust in educational environments where cultural traditions, institutional flaws and technology imbalances can co-exist (Gambo, 2024)**.**

Thus, the paper highlights the importance of developing new theoretical models of AI trustworthiness a model that would consider contextual sensitivity, infrastructural alignment, and cultural epistemologies to be key elements. The definition of trust cannot be viewed nowadays as an issue of the effectiveness of the process managed by the system or as the matter of the user familiarity, but should be considered as a relational construct grounded in larger social, political, and pedagogical realities (Ghimire et al., 2024)**.**

Specific responses to the triadic dimensions of trust theory, namely ability, integrity, and benevolence, require conceptualization in the context of this research findings. For example:

- Ability should not only be measured as technical capability but also the applicability of such tools to local academic contents and online infrastructure.
- Integrity should incorporate respect of institutional values, ethics and academic principles based on the particular educational culture.
- Benevolence cannot just end with design-centered users but the safeguarding of the institution and participatory governance to be made with the collective good of students, educators, and administrators.

Practical Implications

In practice, the results lead to a set of institutional tasks and strategic measures that should be taken to promote trust in GAI systems in the context of Nigerian higher education. Most of

these are the necessity of participatory governance systems of AI that involve the voices of all stakeholders: students, lecturers, administrators and policymakers.

Developing Inclusive, Culturally Relevant AI Policies

Most of the emerging issues such as data privacy, academic integrity, and infrastructural access are rooted in the lack of proper institutional guidelines on ethical and practical implementation of GAI. Institutions of higher learning should act fast to come up with official procedures that capture local academic values, legal standards, and cultural demands (Gruenhagen et al., 2024). These policies must be developed in an inclusive way which incorporates cross-disciplinary consultation involving both technical and non-technical students, and faculty.

These frameworks ought to determine:

- Acceptable and unacceptable uses of GAI in academic tasks.
- Guidelines for citing or acknowledging GAI-assisted work.
- Mechanisms for data protection and institutional oversight.
- Penalties for misuse that distinguish between intentional dishonesty and lack of awareness.

Co-Creating Trust Metrics with Stakeholders

There is no way to force trust, it must be co-created. Institutions must work with stakeholders to develop institution-specific measures of trust that effectively reflect how students, lecturers and administrators conceptualize and experience trustworthy AI (Henadirage et al., 2025) These might be:

- Relevance to local course content.
- Accuracy in culturally sensitive areas.
- Transparency in citation and source attribution.
- Accessibility across infrastructural constraints.

Institutionalizing AI Literacy and Faculty Training

One significant cause of mistrust among the concerned parties was ignorance of how GAI works and how it could be ethically incorporated in teaching and learning. Universities ought to deploy AI literacy programs extending beyond some level of digital training to enable critical thinking towards AI systems (Hong, 2023) including:

- Algorithmic bias and limitations.
- Responsible usage in academic writing.
- Recognizing AI hallucinations or misinformation.

- Mitigating over-reliance on automated content.

Creating Feedback Loops for Continuous Evaluation

The other implication is the significance of iterative governance. Institutions ought to create feedback systems, like surveys of students and faculty, or focus groups, or AI advisory committees, to check continually the perceptions around and the use of GAI tools. Such findings are expected to be used in updating AI policy, tools and training programs periodically (Ibrahim et al., 2024). The relationship between trust and this model is one of negotiation and responsiveness and not as a goal to be met.

Investing in Contextual AI Development and Local Partnerships

Lastly, the study points to the necessity of AI tools adapted to the situation in Nigeria, both in the education and culture realms. Such requires collaborations among the universities and developers, researchers and regulators in the locality to co-design GAI systems to be reflective of national curricula, languages and cultural references (Ibrahim, 2024). The epistemic imbalances within western-trained AI models should be addressed through promoting the application of open-source platforms, local data sets and participatory design so as to produce tools that are not merely technically competent but require them to be cognizant in contexts.

5.2 Contextual Factors Influencing Trust in Generative AI

5.2.1 Summary of Findings

The confidence that stakeholders in Nigerian higher education have on generative artificial intelligence (GAI) is largely influenced by realities that relate more to context than the actual functionality of the AI technology. This paper has determined technological preparedness, pedagogy heritage, cultural expectations, and regulatory uncertainty as the background factors supporting or preventing the growth of trust in GAI (Ifeoluwa et al., 2022)**.** Such variables tend to overlap and mirror larger structural realities of the educational context in Nigeria.

The technological and infrastructural context is probably the most important aspect in its dynamism as it would be different in each institution especially in urban schools and rural universities. Subordinate institutions with poor resources and those in rural locations reported significantly low trust and appetite to use GAI tools not because they disagree with the ideology, but because they lack the technological base supporting their use (Inah et al., 2024)**.** Such issues involve inconsistent power supply, unreliable or slow internet connection, in availability of current generation digital devices, and limited or no IT support services.

To a great number of students and lecturers, particularly those in public universities within the rural areas, reaching GAI tools was in itself a major problem. They usually get fragmented, unreliable, and exasperating experiences with AI without any reliable infrastructure, which is bound to undermine such systems and their confidence and trust in them (James et al., 2025). Even in cases when people understand that GAI can be beneficial, an inability to communicate with it effectively enough will simply reduce their willingness to make it an inseparable part of their academic life.

By contrast, representatives of more wealthy and urban-situated institutions were more familiar and interested with GAI tools. Nevertheless, even under these relatively advantaged conditions, pedagogical traditions and cultural dispositions constituted challenges of some magnitude to the trust-building process. The history of Nigerian higher education has been filled with lectures and teacher-centered education that have been known to focus more on rote learning and knowledge transfer that is hierarchal (John et al., 2024)**.** Such traditions are not well matched with GAI, which advocates interactivity, learner-autonomy, and free-ended discovery.

Consequently, a large scope of lecturers had issues with observing how GAI could be successfully incorporated into their educational activities, especially those who were educated in more conservative methods. Others felt that it amounted to a sacrifice of the academic discipline and intellectual rigor, and that the learning process will get out of control **(**Johnston et al., 2024**).** The liquid and generative quality of AI products sounded alarms to puritanical lecturers who equated academic excellence with copying the textbook word for word and adhering to standardized formats.

The issues were aggravated by cultural expectations of both power and possession of knowledge. Lecturers in most Nigerian academic institutions are considered focus points with knowledge and discipline, and students are supposed to be submissive to them. GAI violates the equilibrium by offering students an alternative source of facts, which is timely, authoritative, and at times, conflicting to what was taught in a classroom (Jummai, 2021)**.** Such a transition can be understood to erode the authority of the lecturer resulting in an institutional rejection or distrust of the technology in question.

Moreover, these cultural markers are absorbed by many students, who are then reluctant to unconditionally trust GAI tools when their results contradict with those taught by the instructors. Although students can find GAI tools attentive, they might feel threatened with a negative

academic outcome in case their usage of AI-generated texts is considered an act of insubordination, dishonesty, or going against institutional culture (Kalu, 2024)**.** This introduces a self-censorship of AI usage whereby the reliance in the application of trust is balanced not only on the efficacy of the tool but also on the perceived cultural norms and academic campus.

Another contextual factor that affects trust considered as similarly important is the absence of transparent regulatory frameworks and institutional policies on the use of AI in Nigerian universities. This regulatory uncertainty places all stakeholder groups, including students, lecturers, and administrators, in situations of wondering about the ethical and legal consequences of using GAI tools **(**Kasneci et al., 2023)**.** Without official guides, the users are at liberty to decide what is acceptable use, further boosting the lack of trust.

As an example, students could be regularly confused about whether paraphrasing or summarization with the help of AI was violating plagiarism. Lecturers, too, were unsure of how to assess the work of students assisted by AI and how to identify work produced by AI. Administrators acknowledged that there is no formal policy that would regulate use of GAI now, thus creating the vacuum where practices differ significantly across faculties and departments (Katsamakas et al., 2024)**.**

This policy vacuum creates more risks felt and thus acts against proper experimentation with GAI. Some lecturers would rather outright outlaw it instead of suffering the curiosity over ambiguity, and students dare not delve into its instructional possibilities lest they risk academic punishment (Khowaja et al., 2024)**.** Administrators are also opposed to the idea of AI integration due to the risk of reputational harm or non-compliance with the law, meaning that they either stall on the implementation of such new change or wait until the directives are made more understandable.

Interestingly, among all groups, there was a mutual understanding that GAI could be positive when it is accompanied with relevant contextual infrastructure and governing structures. Students envisioned increased learning assistance; lecturers recognized the need in administrative and repetitive academic work; and administrators were willing to accept AI as the solution to their increased institutional effectiveness (Khoza et al., 2022)**.** In the present situation however; trust is dependent on changes in systems that aim at removing these contextual constraints.

5.2.2 Interpretation and Synthesis

The researchers found that trust in generative artificial intelligence (GAI) in the Nigerian higher education is influenced not only by the inherent attributes of the AI systems but also by institution, infrastructural, cultural, and pedagogical context where such systems are deployed. The statistics disclose a low dimensional process where the trust is bargained under systemic constraints, institutional academic conventions, and social-cultural demands. Here, the author brings out these themes synthetically to indicate where contextual factors converge to impact upon stakeholder trust or mistrust in GAI tools.

1. Infrastructural Fragility as a Structural Barrier to Trust

One of the strongest themes in the participant responses concerned the weakness of the technological infrastructure in most Nigerian higher education institutions, especially in rural state universities. Unreliable electricity, low internet bandwidth, few digital tools and IT support were named as major obstacles to access and interaction with GAI systems by students and lecturers in these contexts (Kramm et al., 2023).

Such lack of infrastructural recourses resonates directly on the user experience, rendering the experience with GAI tools frustrating, ad hoc, and unsustainable. There were instances described by students in which there was an internet outage during use due to which the AI tool became unusable (Kukharuk et al., 2024). As Lectures have observed, unstable power supply precluded the possibility of including digital tools in lesson plans in a reliable way.

These intermittent failures cause a gut feeling of unreliability, that over time eats away at user trust. Not a mere intellectual assessment concerning the capabilities of GAI, trust in this foray is also an emotional and behavioral reaction to infrastructural dissipation in a continuing state (Lancaster, 2023). When a tool is not constantly available or accessible to its users, they cannot form long-term confidence in its use, regardless of how successful said tool can be in a perfect scenario.

Besides, the disparity between the urban and rural institutions exacerbates this trust gap even further. Respondents in more well-resourced, urban-based universities stated that they were more aware of the GAI tools and had more confidence in them. Conversely, the stakeholders in the rural areas articulated a sense of marginalization and resentment, whereby, AI is seen as another foreign idea forced to be developed without relating it to the local context (Landa et al., 2021). There is a digital divide that not only restrains access but also creates a sense of

insignificance and maintains the negative belief of whether GAI belongs in their educational landscape.

2. Pedagogical Misalignment and Epistemological Discomfort

The other key theme is the mismatch between GAI tools and the use of traditional pedagogical practices widespread in Nigerian universities. Most of the lecturers noted that they were challenged to reconcile how continuously and generatively AI works and their more traditional and content-dense instructional models that they themselves trained in and expected to provide.

The historical attributes of Nigerian higher education have been rote learning, exam-based assessment and teacher-student relations. Those strategies focus on memorization, obedience, and knowledge delivery as conveyed by the lecturer to the student (Laufer et al., 2021). The reverse is true of GAI, which promotes exploratory thinking, open-ended questions, and a less personalised learning experience in which students actively interact with an adaptive system to co-develop knowledge.

This is the inherent discrepancy in educational ideology that causes discord with lecturers. Others were not happy with GAI, as they saw it as an impediment to their pedagogical authority as students came back with their own answers contrary to what they were taught. Not necessarily conceived as an aid to teaching, GAI was perceived by some faculty members as a disruptive influence questioning the validity of their instruction and integrity of the curriculum (Lawal, 2024).

Moreover, lecturers observed that GAI tools created decontextualized or generalized materials, which were not in correlation with national curriculum, local case studies, or region-relevant illustrations. This disconnect in the curricular value added to their mistrusts because it left the faculty with an either or a situation in terms of what percentages to accept the AI content or maintaining the already established locally approved knowledge (Leghemo et al., 2025). This disconnect was especially problematic in the disciplines associated with law, history, or political science where context was important.

These difficulties demonstrate that confidence in GAI cannot be achieved in settings where there is an epistemological gap between the values centralized in AI and those that frame the local academic culture. Unless deliberate steps are taken to fill this divide, there will persist to be a sense of suspicion over AI tools and especially among the educational fraternity who are feeling undermined as professionals.

3. Cultural Hierarchies and Authority Structures

Cultural aspects of hierarchy, authority, and the production of knowledge are closely connected to pedagogical issues and are important determinants of trust in AI. In most Nigerian institutions learning is influenced by the high regard maintained towards people in authority and in most cases, lecturers might be considered as the final authority in matters of academic knowledge (Letherby, 2003). This top-down model does not allow students to question the instructors or pursue knowledge beyond the prescribed texts and books that are in the curriculum.

The arrival of GAI tools is a paradigm shift in this dynamic. These systems provide ready-made information, ideas, and points of view to students which are not always in line with, or even opposite to those which are delivered by their lecturers (Liang et al., 2023). Although this can give the learner power, it also introduces an epistemic tension- which asks learners to choose whether to believe the AI tool or uphold given institutional norms of deference to authority.

The lecturers knowing about this tension tend to be very defensive or skeptical. Educators are feeling that AI might be challenging their position, and without a support system of regulating AI within the institutions, it is likely to push away or punish its usage among the student bodies (Lim et al., 2023). This can be considered an understandable and yet a restrictive conduct of GAI to host scholarly discovery and critical thinking.

Students reproduce these dynamics in turn. They tend to self-regulate when using AI tools, opting not to engage fully to reduce the chance of academic backlash even when they find the tools useful (Liu et al., 2022). According to one of the students, even when the artificial intelligence can explain to my better understanding, I still listen to what my lecturer told me, because I do not want trouble. These cases of cultural hierarchies and resistance towards trust not only influence the perceived credibility of the tool in question, but also the general atmosphere of openness, curiosity and experimentation necessary to trust to thrive in the first place.

4. Institutional Uncertainty and the Policy Vacuum

Lack of clear institutional policies on the use of GAI in higher education is another serious obstacle to the trust. Stakeholders across institutions were concerned and confused with what is considered an acceptable or ethical use of AI (Lu et al., 2024). This uncertainty of regulation fosters a climate of institutional confusion, where students do not know whether they are allowed to use AI tools in assignments, lecturers do not know how to evaluate AI-assisted work, and administrators are poorly placed to advise.

Trust with unorganized norms and ethical principles becomes individualistic and unstable since it is subject to change in accordance with personal attitudes but not institutional orientation. Such imperfection not only undermines the shared confidence in AI tools but the attempt to develop the best practices, professional development, or concerted implementation strategy (Lu et al., 2024).

5.2.3 Theoretical Integration

The circumstantial limitations that inform the extent to which the stakeholders trust generative artificial intelligence (GAI) in the higher education in Nigeria are not unique or accidental. Instead, they betray a mismatch between technological breakthroughs and the social, institutional and cultural contexts into which they are transplanted (Lythreatis et al., 2022). In this part, the implementation of the findings is explained by two main theoretical perspectives such as the Sociotechnical Systems Theory (STS) and the Technology Acceptance Model (TAM), which complement each other to offer a very powerful prism through which trust is enhanced or disturbed in multifaceted learning environments.

Sociotechnical Systems Theory (STS): A Framework for Co-Optimization

Sociotechnical Systems Theory (STS) lays focus upon the mutual dependency between the social and technical subsystems in any organizational environment. The eventual success of any technological innovation, STS suggests, is not to be solely measured in terms of its technical sophistication, but rather by the extent to which they coincide and are embedded into extant forms of human organisation, i.e. culture, pedagogy, regulation, and institutional structure (Maart et al., 2024). A bad or a lack of co-optimization between these subsystems causes system-wide inefficiencies, which translates into distrust, resistance and unsuccessfully adopted.

The results of this research illustrate an obvious failure to maintain the founding of the sociotechnical balance in the establishment of one to trust GAI. Although the technical subsystem (the actual GAI tools themselves) could provide some potent capabilities, the social subsystem (institutional policies, teaching practices, stakeholder values, and user competencies) is underdeveloped or inappropriately configured (Maphalala et al., 2021).

In one case, as an example, stakeholders described a lack of institutional policies or ethical frameworks to guide the use of AI. Lack of direction on how to integrate GAI in the teaching, assessment and student services puts both students and faculty in an ambiguous position. The

absence of a more comprehensive policy constrains the capacity of institutions to enable organized, fair, and accountable adoption of AI to ensure trust-building (Mauti et al., 2024).

Furthermore, the absence of professional development or AI training among lecturers depicts another failure within the social subsystem. Without any pedagogical capacity-building initiatives, involved faculty members will lack the ability to interact with GAI tools, to say nothing of demonstrating their responsible use to students (Mertanen et al., 2022). This creates push-back or distrust not necessarily as lecturers have dismissed the possibilities of AI, but because they do not have the institutional resources to translate it into their working environment.

The sociotechnical disconnect is made worse by lack of IT infrastructure and support in most institutions particularly those in the rural set up. When the technical basis is poor, e.g. because the connections are feeble, the equipment is outmoded, or the power cuts out, then frustration and doubt set in, undermining confidence in the tool (Morgan, 2016). Although students and faculty may appreciate the idea of AI-enhanced learning, in such circumstances, negative experiences with the technology in such circumstances are influential in forming attitudes that contribute to distrust, reluctance, and eventual disengagement.

Technology Acceptance Model (TAM): Understanding Perceptions and Use Intentions

The Technology Acceptance Model (TAM) by Davis (1989) constitutes another important model to explain the attitude of stakeholders towards GAI. In TAM, Users intention to use and adopt a new technology is based on two main variables namely Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). Such perceptions are influenced by the previous experience of a user, technological infrastructure, training, and institutional support.

The conclusion of the given study shows that there is a significant mediation of contextual limitations and both PU and PEOU, at least in case with students and lecturers working in under-resourced contexts. Most students, such as those who shared similar ideas, admitted that GAI tools may be useful in academic writings, grammar checking, and content summarization (Morocco-Clarke et al., 2024). Nevertheless, they were not able to be used extensively because of infrastructure breakdowns (e.g., internet connections, poor power) and the lack of clarity on how they were allowed to be used, further leaving a gap between the perceived usefulness and actual use.

The dynamic support extension of the TAM that include the external factors, including support as provided by the organization, trust, and ethical risk, are important in the formation of

the PU and PEOU in the educational setting. In the Nigerian context, despite having a high perceived usefulness of GAI, distrust due to cultural misalignment, policy ambiguity, and faculty skepticism will lead to a low intention by the students to use it effectively (Morris et al., 2022).

The lowest expected ease of use was indicated by lecturers, who frequently referred to not feeling particularly familiar with GAI tools and the lack of training or professional development. There was uncertainty about how to assess student work produced by AI, whether the use of AI was plagiarism, and how to incorporate GAI into existing course structures. These doubts brought friction and lost gusto and experimentation (Mpungose, 2023).

In addition, perceived usefulness was moderated by the trust in the integrity and cultural compatibility of the AI tool. To illustrate, students said that although GAI tools were grammatically fluent and coherent they failed in terms of local examples, or as references to Nigeria were wrong or irrelevant to culture, so there was no perceived academic value (Muazu, 2024). This implies that trust, both in the context of content accuracy and sensitivity to culture is key to the PU construct, particularly within non-western environments.

Thus, TAM assists in explaining to us how perceptions of GAI at the individual levels cannot be ascribed but are molded by contexts. Infrastructure, training, cultural appropriateness, and institutional legitimacy mediate the cognitive evaluations that the users make about the usefulness and usability of a tool (Murugesan et al., 2023). Notably, the TAM demonstrates that a technically workable tool can easily fail to win user confidence or even reach mass adoption in cases where such complementary conditions are absent.

Synthesis: STS and TAM as Complementary Models

STS and TAM present supplementary insights into explaining paradoxes and opportunities of building trust in GAI in the Nigerian higher education. STS asserts the trust to be a systemic product, which is generated through the interplay of human agents, institutional structures and technological applications (Nacheva, 2024)**.** When those systems are not in harmony, trust cannot be found, in case of institutions adopting AI without pedagogical models, in case of the lack of a favorable infrastructure, or in case of cultural values disregard.

TAM conceptualizes trust as perceptual-behavioral process, demonstrating how users develop their attitudes according to the usefulness and ease of use- as the attitudes are importantly determined by the outside sources such as training, existing infrastructures, policy clarity, and prior experience (Naicker et al., 2022)**.** The two theories emphasize that faith in GAI is not independent

of context. It is not automatic, nor is it inevitable. Rather, it is a conditional and constructed reaction, which is influenced by the systemic conditions and individual experience and how AI tools can be presented, interpreted, or implemented.

5.2.4 Comparative Literature Perspective

The situational boundaries affecting trust in generative artificial intelligence (GAI) identified in this paper can relate to the available body of literature concerning the use of digital technology in higher educational institutions in Africa (Naicker et al., 2022)**.** Nevertheless, this study introduces a new level of understanding, as it reveals not merely the existing barriers to trust that are expressed within the environment of infrastructural inequality but also the subtle manners in which the pedagogical traditions, academic hierarchies and cultural ideologies about knowledge and power structure trust (Nam, 2025)**.** In this part, the authors put the findings of the study in the context of the overall scholarly discourse, pointing out the areas where they are in agreement as well as areas of innovations.

Infrastructural Constraints: A Confirmed Barrier

Many African studies have highlighted the importance of infrastructure as the main obstacle to integrating technology and confidence in online systems. An example is Ngonso et al. (2025) who in their study on ICT adoption in South African universities, acknowledged that poor internet bandwidth, frequent power cuts and having limited access to current hardware undercut faculty and student confidence in digital tools. Likewise, in situations in East Africa, Nnorom (2025) reported how unstable digital architectures contribute to a phenomenon of sporadic use of AI tools, creating an impression of instability and unpredictability among those using them.

These findings are reflected in the current study in the Nigerian context, specifically in public and rural universities, where the infrastructural shortages did not merely constitute technical nuisances but the essence of distrust in GAI. The problems included the inability to load AI platforms, difficulty in conserving unsaved tasks because of power failures, and restrictions in devices operations, which hindered the regular interaction among students and lecturers. These results confirm a long-standing counter-argument in African digital literature or studies that access is central to trust and when access is weak, so too is the disposition toward new technologies.

Nonetheless, this paper takes this research a step further demonstrating the infrastructural inequality enforces psychological and institutional differences. GAI negatively reinforced the feeling of marginalization felt by most stakeholders in poorly resourced universities where many

felt that this was an instrument that worked well for elite or international situations. It is this socio-symbolic effect of infrastructural gaps-where under-resourced users start to doubt go the relevance/appropriateness of the tool within the user's environment which is a layer that is not necessarily picked up during quantitative infrastructure audits but one that is pivotal in considering both the emotional and cognitive aspects of trust.

Pedagogical Models and Epistemological Tensions

This study makes new ground is in its detailed analysis of pedagogical models and effect on trust in GAI. Although a significant portion of analysis of the topic of AI adoption focuses on infrastructural and technical obstacles, less research exists to question the cultural and educational ideologies that dictate the subsequent interpretation and acceptance of academic technologies. The results obtained in this research study reveal that both the skepticism and the unwillingness to engage presented by lecturers and students is not merely a response to the constraints of hardware, but is inherent to the traditional conception and practice of knowledge within the Nigerian academic community.

Such a second-thought contributes to the ongoing criticisms of postcolonial and decolonial approaches to technology studies. An example can be the arguments of Nwozor (2025) who suggest that Western-made education technologies usually conflict with local educational traditions and knowledge systems. Pedagogy in Nigeria (and much of Africa) has historically focused on mastering the content, vertical presentation of knowledge and subservience to those in power, a paradigm that in Nigeria has sometimes been supported by both colonial legacies and the inflexible nature of examinations.

GAI is a paradigm shift as it involves open-ended learning, student-directed inquiry, and independent exploration, which many teachers and institutions are not totally ready. The lecturers were annoyed by the fact that their students started using GAI to obtain explanations that did not correspond to the lecture notes or recommended readings. The students as well said that they were reluctant to trust GAI when in contravention to their lecturer directions, illustrating that trust is actually socially negotiated, but not uniquely a personal decision.

This result introduces an additional aspect to the existing body of knowledge: trust in AI is not merely limited to the technical ability or moral clarity, but also to whether the technology fits in epistemologically with the values and anticipations of the learning environment. As opposed to the many works of the global North which assume individual user evaluations of AI, as based upon

performance measures, this study demonstrates that community academic standards, instructor dispositions, and education culture will all influence whether a view of AI is considered legitimate, useful, and trustworthy.

Authority, Knowledge Ownership, and Cultural Resistance

The other valuable detail that the research provided is the discussion of authority and ownership of knowledge as cultural devices that define whether trust is built in GAI or not. Trust in AI is commonly a reaction to reliability of the tool, it explains ability or accuracy in most contemporary Western research. These settings frame trust as being mostly the personal intellectual conclusion, usually not in social context.

On the other hand, the present study shows that in the Nigerian system of higher education, trust in GAI is relational and hierarchical. Students do not just focus on the quality of the content when they evaluate GAI; they also evaluate its quality according to the interpretation of its usage that could be received by the lecturers or peers. Likewise, lecturers do not just judge GAI as technical merchants, but because it challenges their intellectual power and their professional identity.

This particular dynamic points to a larger anthropological and sociological critique of African cultures of learning, including by Nyaaba et al. (2024) on the inseparable relationship between power, respect, and knowledge transfer in postcolonial academia. Such situations the external or non-human sources of knowledge, such as AI, have to trade off against the established power structures when it comes to legitimization. In this work, it is established that trust is unable to grow under conditions where an AI is perceived as a trespasser instead of a colleague in the learning enterprise.

In this sense, the project builds on but also extends current literature on African digital adoption that is inclined towards material access and technical training. The salience of ideological opposition in this study marks that regardless of ideal infrastructure and user education, cultural dissonance and the play of power can nevertheless objectify trust in GAI.

Policy Ambiguity and Trust as Institutional, Not Just Personal

Lastly, the research would help to fill the gap in the literature about technology policy and governance in universities. Some scholars like Obiano et al. (2022) have also mentioned that digital adoption necessitates effective policy's frames, particularly in African realities where institutional frames tend to lack consistency and stability. The study confirms that the absence of

transparent enforceable policies regarding AI in universities in Nigeria has established a state of uncertainty that compromises trust.

The insight this research provides is the realization that ambiguity in policy does not merely inhibit use but creates an aspect of structural mistrust in which stakeholders are unable to surmise the implications of interaction with GAI. It is an institutional mistrust as opposed to personal one: users do not necessarily distrust the technology per se, but how their use of the technology is going to be read or approved by the institution. This difference is important in order to develop interventions of building trust beyond the improvement of the tools and into the policy arena of institutional reform and participatory governance.

5.2.5 Practical Implications

The results of the research present several significant practical consequences of introducing generative artificial intelligence (GAI) into higher education in Nigeria. It remains evident that the building and maintenance of trust in GAI cannot exist independently of other infrastructural, cultural, pedagogical, and institutional realities that shape the educational landscape (Ogunode et al., 2024). Therefore, the effective deployment of GAI must focus locally and become multi-dimensional pursuing both material issues and humanistic interests.

1. Tailoring GAI Deployment to Local Contexts

The key recommendations is the fact that AI technologies, or approaches imported from other countries, cannot simply be implanted in the academic landscape of Nigeria, without adjustment. Most of the existing GAI systems assume the stability of the internet connectivity, stable electricity, and high levels of digital literacy, implicitly assuming the Western academic standards, which fail to represent the realities of students and educators in most Nigerian institutions and rural or less well-resourced communities (Obiekezie et al., 2016).

That is why universities are required to consider a context-sensitive implementation approach that evaluates their environment readiness before integrating GAI. This means:

- Infrastructure auditing to decide on where and how it is possible to implement GAI tools in practice.
- Focusing on low bandwidths or offline-compatible platform AI where internet connection is not reliable.
- Prioritizing the incorporation of digital tools into the local educational system (calendar, language, content of the curriculum).

Moreover, GAI tools should be content specific. Instruments that create examples or expertise just utilizing foreign situations undermine the academic value and lead to the decline of trust. Corporate partnerships with local developers, educators, and researchers are to be sought to train the AI models with the data about Nigeria, incorporate local knowledge systems, and spread the content with national education interests.

2. Investing in Digital Infrastructure and Technical Support

A basic obstacle to GAI trust and adoption is infrastructure. Due to the lack of dependable power supply, high-speed internet, and access to gadgets, even the best-developed AI tools cannot be accessed or work consistently (Okafor, 2024). The stakeholders working at rural universities in the state all complained of the infrastructural failure and that is why they doubted GAI.

- This should be the priority of universities and government agencies:
- Ensuring better internet connection and backup power sources on campuses.
- Increasing computer laboratories and digital resource facilities with modern systems.
- The creation of on-site technical support teams that would be able to help staff and students with AI-related issues.

Such investments are not only logistic they are also an emblematic gesture of institutional investment in digitisation. When users realize that their institutions are already working to provide the kind of atmosphere that would encourage them to conduct business digitally, their trust in new tools such as GAI is improved vastly.

3. Faculty Development and Pedagogical Alignment

Teachers are important in ensuring that GAI is treated and applied in a certain way in the academic society. This analysis has shown that GAI has been considered with suspicion by many faculty members partly as a result of their insufficient exposure, an insufficient level of training, and the misalignment with pedagogical issues (Olatunde-Aiyedun, 2024). Such perceptions trickle down to the students so that the latter might be demotivated against working with GAI even in cases where they do this useful thing.

In the event of this, universities should:

- Offer continuous professional development initiatives that can enable lecturers to develop practical skills on how to use GAI tools.
- Conduct workshops and seminars which aim at establishing GAI in course design, assessment, and feedback measures.

- Promote communities of practice, led by peers, with the possibility to exchange experience, problems, and positive experience.

Above all, faculty development should extend beyond tools training into ethical deliberations, pedagogical reconsideration. Instructors should have secure, organized forums to debate on ways, in which AI can support learning without affecting critical thinking, creativity, or scholarly integrity.

4. Promoting Student AI Literacy and Responsible Use

Active users of GAI tools including students should also be empowered to make critical and ethical engagement. In this study, it was noted that students were keen to explore GAI, but without a clear understanding of what was acceptable and what behaviour may lead to academic consequences, the result was generally on the side of underutilization or worse, abuse (Okafor et al., 2025).

Universities are supposed to put in place:

- AI literacy courses where students learn about the inner workings of GAI, its strengths and weaknesses, and its limits and boundaries and how to critical assess the output of the same.
- Classes or units on how and when to ethically use AI to do academic work, such as citation standards, plagiarism prevention, and protection of intellectual property.
- Online resources, such as videos, frequently asked questions, quick guides, and orientation videos depending on the degree of digital experience.
- Approaching AI literacy as a critical academic competency, rather than a technical skill means that the institutions can help students confidently take on a rapidly changing digital learning world with the appropriate sense of responsibility.

5. Developing Clear Institutional Policies and Governance Frameworks

One of the themes of this research was the lack of institutional advice regarding GAI. The ambiguity that followed left the stakeholders to guess what was allowed, what could be fined, and what the monitoring of AI engagement would entail (Oludipe et al., 2025). This confusion destroys confidence and prevents experimenting.

- To curb this, universities should develop extensive open-book policies that:
- Establish good and bad uses of GAI in learning, teaching, research, and administration.
- Explain the standards of citing or mentioning AI-aided that is to be used in work, as well as how it will be appraised.

- Outline sanctions and misuse and counter this with support and remediation mechanisms.
- Ensure student and faculty input is provided to the policy-making giving the policy legitimacy and buy-in.

Simultaneously, AI ethics committees or AI task forces should be instituted to conduct a regular review of AI integration, consider new risks, and provide new policies. The governance mechanisms indicate that this is a serious long-term commitment to responsible innovation, and it instils confidence that GAI will not be introduced in a haphazard way.

5.3 Perceived Risks and Benefits of Generative AI in Higher Education

5.3.1 Summary of Findings

Stakeholders see the use of generative artificial intelligence (GAI) tools in Nigerian higher learning as a two-pronged approach- having a lot of advantages yet posing dire threats. Respondents in all demographies (students, lecturers, and administrators) recognized the transformative power of GAI but underscored that this potential is highly dependent on the manner in which the tools are incorporated, controlled, and facilitated in their campuses (Oludipe et al., 2025). The analyses showed a fundamental agreement in the results: the trust in GAI is conditional and associated with moral, infrastructural, and situational protections.

Perceived Benefits

The benefits of GAI most commonly known pertained to the increased efficiency, personalization, and access to the academic setting.

1. Administrative Efficiency

Administrators and some faculty members interpreted GAI as a mechanism that had the potential to simplify day-to-day work. It applied to the automation of grading on objective assessment, typical reports, academic records, and email communications or meeting notes (Olufemi et al., 2023). These functionalities were recognized to be useful in situations where personnel are overworked, underserved, and time aware.

Furthermore, a few administrators observed that GAI could facilitate decision-making and strategic planning, notably since it can rapidly process bulk data or project simulated future outcomes of administrative processes (Omeh et al., 2024). This may provide operational flexibility of higher education institutions assuming that it is used prudently.

2. Personalized Learning

Students were especially excited about the possibility of using GAI as a tool of individualized academic growth. Multiple people shared that such tools as ChatGPT, Grammarly, and Quillbot could give immediate feedback, diffuse complicated texts, and organize thoughts to put into an essay or a presentation (Opesemowo et al., 2024). These affordances ensure that students learn at their own pace, particularly in situations where lecturers were not available easily.

The availability of on-demand academic assistance was also cited by the students as one of the positive aspects of this service especially when preparing during examinations or when deadlines on assignments occur. GAI tools also served as online tutors to provide explanations or summary remarks to learning material being otherwise provided (Oyemolade et al., 2024). This was seen to be a great benefit amongst students who studied in classes that are large in number and personal attention given by lecturers tends to be a difficult occurrence.

Expanded Access to Educational Resources

Stakeholders liked the idea that GAI could make knowledge widely accessible by removing the limitations that have long existed 20whether it was linguistic, geographical, or economic. GAI systems might re-phrase technical content to make it more comprehensible and translate or summarize textbooks or scholarly articles, assisting students with reading difficulties or students without access to a hard copy of a text. The GAI was also recognized by lecturers to assist with content generation like to create quizzes generate brainstorming topics of the lectures, or even compose emails or announcements (Pan et al., 2024). These were also more valuable in situations where teachers are overworked with high instructional loads.

Perceived Risks

Although these were recognized benefits, there was a significant undercurrent of concern in all stakeholder groups. The issues focused around four major themes, which are algorithmic bias, academic dishonesty, over-reliance, and data privacy.

Algorithmic Bias and Misinformation

Some respondents who mostly included lecturers indicated that GAI tools did not always offer true, biased, or situationally irrelevant data. The fact that most GAI tools could not adapt to Nigerian curricula, differences in case law and social-political situations brought up concerns regarding their reliability in academic work (Pedersen, 2023). As an example, law students testified how they were provided with references to statutes which simply did not exist, and humanities students criticized the western-oriented content that overlooked local reality.

These constraints added to the feeling that despite GAI being a handy theory, it was not reliable on an epistemic level. This reduced trust-worthiness due to the inability to understand how the AI tool created responses and be able to verify its integrity.

Academic Dishonesty and Plagiarism

Lecturers showed fear that the presence of GAI tools would be used by students to avoid academic work. People had a mounting concern that students would turn in AI generated papers, would use plagiarism paraphrasing aids, or would use a chat-bot to respond to take-home exams. It was considered that this risk to academic integrity was especially acute because there were no institutional policies that indicated acceptable use of GAI (Polkinghorne, 1995). Lack of clarity on policy meant that sometimes students did not feel certain about whether employed AI tools represented a valid type of foundational support or a form of misconduct, which not only led to misuse but to mistrust as well.

Over-Reliance and Erosion of Critical Thinking

One apprehension that was shared by the lecturers and administrators was that GAI would lead to acquisition of an intellectual laziness. Respondents were afraid that students would become overdependent on the machine-generated production, which would decrease the participation of students in critical thinking, reading comprehension, and analytical writing (Potokri et al., 2013). Certain lecturers noted that they could also lose original thinking and voice in student work and noticed a possibility that GAI was being used as an alternative to academic work whose tasks demand authentic cognitive participation.

This hazard was concerning in subjects where the construction of arguments, creativity, and ability to reason simulatively were important, such attributes that GAI, in its current version, is not able to facilitate reliably. It was not just a matter of dishonesty but of shallowness of education and loss of student self-rule (Quaye, 2024).

Data Privacy and Institutional Risk

Administrators had real fears regarding the data privacy of utilizing AI tools, particularly the tools developed by foreign tech firms. Claiming to not be aware of where storage of student inputs was done, their use of data and what security measures were established, administrators would not risk the prospect of endorsing GAI institution-wide (Rawas, 2024). Others were concerned of a possible violation of the Nigeria Data Protection Act (NDPA) or university privacy policies.

The exposure of the institution to liability was also reflected. In case the usage of GAI by the student entailed misinformation, plagiarism, or other breaches, some institutions with unclear policies may experience reputational losses or even court trials (Reale et al., 2018). Such ambiguity helped lead to a more conservative, piecemeal approach to GAI adoption by administrators.

5.3.2 Discussion of Risk-Benefit Tensions

The implementation of generative artificial intelligence (GAI) in higher education in Nigeria throws up a major paradox where stakeholders acknowledge the practicality of GAI but are equally uncertain or lack confidence in its reliability, particularly when rolled-out with no regulation and institutional control (Reggi et al., 2021). This paradox highlights the conditional aspect of trust, which became one of the prevalent themes in all stakeholder groups. GAI trustworthiness is not fixed, but thoroughly negotiated, contingent, and that conditional upon a range of situational factors.

Conditional Trust: Navigating the Middle Ground

The possible usefulness of GAI tools to students (like ChatGPT, Grammarly, and others) was both immediate and concrete. These tools also received a lot of compliments, as participants credited them with the ability to rewrite, simplify difficult-to-grasp concepts, and ensure their assignments were reviewed within a reasonable timeframe. These characteristics were especially appreciated by those engaged in learning in resource-limited contexts, where opportunities to communicate with lecturers and get access to learning materials are scarce (Rossouw et al., 2023). Students valued the fact that GAI enabled them to study individually, learn their own pace, and were able to strengthen their academic performance by using self-guided assistance.

This appreciation however was mixed with doubt and trepidation. Possible punishment due to academic dishonesty suspicions appeared as a theme on several of the survey responses, frequently when there are no specific policies on what constitutes appropriate or forbidden use of AI. Some students confessed to practicing self-censorship in the application of GAI owing to doubt institutional disposition. The fear of puntorchment in case their work with AI facilities is found so expressed itself, even when there is no intent to deceive (Royer, 2024). And that is why it resulted in ineffective usage of GAI--it was used by students secretly and regularly, sometimes without guidance or feedback, with a possibility to never truly use its educational potential.

This is the paradox of conditional trust: students both perceived GAI as helpful but did not trust the context within which they were practicing it. They found themselves squeezed by both

the practical advantages of individualized learning and by the institutional dangers of being punished because of incorrect behavior. Such ambiguity in the boundaries of usage directly restricted the educational use of GAI.

Lecturers' Dilemma: Balancing Innovation and Academic Integrity

The risk-benefit dynamic was treated by lecturers in another, though not less cautious, way. The majority of lecturers were agreeing to the efficiencies GAI would introduce into particular academic tasks e.g. creating quiz questions, lesson plan sequence, or training students with automatic feedback. Others saw the potential in GAI to increase the teaching capacity, particularly in large classes, at which it is hard to provide individual attention.

This has been offset, nevertheless, by more fundamental anxieties about academic standards, intellectual integrity and the demoralization of intellectual accountability. Concerns aired by lecturers on a regular basis included fear of students cheating their way out of actual learning after producing an AI-written work without understanding or participating in the learning process (Rudolph et al., 2024). They wondered whether learning with the help of AI would lead to superficial competency which camouflages a lack of the actual conceptual knowledge.

The ill-equipped feeling in relation to AI- generated work was further changed by many lecturers who were ill-equipped to identify AI- generated work. In contrast to prior instances of plagiarism that might have been detected using software that matches text, or by the use of familiar material, GAI-generated text typically proves to be necessarily original, though timorously short in context, and hence hard to evaluate either on the merit of quality or in reliability of authenticity (Sadiq, 2024). This contributed to some feeling of being vulnerable among educators because they no longer felt that their conventional instrumentation of assuring academic integrity worked anymore.

Mistrust was not an issue of lecturers towards GAI as the instrument, but towards its uncontrolled, shady, and possibly subversive use against the academic setting. On the one hand, they might see its practical value, at least in administrative purposes or creating content, but they did not want it introduced into core academic evaluation without some clear guidelines and training, and some support pillars (Salmi, 2021).

Administrative Concerns: Institutional Risk and Policy Vacuum

Administrators were concerned about the risk-benefit tension in terms of governance and reputation. They were optimistic about the potential of GAI to simplify administrative tasks,

automate communications, and even assist in strategic planning based on the use of data analytics, but they expressed reservations in favor of wider adoption under the condition of clarity in policy and monitoring by a regulator.

Among the greatest issues expressed by administrators was being lacking in formal structures to facilitate GAI use in the university. Lacking institutional policies, they saw the potential dangers of uncontrolled AI practices in the form of plagiarism scandals, popular discontent, or even a breach of national data protection bills (Sauvola et al., 2024). To them, implementing GAI tools without provision of ethical and legal guidelines would be an encroachment to their reputations which universities would not afford to lose especially due to the global and competitive climate in the educational sector.

This worry represents an institutional nervousness of being under-prepared. The university officials recognized that when a student employed AI to produce the work and it was subsequently questioned as not being up to ethical and truthful standards, the university could be the one bearing liability as it did not offer the needed protections or educational paths (Selesi-Aina et al., 2024). Therefore, despite administrators recognizing the long-term reward of GAI, they hesitated to promote its use, absent of strong, university-enveloping policies, risk-assessments, and legal counsel.

The Trust Paradox: Simultaneous Belief and Doubt

The combination of insights provided by students, lecturers, and administrators demonstrates the trust paradox existing in GAI implementation. The stakeholders are both sure in the efficiency of GAI and its questionable ethical integrity. The lack of institutional control, uneven access to digital learning content, pedagogical imprecision and cultural confusion around the role of AI in knowledge creation are mutually reinforcing enablers of this paradox.

As an example, students were willing to test GAI to enhance their academic abilities, but their faith in the tool was damaged by the threat of school penalties. Lecturers recognized that it has enabled the potential to improve content presentation but feared it would undermine the standards of academia and critical thinking (Shittu et al., 2024). Its lack of regulation would be considered a liability by administrators, but its potential in administration was realized by them.

The mixture of hope and dread reflects that trust is neither a binary process, nor something conditional upon circumstance but a condition subject to change over time. Such trust in GAI, to be exact, cannot be detached to the setting where it is actually applied. Trust can develop where

there is a solid institutional support, clear policies, and informed users (Suleiman, 2024). In the absence of such conditions, the level of trust will probably be low and tenuous.

Implications of Conditional Trust

Conditional character of the trust has a significant bearing on university responses to the GAI implementation. Instead of expecting the stakeholders to start using the AI tools upon realizing their utility, institutions should provide an ecosystem that facilitates trust-building (Surahman et al., 2022). This includes:

- Creation of opaque policies that contain acceptable use and guard academic integrity.
- Educating lecturers and students on how to use AI ethically and detection methods.
- Provision of digital infrastructure with the capacity to provide reliable access to AI tools.
- Supporting an open discussion of the growth of knowledge production and academic evaluating in the age of AI.

Without these provisions, stakeholders might still interact with GAI on an ad hoc, underground, or unstable basis, further curbing its learning potential and augmenting the danger of abuse.

5.3.3 Theoretical Relevance

The paradox returned in the present study (stakeholders are realizing the utility of generative artificial intelligence (GAI) but are reluctant to trust or embrace it in its fullness) can be interpreted using Trust Theory, Technology Acceptance Model (TAM), and Sociotechnical Systems Theory (STS). These general theories can guide as to why perceptions of usefulness alone are not always unnecessary to trigger adoption, and why institutional and social forces, including policy clarity, cultural norms and ethical controls have critical roles to play in influencing the trust terrain of GAI.

Trust Theory: Differentiating Functional and Institutional Trust

The Theory of Trust by Mayer, Davis, and Schoorman (1995) holds that trust is established based on perceptions, in relation to ability, integrity, and benevolence. With reference to this paper, GAI tools are, to a large self-perceived scale; capable ability; they can create content, allow assistance in writing, summarize resources, and enhance learning. Technically or rather as it relates to functionalities, most users, especially students have placed their faith in the tool and expect it to work their way. This amounts to what we can describe as functional trust.

Nevertheless, trust in the systems and structures in which the use of the tool is governed, i.e., institutional trust, is either lacking or weak. Transparency was a point that stakeholders reiterated as an area of concern; lining in the methodological processes through which GAI tools produce, and in the ways in which it is interpreted and controlled in the academic context. Students did not know how the use of GAI would be accepted as either rightful or a misuse of academic integrity (Tang et al., 2024). It was also unclear among lecturers how they could identify AI in an assignment or the repercussions that would occur. Without palpable ethical specifics and checking systems, administrators were frightened of reputational damage.

Trust Theory explains that in the absence of transparency and consistency, features of ability (i.e., functional performance) do not alone generate full trust. This failure reaches especially such areas as integrity (alignment with ethical norms) and benevolence (perception of acting in the best interest of users). Users do not doubt that GAI has failed to work but that they cannot trust the environment it was implemented (Theodorio, 2025). In the absence of steady, ethical leadership, the trust required to achieve widespread and responsible use of GAI is divided.

Such theoretical framing can be used to explain the conditional aspect of trust revealed in the research: although the stakeholders recognize the task-specific value of GAI, its trust is only conditional or situational, and it would be frequently renegotiated with ethical issues, institutional gaps, as well as the alleged threat of punishment or exploitation.

Technology Acceptance Model (TAM): Usefulness, Ease of Use, and Risk Perception

Technology Acceptance Model (TAM) formulated by Davis was based on the notion that the two fundamental variables; perceived usefulness (PU) and perceived ease of use (PEOU) define whether or not the technology will be adopted by the user. In the GAI case, the results demonstrate a high rate in the perceptions of usefulness particularly among learners and certain lecturers (Uche, 2024). The stakeholders were able to observe clearly how GAI could better the efficiency of learning, offer personalised support and help with various administrative or pedagogical issues.

Nevertheless, TAM has advanced over the years to include moderating variables of the variable including perceived risk, social influence, and trust. In the study, it was evident that perceived risk trumped perceived usefulness. This was applicable through student conduct and no matter how aware the student was that the GAI tools would aid them to do their academic work better, many of them did not use or did not extensively use them lest they be labeled plagiarists or

face institutional repercussion (Udegbunam et al., 2023). Likewise, lecturers did not more comprehensively introduce GAI in their teaching due to a lack of clarity regarding evaluation quality and the doubts related to the ethical effects of its implementation.

It serves as an example of high PU and low behavioral intention discrepancy, which is mediated by TAM due to the effects of external factors, such as the lack of institutional support, ambiguous policies, and cultural values that discourage experimentation with AI in the given case. It is seen that these factors weaken the perceived ease of use (PEOU) as well, as demonstrated by TAM (Uriri et al., 2025). Lack of guidance, interface confusion, or irregular access because of poor infrastructure terrified students who could otherwise use GAI tools. This was an aspect that lecturers did not feel ready to carry out since he or she had not been trained or oriented on how to apply GAI in assessments.

In this way, TAM supports the conclusion that trust and its reciprocal, perceived risk are strong mediators in GAI adoption. Innovative tools, regardless of their advancement, will not be used to the fullest potential as long as they are perceived as somehow uncertain in terms of institutional commitment to them, restrictions to whether they can use the technology in responsible ways, etc. (Usman, 2025).

Sociotechnical Systems Theory (STS): Integration Failure and Institutional Readiness

Sociotechnical Systems Theory (STS) provides a wider perspective within which one may analyze the interaction between people, technology and institutional systems. STS positions are that the adoption of technology and trust cannot be disassociated with social structures, organizational processes and cultural dynamics within which technology functions (Wakil et al., 2024). Technical and social subsystems must be co-optimized to establish effective systems.

GAI in higher education in Nigeria represents a strong case of the failure of co-optimization. Whereas implementing the technical subsystem (GAI tools) has already been introduced, in many cases by individual students or faculties, the social subsystem (institutional frameworks, teaching cultures, digital literacy programs) has not received adequate development (Wakunuma et al., 2024).

An example of this might be that in universities there are no policies in place to outline how GAI may and/or should be used in teaching and learning. Explicit institutional guidelines to control algorithmic bias, guarantee information protection, or responsible AI involvement are nonexistent (Walczak et al., 2023). Also, due to the lack of proper professional development of

faculty regarding making AI tools match the pedagogical purpose, students do not receive formalized training on responsible use.

When technology and institutional preparedness are not matched, it produces friction, which erodes trust. STS is revealing in that it demonstrates that trust is realised only under conditions of alignment between systems, when technologies become functional, not only operational, but also connect into a favorable institutional environment (Wong, 2024). The lack of such an ecosystem contributes to fragmentation: certain stakeholders are tentative in their interaction with GAI unilaterally; others do not them at all; none is completely confident in its authenticity or trustworthiness.

STS also shows how technology interacts with cultural dynamics, like the hierarchical culture of the Nigerian academic world and fear of authority and ownership of knowledge. These are made up of the so-called social system and they have to be taken into account whenever a new technological device is to be integrated (Wordu, 2024). Unless GAI addresses these realities and responds to them, GAI will remain a perceived external and potentially agitating force, rather than a significant component of the academic workflow.

Synthesis of Theoretical Insights

Trust Theory, TAM, and STS provide a three-layered response address onto why the adoption of GAI within the Nigerian higher education community exhibits ambivalence, hesitance, and disjointed use:

Trust Theory makes it easier to understand that trust is not only a question of ability; it is also a question of institutional integrity and benevolence; both things absent in the environments that do not have transparent AI policy or ethical protections (Yakubu, 2024).

TAM demonstrates how both risk perceptions and institutional support that is lacking can hamper engagement and behavioral intention, even with a positive attitude on GAI being useful.

STS demonstrates that the incapacity to incorporate GAI within the larger organizational and pedagogical systems results in systematic distrust and unsuccessful realization (Yusuf, 2024).

All these theoretical frameworks concur on a single observation: trust is neither a by-product of performance of tools alone, it is an ecosystem condition. It should be nurtured by aligning technical ability, moral regulation, stakeholder learning, and institutional preparedness.

5.3.4 Literature Connection

The results of this work enrich a small but growing literature base on how generative artificial intelligence (GAI) is being implemented in schools and how such educational adoption is changing with the introduction of generative artificial intelligence algorithms. As opposed to the transformative potential and technical innovations of GAI, centered so much of the western scholarship, literature that has originated in the Global South highlights how GAI is mediated by socio-cultural, infrastructural, and ethical limitations (Abayomi et al., 2021). The present study leans heavily on the latter, claiming that unless implemented in a context-sensitive way, the positive promise of GAI can be outshone by mistrust, inequality, and undesirable harm.

Western Literature: Innovation, Utility, and Optimism

In Western academic works, the analysis of GAI is frequently presented as disruptive innovation that can transform teaching and learning and streamline administrative work. Researchers like Abdu et al. (2024) point out that GAI tools like ChatGPT can be used to make things more personalized, help learning and assistance to create better learning results, and assist education teachers in doing everyday tasks. In this literature, these concerns are more focused on functionality, user experience, educational success, with trust being defined by means of algorithmic transparency and user understanding.

In this regard, confidence in GAI is commonly implied to be attainable by:

- Better explain ability of models.
- The enhanced user training and digital literacy.
- Ethical development by developers and resource providers.
- Realization of compatibility with the learning management system.

Although these solutions are very useful, they are usually based on well-resourced, digitally mature contexts, and stable access to internet, equipment, and institutional support is assumed. Moreover, they tend to de-humanize the user by taking a generalized view of a learner and ignoring social identities, institutional hierarchies and local pedagogical traditions (Abubakar et al., 2024).

Conversely, the present research demonstrates that the issue of GAI trust goes beyond matters of technical competence in the context of Nigeria; it is more about whether one is appropriate contextually, culturally apt, and institutionally equipped. This difference is an aberration of a lot of optimism in western literature.

Global South Perspectives: Inequity, Coloniality, and Mistrust

Global Southern scholarship, such as studies by Adam et al. (2021) is more critical of GAI as applied to African educational systems, in particular. Such scholars contend that both development and practice of GAI typically have foundations in Western epistemologies with little consideration of local languages, knowledge systems, or infrastructural limitations. The result has been what has been called data colonialism, a process through which AI systems re-create and compound historic patterns of marginalization by favoring Western data, norms and views.

To the extent that this study complies with these critiques, it points to a few trust-destroying dynamics:

- Epistemic bias: GAI tools often offer Western-centered materials, do not cover Nigerian-specific curricula, policies, or cultural examples.
- Infrastructural exclusion: underserviced and rural institutions have spotty power and non-existent internet, and thus consistent AI usage is almost impossible.
- Cultural dissonance: The GAI systems values are in most cases opposed to the academic hierarchies and the pedagogical norms of Nigeria.
- Policy ambiguity: Due to the lack of AI governance systems, users are confused about how to use them; not to mention that they will be used randomly. More trust will be damaged.

These results support the literatures in the Global South demanding the local adaptation of AI tools, and participatory governance that puts student, lecturer and administration concerns at the center. It is a movement that asks us to co-develop AI (in ways that align with socio-cultural, ethical, and pedagogical principles of the communities towards which the AI tool will be implemented) instead of importing AI tools with minimal localization.

Trust as a Governance and Justice Issue

In Western literature, much of the scholarly work surrounding the subject of trust has addressed it as an individual level problem (supported by user experience or system trustworthiness). This paper will present trust not as an individual problem, but rather a problem of governance grounded in institutional responsibility. Students were not skeptical of GAI due to a lack of technical confidence in its capacity to condense the content or to provide writing tendencies; students were disrespectful of GAI owing to a lack of lucidity concerning its institutions, which could decipher what constituted acceptable or moral utilization. On the same note, lecturers did not oppose GAI on ignorance or technophobia grounds but based on their fear

of a lack of policies, detection tools, or academic safeguards, which would have caused a loss of academic integrity.

The perspective meshes with the effort of Adedoyin et al. (2024) who stipulate that system-wide accountability needs to be established rather than the trust in AI that might be achieved by refining algorithms. The concept of institutions, in this framework, is critical to mediate AI trust, such as through transparent policy-making, training programs, inclusive feedback and ethical review board.

Figuring significantly in the Nigerian case is that the important part of trust about what AI can do on its own, it concerns how it is enmeshed within a social system that determines what is legitimate, ethical, and valuable knowledge. In environments with a top-down approach to academic authority, and where knowledge is jealously guarded by lecturers, an outsourced system, particularly that which creates knowledge without human oversight, can be regarded with hostility unless the institution makes clear its formal legitimacy (Adeniyi et al., 2024). This shows the importance of trust governance mechanisms that are democratic, locally oriented, and were in line with the values of education.

Contribution to Literature: A Situated Model of Trust

This paper is relevant to the literature by providing a locally situated conceptualization of trust in GAI, a situated concept, which is contextually specific because it is set within the Nigerian case of higher education, but we can venture to say that it is also applied to other settings in the Global South. It implies that trust is a multi-dimensional concept, which is determined by:

- Performance (performance, relevancy, usability).
- Cultural resonance (respect to authority lines, epistemological resonance).
- Unique guidance
- Access to infrastructure (digital preparedness, power and connectivity).
- Participatory legitimacy (participation in government and tool adjustment).

In contrast to the Western models that tend to use these dimensions as background conditions or afterthoughts, the study accounts them at the hub of the trust formation. Its reasons that without such underpinnings, the most sophisticated GAI tools will never have much success in large scale implementation or offer substantive pedagogical returns.

Additionally, this research article finds that trust is both relational and contested. It cannot be reduced to a rational tradeoff of risks and benefits, but is socially constructed through politics of

power, institutional authority and the perceived validity of AI through the academic hierarchy. This brings additional depth to the body of knowledge, and serves to remind researchers and practitioners that trust cannot be simply made but rather developed through social interaction, policy-making, and cultural awareness.

5.3.5 Implications

The results of this research emphasise that the potential of generative artificial intelligence (GAI) to enhance personalization, management of higher education institutions, and increase access to learning resources will be achieved only with well-developed institutional protections. There is no way that trust in GAI is simply a function of its technical performance, but rather and an ethical, regulatory, and cultural frameworks within which is it is operated (Adeoye et al., 2023). As such, to facilitate the safe, effective, and equitable incorporation of GAI into Nigerian higher education, institutions will need to transition strongly towards formalized and policy-driven approaches of adoption or deployment strategies, as opposed to ad hoc and informal practices.

1. Establishing Robust Ethical Frameworks

Among the most pressing implications of the study, there is the necessity of understandable and applicable ethical principles to regulate the application of GAI tools in academia. Lack of these structures makes it unclear to students, lecturers, and administration, resulting in discontinuous practices and conditional trust (Adeyemi, 2024). Such ethical frameworks are to:

- Determine what is acceptable and not acceptable use of GAI in regard to learning, teaching, assessment and administration.
- Specify the skills concerning academic integrity: when and how GAI-created text should be referenced or cited.
- Offer procedural clarity of how the violations are to be detected, reviewed and addressed to offer fairness and transparency.

Ethical standards need to be localized in the local realities. International best practices are not enough; the institutions should involve stakeholders, especially students and lecturers, in co-constructing ethical standards that will conform to their Nigerian academic value, curricular requirements, and technological strength (Adhikari et al., 2023). Such an inclusive practice of ethics will make the participation more acceptable and, eventually, generate a culture of shared responsibility and trust.

2. Conducting Bias Audits and Ensuring Cultural Relevance

This paper has identified that there is a high probability that GAI tools generate the Western-centric document that is out of the culture or curricular applicability to Nigerian students. To this end, bias audits are recommended to be used in institutions, which is a methodical examination of the ability of AI tools to respond to local culture, language, history, and social life (Afolabi et al., 2024). These audits are to be held with the help of disciplinary specialists, local developers and tech partners, to find:

- The information or research gaps within Nigerian laws, literature, politics or educational systems.
- Prejudice or missing of African cultures and views in AI-generated visual images.
- The discrepancy between GAI responses, and the national curricula or the accreditation standards.

Based on the scenarios reported in these audits, there is a choice of either promoting the retraining or optimization of AI models trained on Nigerian data or making investments to develop local AI models on home-grown epistemologies. The bigger picture is that students and faculty will feel they are not foreigners in their own campus, thus helping develop trust in the tool and the institution that uses the tool.

3. Institutionalizing Transparent Data Governance

Data privacy issues particularly when it comes to the use of cloud-based GAI tools provided by foreign industries were of high concern among the administrators in this research. This increases the interest in open and institutional data governance mechanisms that can organize the procedures of storing, processing, and Pokemon guardian training of user inputs (Afuwoqi ett al., 2011).

Institutions of higher learning need to work out their policies in consonance to the Nigeria Data Protection Act (NDPA) and the international policies like the General Data Protection Regulation (GDPR). These policies are to:

Make clear the way in which student and staff data is gathered, utilized and shared.

- Require informed consent to use any AI platform that needs to input data.
- Block the use of platforms that do not perform at least minimum levels of security and privacy.

Moreover, institutions ought to appoint data protection officers or AI ethics committees to monitor performance and offer advice to the departments and the end user. Such monitors will provide confidence to the stakeholders that their activities on GAI are safe and legally acceptable.

4. Shifting from Informal to Institutionalized Use

The only major outcome of a research like that is that GAI adoption needs a formalized, university-wide method. Most GAI tool usage at present is informal, with no centralized policies or support to drive its use, triggered by individual students or lecturers. On the one hand, this grass-root implementation shows the interest and initiative, on the other, it worries more about the possible instances of misuse, inconsistency and institutional liability (Agbarakwe et al., 2024).

To make GAI institutional, the universities ought to:

- Include use of GAI in the academic policy and course syllabus with expectations and allowable tools stated explicitly.
- Offer systematic specialization and GAI use training to new students and faculty alike on ethical and effective GAI use.
- Create university cross-department libraries of curated AI tools that are subject to using in academic institutions with user documentation and example apps.
- Promote activities of cross-departmental cooperation to exchange best practices, challenges, and innovation regarding the integration of GAI.

Institutionalization should not be associated with rigid control, or a top-down approach; instead, it should also imply the establishment of a consistent and coordinated strategy regarding AI integration that is pro-active, inclusive, and fits into the university mission and value profile.

5. Promoting Ethical AI Literacy

The paper points to the importance of enhancing AI literacy on the basis of ethics and critical thinking. It is not enough to enable students to use GAI applications; students should learn how to challenge them, criticize them and make informed choices regarding their use. This involves more than technical training and must entail:

- Critically aware about abilities and limitations of AI, such as hallucinations, bias and overfitting.
- Exploration to ethical dilemmas, which include plagiarism, authorship, and dependency.
- A chance to examine the role of AI in knowledge production, academic identity, intellectual autonomy.

Lecturers, as well, will require further training to grasp the pedagogical implications of GAI, redevelop assessments that minimize the incentive to author AI, and exemplify ethical practice to the students (Ajala, 2024). By accompanying AI literacy with ethics and policy, this will be an effective means, not only of adoption but of trust building, to make every stakeholder feel comfortable, told, and respected as they encounter GAI.

5.4 Recommendations for Trustworthy Use of Generative AI

5.4.1 Summary of Recommendations

The results of this research show conclusively that the issue of promoting trust in generative artificial intelligence (GAI) in the Nigerian higher education context cannot be left to a simple, one-dimensional response. The stakeholders in every corner of the academic spectrum, left several expressing excitement and concerns alike towards the idea of GAI, indicating that the crucial aspect of its responsible integration depends on the institutional will, the culture of relevance, the clarity of regulations, and sustained engagement (Akpan, 2024). In order to have GAI as a transformative and trusted tool and not a disruptive or untrusted force, five pivotal recommendations are put forward:

1. Develop Institution-Wide AI Policies Informed by Ethical, Legal, and Cultural Standards

The immediate recommendation is introduction of institution-wide policies on the use of GAI. This has contributed to uncertainty, poor adherence to specific and finite instructions, and a chaotic practice (Akwara et al., 2023). It is important that universities should come up with formal policies that define:

- Reasonable use of GAI tools during the teaching, learning, research and administration processes.
- Ethical practices in citing, authoring and originality of AI created-content.
- Punishments of violation, such as the differentiation between the subject to accident and academic cheating.
- Securing the intellectual property and data rights of users as well as institutions.

Such policies should coincide with current legislation of the state, including the Nigeria Data Protection Act (NDPA), and take into consideration the best international practice, but not to disregard local realities. More importantly, policy drafting must be a joint practice representing all layers of the academic community including students, lecturers, IT support staff, library personnel as well as institutional management (Al-Emran et al., 2025). This makes it more acceptable and

provides more legitimacy to the idea that AI governance is not the role of the top, but something that needs to be done and shared among the people.

Additionally, the policies must be reviewed and updated on a regular basis to address the evolutions in technologies, user trends as well as the changes in the regulatory environments, such as the evolution of the National Artificial Intelligence Strategy in Nigeria.

2. Deliver Regular Training for Students, Faculty, and Administrators on Responsible GAI Use

The implementation of effective policies is only good as the policy. The only way to implement trust frameworks in everyday life is to provide regular and deep training to the various stakeholders involved by the institution, to suit their different needs. Such capacity-building programs must have:

- Principles of AI literacy training that clarifies how GAI functions, its powers and constraints, and the distinctions between it and other conventional digital tools.
- Ethical training lessons based on real-life scenarios of plagiarism, misinformation, algorithmic bias and implications of data privacy.
- Practical workshops on responsible use of using popular GAI tools with special attention to citation practices and critique.
- Scenario-based simulations to enable stakeholders to realize gray areas of AI use and institute policies to practice problems.

Training ought also to include pedagogical practices to integrate GAI into the curriculum design, formative assessment, and feedback strategies without sacrificing academic rigor by the lecturers. Meanwhile, administrators need to be trained on how to enforce the policies, manage the risks, and control ethical oversight (Al-Samarraie et al., 2024).

By making this training compulsory and staged (however, it should be observed during the student onboarding and staff training and onboarding), it will transform responsible AI as a habit and shape the culture of informed trust instead of complacency and blind consumption.

3. Establish Feedback Mechanisms to Monitor Tool Performance and Stakeholder Experience

The development and sustenance of trust in GAI is made through continuous monitoring, dialogue and correction of course. The institutions are advised to formulate effective feedback

loops that will allow users to make an account of concerns, share experiences, and participate in continuous appraisal of GAI systems.

This may comprise:

- Surveys aimed at measuring user satisfaction that should be conducted after every semester to gather information about the ways students and staff use GAI tools.
- AI user forums or communities of practice to which a lecturer, and students can share use-cases, express their concern, and collaboratively design solutions.
- Disclosure forms with no identification (anonymous reporting) of potential cases of unethical use or data privacy abuse.
- Faculty and student leaning advisory committees to evaluate tool effectiveness, curriculum integration and ethical conformity.

Notably, such feedback systems should be actionable and transparent. Institutions ought to report on ways feedback has been utilized, issues that have prompted adjustments in policies or adaptations in tools, and how to ensure that users have valuable input to decision-making. This collaborative strategy will increase stakeholder power, strengthen ethical sensitivity, and enrich trust.

4. Promote Localized Co-Design of GAI Tools to Ensure Cultural and Curricular Relevance

The disparity between Nigerian educational materials, practices, and cultural influences and the current GAI tools was a significant theme in this works. Most GAI systems cater to the needs of Western learners, and outputs are frequently intended to meet local syllabi, linguistic regionalisms, or social and political realities that are inaccurate (Alasadi et al., 2023). To address this, institutions ought to make investment on vernacular co-designing of GAI systems.

This involves:

- Working together with local AI coders and research institutions to construct or modify GAI systems that are taught on Nigerian data sets and aligned to national curricula.
- Attraction of academic departments and subject matter experts to design discipline-specific AI modules where it sees applications in the Nigerian contexts.
- The promotion of open-source innovation in a way where universities may edit or donate to the existing platforms based on how they can cater to the unique needs of their student bodies.

- Incorporation of local tongues, case studies and cultural allusion to make the AI-generated content more accessible and realistic.

The students should also be involved in co-design projects, especially those who study computer science, education, linguistics, and social sciences. Such a strategy, besides enhancing local technological capability, has another important benefit: It brings a stronger sense of ownership, relevance, and legitimacy, which are also important components of trust.

5. Align with Nigeria's National AI Strategy and Establish Institutional Oversight Bodies

To maintain consistency, compliance, and credibility, universities need to attune their AI governance frameworks to the emerging National AI Strategy in Nigeria, putting emphasis on inclusive innovation, data sovereignty, and responsible AI innovation (Ameh, 2024).

The operationalization of this alignment can be made by creation of:

- AI governance groups or working groups at the university level, who should lead implementation activities, consider ethical dilemmas, and refresh policy frameworks.
- Creating a Chief AI ethics officer or liaison in each academic department to carry out policy interpretation, training coordination, and ethical decision-making.
- Collaborations with government agencies, industry players, and international bodies to exchange industry best practices as well as collaborate in the development of resources and influence regulatory standards.

Grounding AI oversight in the institutional governance structure means that universities will establish a solid framework within which trust can be built in the long-term, based on a clear commitment to responsible use of AI.

5.4.2 Theoretical and Practical Implications

The suggested guidelines to increase the dependable application of generative artificial intelligence (GAI) in Nigerian higher education not only concern down-to-earth deliberations but also posit a solid compliance by the suggested ideas with the theories on the matter. Each of the Sociotechnical Systems Theory (STS), Theory of Trust and The Technology Acceptance Model (TAM) offer fundamental reasons as to why these interventions are necessary and how they can be instrumental towards sustainable adoption and ethical interaction with GAI technologies (Arueyingho et al., 2025). This part discusses the implications of these theories on the recommendations and their implications on a larger role on academic governance, user experience, and institutional transformation.

Sociotechnical Systems Theory: Co-Optimizing the Human and Technical

It may be noted that Sociotechnical Systems Theory (STS) argues that technical systems (e.g. software tools, platforms, and algorithms) require co-optimization with social systems (e.g. users, institutions, cultural norms, educational practices). STS claims that lack of harmony of these subsystems will usually result in ineffectual or defiant integration of technology (Azıonya et al., 2021).

This principle is well reflected in the recommendations in Section 5.4.1 as it requires to call upon;

- Policies that may be institution-wide and that institutionalize GAI by providing ethical boundary points.
- Education and training of human actors (students, faculty, administrators, etc.) to confidently and competently deal with AI.
- Tool co-design at the local level that takes cognizance of local pedagogical realities, linguistic and cultural realities of the Nigerian learners and educators.

The factors point to a strategic consideration of maintaining a balance between innovation and institutional capacity and user preparedness. As an illustration, AI tools co-designed against Nigerian curricula, as opposed to fundamentally different (technically optimized) yet also more expensive, not to mention alien, tools, not only performs better (technical optimization) but also increases relevance and buy-in (social optimization) (Balalle et al., 2025). Likewise, the establishment of AI governance committees also incorporates human regulation in technical systems, reifying STS focus on collective system building and the process of ongoing feedback.

Besides, recommended feedback mechanisms which include student surveys, AI advisory forums, and anonymous reporting channels are adaptive structures to enable the technical subsystem to adapt to social feedback. STS believes that successful alignment of the system results in trust which is a by-product (Bali et al., 2024). This combination of governance, training, infrastructure, and cultural contextualizing thus plays a direct role in co-evolving trust in the wider education environment.

Trust Theory: Embedding Integrity, Benevolence, and Ability

According to the Trust Theory model presented by Mayer, Davis, and Schoorman (1995), there are three dimensions of trustworthiness: ability, integrity, and benevolence. The dimensions assist in the determination of stakeholders as to whether they should trust somebody, an institution or a system. The suggestions of this article are quite aligned with all three elements.

1. Ability This dimension can be described as the perceived competence of the system. The process of training, AI literacy workshops, policy clarification are all aimed at enhancing the perceived competency of both users and AI systems themselves. As soon as the users learn how GAI works and observe it in action and its effective use in teaching and administration, they come to the conclusion that their grade of competence increases (Bobula, 2024).

2. Integrity -Line with values, fairness, and honesty. It is possible to institutionalize integrity by establishing ethical frameworks, institutional policies and transparent governance systems to assure the stakeholders that honesty and integrity will govern the application of AI (Chang et al., 2023). An example would be where the university has a solid policy of acceptable use of AI and it is reasonable applied; here trust to such a priority through institutional processes and AI tools would be enhanced.

3. Benevolence- This is the image of the institution or system working in the best interests of the user. Benevolent practice: Co-design, inclusive feedback loops and local content development are good examples of benevolent practice- they show that institutions are not simply using AI to improve efficiency or power, but to facilitate and enable learning, safeguard academic integrity and cultural values (Cheng et al., 2022).

Embarking on a transformation of the GAI governance by integrating these dimensions of trust establishes perceptible, experience-founded systems that stakeholders can use to assess whether there are enough merits to trusting the system. This shifts trust to being active institutional commitment.

Additionally, the development of control mechanisms including AI ethics committees makes trust sustainable and resilient. Institutions convey a longer-term commitment to developing and sustaining trust by responding to new issues as and when they emerge, making appropriate adjustments in policies, and facing the emerging changes in cultural or technological processes.

Technology Acceptance Model (TAM): Supporting Adoption Through Usefulness and Usability

In the Technology Acceptance Model (TAM), the two major determinants of technology adoption are perceived usefulness (PU) and perceived ease of use (PEOU). A technology easier to perform (PEOU), and users consider that a technology will be useful in addition to promoting efficient execution of tasks (PU), the more likely they use a technology (Chukwuere et al., 2024).

Any of the recommendations of the current study has a part to play in improving either of these perceptions.

Structured training will enhance PEOU since users are conversant with platforms and AI is less intimidating and has a lower degree of uncertainty.

Compared to AI tools that are not localized, localized AI tools can boost PU by providing contextual content that is coherent with academic needs of the users.

Ease of use is maintained through institutional support mechanisms such as help desks, forums and policies which invoke clarity and support in solving problems.

By enhancing user confidence and probability of long-term interaction, ethical policies and cultural compatibility limit the perceived risk that impacts significantly on how users feel about PU and PEOU.

In addition, TAM pays attention to the fact that behavioral intention is determined not only by the cognition of an individual but also by social influence and preconditions. Structuring of AI governance with institutionalized structures of governing, training of the AI and ethics, is a constructive environment which is a positive indication to the users that GAI is not merely tolerable but welcome to practice as long as they do it subjectively (Chukwuere et al., 2024). This will diminish confusion, make the use of AI more legitimate and enable its long-term use.

TAM also offers a good method to assess the long-term success of these recommendations. Institutions can apply PU and PEOU in their feedback systems, to gauge whether the users are receiving value through AI and find it usable (Dabis et al., 2024). This has the potential to inform the sequential development of training, choice of tools and refinement of policies.

Implications for Institutional Strategy and Educational Transformation

These theoretical frameworks underscore the fact that the uptake of GAI is not an upgrade in terms of technology, but an institutional transformation. The institutions need to transform their governing principles, educational paradigms and support systems to embrace emerging technologies adequately.

It is not about GAI alone:

- They demand a more general transition to digital ethics in education, in which the new means will be analysed not just in terms of efficiency but also in terms of fairness, equity and epistemic justice.

- They promote adaptive and responsive leadership in higher education that is sensitive to the changes in technologies but also relies on institutional mission and social values.
- They are indicators of cross-disciplinary partnership, where teachers, technologists, ethicists, and policymakers would co-design the future of education.

The present study builds on the foundations of STS, Trust Theory, and TAM in order to provide the recommendations within a rich conceptual background that depicts that trust in GAI is not a passive adoption construct but an active and multi-faceted development process: once established, the trust needs sustaining and ongoing negotiation to exist.

5.5 Summary of Chapter

In this chapter, the key results of the investigation have been addressed with regard to the research aims and theoretical perspectives. It disclosed that the concept of trustworthiness in GAI in the context of higher education in Nigeria is defined by numerous crossing elements such as technical, pedagogical, infrastructural and cultural. The reason why the interpretations of trust (students, lecturers, administrators) differ is the difference in needs, risks, and expectations. The results highlight the requirement of context-sensitive, policy-driven, as well as ethically sufficient practices to AI adoption. Finally, developing trust with GAI in Nigerian universities requires more than technological preparation, but also social preparation, institutional assistance and participatory governance.

Chapter 6: Conclusion and Recommendations

6.0 Introduction

This last chapter gives a summary of the research which examines the credibility of generative artificial intelligence (GAI) through the lens of key players in the higher education sector in Nigeria. It summarizes the key results of the study and assesses to what degree the objectives of the research have been fulfilled. The chapter is divided into four basic parts: overview of the research outcomes, study implications, and practical suggestions, as well as final thoughts about the general contribution and weaknesses of the research.

6.1 Summary of the Research Findings

6.1.1 Recapitulation of Research Aim and Objectives

The aim of this study was to investigate sensemaking of trustworthiness and its operationalization in the instance of generative artificial intelligence (GAI) in the Nigerian higher education context. The fundamental objective was to understand the perceptions, issues, and expectations of major stakeholders (students, lecturers, and administrators) towards ethical, functional, and contextual reliability of GAI tools in teaching, learning, and institutional governance.

To do this, four particular objectives directed the research:

1. To explore the perceptions of major stakeholders on the concept of trustworthiness concerning GAI.

2. To determine the contextual issues technological, infrastructural, pedagogical and cultural, that will result in trust/distrust by stakeholders to GAI.

3. To determine the perceived risk and benefits of GAI in academic processes.

4. To offer the effective recommendations on the promotion of trusted and ethical application of GAI instruments in Nigeria higher education.

By employing a qualitative methodology (interviewing of stakeholders) as well as statistical (survey), this study provides a multidimensional but empirical picture of GAI trust along the lines specific to the sociocultural and institutional peculiarities of Nigeria.

6.1.2 Objective One: Understanding of Trustworthiness

The research findings demonstrated the stakeholders view trustworthiness of GAI as a multidimensional situated concept, as opposed to a single technical quality. The four dimensions

used to frame trustworthiness widely were accuracy, ethicality, transparency, and cultural relevance.

Students also associated trust with usability, content accuracy and the contextual help that the system can offer, especially, tools such as paraphrasing, summarization, and grammar correction. Nevertheless, students perceived that they might experience pitfalls somehow because of the misinformation, excessive dependency, or possibility of plagiarism, particularly with no support of instructors or policy systems (Damiano et al., 2024).

Trust was mainly regarded by lecturers in terms of academic integrity and pedagogical alignment. Their reservations revolved around how the tool is abetting unethical activities, promoting a lack of critical thinking and circumventing conventional scholarly standards (Daniel et al., 2025). In this case, trustworthiness relied not just on what the AI generated but how it did so in relation to well-known pedagogical values.

Trust, from the point of view of administrators, was formulated in descriptions of data safety, risk management within a given institution, and conformance with administrative norms. Their interest concerned what GAI usage would mean to the university brand, student data protection, and the prospect of liability when AI use is unethical.

In general, this goal has shown that trust is conditional to the role of stakeholders and is influenced by the institutional and user objectives and the perceptions of weaknesses. Trust can be seen as a complex phenomenon that points to the importance of varying approaches toward AI integration, an approach that would acknowledge and accommodate these priorities on the side of stakeholders.

6.1.3 Objective Two: Contextual Influences

The study showed that contextual factors, namely infrastructural constraints, processes of teaching and learning, and cultural values in the higher education system of Nigeria have significant effects on trust in GAI.

Technological readiness stood out as one of the determinants. Experimentation with the GAI tools was more open among institutions in urban areas where electricity and internet connectivity are relatively reliable. Conversely, the rural, under-resourced institutions experienced extreme levels of infrastructural limitations, reducing access and trust to the use of AI tools (Dansarki et al., 2025)**.**

Pedagogically, most lecturers were taught content extensive and lecture-type models that promote memorization and the top-down dissemination of knowledge. This practice simultaneously clashes with the style of interactive and explorative learning that GAI employs, which explains why there frequently surface resistance or minimal adoption of AI in the course work (Dogru et al., 2024)**.** This disconnect was further aggravated by the lack of pedagogical retraining, which led to lecturer suspicion and restricted students' participation.

Attitude towards GAI was also culturally conditioned by the hierarchical structure of academic institutions in Nigeria where lecturers are a key source of knowledge. Students were afraid of academic punishment as they had to use AI-generated works that strayed off what was discussed in the classroom (Essien et al., 2024)**.** The lecturers, on the other hand, were experiencing a threat to their intellectual power by an instrument of their absolute indifference and distrust.

These results support the argument that GAI cannot be decontextualized and trust cannot be understood outside of the larger systems of society and institutions in which it remains embedded. Reliance cannot be helter-skelter reasoned as purposefully functional-it is a matter of fit, conformity, and legality in current educational environments.

6.1.4 Objective Three: Risks and Benefits

The stakeholders had a high level of sensitivity to both the opportunities and dangers of GAI. One of the most cited benefits included:

- Automation of routine tasks through increased administrative efficiency.
- Individualization of learning possibilities to the students particularly when it comes to writing, research and revising.
- Increased access to academic content, especially to struggling learners basing on comprehension or lack of access to learning support.
- These gains were however viewed as being contingent and were seriously conditioned upon the existence of institutional checks. Risks included:
- The problem of academic dishonesty, the students may claim to be a writer of an AI generated work.
- Privacy of data, particularly cases of GAI tools gathering sensitive data on students without a reasonable consent.
- The Algorithmic bias which led to culturally futile or even false information damaging the educational integrity.

But possibly the most important learning point brought about by this goal was the concept of conditional trust. Stakeholders showed a readiness to utilize GAI, however, not outside of set institutional frames and with proper ethics regulation. Without these conditions, risks were considered to be more significant than benefits.

This is a reminder of the significance of institutional mediation. GAI can neither be completely reliable nor unreliable, but it can be done or not done in an appropriate context, depending on its implementation, regulation and contextualization in the environment in which people are obtaining knowledge.

6.1.5 Objective Four: Recommendations

These findings led to several practical recommendations aimed at facilitating the reliable implementation of GAI in Nigerian universities that were proposed by the study. These include:

1. The creation of institutional-wide AI policies that are inclusive and based on ethical, legal, and cultural standards to represent coherency and transparency across departments and campuses.

2. Holistic education of students, lecturers, and administrators that would raise awareness of AI literacy issues, explain the scope of ethical considerations, and foster ethical use.

3. Use of feedback mechanisms to continuously monitor the performance of GAI tools with the aim of finding the unexpected impacts and resolving the policy accordingly.

4. Precise co-design of AI systems that will echo the curricula and language patterns of Nigeria, as well as social and cultural values, thereby enhancing the relevance and trust of their users.

5. Creation of regulatory frameworks, such as AI ethics committees or institutional liaisons, to coordinate AI usage with national and institutional governance practice.

The above recommendations all attempt to codify trust by solving both the technical and social aspects of AI integration. They promote the transition between the unstructured, decentralized use to a systematic, participatory, and contextual system of AI governance.

6.2 Theoretical and Practical Implications

6.2.1 Theoretical Implications

The contribution to the theoretical concepts of trust and technology adoption that this study is making is that it has incorporated three key frameworks that are widely used in the theory of trust and the incorporation of technology into the adoption of technology, which include, but are

not limited to, the Trust Theory, the Technology Acceptance Model (TAM), and the Sociotechnical Systems Theory (STS) into the contextual theme of the realm of generative artificial intelligence (GAI) adoption in the education systems of the Global South education systems. With it, it transcends more generic versions of technological adoption, providing a localized and socially relevant description of how trust in AI is developed, endorsed or broken.

Among the more prominent theoretical contributions of the paper, one must note that the belief in GAI is contextual in nature and conditioned by cultural expectations, institutional frameworks, and infrastructural conditions. Conventional understanding of Trust Theory, based on notions of competence, honesty and goodwill, are validated here but necessitate rebalancing. As an example, although GAI tools can exhibit technical skill, it becomes hard to find trust in the face of cultural mismatch, the inability to clarify policy, or tensions of the pedagogical approach. That is, capability is not enough; users also must perceive the system to fit their values (integrity) and meet their interests (benevolence) at local institutional settings.

The proposed study is also an extrapolation of the Technology Acceptance Model (TAM) because it demonstrates that perceptions of usefulness and ease of use cannot be adequate determinants of technological adoption within environments where there is no institutionally established trust, regulations, and cultural definers. The use of GAI was conditional, reluctant or unnoticed due to reluctance, doubt about academic dishonesty, institutional policies on GAI were not clearly identified, or users feared that GAI might incur reputational loss to them. This is an indication that trust should be regarded as an important moderating factor in TAM more so in a school-going arrangement where control of reputation and ethical parameters is strictly enforced or guarded.

Moreover, the study offers a more subtle usage of the Sociotechnical Systems Theory (STS) through high-lighting the need of having the sociotechnical alignment to facilitate meaningful AI integration. STS presents the idea that technology is not the vacuum- it should thus be balanced with the social systems within which it is integrated. It was shown that trust in AI was low when institutions were not ready or prepared to use GAI tools and devices, such as the insufficient policies, digital infrastructure, or training in pedagogical strategies.

STS also favors the suggestion that participatory design is vital in trust-building. Ignoring the involvement of stakeholders in the development or adaptation of AI instead created opposition or participation in study institutions inadvertently. This supports the hypothetical statement that

co-creation, as a modus operandi, is not merely an accent in design but a necessity in sustainable and trusted technological ecosystem.

Besides, the research helps to close the digital and epistemic divide in AI publications. The current body of research and theory in the GAI and educational technology has a Global North basis and presumes stable infrastructure, consistent digital literacy, and pedagogical receptivity to AI. In comparison, the present paper will present an additional Global South perspective based on Nigerian higher education whereby available resources, colonial education, and power relations of culture all play an instrumental role in shaping AI as a thought and a trusted one, as well.

The theoretical contribution of research to be made through this synthesis is to highlight the fact that trust is not generalized but localized. Neither system transparency nor user familiarity, but rather cultural alignment, institution endorsement and infrastructural preparedness is the question. These results contribute to the refinement of the three fundamental theories applied and provoke the scholars to think about geographically-based variations in implementation.

6.2.2 Practical Implications

The knowledge produced to the research have significant practical implications to three key audiences, institutional policymakers, educators, and AI developers. Both groups are critical to the development of the circumstances under which GAI can be believed in, ethically implemented, and effectively incorporated in the learning environment.

For Institutional Policymakers

Colleges and universities should use initiative to develop and set up strategic models of GAI incorporation based upon the localized pedagogical and infrastructural realities.

On the one hand, institutions must not make the mistake of informal or unregulated adoption. As the research demonstrated, the scattered or concealed GAI use encourages distrust and ethically amplifies dangers. As an alternative, GAI deployment should be considered an institutional change promoted with the help of participatory policy making, ethical principles, and uniform supervision.

Second, it should focus on faculty development. GAI was met with skeptical reactions by many lecturers because of a lack of familiarity and the perceived effects on academic integrity. Thus, training cannot be conditional or formal, but needs to be procedurally integrated into the systemic changes in the curriculum and subsidized by innovative pedagogy grants, seminars and

rewards. This will give educators the ability to experiment in a responsible way, incorporate AI sensibly and educate students ethically.

Third, institutions need to invest in AI literacy programs with students, not only to effectively apply GAI tools but to critique, learn their limits, and work ethically with them.

For AI Developers

GAI tool developers are now required to move on beyond the production of general, globally oriented platforms towards the development of context-sensitive, flexible AI programs. The case study demonstrated clearly that the Nigerian students and faculty had no trust in the outputs that were not culturally relevant or ignored the local academic standards. Therefore:
Cultural sensitivity should be ingrained within the development process including the capability to localise outputs to local contexts, language norms, and syllabi.

Tools must have transparency: features like the trail of citations tracked, summaries of sources or confidence scores give users the ability to critique and evaluate AI work.

Developers ought to introduce adaptive learning facilities, so that the AI systems are able to adapt to the user input and customize their actions throughout the years to different institutions or academic cultures.

Importantly, programmers ought to pursue collaborations with the universities in Nigeria so that they can come up with locally adapted instruments or just co-develop tools. This type of participation will not only enhance trust and adoption it will facilitate inclusive AI development which can be done in a way that is aligned to the local epistemologies and education aims.

For Policymakers and Regulators

The study lends itself to the idea that national policy responses should embrace AI policy frameworks, with certain provisions focusing on education. Nigeria-specific National Artificial Intelligence Strategy needs to be more than industry and security use, to face the realities of under-resourced academic landscapes, both:

- Recommendations on ethical implementation of AI in instruction, learning and evaluation.
- Development of digital infrastructure to achieve equal access.
- Promotion of innovative activities relating to public-private-academic partnerships.
- Investment into local research and development of AI and AI tooling, especially on the university level.

Regulatory authorities must also liaise with universities in developing standards that can be used to accredit and ensure the use of tools in the education sector exceed baseline requirements of security, transparency, cultural resonance, and ethical implementation.

6.3 Recommendations

Such integration of generative artificial intelligence (GAI) in the Nigerian higher education ecosystem requires concerted efforts at policy, pedagogical, infrastructure, and stakeholders' levels to be achieved successfully and through trustworthy means. Based on the results and theory behind this research, the following extensive suggestions are offered to inform institutions, developers, and policymakers how to adopt ethical, contextualized, and sustainable GAI adoption. These suggestions are grouped into five thematic zones to facilitate ease and purposeful adoption.

6.3.1 Institutional Policies and Governance

The most fundamental part in inculcating trust in GAI is to have in place non-arbitrary institutional policies, which are in turn transparent, inclusive, and enforceable. In the absence of the governance structures, even the most sophisticated AI tools will be viewed with doubt and will be misused.

Form AI governance boards in universities: such a board should accommodate members of academic, legal, ICT, and student constituencies. They would be involved in ensuring ethical implementation, reviewing of emerging risks, resolving dilemmas, and communicating with national regulatory authorities. The boards can also lead the fight on AI awareness in institutions as a central point of dialogue and accountability.

Establish university-level policies regarding the use of GAI: These policies should clearly outline the acceptable and unacceptable use of GAI in coursework, assessment, teaching and administration. Policies need to make things clear (e.g., what students can or cannot do, what support staff are expected to provide, and the repercussions of breaking rules). These should be publicly available and be incorporated in handbooks, course reviews, and online platforms.

Bring institutional policies into the line of national and international specifications: Nigerian Universities are to ensure the alignment with the Nigeria Data Protection Regulation (NDPR) and expect to adapt to the National Artificial Intelligence Strategy. Also, to build on an internationally accepted standard of fairness, transparency, and accountability, it would be helpful to refer to the global standards like the OECD AI Principles.

Good governance does not merely guarantee compliance, it gives a form of institutional legitimacy to the GAI use- changing unstructured, unofficial practices to official systems facilitating trust building.

6.3.2 Capacity Building and Digital Literacy

Ethical and efficacious implementation of GAI tools cannot be accomplished without giving all stakeholders; students, lecturers and administrators, the knowledge, skills, and responsible awareness to interact with AI responsibly.

Provide customized training to staffs and students: This can be on ethical application of AI, risks of over-dependence, plagiarism, data privacy and treating AI-driven output as biased or misleading. This kind of training needs to be part of academic schedules and personnel improvement.

Include AI literacy in general education and teacher training: The principles of AI, such as how generative systems function, where they break, and how to analyze the results with discretion, should be addressed to all students, no matter the field of study. Teacher preparation programs, especially, should make sure that future educators know how to use AI in pedagogy without sacrificing academic standards.

Promote interdisciplinary cooperation: The cooperation between ICT and educational, communication, and law departments should be encouraged and result in co-developed training modules on AI that involve technical knowledge and incorporate pedagogical ethics and legal aspects. This cross-functional solution aids global AI literacy that reflects the dynamic over-world of GAI applications.

Capacity building makes sure that the trust is not assumed but constructed in an informed process of involvement, ethical reflection, and critical enquiry.

6.3.3 Participatory AI Design and Local Relevance

The AI-users recognize themselves in the technology, its language, content, behavior, and value system, trust substantially increases. Hence, developers and institutions need to integrate participatory and culturally responsive design in GAI systems.

Get students, lecturers, and administrators involved in AI tool development: Universities can engage developers in setting up participatory labs or design sprints, where the stakeholders can give feedback, propose features, and test beta versions of AI tools. This nurture the spirit of ownership, transparency, and co-creation.

Culturally and curricular relevance in AI tools: The developers need to collaborate with Nigerian subject experts to make sure that tools are able to refer to national curricula, local, case studies, indigenous languages and contextually relevant examples. This will prevent the use of foreign or useless data and guarantee that AI outputs will be reliable and pedagogically sound.

Localized GAI systems were piloted across diverse institutional contexts: To reflect the diversity in education in Nigeria, localized GAI systems ought to be tried in urban and rural settings, in public and private settings, in research-oriented and teaching-oriented institutions. The pilots need iterative feedback that will inform broader implementation and make sure that approaches to building trust are specific to contexts and can be scaled.

Participatory design involves institutions certifying that AI is not a foreign imposition but a local rooted educational partner.

6.3.4 Infrastructure and Resource Allocation

The most solid policy or culturally aware AI system will fall flat without the necessary infrastructure and resources to promote equal access and continued use.

Put emphasis on digital infrastructure investment: Universities are required to increase access to broadband internet, power backup networks, digital libraries, and learning platforms powered by AI. The infrastructure must be proportionally available in both departments and campuses to avoid inequality in access to GAI.

Form joint enterprises with the market: Partnerships with telecommunication firms, edtech firms and other charitable foundations may help finance and implement infrastructure, particularly in low-end universities. These collaborations may involve subsidized internet access to students, resource hubs, and collaborative innovation labs.

Marginalized populations should be made accessible: GAI access should consider this to involve students with disabilities, non-English, and rural students. Institutions should embrace the concept of inclusive design and provide off-line or low-bandwidth AI applications when accessible.

Upgrade of infrastructure is not only technical solution, but a moral decision that will make sure that AI does not become one more factor of digital inequality.

6.3.5 Monitoring, Evaluation, and Feedback

It will be necessary to conduct constant assessments and dynamic management to maintain trust in GAI. The institutions need to develop dynamic framework to monitor usage, emerging risks and ensure feedback is incorporated in future developments cycles.

Build institutional analytic systems and dashboards: They must monitor with regard to how often AI is used, how accurate the results are, the demography of access, and adhering to ethical standards. Data visualization instruments may assist administrators in making evidence-based decisions and modify support systems.

Perform regular ethical checks: These ought's to be performed by internal ethics committees, or external collaborators to examine the conduct of algorithms, alarm bias, and guarantee data secrecy rules are being displayed. Audit outcomes are to be presented publicly so as to achieve transparency and accountability.

Introduce user-controlled feedback channels: They might be anonymous polls, free-response commenting systems, peer review discussion boards, and real-time reporting on artificial intelligence platforms. The feedback needs to be performed and incorporated into the policy review, training, or system redesigns.

Feedback and monitoring can turn institutions into learning organizations, able to change with technological and social change.

6.4 Concluding Reflections

This study provides a well-needed and opportune contribution to the international debate on trusted AI that places the voices of African stakeholders and contextual realities within focus. With the world speeding into the digitization era, educational institutions in developing nations such as Nigeria cannot afford to be mere consumers of imported technologies. They should rather co-design, customize and provide control to AI systems, in a manner that responds to their values, limitations, and teaching orientations.

Although the study confirms the prospects of GAI in improving learning and efficiency within the institutions, it also highlights the important clashes within the ethical, accessibility and cultural compatibility. The prospects of GAI in Nigerian tertiary institutions are not rooted to technological innovations alone but inclusive, transparent and contextually sensitive practices. This doctorate offers a prospective study on the influence of AI over time, across institutional benchmarks, and the learning achievements in an AI-based academic setting.

The development of trust towards generative AI in the Nigerian universities is not a technical task, it is a complex social process. Through specific policies, participatory work, and ethical vision, Nigerian higher education can embark on the course of an innovative and fair future aided by AI.

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