Ethical Concerns and Institutional Policy Responses to Artificial Intelligence (AI) in Higher Education Across Sub-Saharan Africa

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Abstract

Artificial intelligence (AI) is rapidly transforming higher education, yet its ethical implications and governance structures remain unevenly developed in Sub-Saharan Africa. This study investigates emerging ethical concerns related to AI use—specifically academic integrity, data privacy, fairness, institutional accountability, and human oversight—and examines how these issues intersect with weak or absent institutional policies. The study pursued three objectives to: identify the predominant ethical concerns surrounding AI use in higher education, assess the existence and adequacy of institutional AI policies, and determine priority areas for ethical, inclusive, and sustainable AI governance. A descriptive, cross-sectional survey of N = 374 faculty and students across public, private, and technical institutions was conducted. Quantitative analyses measured ethical awareness, perceived risks, and policy readiness, while qualitative thematic analysis identified key ethical and policy domains. Findings show strong concern about plagiarism, data privacy violations, and algorithmic bias, yet fewer than one-third of respondents reported having clear institutional AI policies. Five ethical domains and five policy priorities emerged, revealing a widening gap between ethical awareness and governance preparedness. Interpreted through Diffusion of Innovation theory, Deontological Ethics, and Virtue Ethics, the results indicate early moral awareness but delayed institutional response. Sustainable AI integration will therefore require universities to strengthen ethical governance so that AI enhances, rather than undermines, educational integrity, fairness, and accountability.

Keywords: AI Ethics, Higher Education, Sub-Saharan Africa, Academic Integrity, Data Privacy, Policy Frameworks, Diffusion of Innovation, Deontological Ethics, Virtue Ethics

Introduction

Artificial intelligence (AI) is reshaping the landscape of higher education through its capacity to automate writing, support research, personalize learning, and augment assessment design. Tools such as ChatGPT, Grammarly, and Microsoft Copilot have become integral to academic workflows, influencing both faculty practice and student learning behaviors (Soko, Pete & Mureithi, 2025). However, their rapid diffusion has outpaced the formulation of ethical and policy safeguards, especially in resource-constrained contexts. In Sub-Saharan Africa, higher education institutions face a dual challenge: embracing innovation while safeguarding academic integrity, privacy, and fairness.

The global discourse on AI in education increasingly highlights moral and governance dilemmas. Scholars and organizations such as UNESCO (2023), OECD (2023), and the African Union (2024) emphasize that technological advancement must remain anchored in human values, transparency, and accountability. Yet empirical evidence from African institutions remains sparse, leaving questions about how ethical principles are understood, practiced, and regulated. Faculty and students often navigate AI use in the absence of formal guidelines, relying on individual judgment rather than institutional ethics codes.

This study explores these gaps through a regional lens. It analyzes the ethical perceptions and policies of 374 respondents from higher education institutions across Sub-Saharan Africa. Quantitative findings reveal widespread concern over plagiarism, bias, and privacy violations, while qualitative data identify five interlinked ethical and policy domains. Together, they depict an academic environment that recognizes ethical risk but lacks coherent governance mechanisms to address it.

Theoretically, this study employs a blended framework. First,Rogers' Diffusion of Innovation (DOI) theory explains how awareness of ethical AI practices spreads among educators and learners at varying rates, shaping patterns of early and late adoption. Second, Deontological Ethics grounds this diffusion in moral duty, the obligation to act ethically regardless of convenience or outcomes—thereby framing integrity, honesty, and human oversight as categorical imperatives.

Third, Virtue Ethics emphasizes moral character and prudence, interpreting responsible AI use as a manifestation of intellectual and ethical maturity cultivated through education. This integrated framework allows the study to interpret AI ethics not merely as a regulatory necessity but as an evolving moral culture within higher education. Accordingly, the study pursues three key objectives: (a) To examine the predominant ethical concerns surrounding AI use in Sub-Saharan African higher education; (b) To assess the existence and perceived adequacy of institutional policies regulating AI; and finally (c) To identify policy priorities for ethical, inclusive, and sustainable AI integration.

The article merges innovation diffusion with ethical reasoning, it situates AI governance as both a technological and moral project—one that demands not only institutional policy reform but also the cultivation of virtue, responsibility, and discernment among educators and learners.

Literature

Global Perspectives on AI Ethics in Higher Education

Artificial intelligence has become a defining technology in the 21st-century knowledge economy, transforming how universities teach, assess, and generate knowledge. Globally, AI adoption in higher education is accompanied by concerns over ethics, governance, and human oversight. Reviews by Soko, Pete and Mureithi (2025), Bond (2024) and Zawacki-Richter et al. (2019) show that while AI tools—particularly generative models—enhance productivity and personalization, they simultaneously raise new dilemmas about authorship, fairness, and accountability.

International policy frameworks now position ethics as the cornerstone of sustainable AI deployment in education. The UNESCO (2023) Guidance for Generative AI in Education and Research calls for transparency, explainability, and human oversight, warning against overreliance and academic dishonesty. Similarly, the OECD Digital Education Outlook (2023) stresses the need for "guardrails for responsible innovation"—emphasizing privacy protection, data justice, and algorithmic fairness. Both frameworks converge on the principle that AI in education must remain human-centered, ensuring that technology amplifies rather than replaces human judgment.

Empirical studies in Europe, North America, and Asia echo these priorities. Bozkurt and Sharma (2024) argue that trust, transparency, and explainability should guide AI design and deployment, particularly in distance and online education. Erol, Aydemir, and Koc (2025) found that AI-text detection systems are often unreliable and biased, reinforcing the need for ethical literacy rather than punitive surveillance. Meanwhile, Dizon (2024) and Ding et al. (2024) show that automated writing evaluation tools like Grammarly improve technical accuracy but not critical or creative thinking—raising questions about the depth rather than the presence of learning when AI tools are used without pedagogical guidance.

Together, this literature demonstrates that ethics and governance, not technological capability, determine the long-term educational value of AI. The global consensus increasingly views AI literacy, data privacy, and academic integrity as central to institutional accountability and learner protection.

Continental and Regional Context: Sub-Saharan Africa

Across Sub-Saharan Africa, the diffusion of AI in higher education mirrors global enthusiasm but is constrained by policy gaps, infrastructural disparities, and limited ethical regulation. The African Union's Continental Strategy for Artificial Intelligence (2024) outlines a vision of "inclusive, sustainable, and human-centered AI ecosystems"—calling for national frameworks that balance innovation with equity, ethics, and local relevance. However, implementation remains uneven across countries and institutions.

Earlier evidence from the COVID-19 era further contextualizes these disparities. Pete and Soko (2020) examined the preparedness of instructors and learners for online learning across Kenya, Ghana, and South Africa, revealing that while most possessed laptops or smartphones, access to affordable internet and adequate digital infrastructure remained limited. Their study highlighted moderate digital competence but severe constraints in connectivity and institutional support, conditions that mirror current challenges in AI adoption. This foundational digital gap underscores why ethical and policy readiness for AI remains uneven across African higher education institutions, where structural and resource limitations continue to outpace

innovation, These findings provide a technological backdrop for understanding the ethical diffusion gap identified in the present study.

Recent regional studies (e.g., Soko, Nabwire, & Gachanga, 2024; Soko, Pete & Mureithi (2025), Bozkurt & Zawacki-Richter, 2021) highlight that African universities face acute capacity challenges in AI governance, with few established codes on academic honesty, disclosure, or responsible use. Institutional awareness often exceeds regulatory follow-through: faculty and students recognize ethical risks such as plagiarism, misinformation, and data privacy breaches, but policies governing these issues are either absent or poorly communicated.

This context underscores an ethical paradox: AI awareness is diffusing faster than institutional accountability. Universities in Kenya, Nigeria, Uganda, and South Africa are experimenting with AI-assisted learning tools, yet few have adopted clear policies on ownership of AI-generated work, protection of student data, or algorithmic fairness in assessment. Consequently, the region risks reinforcing global digital inequalities if governance and ethics do not advance at the same pace as adoption.

The Association of African Universities (AAU) and UNESCO's Regional Office for Eastern Africa have both urged higher education institutions to incorporate ethical AI literacy into teacher education and curriculum design. Such recommendations position Africa not merely as a recipient of global AI policy but as a potential innovator of context-specific ethical frameworks that reflect local cultural and educational values—especially communal accountability, justice, and the humanistic principles embedded in African philosophy.

Theoretical Framework

To interpret these global and regional dynamics, this study employs a tri-theoretical framework that connects innovation diffusion with moral philosophy:

- Diffusion of Innovation (DOI) Theory – Rogers (2003) DOI explains how new technologies and ideas spread within a social system. Adoption depends on perceived relative advantage, compatibility, complexity, trialability, and observability. In the context of AI ethics, DOI helps explain why awareness of ethical risks spreads rapidly through academic networks, even when institutional structures lag behind. Faculty and students act as early adopters of ethical discourse but late adopters of formal compliance, revealing an innovation–policy gap.
- Deontological Ethics – Kantian Moral Duty Deontological ethics situates ethical action in duty and moral obligation rather than outcomes. Within higher education, this lens highlights the intrinsic responsibility of educators and learners to uphold honesty, respect autonomy, and preserve the integrity of scholarship—regardless of efficiency gains from AI. Ethical AI use is therefore not merely about managing risks but about fulfilling one's duty to act rightly in research, teaching, and assessment.
- Virtue Ethics – Character and Moral Development Virtue ethics emphasizes moral character, prudence, and ethical discernment. It complements deontology by framing AI literacy as an ongoing cultivation of virtues such as integrity, wisdom, temperance, and justice. From this perspective, ethical AI education is not achieved through compliance alone but through nurturing responsible agents who can exercise judgment in complex digital environments.

The study interprets ethical AI adoption as both a diffusion process and a moral evolution. Diffusion theory explains how ethical awareness spreads; deontological and virtue ethics explain why educators and learners are morally bound to act with integrity and prudence. Together, they offer a holistic explanation of how innovation, ethics, and governance intersect in the emerging digital cultures of African higher education.

Methodology

Research Design

The study adopted a descriptive, cross-sectional survey design to explore ethical concerns and institutional policy responses to the use of artificial intelligence (AI) in higher education institutions across Sub-Saharan Africa. The design was chosen for its suitability in capturing attitudes and perceptions across diverse institutional types without manipulating variables. It allowed for the quantitative measurement of ethical awareness and policy readiness, complemented by thematic analysis of open-ended reflections.

The design follows an interpretive-positivist logic: the descriptive component identifies prevailing trends in ethical and policy perceptions, while the interpretive component contextualizes those findings through moral-philosophical and diffusion frameworks. This dual approach provides both numerical patterns and qualitative depth.

Data Collection Instrument

The survey instrument comprised two structured sections and two open-ended prompts. Section A collected demographic information (role, gender, institution type, and country). Section B contained Likert-scale items on six domains: Ethical awareness (e.g., fairness, privacy, reliability); Institutional policy presence and effectiveness; Concerns about academic integrity; Need for regulation and accountability; Perceived adequacy of institutional support; and Capacity-building needs. Two open-ended questions invited participants to elaborate on: (a) ethical considerations that should guide AI use in education, and (b) policy recommendations for improving responsible adoption. All items were reviewed by three experts in educational technology and research ethics for content validity and clarity. A pilot with 20 participants confirmed reliability and ensured consistency of interpretation across linguistic contexts.

Sampling and Participants

Data were collected from N = 374 respondents across public, private, and technical/vocational higher education institutions in multiple Sub-Saharan African countries. Respondents participated voluntarily via a secure online questionnaire distributed through institutional mailing lists, academic networks, and social-media academic forums: Students: 208 (55.6%), Faculty: 166 (44.4%), Institution Type: Public (57%), Private (31 %), Technical/Vocational (12%) and Gender Distribution: Male (52 %), Female (48%). The sample reflects diversity across region and institutional mandate but is non-probabilistic, making the findings indicative rather than statistically representative. Nevertheless, the heterogeneity enhances external validity within exploratory boundaries.

Ethical Considerations

Participation was voluntary and anonymous. Respondents provided informed consent electronically. No personally identifiable data were collected. The study complied with the Declaration of Helsinki (2013) and followed institutional ethics-review protocols. Given the topic's focus on ethics, reflexivity was integral:

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participants were informed that the study sought to understand perceptions rather than evaluate individual compliance.

Data Analysis

Quantitative data were analyzed using descriptive statistics—frequencies, percentages, and cross-tabulations—to identify dominant ethical concerns and perceptions of policy adequacy. Qualitative data from open-ended responses (n = 180) were analyzed using Braun and Clarke's (2006) six-phase thematic analysis procedure: Familiarization, Initial coding, Theme generation, Theme review, Theme naming, and Reporting.

Inter-coder reliability was enhanced through independent coding by two analysts followed by consensus comparison. Themes were subsequently integrated into two meta-frameworks: ethical considerations (five themes) and policy recommendations (five themes).

Validity and Reliability

Methodological rigor was ensured through: Triangulation between quantitative and qualitative findings; Cross-verification of item frequencies; Coder agreement above 85 % in thematic interpretation; and Consistency checks between ethical concern frequencies and corresponding policy suggestions. While self-reporting introduces bias, convergence between multiple data points and theory-driven interpretation strengthens internal coherence. The study's transparency, replicability, and alignment with established ethical-research standards reinforce its credibility.

Limitations

The use of non-probability sampling restricts generalization. Internet connectivity disparities may have limited participation from some regions, particularly rural institutions. The study did not disaggregate data by discipline or national policy context, which future research could address through comparative or longitudinal designs. Despite these constraints, the multi-country dataset provides one of the most comprehensive regional snapshots of AI ethics and policy perceptions in African higher education to date.

Findings and Discussions

Ethical Concerns and Implications of AI Use in Higher Education

This section presents the core empirical results and interpretive discussion on the ethical dimensions of AI use in Sub-Saharan African higher education. Quantitative findings depict high ethical sensitivity among respondents, while qualitative voices reveal moral reasoning shaped by integrity, fairness, and responsibility. These results are consistent with international evidence emphasizing that AI adoption in education must remain human-centered, transparent, and accountable (UNESCO, 2023; OECD, 2023; Bozkurt & Sharma, 2024).

Quantitative Results: Widespread Ethical Awareness

Table 1 summarizes levels of ethical concern. Across items, more than 70% of respondents *agreed* or *strongly agreed* that AI raises ethical challenges requiring regulation and oversight.

Table 1: Ethical Concerns and Perceptions of Risk (N = 374)

Ethical Statement	SD (%)	D (%)	NS (%)	A (%)	SA (%)	TV (N)
Ethical concerns (e.g., bias, data privacy) limit the use of AI in education	0.8	6.4	16.8	38	23.5	320
I am concerned about the ethical issues related to AI use in education (e.g., bias, fairness)	0.5	6.4	12.8	40.1	31	340
I am concerned about the accuracy and reliability of AI tools	0.3	4.5	11.5	39.6	33.2	333
AI should be used with clear guidelines to ensure transparency and accountability in education	0	1.3	5.6	35.3	48.4	339
AI should be regulated to prevent misuse in educational settings	0.3	3.5	7	28.3	51.3	338

SD-Strongly Agree, D-Disagree, NS-Not Sure, A-Agree, SA-Strongly Agree, TV-Total Valid

Most participants recognize AI's dual nature: a catalyst for learning and a threat to ethical integrity if unregulated. The emphasis on *guidelines* and *accountability* echoes the UNESCO (2023) warning that "AI cannot substitute ethical reasoning" and aligns with findings from the Higher Education Policy Institute (HEPI, 2025) showing that 82% of students globally demand institutional guidance on responsible AI use.

In Rogers' Diffusion of Innovation terms, this reflects an *early adoption of ethical consciousness*: awareness is widespread, but formal policy integration remains in a formative stage. Deontological ethics interprets this as the emergence of moral duty—an intrinsic obligation to act rightly—while Virtue Ethics frames it as a collective effort to nurture prudence and moral character in digital environments.

Emerging Themes

Figure 1 presents qualitative data from 180 open responses that were coded into five main ethical themes. Respondents' voices reveal both anxiety and moral reflection, portraying educators and learners as active participants in constructing the ethics of digital learning.
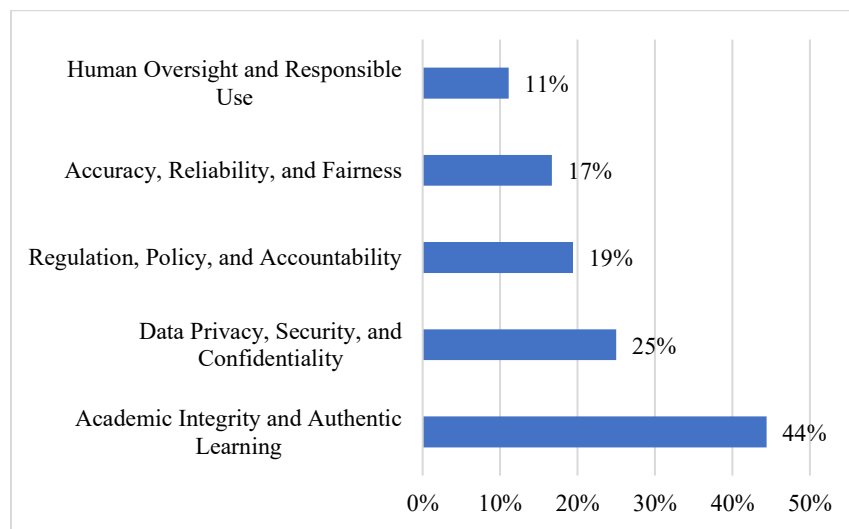

Figure 1: Thematic Distribution of Ethical Concerns

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Theme 1: Academic Integrity and Authentic Learning

The dominant theme (44.4%) concerned authenticity, plagiarism, and academic honesty. Participants expressed worry that AI use undermines original thought and honest scholarship:

"AI should help learners understand concepts, not do the work for them."
"Plagiarism and honesty in AI-assisted writing must be clearly regulated."
"Students must cite AI tools just like books or journals."
"If we let AI think for us, we lose our creativity as human beings."

These voices echo Bozkurt (2024b), who warns that generative AI challenges authorship norms and calls for disclosure ethics, and Bond (2024), who found that students' overreliance on AI reduces reflective learning.

Deontologically, this represents a moral duty to uphold honesty as an *end in itself*. Virtue Ethics interprets it as cultivating *intellectual integrity*—the ability to learn through effort rather than convenience. Globally, these concerns mirror OECD (2023) findings that AI may "facilitate academic misconduct if left unchecked," underscoring the need for institutional frameworks that link ethics to assessment design.

Theme 2: Data Privacy, Security, and Confidentiality

The second most cited concern (25%) involved privacy and data protection. Participants were deeply uneasy about data extraction, third-party access, and lack of informed consent:

"AI systems must secure users' data from unauthorized access."
"Privacy and consent should guide every educational AI application."
"Students' information should not be shared without their approval."
"We do not know where our data goes after using AI—it's a big risk."

These fears resonate with UNESCO's (2023) principle of *privacy by design* and the African Union's (2024) Continental AI Strategy advocating robust data governance and cyber-security standards.

At the institutional level, many universities lack clear privacy protocols. One Kenyan respondent lamented: *"Our institution encourages AI use but has no data policy; we are exposed."* This finding is consistent with global studies (Bozkurt & Sharma, 2024) showing that even in developed contexts, privacy frameworks lag behind innovation.

From a virtue-ethical viewpoint, data stewardship reflects *justice*—ensuring fairness and respect for persons. In DOI terms, this signals a diffusion plateau: awareness exists, but structural adoption remains limited.

Theme 3: Regulation, Policy, and Accountability

Roughly one-fifth (19.4%) of respondents highlighted the absence of clear institutional or national policies. They urged formal regulation and accountability:

"AI should be regulated to prevent misuse."
"Universities must define acceptable levels of AI use."
"We need accountability when AI-generated content is used in assessments."

"Right now, everyone is experimenting with no rules—it's risky."

This gap confirms Bozkurt & Sharma's (2024) argument that higher education lacks ethical guardrails for AI. It also aligns with the African Union (2024) call for harmonized governance mechanisms to ensure that AI promotes equity and inclusion.

Deontologically, regulation translates moral duty into institutionalized responsibility; Virtue Ethics frames policy adherence as *temperance*—self-control in exercising technological power. From a diffusion perspective, this stage marks the transition from individual experimentation to systemic adoption, where ethical principles become embedded in institutional routines.

Theme 4: Accuracy, Reliability, and Fairness

Concerns about misinformation, algorithmic bias, and inequity appeared in 16.7% of responses. Many questioned the trustworthiness of AI outputs:

"Information from AI must be accurate and verifiable."
"AI should be tested for bias to ensure fairness to all learners."
"We've seen AI generate wrong facts—it can mislead students."
"Bias is real—these systems are trained mostly on Western data."

These insights parallel Liu et al. (2024) and Erol et al. (2025), who found that AI detection tools and language models show significant cultural and linguistic bias. Within Africa, respondents framed fairness as both epistemic and socio-economic: access to reliable AI tools is unequal, especially in low-bandwidth or rural settings.

Virtue ethics interprets fairness as a moral virtue of *equity*, demanding that all learners benefit equally from AI innovation. The UNESCO (2023) framework similarly highlights inclusivity and fairness as ethical imperatives for AI in education.

Theme 5: Human Oversight and Responsible Use

A smaller but critical cluster (11.1%) emphasized human agency and discernment. Participants stressed that AI should complement—not replace—human reasoning:

"We must not let machines think for us."
"AI should be used responsibly under human supervision."
"Educators must teach students to question AI outputs."
"Without human judgment, AI will lead us astray."

These statements reinforce UNESCO's (2023) concept of *human-in-the-loop* and Bozkurt & Sharma's (2023a) call for "explainable and trustworthy AI" in online education. The responses also reflect virtue ethics' focus on *prudence*—knowing when and how to rely on tools—and deontological duty to preserve autonomy.

From a diffusion viewpoint, human oversight represents a *stabilization phase*, where moral reflection moderates technological enthusiasm. It signals maturity in ethical awareness: users begin to internalize responsible practices rather than await external control.

Integrative Discussion

Across all themes, participant voices converge on a central paradox: ethical awareness is strong, but policy infrastructure is weak. The findings portray a region entering the *ethical diffusion phase* of AI adoption—marked by moral sensitivity but limited formalization.

This mirrors global trends (Bond, 2024; OECD, 2023; Bozkurt & Sharma, 2024) where universities worldwide grapple with the same challenge: *aligning innovation with moral responsibility*. Yet the African context intensifies the stakes. The African Union (2024) framework insists that AI development must "uphold African values of dignity, solidarity, and equity." Participants' concerns about plagiarism, fairness, and human oversight echo these principles, showing that moral reasoning is deeply embedded in regional educational culture.

From a theoretical standpoint, the findings validate the tri-theoretical lens adopted in this study:
- Diffusion of Innovation explains the spread of ethical consciousness across academic networks;
- Deontological Ethics frames the sense of duty to act with integrity even in the absence of enforcement; and
- Virtue Ethics highlights the cultivation of moral character and discernment as long-term anchors for responsible innovation.

As one respondent eloquently concluded:

"AI is here to stay, but it should not take away the human values that make learning transformative."

This sentiment captures the heart of ethical AI integration: technology must serve, not supplant, humanity.

Policy Readiness and Recommendations

Quantitative Findings: Institutional Preparedness

The survey assessed institutional support, policy presence, and adequacy of ethical guidance in AI adoption. Findings presented in Table 2 indicate widespread acknowledgment of policy gaps and the urgent need for stronger governance and capacity building.

*Table 2: Institutional Policy and Support Indicators (N = 374)*

Policy Statement	SD	D	NS	A	SA	TV
My institution has clear policies on the ethical use of AI in academic work	2.1	20.6	32.9	22.7	12	338
My institution has policies in place to guide the adoption of AI-driven tools in education	1.9	17.4	34.2	19.3	11.5	315
Institutional policies are effective in ensuring responsible and beneficial use of AI in academia	0	10.4	21.9	31.8	19.8	314
Faculty and students receive adequate guidance on the ethical and appropriate use of AI tools	1.6	20.1	23.3	21.7	16	309
More institutional support is needed to facilitate AI integration in teaching and learning	1.9	0	7.2	36.9	37.7	313

SD-Strongly Agree, D-Disagree, NS-Not Sure, A-Agree, SA-Strongly Agree, TV-Total Valid

The quantitative evidence reveals a pronounced ethics–policy gap. Although most participants recognize AI's ethical complexity, fewer than one in three report the existence of institutional AI-use policies, and only half believe current frameworks are effective. This pattern parallels the findings of Bozkurt and Sharma (2024), who noted that AI adoption in global universities often precedes ethical regulation, and UNESCO (2023), which warns that "without institutional guidance, AI integration risks amplifying inequities and ethical violations."

Qualitative Findings: Thematic Policy Priorities

The qualitative data summarized in Figure 2, based on responses from n = 180 participants, generated five interrelated themes that illustrate how educators and learners conceptualize ethical, inclusive, and sustainable AI governance.
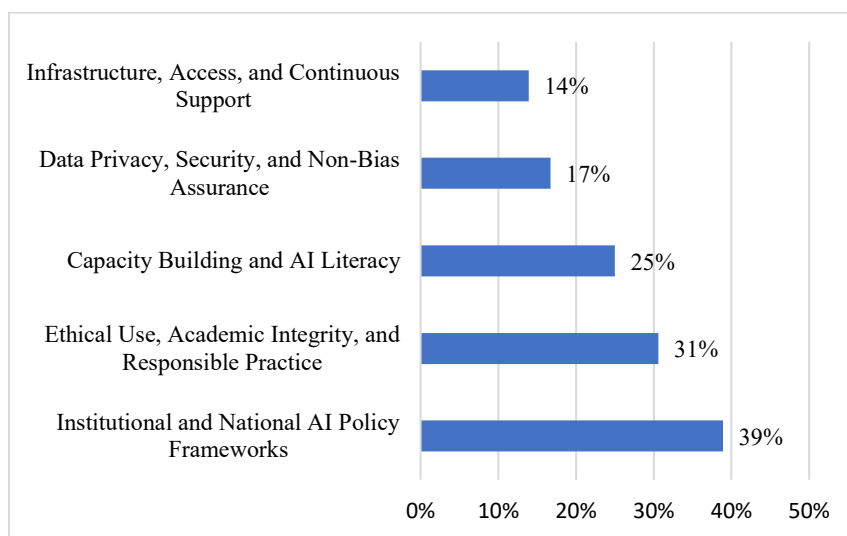
Figure 2: Policy Recommendation Themes

Each policy domain is discussed below, supported by participant voices and global benchmarks.

Theme 1: Institutional and National AI Policy Frameworks

The most dominant recommendation (38.9%) calls for formal institutional and national policies that define acceptable AI use, disclosure requirements, and accountability mechanisms. Participants consistently urged universities and ministries to formulate clear, dynamic, and transparent guidelines.

"Every institution should develop and regularly update an AI policy."
"AI use should be limited—say, not more than 50% of written work."
"Policies must clearly state acceptable tools and define authorship rules."
"We need a national framework so that all universities follow the same standards."

This theme resonates with the African Union's (2024) *Continental Strategy for Artificial Intelligence*, which emphasizes harmonized governance across member states to ensure equity, inclusion, and safety. Globally, it aligns with OECD (2023) recommendations for "clear regulatory guardrails" and UNESCO (2023) principles of accountability and transparency in AI use.

From a Deontological Ethics standpoint, these voices reflect the *moral duty* of institutions to protect academic communities through structured policy. In Virtue Ethics terms, institutional regulation fosters *temperance*—restraining misuse through disciplined practice. DOI theory interprets this as the organizational adoption phase, where ethical norms transition from individual awareness to institutional systems.

Theme 2: Ethical Use, Academic Integrity, and Responsible Practice

The second theme (30.6%) emphasizes **embedding academic honesty and ethical practice into institutional frameworks. Respondents stressed that ethical policies must explicitly address** plagiarism, authorship, and responsible use:

"AI should not be used to write assignments or theses—integrity must be maintained."
"Policies should include citation requirements for AI-generated content."
"We need a clear definition of responsible versus excessive AI assistance."

These concerns echo Bozkurt (2024b) and Bond (2024), who warn that generative AI risks undermining academic integrity unless guided by explicit institutional ethics codes. The UNESCO (2023) framework similarly urges universities to "embed AI ethics into curricula, teacher education, and assessment systems."

Deontologically, integrity policies fulfill the moral duty to ensure truthfulness and fairness in knowledge creation. In the African context, where education is deeply intertwined with moral formation, virtue ethics interprets such policies as the cultivation of *character and authenticity*.

This theme also reflects the social diffusion of integrity norms—ethical reasoning spreading through communities of practice as shared professional culture. Over time, such diffusion can normalize disclosure ethics, transparent authorship, and self-regulated AI use.

Theme 3: Capacity Building and AI Literacy

Nearly a quarter of responses (25%) stressed that ethical adoption depends on human readiness, not just written policies. Respondents called for sustained capacity-building programs and integration of AI literacy into the curriculum:

"Training! Training and more training—for teachers, students, and leaders."
"Integrate AI literacy in all programs to promote responsible use."
"Ethics cannot be taught through policy only—it must be practiced through awareness."
"Administrators also need retraining; they cannot enforce what they do not understand."

These voices echo OECD (2023) and Bozkurt & Sharma (2024), who argue that trust in AI requires "human capacity, not merely regulation." The African Union (2024) also prioritizes capacity building as a pillar for ethical AI ecosystems, linking it to digital sovereignty and sustainable innovation.

Virtue Ethics situates capacity building as *moral education*—the cultivation of judgment, prudence, and ethical competence. Deontologically, training operationalizes duty: institutions demonstrate moral responsibility by empowering their members to act ethically. From a DOI lens, capacity building represents knowledge diffusion, transforming ethical awareness into practical skill.

Theme 4: Data Privacy, Security, and Non-Bias Assurance

A significant portion (16.7%) of respondents emphasized data governance and fairness as prerequisites for trust. They warned that without robust protection; AI could expose learners to surveillance and discrimination:

"Ensure ethical data use and equal access to AI tools."
"Policies must protect user data and ensure algorithmic fairness."
"We need national privacy laws for AI in education." "Bias and discrimination must be audited and corrected."

These concerns parallel UNESCO's (2023) call for "responsible data management and algorithmic transparency" and the OECD (2023) guideline on "ensuring inclusive and unbiased AI systems." Regionally, the African Union (2024) advocates harmonized data-protection frameworks aligned with the Malabo Convention on Cybersecurity and Data Protection (2014).

From a Virtue-Ethical perspective, protecting user data expresses the virtue of *justice*, ensuring fairness and respect for individual rights. Deontologically, it fulfills the moral obligation to safeguard privacy as a human right. In Diffusion terms, data protection marks a stabilization phase, where ethical maturity begins to institutionalize through compliance and accountability mechanisms.

Theme 5: Infrastructure, Access, and Continuous Support

Finally, 13.9% of participants highlighted the role of infrastructure and equity of access in enabling ethical AI adoption. Respondents linked ethical practice to technological empowerment:

"Ensure equal access to AI tools for all students."
"Reduce costs and improve internet connectivity."
"Provide free or subsidized AI tools in public universities."
"Ethics begins with equity—without access, rules benefit only a few."

This theme connects ethics with social justice. Bozkurt & Zawacki-Richter (2021) demonstrate that equitable access underpins sustainable digital transformation. Similarly, UNESCO (2023) links ethical AI with the *Sustainable Development Goals* (SDGs 4 and 10): Quality Education and Reduced Inequalities.

From a Virtue Ethics perspective, equitable infrastructure embodies the virtue of *solidarity*, reinforcing communal responsibility. Deontologically, it reflects duty to ensure fairness of opportunity. DOI theory positions this as the enabling condition for diffusion, without access, ethical norms cannot be fully realized.

Interpretive Discussion

The integrated findings reveal that ethical AI governance in Sub-Saharan Africa is at a transitional stage marked by high awareness, emerging discourse, but limited institutional readiness. Across regions, universities recognize their duty to act ethically but lack cohesive frameworks, national coordination, and sustainable capacity-building structures.

Comparatively, these results mirror global studies (Bond, 2024; Bozkurt & Sharma, 2024; OECD, 2023) that describe higher education as "ethically alert but institutionally unprepared." However, the African

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voices add distinctive depth: respondents view AI ethics not merely as regulatory compliance but as *moral stewardship*—a collective responsibility rooted in the continent's educational and cultural values of integrity, justice, and community.

The triangulation of Diffusion of Innovation, Deontological Ethics, and Virtue Ethics clarifies the theoretical dynamics observed:

- DOI explains *how* ethical norms are spreading through academic communities;
- Deontological Ethics explains *why* institutions have a moral duty to act; and
- Virtue Ethics emphasizes *who* we must become—ethical educators and learners who integrate discernment into everyday practice.

As one respondent aptly summarized:

"We need more than rules; we need people with conscience, competence, and courage to use AI wisely."

This statement encapsulates the essence of ethical transformation; policy frameworks must be accompanied by moral and intellectual formation.

Theoretical and Practical Implications

Theoretical Implications

This study demonstrates that ethical and policy engagement with AI in Sub-Saharan African higher education is both a social diffusion process and a moral evolution. The integration of Diffusion of Innovation (DOI), Deontological Ethics, and Virtue Ethics offers a nuanced understanding of how ethical consciousness spreads, stabilizes, and matures within academic communities.

From the DOI perspective, the findings confirm that ethical awareness has diffused rapidly among faculty and students—characteristic of the *early adoption* stage. However, formal institutional integration remains slow, signaling the need for structured policy innovation. Ethical reasoning has become observable and trialable within academic networks, but compatibility with existing governance systems is still limited. This reveals an asymmetry between *awareness diffusion and structural adoption.*

Through a Deontological lens, the study underscores the moral duty of institutions and individuals to uphold integrity, truthfulness, and fairness in AI use. The respondents' emphasis on honesty, privacy, and accountability reflects Kantian principles of duty and respect for persons. Ethical AI adoption, therefore, is not contingent on efficiency or convenience but rooted in the intrinsic obligation to do what is right—protect human dignity and preserve authentic learning.

Virtue Ethics adds an essential humanistic dimension by focusing on character formation and ethical judgment. It interprets ethical AI adoption as a moral practice requiring the cultivation of virtues such as *prudence, justice, integrity, and temperance.* Faculty and students are not merely users of technology but moral agents developing discernment in complex digital environments. The data suggest that African institutions have an opportunity to anchor AI ethics in a pedagogical vision that nurtures both intellectual and moral excellence.

Together, these three frameworks generate a contextual theory of ethical diffusion:

1. Awareness (diffusion phase): faculty and learners recognize ethical risks.
2. Commitment (deontological phase): institutions articulate duty-bound responses through policy.
3. Maturation (virtue phase): ethical practice becomes internalized as professional and moral identity

This progression offers a theoretical model for understanding how ethical cultures evolve alongside technological innovation in higher education systems.

Practical Implications

The practical implications of these findings are multi-layered spanning the institutional, national, and continental levels. They also intersect with global frameworks such as the UNESCO (2023) Guidance for Generative AI in Education, the OECD (2023) Digital Education Outlook, and the African Union's (2024) Continental AI Strategy.

1. *Institutional Level:*
   - Universities should draft and enforce clear policies specifying acceptable AI tools, disclosure norms, and penalties for unethical use.
   - AI literacy and digital ethics should be mainstreamed across all disciplines to cultivate integrity and critical thinking.
   - Academic boards or AI ethics committees should monitor compliance and review emerging issues, ensuring that policy evolves with technological change.
   - Faculty and student training must move beyond tool usage toward ethical reasoning and moral discernment.

As one respondent summarized: *"Rules without training will not work; we must educate people to think ethically."*

2. *National Level:*
   - Ministries of Education and Higher Education Councils should issue regulatory frameworks aligned with the African Union's (2024) ethical pillars—transparency, accountability, inclusivity, and fairness.
   - Strengthen legal frameworks through cross-sectoral alignment with the Malabo Convention (2014) and global standards like General Data Protection Regulation (GDPR).
   - Collaborations between universities, EdTech companies, and civil society can promote ethical innovation while protecting learner rights.

3. *Continental and Global Level:*
   - The Association of African Universities (AAU) and African Union Commission (AUC) should establish a shared repository of AI ethics curricula, policy templates, and case studies to support member institutions.
   - Align regional policy reforms with UNESCO's ethical AI recommendations and OECD's principles for trustworthy AI, while emphasizing African philosophical values such as *ubuntu*, solidarity, and community responsibility.

- Collaborative research across African universities can generate indigenous knowledge on AI ethics and policy effectiveness.

4. *Pedagogical Practice:*
   - Faculty should model ethical behavior in AI use, promoting transparent authorship, informed consent, and data protection.
   - Assessment redesign is crucial, integrating AI-aware evaluation systems that reward originality, citation of AI assistance, and reflective reasoning.
   - Institutions should leverage AI for ethical teaching itself, for example, through case-based simulations that expose students to ethical dilemmas and decision-making processes.

Broader Significance

The study situates African higher education at a pivotal moment. While global discourse frames AI ethics around regulation and detection, African educators and students frame it around human values, equity, and collective accountability. This moral orientation, grounded in ubuntu philosophy—the belief that "a person is a person through others"—can enrich global AI ethics with a more relational and justice-centered ethos.

As Bozkurt & Sharma (2024) argue, ethical AI in education must move "from compliance to conscience." This research supports that shift: institutions should not only regulate technology but also form ethical thinkers capable of using AI responsibly. The combination of DOI, Deontological, and Virtue Ethics perspectives thus bridges policy design with moral formation, demonstrating that sustainable AI integration depends as much on who we are as on what we regulate.

In summary, the practical task before Sub-Saharan higher education is threefold:

1. Codify ethics through institutional and national frameworks.
2. Educate ethical agents through curriculum and training; and
3. Cultivate moral character and collective responsibility.

As one participant concluded:

"AI can be a blessing or a curse. It will depend on the values we choose to teach alongside it."

This insight encapsulates the ethical heart of digital transformation—technological advancement must proceed hand in hand with human integrity and virtue.

Conclusion and Suggestions

This study assessed ethical awareness and institutional readiness for AI adoption in Sub-Saharan African higher education. Using data from 374 respondents, it found an ethically aware yet structurally underprepared community alert to risks like plagiarism, privacy breaches, and bias, but constrained by weak policy and governance.

Anchored in Diffusion of Innovation, Deontological, and Virtue Ethics theories, the findings reveal early diffusion of ethical awareness but limited institutionalization of duty and moral virtue. Alignment with the African Union's *Continental AI Strategy (2024)*, *UNESCO (2023)*, and *OECD (2023)* frameworks is crucial to ensure equity, inclusivity, and contextual relevance guided by values of *ubuntu* and justice.

Key Conclusions

- Ethical Awareness Exceeds Policy Readiness**:** Awareness of AI risks is high, but institutional policies are scarce.
- Integrity at the Core: Academic honesty and originality require clearer AI-use guidelines.
- Privacy and Fairness Gaining Urgency: Growing concern over data protection and algorithmic bias.
- Human Oversight Essential: Ethical literacy and moral reflection remain central to responsible AI use.

Recommendations

1. For Institutions:
   - Establish AI-use policies and ethics committees.
   - Integrate AI ethics and digital literacy in curricula.
   - Redesign assessments to promote originality and transparency.
2. For Policymakers:
   - Align national frameworks with AU and UNESCO standards.
   - Fund ethical AI research and inclusive innovation hubs.
3. For Continental and Global Partners:
   - Create continental AI ethics observatories under AAU/AUC.
   - Foster global partnerships integrating African ethical values into international AI standards.

Future Research

Further studies should extend these findings through **mixed-method and longitudinal designs,** tracking how ethical awareness evolves into policy adoption over time. Comparative analyses across countries, disciplines, and institution types will illuminate contextual drivers of ethical diffusion. In addition, intervention studies assessing the impact of training, regulation, and curriculum reforms on ethical behavior will deepen understanding of how moral and technological transformations co-evolve.

Closing Reflection

The integration of AI in African higher education is inevitable, but its ethical trajectory is not predetermined. As one respondent insightfully remarked:

"AI will not destroy education; it is our misuse or silence that might."

This statement encapsulates the moral essence of the study. Ethical and policy preparedness are not simply regulatory tasks but collective acts of stewardship. When guided by duty, virtue, and critical reflection, AI can serve as a powerful ally in realizing Quality Education (SDG 4) and Reduced Inequalities (SDG 10).

Ultimately, responsible AI adoption in higher education requires more than rules—it demands *ethical imagination, moral courage, and institutional commitment* to align technology with humanity.

References

African Union Commission. (2024). *Continental strategy for artificial intelligence in Africa: Towards an inclusive, sustainable, and human-centered future.* African Union. https://au.int/en/documents/2024-continental-ai-strategy

Bond, M. (2024). A meta-systematic review of artificial intelligence in higher education. *International Journal of Educational Technology in Higher Education, 21*(1), 1–41. https://doi.org/10.1186/s41239-023-00436-z

Bozkurt, A. (2024b). GenAI et al.: Cocreation, authorship, ownership, academic ethics and integrity in a time of generative AI. *Open Praxis, 16*(1), 1–10. https://doi.org/10.55982/openpraxis.16.1.654

Bozkurt, A., & Sharma, R. C. (2023a). Challenging the status quo and exploring the new boundaries in the age of algorithms: Reimagining the role of generative AI in distance education and online learning. *Asian Journal of Distance Education, 18*(1), 1–9. https://doi.org/10.5281/zenodo.7755273

Bozkurt, A., & Sharma, R. C. (2023b). Generative AI and prompt engineering: The art of whispering to let the genie out of the algorithmic world. *Asian Journal of Distance Education, 18*(1), 1–4. https://doi.org/10.5281/zenodo.8174941

Bozkurt, A., & Sharma, R. C. (2024). Trust, credibility, and transparency in human–AI interaction: Why we need explainable and trustworthy AI and why we need it now. *Asian Journal of Distance Education, 19*(1), 1–14. https://doi.org/10.5281/zenodo.14599168

Bozkurt, A., & Zawacki-Richter, O. (2021). Trends and patterns in distance education (2014–2019): A synthesis of scholarly publications and a visualization of the intellectual landscape. *The International Review of Research in Open and Distributed Learning, 22*(2), 19–45. https://doi.org/10.19173/irrodl.v22i2.5381

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Ding, L., Shang, H., & Ma, Y. (2024). Automated writing evaluation systems: A systematic review of Grammarly, Pigai, and Criterion. *Education and Information Technologies, 29*(5), 1–27. https://doi.org/10.1007/s10639-023-12402-3

Dizon, G. (2024). A systematic review of Grammarly in L2 English writing. *Cogent Education, 11*(1), 2397882. https://doi.org/10.1080/2331186X.2024.2397882

Erol, G., Aydemir, M., & Koc, M. (2025). Can we trust academic AI detectives? Accuracy and reliability of AI-generated text detection tools. *Computers and Education: Artificial Intelligence, 7*(1), 100192. https://doi.org/10.1007/s00701-025-06622-4

Göçmez, L. (2023). Artificial intelligence applications in open and distance education: A systematic review of the articles (2007–2021). *Asian Journal of Distance Education, 18*(2), 130–151. https://doi.org/10.5281/zenodo.7514874

Higher Education Policy Institute (HEPI). (2025). *Student generative AI survey 2025.* HEPI. https://www.hepi.ac.uk/wp-content/uploads/2025/02/HEPI-Policy-Note-61-2.pdf

Liu, J. Q. J., Tan, S., & Jiang, J. (2024). The great detectives: Humans versus AI detectors in catching AI-generated medical writing after paraphrasing. *International Journal for Educational Integrity, 20*(1), 5. https://doi.org/10.1007/s40979-024-00155-6

Organisation for Economic Co-operation and Development (OECD). (2023). *OECD digital education outlook 2023: Opportunities, guidelines and guardrails for effective and equitable use of AI in education.* OECD Publishing. https://doi.org/10.1787/c74f03de-en

Pete, J., & Soko, J. (2020). Preparedness for online learning in the context of Covid-19 in selected Sub-Saharan African countries. Asian Journal of Distance Education, 15(2), 37-47. https://doi.org/10.5281/zenodo.4292688

Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). Free Press.

Soko, J., Nabwire, V. O., & Gachanga, T. (2024). Exploring learning support strategies for effective digital experiences at Open University of Kenya. *Journal of the Kenya National Commission for UNESCO, 4*(2). https://doi.org/10.62049/jkncu.v4i2.122

Soko, J., Pete, J., & Mureithi, G. (2025). Assessing Awareness and Usage of AI Tools Among Facultyand Learners in Higher Education Institutions in Sub-Saharan Africa. Asian Journal of Distance Education, 20(2), 63-75. https://doi.org/10.5281/zenodo.17316893

UNESCO. (2023). *Guidance for generative AI in education and research.* UNESCO Publishing. https://doi.org/10.54675/EWZM9535

United Nations. (2014). *African Union Convention on Cyber Security and Personal Data Protection (Malabo Convention).* United Nations Treaty Collection. https://au.int/en/treaties/african-union-convention-cyber-security-and-personal-data-protection

Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education—Where are the educators? *International Journal of Educational Technology in Higher Education, 16*(39), 1–27. https://doi.org/10.1186/s41239-019-0171-0