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Ethical Issues in Using Generative Ai for Thesis Writing In Kenyan Universities: A Framework for Peer Review of Information Technology and Education Psychology Research

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ABSTRACT

This study investigates the ethical challenges of using generative artificial intelligence in thesis writing within Kenyan universities' Information Technology and Education Psychology programs, aiming to develop a peer review framework that ensures ethical AI integration while preserving academic integrity. The problem stems from AI's capacity to automate tasks like literature reviews, data analysis, code generation, and psychological theory formulation, which risks unethical practices such as producing unoriginal IT code or contextually irrelevant psychological models. These issues, exacerbated by Kenya's publish-or-perish culture, digital disparities, and nascent AI policies, undermine thesis authenticity and peer review credibility in both fields. Instances of AI-generated content infiltrating theses, from lesser-known to reputable publications, highlight systemic vulnerabilities. Employing a mixed-methods approach per PRISMA guidelines, this study combines scoping reviews of 187 publications (2018–2024), a 25-item expert questionnaire, AI detection tools (Turnitin AI and Python scripts), publisher policy analyses, and focus groups with editorial boards to examine ethical dilemmas and propose solutions. Findings reveal concerns like authorship ambiguity, disclosure deficiencies, algorithmic bias, and accountability gaps, particularly acute in IT's technical complexity and Education Psychology's contextual nuances. Proposed solutions include AI-driven plagiarism detection, enhanced peer review with AI scrutiny, mandatory AI use disclosure, and training on ethical AI practices tailored to both disciplines. The framework promotes transparency and aligns with Kenya's Vision 2030, fostering responsible AI use. This review urges collaborative efforts among academic stakeholders to preserve integrity and calls for further research to assess AI's long-term impact, evaluate detection tools, and refine peer review processes. The proposed framework balances innovation with rigorous standards, ensuring AI enhances IT and Education Psychology research while addressing Kenya's unique academic and socio-cultural challenges.

Keywords: *Generative AI in thesis writing; academic integrity in Kenyan universities; ethical AI use in IT and Education Psychology; AI-enhanced peer review; Kenya Vision 2030*

I. Introduction

The advent of generative artificial intelligence (AI) has ushered in a transformative era for thesis writing in Kenyan universities, reshaping how students in Information Technology (IT) and Education Psychology tackle complex tasks. Aligned with Vision 2030's focus on technological innovation and human capital development, AI tools generate coherent text, summarize literature, and produce

analyses for IT systems or psychological theories (Government of Kenya, 2019). However, their use introduces ethical dilemmas impacting academic integrity, authorship, data privacy, and biases, particularly in Kenya's diverse academic ecosystem with uneven digital infrastructure (Mutula, 2019). Exploring these implications and developing proactive solutions are essential for maintaining global competitiveness while addressing local realities.

One pressing ethical concern is the threat to academic integrity. Advanced AI can craft polished IT code or psychological literature reviews, blurring lines between student and machine output, challenging independent thought (Kamau&Njoroge, 2022). In Kenya, where resource limitations intensify pressure to produce quality theses, AI risks fostering shortcuts, potentially devaluing IT and Education Psychology credentials (Ngugi&Otieno, 2022). Authorship accountability is critical when AI contributes to theses, whether structuring IT algorithms, psychological arguments, or analyzing data. Without clear global or Kenyan guidelines, ambiguity persists, leading to inconsistent standards across institutions (Ngugi&Otieno, 2022). Defining acceptable AI assistance is vital for credibility in both fields.

Data privacy is a significant issue, as AI tools often process sensitive IT datasets or psychological data on cloud platforms, raising concerns under Kenya's Data Protection Act of 2019 (Wanjiku, 2021). Breaches could undermine trust in IT systems or psychological research involving student data. AI biases, often rooted in Western datasets, may misalign with Kenyan IT needs, like affordable digital solutions, or produce irrelevant psychological theories, perpetuating epistemic inequalities (Oluoch, 2023). This is critical in Kenya's post-colonial academic landscape, where local scholarship must be prioritized.

Kenya's digital divide amplifies these challenges. Urban institutions like the University of Nairobi access AI tools readily, unlike rural universities with limited connectivity, creating disparities in IT and Education Psychology research (Munyua, 2020). This raises equity concerns, as AI benefits are unevenly distributed. A tailored peer review framework for AI-assisted IT and Education Psychology theses is proposed, requiring disclosure of AI use to evaluate human versus machine contributions (Ngugi&Otieno, 2022). This ensures academic rigor while addressing discipline-specific needs.

AI literacy training for peer reviewers is essential to identify over-reliance or biases in IT code or psychological models (Kamau&Njoroge, 2022). Such training strengthens quality assurance, guiding students to align AI outputs with Kenya's research priorities. The framework should define originality benchmarks, requiring students to demonstrate independent analysis in IT systems or psychological contexts, accounting for local constraints and global norms (Kamau&Njoroge, 2022). This ensures AI enhances skilled researchers in both fields. Ethical AI integration in thesis writing requires balancing innovation with integrity. A robust peer review system aligned with Vision 2030 can position Kenyan universities as leaders in responsible AI use, preparing students for global technological and educational challenges (Government of Kenya, 2019).

II. Statement of the Problem

Generative AI's integration into thesis writing in Kenyan universities' IT and Education Psychology programs offers efficiency in coding, data analysis, and theory formulation, aligning with Vision 2030 (Government of Kenya, 2019). However, it raises ethical concerns about academic integrity, authorship, privacy, and biases, amplified by Kenya's diverse academic landscape (Mutula, 2019). These issues threaten the credibility of theses and their contribution to technological and educational advancement (Ochieng&Kyalo, 2023).

Academic integrity is compromised when AI-generated IT code or psychological reviews lack student insight, undermining independent thought (Kamau&Njoroge, 2022). In Kenya, resource scarcity and academic pressure exacerbate this risk (Ngugi&Otieno, 2022). Authorship accountability is

contentious, as AI contributions to IT algorithms or psychological arguments obscure credit attribution. Kenya's nascent AI policies lead to inconsistent standards (Ngugi&Otieno, 2022).

Data privacy risks arise when sensitive IT or psychological data is processed on external AI platforms, conflicting with Kenya's Data Protection Act (Wanjiku, 2021). This is critical for research with commercial or student-related implications. AI biases from Western datasets may produce IT solutions or psychological theories irrelevant to Kenyan contexts, reinforcing epistemic inequalities (Oluoch, 2023). This misaligns with local priorities like affordable technology or context-specific education models.

The digital divide creates inequities, with urban students accessing AI tools more than rural peers, impacting IT and Education Psychology research (Munyua, 2020). This raises fairness concerns across institutions. Traditional peer review struggles to evaluate AI-assisted theses, failing to ensure originality or detect biases in IT or psychological content (Ngugi&Otieno, 2022). A customized framework is needed to address these gaps. A tailored peer review framework should mandate AI disclosure, provide reviewer training, and set standards for intellectual ownership, balancing local constraints with global norms (Kamau&Njoroge, 2022). This ensures AI supports Kenya's academic and developmental ambitions in IT and Education Psychology.

III. Literature Review

Generative AI's integration into thesis writing in Kenyan universities' IT and Education Psychology programs has sparked discourse on its ethical implications. AI streamlines coding, data analysis, and psychological theory synthesis, aligning with Vision 2030's push for technological advancement and innovation in education (Government of Kenya, 2019). However, it challenges academic integrity, authorship, privacy, fairness, and bias, particularly in Kenya's resource-limited settings where institutional oversight is often weak (Mutula, 2019). Academic integrity is central, as AI's ability to produce polished IT code or comprehensive psychological literature reviews risks undermining independent thought and critical analysis (Kamau&Njoroge, 2022). In Kenya, intense academic pressures, coupled with limited access to resources, drive student reliance on AI tools, potentially devaluing the originality of theses (Ngugi&Otieno, 2022). Global studies highlight similar concerns, noting that overdependence on AI can erode the development of research skills (Smith & Jones, 2021).

Authorship accountability is complex when AI shapes IT algorithms or psychological arguments, as it blurs the line between human and machine contributions. In Kenya, the absence of clear guidelines on AI use in academic work risks inconsistent standards across universities, leading to potential misuse (Ngugi&Otieno, 2022). Globally, the concept of co-authorship with AI is under debate, but no consensus or practical framework has been implemented, leaving institutions in a gray area (Anderson, 2020). Data privacy is a critical concern, as cloud-based AI tools processing sensitive IT datasets or psychological student data may expose personal information, conflicting with Kenya's Data Protection Act of 2019 (Wanjiku, 2021). International research also underscores the risks of data breaches in AI-driven academic tools, emphasizing the need for robust security protocols (Lee & Kim, 2022). These challenges highlight the urgent need for Kenyan universities to establish policies that address AI's role in research while safeguarding academic standards.

AI biases embedded in Western-centric datasets pose a significant threat to the relevance of Kenyan IT solutions and educational psychology theories, often misaligning with local contexts (Oluoch, 2023). For instance, AI tools trained on global north data may prioritize frameworks that overlook Kenya's unique socio-cultural dynamics, perpetuating intellectual inequalities (Patel & Gupta, 2021). This marginalization undermines local scholarship, as IT innovations or psychological interventions may fail to address Kenya-specific challenges like informal economies or community-based learning. The digital divide further exacerbates disparities, with urban universities like those in Nairobi

accessing advanced AI tools more readily than rural institutions, creating uneven research capabilities (Munyua, 2020). Studies from other developing nations echo this concern, noting that unequal access to technology widens academic gaps (Garcia & Torres, 2022). Addressing these biases and inequities requires intentional efforts to develop AI tools that incorporate African datasets and prioritize inclusivity in both fields.

Peer review processes in Kenyan universities are currently ill-equipped to evaluate AI-assisted theses without significant adaptation. Scholars propose mandatory disclosure of AI use to ensure transparency in assessing contributions to IT code or psychological arguments (Ngugi&Otieno, 2022). Training reviewers to critically evaluate AI-generated content, such as distinguishing human-derived insights from machine outputs, is essential for maintaining academic rigor (Kamau&Njoroge, 2022). Proposed frameworks emphasize documenting the extent of AI involvement, which could involve detailed logs of tool usage and their impact on the research process (Brown & Taylor, 2023). Kenyan universities must tailor these solutions to their institutional and digital realities, ensuring that AI enhances rather than undermines local IT and Education Psychology research (Ochieng&Kyalo, 2023). By implementing structured guidelines and reviewer training, institutions can leverage AI's benefits while mitigating its ethical risks, fostering a balanced approach to academic innovation (Mutula, 2019).

IV. Methodology

This study employs a mixed-methods approach per PRISMA guidelines to investigate ethical concerns in AI-assisted thesis writing in IT and Education Psychology (Page et al., 2021). Scoping reviews analyzed 187 publications (2018–2024) from IT (31%), Education Psychology (30%), and ethics journals (39%) using stratified sampling (Webster & Watson, 2002). A 25-item Likert-scale questionnaire (Cronbach's α=0.89) gathered insights from 22 experts in AI ethics, IT, and Education Psychology (Hsu &Sandford, 2007). An AI detection toolkit combined Turnitin AI with Python scripts to analyze thesis patterns. Document analysis reviewed policies from 17 publishers (Elsevier, 2023; IEEE, 2022), and focus groups with eight editorial boards provided insights (Krueger & Casey, 2014).

To further enhance the study's robustness, a comparative analysis was conducted on a subset of 30 theses (15 AI-assisted, 15 human-written) across IT and Education Psychology disciplines, focusing on linguistic and structural differences using natural language processing techniques (Manning &Schütze, 1999). This analysis employed cosine similarity and sentiment analysis to identify distinct patterns in AI-generated versus human-authored texts, achieving a classification accuracy of 88%. These findings were triangulated with qualitative insights from focus groups, revealing nuanced ethical concerns such as authorship attribution and the potential for AI to obscure critical thinking in academic writing. This additional layer of analysis strengthened the study's ability to differentiate AI contributions and informed the refinement of the ethical framework (Blei et al., 2003).

Quantitative analysis used SPSS v28 for descriptive and inferential statistics (Field, 2018). Qualitative data underwent three-phase coding, identifying 47 concerns, organized into 12 themes (Krippendorff's α=0.83) (Corbin & Strauss, 2015). Latent Dirichlet Allocation revealed discourse patterns (Blei et al., 2003). The framework, developed via Delphi method (85% consensus), was tested on 100 theses (50 AI-assisted, 50 human-written), yielding an F1 score of 0.91 (Sokol&Flach, 2020). Simulations with 15 researchers refined usability for IT and Education Psychology contexts (Braun & Clarke, 2006). Ethical considerations included IRB approval, informed consent, and encrypted data storage. No generative AI was used beyond literature searches (Stokel-Walker, 2022). Limitations include English-language focus and evolving AI tools, mitigated by expert input (Lund & Wang, 2023).

V. Results and Discussions

The systematic review revealed four predominant ethical issues in AI-assisted thesis writing: authorship ambiguity (68% of analyzed papers), disclosure deficiencies (72%), algorithmic bias (54%), and accountability gaps (61%). These are severe in IT and Education Psychology due to technical complexity and contextual nuances in Kenyan universities (Hagendorff, 2020). Notably, 83% of AI-generated theses contained detectable factual inaccuracies escaping initial peer review, supporting calls for enhanced protocols (Perkins et al., 2023). The results highlight the need for discipline-specific guidelines, as generic AI policies were inadequate for 78% of ethical dilemmas in IT and Education Psychology.

The proposed framework achieved 91% accuracy in identifying AI-generated content and 89% acceptance of legitimate human-AI collaboration ($p < 0.01$), reducing ethical violations by 42% compared to conventional methods. The table below summarizes the framework's performance and discipline-specific ethical issues.

Metric	IT Theses	Education Psychology Theses	Combined
Detection Accuracy (%)	90	92	91
Collaboration Acceptance (%)	88	90	89
Code Plagiarism Prevalence (%)	37	-	-
Synthetic Data Prevalence (%)	19	-	-
Irrelevant Theories Prevalence (%)	-	28	-
Ethical Violation Reduction (%)	40	44	42

Delphi panel feedback highlighted challenges in assessing "gray area" submissions with partial AI use, such as IT literature reviews or psychological theory drafts (Raji et al., 2022). These require graduated disclosure rather than binary classifications. IT-specific vulnerabilities included code plagiarism (37%) and synthetic data fabrication (19%), while Education Psychology showed contextually irrelevant theories (28%). Framework customization addressed these through code repository checks for IT and contextual relevance training for Education Psychology. Early-career researchers reported 32% greater confidence using the framework ($t = 4.21$, $df = 14$, $p < 0.001$), though non-technical reviewers faced challenges.

Practical adoption challenges included 64% of editors citing resource constraints and 41% of authors fearing disclosure stigma (Lund & Wang, 2023). A staged rollout for high-impact journals gained 76% support as a balanced approach. An unexpected finding was the framework's educational impact, with 67% of researchers reporting improved ethical AI understanding, suggesting dual roles as quality control and teaching tool (Stokel-Walker, 2022). However, some "AI washing" attempts were noted, necessitating ongoing framework evolution.

Benchmarked against COPE and IEEE standards, the framework showed superior performance in IT and Education Psychology contexts, with 29% better violation detection,38% improved reviewer consistency, and 25% higher compliance. Its three-lens approach suits both fields' needs (Bommasani et al., 2021). Results highlight three priority areas: dynamic updates for AI advancements, training for non-technical reviewers, and standardized APIs. The 22% false positive rate suggests refinement needs. The study offers insights for other disciplines, emphasizing human-AI collaboration (Raji et al., 2022).

Recommendations

Generative AI's integration into IT and Education Psychology thesis writing requires comprehensive guidelines distinguishing full, partial, or incidental AI use. Peer review must combine technical checks (IT code, data) and contextual analysis (psychological theories) with AI detection tools and human expertise. Training programs should enhance AI literacy for researchers and reviewers, with shared

resources like disclosure templates tailored to both fields. Dynamic governance, including AI ethics boards, should ensure adaptability. Pilot programs in leading journals should model best practices. Future research should explore AI's longitudinal impacts, cultural variations, and sensitive domains like cybersecurity and educational interventions.

VI. Conclusions

Generative AI in IT and Education Psychology thesis writing offers significant opportunities but poses ethical challenges, including authorship ambiguity, disclosure deficiencies, bias, and accountability gaps. The proposed peer review framework, with 91% detection accuracy, addresses these issues through robust technical and contextual evaluations, supporting legitimate collaboration (89% acceptance). Discipline-specific adaptations are crucial, as generic guidelines often fail to meet the unique needs of IT and Education Psychology, where precision in technical terminology and nuanced understanding of psychological theories are paramount. Ongoing education and dynamic governance are vital to balance innovation and integrity, ensuring AI enhances Kenya's academic and developmental goals without compromising ethical standards. Furthermore, integrating AI literacy into academic curricula can empower students and researchers to critically evaluate AI-generated outputs, fostering responsible use and mitigating risks of over-reliance or plagiarism. This proactive approach strengthens Kenya's academic ecosystem, aligning technological advancements with ethical scholarship and national development priorities.

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