East African Journal of Education and Social Sciences
EAJESS November-December 2025, Vol. 6, No. 6, pp. 16-25.
ISSN: 2714-2132 (Online), 2714-2183 (Print). Published by G-Card
DOI: https://doi.org/10.46606/eajess2025v06i06.0468.

Bridging the Gap between AI Tool Adoption and Institutional Readiness in Academic Writing and Review Practices among Higher Learning Institutions in Dar es Salaam, Tanzania

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Abstract
This study investigated the adoption and integration of Artificial Intelligence (AI) tools in academic writing and review practices among academic staff in selected higher learning institutions (HLIs) in Dar es Salaam, Tanzania. Employing a convergent mixed-methods design, data was collected from 59 academic staff and 10 key informants across seven institutions. Findings reveal high individual awareness and practical use of AI tools, such as ChatGPT, Grammarly and Turnitin, primarily to enhance writing quality, manage workload and support research productivity. However, institutional readiness remains uneven, constrained by inadequate digital infrastructure, limited access to licensed tools and unclear policies and ethical guidelines. While staff ethical awareness is generally high, formal governance frameworks are insufficient to guide responsible AI use. The study concludes that sustainable and credible AI integration depends on aligning individual initiative with strategic institutional support, including policy development, infrastructure investment, capacity building and ethical oversight. Recommendations include formalizing AI governance, embedding AI-supported writing into staff development and training and fostering regional and international collaboration to enhance responsible adoption and global academic visibility.

Keywords: AI Ethics; artificial intelligence; academic writing; institutional readiness; higher education.

How to cite: Luwavi, E. O. and Kumbo, L. I. (2025). Bridging the Gap between AI Tool Adoption and Institutional Readiness in Academic Writing and Review Practices among Higher Learning Institutions in Dar es Salaam, Tanzania**.** East African Journal of Education and Social Sciences 6(6), 16-25.
DOI: https://doi.org/10.46606/eajess2025v06i06.0468.

Introduction
The rise of AI is significantly changing the terrain of higher education. AI is becoming an integral part of how research is thought about, produced and assessed. Not only is AI use becoming ubiquitous in personalized learning, but it is also making research tasks more efficient (Imran et al., 2024). On every university campus, professors are now widely using software, such as ChatGPT for writing, Grammarly for style and Turnitin for plagiarism detection. Such software is more than a grammar checker that catches instances of plagiarism; these solutions make research work easier for academics, who can now focus more intensely on research development (Tran et al., 2025).

Scholarly publishing has long functioned as a bedrock of excellence within higher education institutions, serving both as the primary medium for

scholarly interaction and as a key benchmark for evaluating research quality and impact (Shata & Hartley, 2025). This role is further reinforced by university ranking systems, which rely predominantly on research performance indicators. A UNIRANKS report released in July 2025 and reported by The Citizen Tanzania (2025, July 5) indicates that Tanzanian institutions of higher learning continue to lag behind their regional counterparts in publication output. The University of Dar es Salaam ranks 32nd in Africa while Sokoine University of Agriculture ranks 96th; however, neither institution attains "elite" status under the UNIRANKS classification. This is primarily due to underperformance on critical indicators, particularly high-impact journal publications, citation influence, and sustained international research collaboration. These indicators are central to elite-status designation, and their relative absence reflects structural and systemic challenges in research productivity rather than a lack of institutional relevance at the national level.

In light of this, Tanzanian Higher Learning Institutions (HLIs) need to reassess how they can optimize their plans to increase the efficiency of academic writing for publication (Mambile & Mwogosi, 2024). Imran et al. (2024) believe that the role that AI plays in scientific development cannot be overemphasized, especially in bridging the language/technology divide that hampers academic publication.

Despite growing global evidence on AI-supported academic writing, empirical work in Tanzania has focused mainly on general Information and Communication Technology (ICT) integration and digital readiness, with limited attention to how academic staff specifically adopt generative AI tools for writing and review and how this adoption aligns (or misaligns) with institutional preparedness in infrastructure, policy, training and ethics. Consequently, there is limited evidence on how AI tool use by academic staff in Tanzanian HLIs is influenced by individual perceptions of usefulness, ethical awareness and institutional governance and capacity. This study addresses this gap by examining patterns of AI tool adoption and application in academic tasks, assessing perceptions of usefulness in teaching, research and writing while evaluating institutional readiness to support AI integration and exploring ethical awareness and the presence of formal guidelines for responsible AI use in selected HLIs in Dar es Salaam.

Related Literature and Studies

Globally, AI has evolved from being a topic of theoretical interest to becoming a practical and indispensable tool within higher education systems. What was once limited to research laboratories and experimental studies is now actively shaping the way universities operate daily (McBride & Garcés-Manzanera, 2024). Today, AI is widely embedded in core areas, such as teaching, research and administrative functions across institutions of higher learning. In the classroom, AI technologies support personalized learning, automate grading and help educators adapt content to different learning styles (Imran et al., 2024). In research, AI tools streamline literature reviews, assist with data analysis and support academic writing. Administratively, universities use AI to manage enrolment systems, student support services and institutional planning.

This widespread integration is not happening in isolation; it is being guided by emerging policy and governance frameworks designed to encourage innovation while ensuring that academic standards, integrity and ethical practices are maintained (Khairullah et al., 2025). In academic writing, in particular, AI-powered tools, such as Grammarly, Trinka, Wordtune and Elicit.org have become standard in many institutions. These platforms provide real-time feedback on grammar, tone and sentence structure, help organize ideas into coherent arguments and significantly reduce the time needed to search for and synthesize relevant literature (McBride & Garcés-Manzanera, 2024). As a result, both faculty and students are increasingly relying on AI to enhance the quality, efficiency and impact of their academic work (Sebihi et al., 2025).

In Africa, early adopters such as Rwanda and Kenya show how a sense of policy vision and development can quicken the adoption of AI within universities, leading to increased research efficiency and appropriate use of learning resources (Sebihi et al., 2025). On the other hand, the Africa debate points to the challenges inherent in AI, which, in the lack of proper ethics and authoring, threatens to disrupt equity, accountability and the integrity of research publication (Chisom et al., 2024).

In Tanzania, system-wide digitization projects, especially the Higher Education for Economic Transformation (HEET), have strengthened the basic infrastructure and capacity. AI adoption in these institutions, though, is still largely ad hoc, uneven and dependent on individual initiative (Mambile &

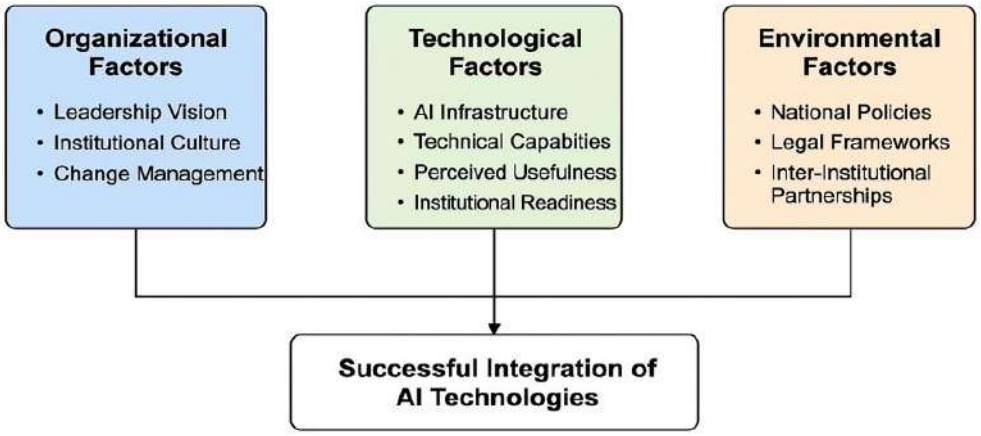
Mwogosi, 2024; Matto & Ponera, 2025). The most recent research on digitization readiness indicates a rise in faculty familiarity with AI applications but lack of clarity on ethics, governance and readiness still exist (Ponera & Madila, 2024; Bakiri et al., 2024).

Literature shows increasing use of AI-assisted writing and research across higher education but also emphasizes governance challenges linked to authorship, integrity and accountability (Kamanzi, 2025). In Tanzania, adoption of AI remains uneven and mainly driven by individual initiative while institutional policies, staff development mechanisms and infrastructural readiness lag behind (Matto & Ponera, 2025). There is limited empirical work that jointly examines how academic staff use AI tools in writing and review and whether institutions are ready to support that use through infrastructure, training and ethical governance. This study responds to the gap within the context of Dar es Salaam HLIs.

Conceptual Framework

Guided by Kurup and Gupta (2022), AI adoption framework, this study models AI integration in academic writing and review as a function of three interdependent dimensions (Figure 1): organizational, technological and environmental factors. Organizational readiness (leadership commitment, institutional culture and change management) shapes whether AI use is supported and governed. Technological capacity (internet reliability, access to licensed tools and staff technical competence) influences the feasibility and quality of adoption. Environmental factors (national policies, regulatory expectations, professional norms and partnerships) provide external enablers or constraints. Effective and sustainable AI adoption occurs when these dimensions align: organizational readiness enables investment and governance, technological capacity supports implementation and environmental conditions reinforce responsible use and institutional competitiveness.

Figure 1: Conceptual framework



Methodology

This section outlines the methodological approaches employed to investigate the adoption of artificial intelligence (AI) tools in academic writing and review practices among academic staff in selected higher learning institutions in Dar es Salaam, Tanzania.

Design

This study employed a descriptive cross-sectional research design within a convergent parallel mixed-methods approach. The descriptive cross-sectional design allowed the researchers to examine the phenomena under investigation.

Population and Sampling

The study was conducted in the Dar es Salaam Region and focused on NACTVET-accredited higher learning institutions. Academic staff and institutional stakeholders involved in teaching, research, ICT coordination, and quality assurance constituted the target population. Seven institutions—National Institute of Transport (NIT), Dar es Salaam Marine Institute (DMI), Dar es Salaam Institute of Technology (DIT), College of Business Education (CBE), Institute of Finance Management (IFM), and the Water Institute (WI)—were purposively selected to reflect institutional diversity and active ICT-enabled academic practices. From the fourteen NACTVET-accredited institutions in Dar es Salaam, selection was based on functional ICT infrastructure, research activity and the availability

of research-active staff. Institutions with limited ICT capacity or low research output were excluded.

The target population comprised 184 academic staff, from whom 59 respondents were selected using stratified purposive sampling to ensure representation across academic ranks and disciplines. This facilitated the examination of AI awareness, usage and perceived usefulness. Additionally, ten key informants were purposively selected based on strategic roles in ICT governance, academic leadership, and research management, providing institutional perspectives on infrastructure, policy, training, and ethical considerations. Table 1 presents the key informants.

Table 1: Details of Key Informants Involved in the Study

SN	Name of HEI	KI Involved	KIs
1	National Institute of Transport	ICT Director, Lecturer (ICT), Assistant Lecturer (ICT)	3
2	Dar es Salaam Marine Institute	Senior Lecturer (ICT)	1
3	Dar es Salaam Institute of Technology	Lecturer (ICT	1
4	College of Business Education	Assistant Lecturer (ICT)	1
5	Institute of Finance Management	Senior Lecturer (ICT)	1
6	Institute of Accountancy Arusha	Lecturer (ICT), Assistant Lecturer (ICT)	2
7	Water Institute	Lecturer	1
		TOTAL	10

The semi-structured interviews complemented the survey by capturing in-depth insights into institutional strategies, challenges and enabling conditions for AI adoption. Specifically, the interviews explored leadership perceptions, policy direction, infrastructure gaps, staff capacity and ethical considerations in AI use. The qualitative component helped uncover contextual factors that influence implementation, offering a nuanced understanding beyond what structured survey responses could provide.

Instruments

Two main instruments guided data collection: a structured questionnaire and a semi-structured interview guide. The questionnaire assessed five key constructs: AI awareness, tool usage, perceived usefulness, readiness to adopt AI and ethical awareness. These constructs were operationalized using items adapted from the Unified Theory of Acceptance and Use of Technology developed by Venkatesh et al. (2003), which identifies key determinants of technology acceptance performance expectancy, effort expectancy, social influence, and facilitating conditions as predictors of behavioral intention and actual usage. Ibrahim et al. (2025) further adapted this framework for generative AI, tailoring items to reflect AI-specific adoption behaviors, perceived utility in academic writing and contextually relevant ethical considerations.

The semi-structured interviews complemented the survey by capturing in-depth insights into institutional strategies, challenges and enabling conditions for AI adoption. Specifically, the interviews explored leadership perceptions, policy direction, infrastructure gaps, staff capacity and ethical considerations in AI use. The qualitative component helped uncover contextual factors that influence implementation, offering a nuanced understanding beyond what structured survey responses could provide.

Measurement of Variables

The questionnaire measured five key constructs related to AI integration: awareness, tool usage, perceived usefulness, readiness and ethical awareness. These constructs were operationalized using structured Likert-type scales to ensure consistency and comparability across responses. AI awareness was measured using a 5-point scale ranging from "Not aware" to "Very aware." This captured respondents' self-reported knowledge of AI tools commonly used in academic settings and their understanding of how these tools relate to teaching, writing and research activities. Awareness was included as a foundational variable, as it influences both perception and usage.

AI tool usage was assessed using a 5-point frequency-based scale ranging from "Never" to "Very often." This construct measured how regularly respondents used specific AI tools in their academic work. The instrument focused on practical engagement rather than theoretical familiarity, offering insight into day-to-day application. Perceived usefulness was measured using agreement scales to determine the extent to which respondents viewed AI tools as beneficial in

enhancing efficiency, accuracy and productivity in academic tasks. This helped assess the motivational factors influencing AI adoption among academic staff.

Readiness to adopt AI referred to respondents' willingness and openness to integrating AI tools into their teaching, writing or research workflows. This was measured using a standard agreement scale, focusing on behavioral intention and institutional support mechanisms. Ethical awareness examined respondents' understanding of the ethical implications of using AI in academic contexts, including plagiarism, authorship, data privacy and academic integrity. This construct helped assess the level of responsible AI use among staff. These categorical variables were used to segment the data for comparative analysis and to explore potential differences in AI adoption across demographic and professional profiles.

Validity and Reliability

In the quantitative phase of the study, the survey instrument underwent initial validation through pre-testing with ten academic staff members not included in the main sample. While this number is insufficient to establish statistical reliability, the pre-test assessed the clarity, structure and relevance of the survey items. Feedback from the participants informed minor adjustments to the question wording and response options, enhancing the instrument's overall usability and face validity.

To assess the reliability of the survey instrument, a pilot test was conducted with a small group of academic staff (n = 10) before the main data collection. Cronbach's Alpha was calculated for the quantitative items to assess internal consistency, yielding acceptable reliability scores across the five core constructs: AI awareness, tool usage, perceived usefulness, readiness to adopt AI and ethical awareness. All constructs recorded values above the widely accepted threshold of 0.70 Cronbach's Alpha, indicating acceptable internal reliability for exploratory research.

Although the pilot sample was small, it was deemed sufficient for preliminary assessment of the survey instrument's coherence and clarity, as recommended in early-stage instrument development (Nunnally & Bernstein, 1994). The main study then applied the finalized instrument to a larger sample of 59 respondents, which provided a more robust basis for full-scale reliability and validity analyses. While Cronbach's Alpha confirms internal consistency within each construct, future studies with larger datasets could employ confirmatory factor analysis to further strengthen construct validity.

For the qualitative component, alternative criteria were used to ensure methodological rigor as traditional notions of validity and reliability are not directly transferable to qualitative inquiry. Credibility was achieved through participant validation (member checking), where selected interviewees reviewed transcripts and their interpretations to confirm accuracy and authenticity. Transferability was supported by providing detailed descriptions of institutional contexts and participant backgrounds, allowing readers to assess the relevance of findings in comparable settings.

Dependability was addressed through cross-institutional triangulation, which involved comparing interview responses across the seven institutions represented in the qualitative sample. This process helped ensure consistency and coherence in the emerging themes. Confirmability was reinforced by maintaining an audit trail that documented analytical decisions, coding processes and reflective notes, ensuring that the findings were grounded in the data rather than researcher bias. Together, these measures enhanced the trustworthiness of the qualitative findings and complemented the reliability established in the quantitative component.

Statistical Treatment of Data

Quantitative responses were analyzed using SPSS, with descriptive statistics employed to summarize patterns, frequencies and central tendencies across key variables such as AI awareness, tool usage, perceived usefulness, and readiness to adopt AI. Coded qualitative transcripts were analyzed using thematic analysis following the framework proposed by Kurup and Gupta (2022), which emphasizes systematically identifying, coding and categorizing recurring themes to reveal patterns in perceptions, experiences and contextual factors. This combined approach enabled the triangulation of quantitative and qualitative findings, providing a comprehensive understanding of how AI tools can be effectively integrated into the daily academic and research activities of staff in Tanzanian higher learning institutions (Ahmed et al., 2025).

Ethical Considerations

Ethical safeguards were applied to protect participants' rights, privacy and confidentiality. Permission to conduct the study was obtained through formal institutional approval processes in the participating institutions prior to data collection. Participation was voluntary and based on informed consent; respondents received an information sheet explaining the study purpose, procedures, risks and benefits and provided consent before completing the questionnaire or interviews. No personal identifiers were collected in the questionnaire and interview data was anonymized during transcription. All records were stored securely, with access limited to the researcher. Findings are reported in aggregated form and through non-identifiable quotations to ensure confidentiality.

Results and Discussion

This section presents key findings of the study, organized by guiding research questions. The findings integrate qualitative and quantitative data to answer the research questions. Supporting literature is used to deepen the interpretation and to situate the findings in a scholarly context.

Research Question 1: What is the level of awareness and usage of AI tools among academic staff in Tanzanian HLIs?

Awareness

Table 2 presents the level of awareness of AI tools among the 59 selected academic staff who participated in the survey.

The findings in Table 2 indicate a generally high level of awareness of AI tools, with 73.3% of respondents reporting awareness or being very aware. The absence of respondents indicating no awareness suggests that generative AI has become visible within Tanzanian higher education institutions, possibly due to its growing presence in global academic discourse, digital platforms and informal scholarly networks. However, the 26.7% reporting only somewhat awareness implies that familiarity remains at the surface-level, with limited understanding of practical application, ethical implications and institutional expectations. Supporting explanations drawn from participant accounts indicate that awareness is primarily developed through peer interactions, self-directed online engagement and academic discussions rather than through structured institutional initiatives, pointing to externally driven, uneven knowledge development rather than coordinated institutional capacity-building efforts. As one participant noted: "Most of what I know about AI tools comes from colleagues and online academic discussions, not from formal training."

Table 2: Awareness of AI Tools among Academic Staff (n = 59)

Level of Awareness	Frequency	Percentage (%)	Cumulative %
Very aware	18	30	30
Aware	26	43.3	73.3
Somewhat aware	15	26.7	100
Not aware	0	0	100
Total	**59**	**100**	**100**

This reliance on self-directed exposure aligns with findings by Imran et al. (2024) and Zhai et al. (2024), which highlight that emerging digital tools in developing higher education contexts often diffuse through informal networks before formal adoption. While such channels enhance visibility and initial familiarity, they can also lead to fragmented understanding, especially regarding responsible and ethical use (Chisom et al., 2024). Overall, the findings depict a landscape where AI awareness is high but uneven, underscoring the need for structured institutional engagement to consolidate knowledge, ensure ethical practice and promote informed adoption.

Usage

Table 3 (p. 22) presents an overview of how frequently academic staff used selected AI tools in their academic work. The table highlights variations in usage patterns, indicating the most integrated tools into routine academic activities. The table demonstrates a clear preference for generative AI tools, defined as applications that support idea generation, drafting and language enhancement, compared to governance-oriented tools, which are primarily used for plagiarism checking and AI-content detection. ChatGPT is the most extensively used tool, with 43.3% of academic staff reporting often use and 11.7% reporting always use while only 11.7% indicate never using it.

Grammarly shows moderate but consistent engagement with the largest share of respondents (41.7%) reporting sometimes use alongside 25.0% using it often and 13.3% always. Turnitin also records substantial use, with 31.7% of respondents indicating often use and 13.3% always, reflecting its embedded role in academic quality assurance processes.

Table 3: Frequency of AI Tool Usage among Academic Staff (n = 59)

AI Tool	Never		Sometimes		Often		Always (%)	
	F	%	F	%	F	%	F	%
ChatGPT	7	11.7	20	33.3	25	43.3	7	11.7
Grammarly	12	20	24	41.7	15	25	8	13.3
Turnitin	11	18.3	21	36.7	19	31.7	8	13.3
Originality AI	21	36.7	17	28.3	13	21.7	8	13.3
GPTZero	21	36.7	18	30	14	23.3	6	10

Table 4: Application of AI Tools in Academic Writing and Review (n = 59)

Academic task supported by AI	Frequency	Percentage (%)
Idea generation and outlining	47	79.7
Drafting academic content	45	76.3
Language editing and grammar	40	67.8
Plagiarism checking	38	64.4
Originality/AI detection	19	32.2

In contrast, governance-oriented AI-detection tools show comparatively of lower uptake and higher non-use. More than one-third of respondents report never using Originality AI (36.7%) and GPTZero (36.7%) while often use remains limited at 21.7% and 23.3%, respectively. Always use is reported by only 13.3% of respondents for Originality AI and 10.0% for GPTZero. These patterns suggest that academic staff prioritize tools that provide immediate and practical support for writing and teaching tasks over those designed for monitoring and enforcement. Overall, AI tool adoption appears to be driven more by perceived usefulness and ease of integration into daily academic work than by institutional governance mechanisms, consistent with established technology adoption models such as TAM and UTAUT.

Research Question 2: How are AI tools applied in the academic writing and review processes?

This research question examined specific academic tasks for which academic staff applied the AI tools, highlighting patterns of use, underlying motivations and structural limitations. Quantitative findings are first presented to establish dominant application areas, followed by qualitative evidence to explain observed patterns and scholarly literature to deepen the interpretation. Table 4 summarizes the main academic tasks supported by AI tools among the 59 surveyed academic staff.

AI tools were predominantly applied in the early and middle stages of academic writing, with idea generation (79.7%), drafting (76.3%), language editing (67.8%) and plagiarism checking (64.4%) emerging as the most common applications. In contrast, AI-detection or originality tools (GPTZero, Originality AI) were used by only 32.2% of staff, highlighting a sharp distinction between generative and governance-oriented tools. Generative tools, such as ChatGPT and Grammarly, are highly valued for structuring arguments, developing drafts and improving linguistic clarity while plagiarism checkers, often integrated into platforms like Turnitin, ensure adherence to academic integrity standards. Detection tools, in this context, are designed to identify AI-generated content and evaluate originality but their adoption is limited due to restricted access, uncertain reliability and weak institutional support. One participant noted, "ChatGPT helps structure arguments and draft content quickly while Grammarly ensures the language meets publication standards."

These patterns link directly to the Technology Acceptance Model and UTAUT, which emphasize perceived usefulness and ease of integration as key adoption drivers. Academic staff clearly favored tools that deliver immediate productivity gains. This mirrors prior research (Barroga & Matanguihan, 2021; Tran et al., 2025), showing that AI adoption remains task-focused and efficiency-driven, enhancing writing and teaching outcomes.

Research Question 3: How do academic staff perceive the usefulness of AI tools in academic tasks?

In response to the third research question, Table 5 presents quantitative findings on academic staff perceptions regarding the usefulness of AI tools in supporting academic activities.

The results indicate that academic staff perceive AI tools as highly useful in their professional work. A substantial majority of respondents reported that AI tools save time (86.4%) and reduce routine workload (84.7%). In addition, 81.4% indicated that AI improves the quality of academic writing while 79.7% noted its contribution to enhanced teaching preparation.

Table 5: Perceived Usefulness of AI Tools in Academic Tasks (n = 59)

Perceived Usefulness Statement	Agree / Strongly Agree	
	f	%
AI tools save time in academic work	51	86.4
AI tools improve the quality of academic writing	48	81.4
AI tools enhance efficiency in teaching preparation	47	79.7
AI tools support research productivity	45	76.3
AI tools reduce routine academic workload	50	84.7

Table 6: Perceived Institutional Readiness for AI Adoption (n = 59)

Perception of institutional readiness	Frequency	Percentage (%)
Institution is ready	22	36.7
Neutral/unsure	22	36.7
The institution is not ready	16	26.6
Total	**59**	**100**

Furthermore, 76.3% of the respondents reported that AI tools support research productivity. Collectively, these findings demonstrate that AI is highly valued for enhancing efficiency, effectiveness and productivity across both teaching and research activities.

Interviews confirmed the quantitatively reported patterns, with participants highlighting that AI supports managing heavy workloads, structuring arguments and refining language. One noted, “AI helps manage large volumes of reading and writing, allowing me to focus on analysis and conceptual work” while another added, “Using AI tools improves my writing and saves time when juggling multiple responsibilities,” illustrating how perceived usefulness translates into practical, task-focused adoption. These insights align with the Technology Acceptance Model and the Unified Theory of Acceptance and Use of Technology (Venkatesh et al., 2003), which highlight perceived usefulness as a key driver of adoption. Empirical studies further corroborate these findings, showing that academics are more likely to adopt AI tools that provide measurable productivity gains without undermining intellectual autonomy (Jin et al., 2024; Tran et al., 2025). Collectively, the evidence suggests that positive perceptions of usefulness underpin the integration of AI into routine academic workflows, even when institutional support is limited.

Research Question 4: To what extent are Tanzanian higher learning institutions ready to support the adoption and sustained use of AI tools?

In response to the fourth research question, Table 6 summarizes the perception of the academic staff regarding perceived institutional readiness to support the adoption and sustained use of AI.

The findings indicate a mixed perception of institutional readiness for AI adoption, with 36.7% of respondents considering their institutions prepared, 36.7% uncertain, and 26.6% viewing them as not ready. This variation reflects inconsistency across institutions, highlighting a gap between individual capability and institutional support. Interviews show that uneven readiness stems from unstable internet connectivity, limited access to licensed AI platforms and insufficient technical support, with training opportunities described as sporadic or absent. As one participant noted, “We have internet, but it is unstable, and there is no access to licensed AI tools; most of what I use is free and self-taught.” These findings suggest that institutional readiness for AI adoption is uneven, consistent with literature indicating that readiness and effective technology integration depends on coordinated infrastructure, clear governance, and institutional support (Matto & Ponera, 2025; Kurup & Gupta, 2022).

Research Question 5: How ethically aware are academic staff of AI use, and are institutional guidelines in place?

In response to the fifth research question, Table 7 summarizes academic staff's ethical awareness regarding the AI tool use, highlighting varying levels of familiarity with its responsible and appropriate application in academic tasks.

Table 7 indicates that ethical awareness of AI use among academic staff is generally high, with 73.8% of respondents reporting high awareness while 26.2% reporting moderate awareness while no respondents reported low awareness. These results suggest a broad recognition of ethical considerations related to AI use in academic work.

Qualitative findings complement the survey results by revealing concerns about the adequacy of institutional guidance. Participants noted that existing academic policies and plagiarism-detection mechanisms have not been sufficiently updated to address AI-generated content, resulting in uncertainty regarding acceptable use.

Table 7: Ethical Awareness Related to AI Use (n = 59)

Level of ethical awareness	Frequency	Percentage (%)
High awareness	44	73.8
Moderate awareness	15	26.2
Low awareness	0	0
Total	**59**	**100**

One participant remarked, "There are no clear rules on how AI should be used, and detection systems often miss AI-generated text." Similar gaps between individual awareness and institutional governance have been reported in recent studies, which emphasize that the absence of explicit AI-specific guidelines can lead to inconsistent practices and increased ethical risk in academic outputs (Chisom et al., 2024; Liu et al., 2024).

Conclusions

This study concludes that patterns of AI use, perceived academic value, institutional readiness and ethical awareness and governance underscore the need for stronger institutional coordination in AI integration within Tanzanian higher education institutions. While academic staff actively use AI across teaching and research, sustainable and credible adoption depends on clear policies, ethical frameworks, adequate infrastructure and capacity development. Aligning individual innovation with institutional strategy is therefore essential to ensure that AI adoption strengthens scholarly practice while safeguarding academic standards.

Recommendations

The study recommends that Tanzanian higher learning institutions formalize AI adoption by establishing clear policies and ethical guidelines. AI-supported academic writing and research tools should be integrated into staff development programs and postgraduate training, supported by sustained investment in licensed platforms and reliable digital infrastructure. Continuous capacity-building initiatives are essential to ensure effective and ethical AI use. The study recommends collaboration with regional and international partners to expand access to resources, share best practices and strengthen the strategic and responsible use of AI in higher education.

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