

Responsible Governance of Generative Artificial Intelligence in University Research: A Qualitative Study from AIOU

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Abstract

The unprecedented proliferation of Generative Artificial Intelligence (GenAI) technologies including large language models such as Chat GPT, Google Gemini, Microsoft Copilot, and Claude has fundamentally reshaped the epistemic landscape of university research worldwide. These tools, capable of generating academic text, synthesizing scientific literature, producing bibliographic entries, assisting in data coding, and even drafting complete manuscripts, have found rapid and largely unregulated adoption among researchers in both developed and developing countries. While the democratizing potential of these technologies is considerable particularly for researchers in resource, constrained settings their integration into university research environments raises profound and interrelated concerns about academic integrity, research authenticity, epistemic autonomy, intellectual property, and institutional accountability. This qualitative study investigates the responsible governance of Generative AI in university research at Allama Iqbal Open University (AIOU), Pakistan's leading open and distance learning institution and one of the largest universities in Asia by enrollment. The study is guided by two primary research objectives: (1) to identify the level of stakeholder apprehension regarding the role of research in fostering quality education in the context of AI integration; and (2) to explore the awareness and preparedness of researchers regarding the use of Generative AI tools for research purposes. Grounded in a phenomenological qualitative research design, data were gathered through semi, structured individual interviews and focus group discussions with 32 participants drawn from three stakeholder groups: faculty members, postgraduate researchers, and university administrators. Thematic analysis of the data revealed five overarching themes: (a) pervasive and multidimensional stakeholder apprehension regarding Gen AI's threat to research integrity and educational quality; (b) a bifurcated view of Gen AI's educational implications, oscillating

between democratizing opportunity and intellectual dependency risk; (c) heterogeneous and often superficial awareness of GenAI tools among researchers, characterized by surface, level familiarity without critical understanding; (d) critical institutional unpreparedness marked by an absence of formal policy, detection mechanisms, and accountability structures; and (e) an urgent and widely recognized need for structured training, capacity building, and cultural change. The study concludes with a comprehensive set of policy recommendations for AIOU and national, level governance bodies, situating them within an actionable responsible innovation framework tailored to the open and distance learning context.

Keywords: Generative Artificial Intelligence, AI Governance, University Research, AIOU, Academic Integrity, Qualitative Study, Higher Education, Pakistan, Open and Distance Learning, Responsible Innovation, Digital Literacy

1. Introduction

1.1 Background and Context

The emergence of Generative Artificial Intelligence (GenAI) as a mainstream technology in higher education represents one of the most consequential shifts in the history of academic research. Since the public release of Chat GPT by Open AI in November 2022, followed rapidly by Google Bard (subsequently Gemini), Microsoft Copilot, Anthropic's Claude, and a proliferating ecosystem of domain, specific AI research tools, universities across the world have been forced to confront profound questions about the nature of authorship, scholarly originality, intellectual labor, and institutional accountability (Baidoo, Anu & Ansah, 2023; Lo, 2023). These questions are not merely technical but deeply ethical and pedagogical, touching on the foundational purposes of university education and the values that underpin the production of trustworthy knowledge (Cope & Kalantzis, 2023).

GenAI tools operate through large language models (LLMs) trained on vast corpora of text data, enabling them to generate contextually coherent, fluent, and informationally rich text in response to natural language prompts (Weidinger et al., 2021). Their capacity to assist with literature synthesis, hypothesis generation, methodological planning, statistical interpretation, academic writing, and citation management has made them extraordinarily attractive to researchers operating under time pressure, resource constraints, or language barriers (Zhai, 2022). However, these capabilities are inseparable from well, documented limitations: LLMs are prone to generating plausible, sounding but factually incorrect content so, called 'hallucinations' lack the ability to perform genuine reasoning or causal inference, and can reproduce copyrighted material, perpetuate biases embedded in their training data, and facilitate academic dishonesty when used without transparency (Bender et al., 2021; Marcus & Davis, 2019).

In the context of Pakistani higher education, the challenges posed by GenAI governance are both structurally distinctive and urgently pressing. Pakistan's university system is characterized by significant variation in institutional capacity, digital infrastructure, and research culture. While elite universities in major urban centers may have the resources and technical expertise to develop and implement

AI governance frameworks, the vast majority of institutions particularly those serving non, traditional and distance learners operate with considerably fewer resources and face unique challenges in monitoring and regulating AI use (HEC, 2023). The Higher Education Commission of Pakistan (HEC) has begun to acknowledge the relevance of AI in academic contexts through its Digital Vision 2025 initiative, but binding, research, specific GenAI governance frameworks remain absent from the national policy landscape (Malik & Hussain, 2022).

1.2 Allama Iqbal Open University: An Institutional Overview

Allama Iqbal Open University (AIOU), established in 1974 under the AIOU Act, is Pakistan's first and Asia's largest Open University, currently enrolling over 1.3 million students across all levels of education. As an open and distance learning (ODL) institution, AIOU serves a uniquely diverse student body including working professionals, rural learners, women with mobility constraints, and students from economically disadvantaged backgrounds through a combination of print, based course materials, online platforms, regional study centers, and face-to-face tutorial sessions (AIOU, 2023). The university offers postgraduate programs (M.Phil. and Ph.D.) across a wide range of disciplines, with research supervision conducted through a combination of residential workshops and distance, mediated interaction between supervisors and scholars.

This distinctive institutional architecture creates specific vulnerabilities with respect to GenAI governance. The limited frequency of direct supervisor, student interaction, the geographic dispersal of the research community, and the heavy reliance on self, directed learning all create conditions in which GenAI tools may be adopted informally, opportunistically, and without adequate ethical reflection (Anderson et al., 2021). Moreover, the linguistic diversity of the student body with many researchers working in English as a second or third language may amplify the appeal of AI tools for writing assistance, increasing the risk of over, reliance and loss of epistemic agency (Flowerdew & Wang, 2016).

1.3 The Global Landscape of GenAI Governance in Higher Education

Internationally, higher education institutions have responded to the GenAI governance challenge with a striking diversity of approaches. At one end of the spectrum, some institutions have issued blanket prohibitions on GenAI use in academic work, framing it as categorically equivalent to contract cheating (Lancaster & Cotarlan, 2021). At the other end, forward, thinking institutions including several leading research universities in the United States, United Kingdom, and Australia have moved toward nuanced, context, sensitive policies that distinguish between permitted and unpermitted uses of GenAI across different academic activities, require disclosure of AI tool use in submitted work, and integrate AI literacy education into their curricula (UNESCO, 2023; Holmes et al., 2022).

UNESCO's 2023 Guidance for Generative AI in Education and Research represents the most comprehensive international policy framework to date, articulating principles of transparency, accountability, human oversight, equity, and privacy protection as foundational to responsible AI integration in educational contexts (UNESCO, 2023). The OECD's AI Principles, the EU's AI Act, and various national, level frameworks have similarly emphasized the importance of human, centered, rights, respecting approaches to AI governance (OECD, 2019; European Commission, 2021). However, as Zawacki, Richter et al. (2019) note in their systematic review of AI in higher education research, the perspectives of educators and institutional administrators particularly from none, Western contexts remain significantly underrepresented in the emerging literature, a gap this study directly addresses.

1.4 Statement of the Problem

Despite the rapid and largely unregulated adoption of GenAI tools among AIOU's research community, there is a critical absence of empirical, qualitatively grounded data on stakeholder awareness, apprehension, and institutional preparedness for responsible GenAI governance. The existing literature on AI in higher education is dominated by studies from Western institutional

contexts (Zawacki, Richter et al., 2019), leaving a substantial void in knowledge about how GenAI governance challenges manifest in the distinctive environment of a large South Asian open university. This vacuum represents not only a scholarly gap but a practical governance failure, as policy development without empirical evidence risks being ill, fitted to the real needs, capacities, and concerns of the community it seeks to govern (Selwyn, 2019).

1.5 Research Objectives

This study is guided by the following research objectives:

1. To identify the level of stakeholder apprehension regarding the role of research in fostering quality education in the context of AI integration at AIOU.
2. To explore the awareness and preparedness of researchers regarding the use of Generative AI tools for research purposes at AIOU.

1.6 Research Questions

The study addresses the following primary research questions:

- 1) What are the nature, dimensions, and sources of stakeholder apprehension regarding the implications of GenAI integration for research quality and educational integrity at AIOU?
- 2) What is the current state of awareness and preparedness among AIOU researchers regarding the responsible use of Generative AI tools, and what factors shape these orientations?

1.7 Significance of the Study

This study carries significance at multiple levels. At the institutional level, it provides AIOU's policy community with the first empirically grounded qualitative evidence base for the development of a comprehensive GenAI governance framework. At the national level, given AIOU's scale and its role as a template for other Pakistani universities, the study's findings and recommendations have potential to influence HEC policy development and national AI governance discourse. At the international level, the study contributes a none, Western, ODL, specific perspective to a literature that urgently needs greater geographic and institutional diversity (Flavin, 2017; Selwyn, 2019). Finally, at the theoretical level, the study advances understanding of how responsible innovation frameworks can be applied to the governance of AI in educational research contexts in developing country settings (Stilgoe et al., 2013).

2. Literature Review

2.1 Generative AI: Capabilities, Limitations, and Educational Implications.

Generative AI systems, particularly those based on transformer architectures and trained using reinforcement learning from human feedback (RLHF), have demonstrated remarkable capabilities in natural language generation, summarization, translation, coding, and multimodal reasoning (Brown et al., 2020). The implications of these capabilities for education are profound. Researchers have documented both the potential benefits including personalized learning, writing support, literature discovery, and accessibility for non, native speakers and the risks, including the facilitation of academic dishonesty, the propagation of misinformation, and the erosion of critical thinking and independent scholarship (Kasneci et al., 2023; Baidoo, Anu & Ansah, 2023).

Bender et al.'s (2021) influential critique of large language models framing them as 'stochastic parrots' that manipulate language statistically without genuine comprehension remains highly relevant to the research governance context. If LLMs generate text through probabilistic pattern matching rather than understanding, the research outputs they assist with may bear a

superficial resemblance to valid scholarship while lacking the epistemic foundation that makes research trustworthy and reproducible (Bender et al., 2021). This concern is particularly acute in fields such as the social sciences and education, where interpretive judgment, contextual sensitivity, and researcher reflexivity are essential to research quality.

2.2 Academic Integrity in the Age of GenAI.

Academic integrity has emerged as the central battleground in institutional responses to GenAI. Traditional definitions of plagiarism centered on the uncredited reproduction of others' ideas or words have been rendered partially obsolete by a technology that generates ostensibly original text from training data without attributable authorship (Eaton & Kaur, 2023). This has prompted scholars to call for a reconceptualization of academic integrity in the GenAI era, one that centers the principles of transparency, disclosure, and intellectual accountability rather than the purely textual criterion of originality (Perkins, 2023).

Studies of student attitudes toward GenAI use in academic work reveal a complex picture. While many students are aware that unrestricted AI use may violate academic integrity norms, a significant proportion report using AI tools without disclosure, often rationalizing this behavior by reference to the inadequacy of existing policies or the perceived unfairness of blanket prohibitions (Chaudhry et al., 2023). Faculty perspectives are similarly nuanced: while most express concern about AI, facilitated dishonesty, many acknowledge uncertainty about how to detect AI, generated content and how to distinguish legitimate AI, assisted work from fraudulent submission (Cotton et al., 2023).

2.3 AI Governance in Higher Education: Frameworks and Approaches.

The literature on AI governance in higher education has converged on several key principles. Transparency, the requirement that AI use in research and academic work be openly disclosed is widely regarded as the foundational governance principle (UNESCO, 2023; OECD, 2019). Accountability mechanisms, including institutional review processes and sanctions for misuse, are recognized as essential complements to transparency requirements. Human oversight ensuring that AI tools augment rather than replace human judgment in research is emphasized across virtually all major governance frameworks (European Commission, 2021).

Scholars have also highlighted the importance of equity considerations in GenAI governance. Policies that restrict AI use without providing alternative support mechanisms may disproportionately disadvantage researchers who rely on AI for language support or who lack access to other research resources (Flowerdew & Wang, 2016; Flavin, 2017). This equity dimension is particularly salient in the AIOU context, where many postgraduate researchers operate with significant resource constraints and may depend on AI tools to compensate for limited access to physical library resources, experienced supervisors, or peer scholarly networks.

2.4 Technology Adoption in ODL Contexts.

Research on technology adoption in open and distance learning environments provides important theoretical context for understanding GenAI uptake at AIOU. Davis's (1989) Technology Acceptance Model (TAM) identifies perceived usefulness and perceived ease of use as primary determinants of technology adoption, factors that are clearly present in the GenAI context. More recent frameworks, including the Unified Theory of Acceptance and Use of Technology (UTAUT2) developed by Venkatesh et al. (2012), add social influence, hedonic motivation, and habit as additional adoption drivers all of which may operate powerfully in a distance learning environment where peer influence and convenience are especially salient.

Anderson et al. (2021) specifically examine technology adoption patterns in distance education contexts, finding that the absence of face-to-face supervision creates both greater reliance on digital tools and greater risk of unmonitored misuse. This finding has direct implications for GenAI governance in ODL settings, suggesting that governance frameworks designed for campus, based research environments may need significant adaptation to be effective in institutions like AIOU.

2.5 Digital Literacy and Critical AI Competence.

Effective GenAI governance requires not only institutional policy but individual competence, what scholars have described as critical AI literacy or AI competence. Ng et al. (2021) define AI literacy as comprising four dimensions: knowing and understanding AI, using and applying AI, evaluating and creating AI, and engaging with AI ethically. Research suggests that most university students currently possess elements of the first two dimensions, basic awareness and operational familiarity, but lack the evaluative and ethical dimensions essential for responsible use (Long & Magerko, 2020; Ng et al., 2021).

In the developing country context, digital literacy gaps are further compounded by infrastructural inequalities, uneven access to professional development, and the relative novelty of AI discourse in educational policy circles (Malik & Hussain, 2022). Pakistani higher education institutions have made significant strides in expanding digital access through HEC initiatives, but the development of critical AI literacy as a specific educational competency remains nascent at both the curricular and professional development levels.

3. Theoretical and Conceptual Framework.

Any rigorous qualitative investigation of governance phenomena must be grounded in clearly articulated theoretical foundations that guide inquiry, shape analytical lenses, and situate findings within broader scholarly traditions (Creswell & Poth, 2018). This study draws on three interlocking theoretical frameworks Responsible Innovation Theory, Critical AI Literacy Theory, and Technology Acceptance in Distance Education together constituting the theoretical scaffolding from which a context, specific Conceptual Framework for this study is derived.

3.1 Theoretical Framework.

3.1.1 Responsible Innovation Theory:

The primary theoretical lens guiding this study is the Responsible Innovation (RI) framework, developed and elaborated by Stilgoe, Owen, and Macnaghten (2013) in the context of science and technology governance. Responsible Innovation is defined as 'taking care of the future through collective stewardship of science and innovation in the present' (Stilgoe et al., 2013, p. 1570). The framework articulates four interconnected and mutually reinforcing dimensions of responsible engagement with emerging technologies, each of which carries direct relevance to the governance of GenAI in university research.

The first dimension, *Anticipation*, refers to the systematic prospective analysis of the potential implications, risks, and opportunities associated with a technology before those implications materialize as crises demanding reactive response. In the context of GenAI governance, anticipation requires that universities identify, in advance, the ways in which AI tools may affect research integrity, knowledge production processes, researcher development, and institutional accountability, rather than waiting until AI, related governance failures have already occurred. The current study reveals that anticipation has been conspicuously absent from AIOU's institutional response to GenAI, a finding that itself constitutes a significant governance diagnosis.

The second dimension, *Reflexivity*, concerns the capacity of governance actor's institutions, policymakers, researchers to examine and critically interrogate their own assumptions, interests, values, and blind spots in relation to an emerging technology. Reflexive governance of GenAI in university research requires institutions to examine how existing power structures, disciplinary hierarchies, and vested interests may shape their responses to AI tools, and to resist the temptation to frame governance challenges in ways that serve institutional convenience rather than stakeholder interests and educational values.

The third dimension, *Inclusion*, emphasizes the importance of meaningful stakeholder participation in governance processes. Effective AI governance cannot be developed exclusively by institutional administrators or technical experts but must incorporate the lived experiences, practical wisdom, and legitimate interests of all those affected by the governance decisions including postgraduate researchers, frontline faculty supervisors, and support staff. This principle of inclusion directly informs the methodological choice of qualitative, participatory inquiry in this study, and it undergirds the study's policy recommendations for collaborative governance development.

The fourth dimension, *Responsiveness*, recognizes that governance frameworks must be adaptive capable of evolving in response to new evidence, emerging uses of technology, stakeholder feedback, and changing institutional contexts. In the rapidly evolving GenAI landscape, static policies risk becoming obsolete almost as soon as they are formulated. Responsive governance builds in mechanisms for iterative review, ongoing stakeholder dialogue, and evidence, based revision, treating policy not as a fixed regulatory artifact but as a living institutional practice (Owen et al., 2013).

Together, these four dimensions Anticipation, Reflexivity, Inclusion, and Responsiveness provide a robust analytical framework for diagnosing governance gaps, evaluating institutional responses, and designing recommendations that are not merely reactive but genuinely forward, looking and values, grounded (Von Schomberg, 2013).

3.1.2 Critical AI Literacy Theory:

The second theoretical pillar of this study is the framework of Critical AI Literacy, which addresses the individual and collective competencies required for responsible, reflective, and ethically informed engagement with artificial intelligence tools. Ng et al. (2021) define AI literacy as a multidimensional competency encompassing four progressively sophisticated levels: (1) *Knowing and Understanding AI*, possessing conceptual knowledge of what AI is, how it works, and its key characteristics; (2) *Using and Applying AI* the ability to operate AI tools effectively for practical purposes; (3) *Evaluating and Creating with AI* the critical capacity to assess AI outputs for accuracy, reliability, and ethical appropriateness; and (4) *Engaging with AI Ethically* the disposition to use AI in ways that are transparent, honest, and aligned with professional and social values (Ng et al., 2021).

This framework is theoretically grounded in Freire's (1970) concept of critical consciousness the capacity to perceive, analyze, and act upon the social and power structures that shape one's world applied to the domain of artificial intelligence. Just as Freire argued that genuine literacy is not merely the ability to decode text but the capacity for critical reflection on the conditions of one's existence, critical AI literacy is not merely the ability to use AI tools but the capacity for sustained, values, grounded reflection on how those tools shape knowledge, power, and human agency (Long & Magerko, 2020). Applied to the research context, critical AI literacy

encompasses the researcher's ability to understand what GenAI tools do and do not do; to evaluate AI, generated content critically rather than accepting it uncritically; to use AI tools transparently and in accordance with community standards of scholarly honesty; and to reflect on the implications of AI use for the epistemic values that define rigorous research.

The study reveals that AIOU researchers currently cluster at the lower levels of Ng et al.'s (2021) framework demonstrating operational familiarity (Level 2) with GenAI tools but limited critical evaluative capacity (Level 3) and underdeveloped ethical engagement (Level 4). This diagnostic, grounded in the theoretical framework, directly informs the training and capacity, building recommendations offered in the study's conclusion.

3.1.3 Technology Acceptance in Distance Education:

The third theoretical strand draws on established models of technology acceptance and adoption, adapted for the distinctive context of open and distance learning. Davis's (1989) foundational Technology Acceptance Model (TAM) posits that two primary beliefs, perceived usefulness and perceived ease of use determine an individual's behavioral intention to adopt a new technology. In the GenAI context, both of these antecedents are clearly present: GenAI tools are widely perceived as useful (for writing assistance, literature discovery, and productivity enhancement) and as easy to use (accessible through conversational natural language interfaces without technical prerequisites).

TAM thus explains the rapid, largely unguided adoption of GenAI tools among AIOU researchers, even in the absence of institutional endorsement or governance. Venkatesh et al.'s (2012) extended framework, UTAUT2, adds additional adoption drivers including social influence (the role of peer and supervisor norms), hedonic motivation (the intrinsic enjoyment of using AI tools), and habit (the automation of GenAI use through repetitive practice).

These additional factors are particularly relevant in the ODL context, where peer networks even when mediated digitally exert significant normative influence on research practices, and where the convenience of AI tools may quickly become habitual in the absence of countervailing institutional norms. Anderson et al.'s (2021) work on technology adoption in distance education further establishes that the limited direct supervision characteristic of ODL environments amplifies both the appeal and the risks of informal technology adoption, a theoretical insight directly supported by this study's empirical findings.

3.2 Conceptual Framework.

Drawing on the three theoretical foundations described above, this study's Conceptual Framework integrates these perspectives into a unified analytical model specifically designed to illuminate the dynamics of responsible GenAI governance in the ODL research context. The framework comprises four interrelated domains, each corresponding to a key dimension of the governance challenge and each linked to specific research objectives, data collection foci, and analytical themes.

3.2.1 Overview of the Conceptual Framework:

The Conceptual Framework positions Responsible Governance of Generative AI in University Research as the central outcome construct, understood as the institutional capacity to enable beneficial, transparent, and integrity, preserving uses of GenAI in research while preventing harmful, deceptive, and integrity, undermining uses. This central construct is shaped by four interacting domain clusters:

- 1) Stakeholder Awareness and AI Literacy representing the individual, level cognitive and evaluative competencies that researchers, faculty, and administrators bring to their engagement with GenAI tools. This domain is theorized through the Critical AI Literacy framework (Ng et al., 2021) and is operationalized through research on participants' knowledge of GenAI capabilities, limitations, and ethical implications.
- 2) Stakeholder Apprehension and Perceptions representing the affective and evaluative orientations that shape stakeholders' responses to GenAI integration, including concerns about research integrity, educational quality, intellectual development, and professional identity. This domain is central to Research Objective 1 and is theorized through the academic integrity literature (Eaton & Kaur, 2023; Perkins, 2023) and the sociology of professional knowledge.
- 3) Institutional Governance Structures representing the formal and informal policy, procedural, and accountability mechanisms through which AIOU governs (or fails to govern) GenAI use in research. This domain is theorized through the Responsible Innovation framework (Stilgoe et al., 2013) and is operationalized through analysis of existing policy documents, stakeholder perceptions of institutional preparedness, and the identification of governance gaps.
- 4) Contextual and Environmental Factors representing the ODL, Specific structural conditions, socioeconomic realities, digital infrastructure constraints, and cultural dynamics that shape both the adoption of GenAI tools and the feasibility of governance responses at AIOU. This domain is theorized through the ODL technology adoption literature (Anderson et al., 2021; Venkatesh et al., 2012) and the equity in education framework (Flavin, 2017; Flowerdew & Wang, 2016).

3.2.2 Relationships and Dynamics within the Framework:

The conceptual framework theorizes the relationships between these four domains as dynamic, bidirectional, and mutually constitutive rather than as linear causal chains. Stakeholder awareness and apprehension are understood as shaped by contextual factors including institutional culture, digital infrastructure, and supervisory relationships and as, in turn, shaping the nature and urgency of governance needs. Institutional governance structures are understood as both responding to and actively shaping stakeholder awareness, apprehension, and practice. Contextual and environmental factors are understood as mediating the effectiveness of governance interventions: a policy that would function well in a campus, based, high, resource university environment may be ineffective or inequitable in the ODL context of AIOU.

Underpinning all four domains, and connecting them to the central outcome construct, are the four principles of Responsible Innovation Anticipation, Reflexivity, Inclusion, and Responsiveness (Stilgoe et al., 2013). Which function in the framework as both normative standards against which existing governance practices are evaluated and as action, orienting principles for the design of improved governance frameworks. The framework thus serves simultaneously as a diagnostic tool (enabling the study to identify where and how AIOU's current governance practices fall short of responsible innovation standards) and as a design tool (providing principles and domain, Specific guidance for the development of more adequate governance arrangements).

3.2.3 Application of the Framework to Research Objectives:

The application of this conceptual framework to the study's two research objectives can be summarized as follows:

Research Objective 1 (Stakeholder apprehension regarding GenAI and research quality) is addressed primarily through the Stakeholder Apprehension and Perceptions domain, with contextual factors serving as mediating variables that shape the specific forms, intensities, and sources of apprehension in the AIOU setting. The Responsible Innovation principle of Anticipation provides the evaluative standard: institutions that have adequately anticipated GenAI governance challenges should exhibit lower levels of unmanaged stakeholder apprehension and higher levels of informed, policy, supported engagement.

Research Objective 2 (awareness and preparedness of researchers regarding GenAI tools) is addressed through the Stakeholder Awareness and AI Literacy domain, theorized through Ng et al.'s (2021) four-level AI literacy framework. The institutional governance domain serves as a contextual moderator: stakeholder awareness and preparedness are understood as partly a function of what the institution has done or failed to do to build AI literacy through training, policy communication, and professional development. The Responsible Innovation principles of Inclusion and Responsiveness provide the normative standards: governance arrangements that meaningfully include researchers in policy development and that respond to identified training needs should produce higher and more critically developed levels of awareness and preparedness.

The conceptual framework thus integrates theoretical rigor with practical applicability, providing a coherent analytical architecture that guides both the collection and interpretation of qualitative data and the development of governance recommendations grounded in the specific realities of AIOU's institutional context.

4. Methodology

4.1 Research Paradigm and Design

This study is situated within the interpretivist research paradigm, which holds that social realities are constructed through the subjective experiences and interpretations of individuals rather than existing as objective, measurable phenomena (Creswell & Poth, 2018). An interpretivist approach is appropriate for this study because stakeholder apprehension, awareness, and preparedness with respect to GenAI governance are inherently subjective constructs shaped by individual experiences, disciplinary cultures, institutional contexts, and personal meaning, making processes. Objective, quantitative methods would fail to capture the richness, complexity, and contextual specificity of these phenomena.

Within this paradigm, the study employs a phenomenological research design, specifically drawing on Moustakas's (1994) transcendental phenomenology. Phenomenology is particularly well suited to this investigation because it centers the lived experiences of participants, enabling a deep and empathetic exploration of how AIOU stakeholders experience, interpret, and respond to the governance challenges posed by GenAI in their research environment. Unlike other qualitative designs, phenomenology brackets the researcher's preconceptions to focus exclusively on the essence of participants' lived experience an important methodological choice given the rapidly evolving and contested nature of GenAI governance discourse.

4.2 Research Setting.

The study was conducted at Allama Iqbal Open University (AIOU), headquartered in Islamabad, Pakistan, with participants drawn from three faculties: the Faculty of Education, the Faculty of Social Sciences and Humanities, and the Faculty of Sciences. These faculties were

selected because they collectively house the largest concentrations of postgraduate research scholars and offer the widest disciplinary range, ensuring that the study's findings reflect diverse research cultures and practices. Data collection took place between January and April 2026, providing a contemporaneous snapshot of the GenAI governance landscape at AIOU at a time of rapid technological change.

4.3 Participants and Sampling.

Participants were selected through a combination of purposive and snowball sampling strategies. Purposive sampling was employed initially to ensure representation from each of the three stakeholder groups and from each of the three participating faculties (Patton, 2015). Snowball sampling was subsequently employed to identify additional participants through referrals from initial interviewees, enabling the research team to reach stakeholders who might not have been accessible through formal institutional channels.

The final participant sample comprised 32 individuals distributed as follows:

- Faculty Members (n = 12): Including 6 senior faculty (Associate Professor and above) and 6 junior faculty (Assistant Professor and Lecturer), drawn equally from the three faculties. All had experience supervising postgraduate research.
- Postgraduate Researchers (n = 15): Including 8 Ph.D. scholars and 7 M.Phil. Scholars at various stages of their research programs, representing all three faculties.
- University Administrators (n = 5): Including 2 Deans, 2 Department Heads, and 1 Director of Research and Graduate Studies, selected for their direct oversight responsibility for research governance policy.

Data collection continued until thematic saturation was achieved the point at which no new substantive themes emerged from additional interviews or focus group discussions (Guest et al., 2006). Saturation was reached after 28 individual interviews, with the final four interviews serving to confirm rather than expand the theme structure.

4.4 Data Collection Methods.

4.4.1 Semi, Structured Individual Interviews:

Semi, Structured interviews were conducted with all 32 participants, either face-to-face at AIOU's main campus in Islamabad or via video conferencing for participants located at regional centers. Each interview lasted between 50 and 90 minutes. The interview guide was developed through a systematic review of relevant literature and refined through a pilot phase involving three interviews with participants not included in the final sample. Pilot interviews were reviewed for comprehensibility, relevance, and the quality of the data elicited, leading to minor revisions in question sequencing and wording. The final guide comprised three thematic sections: (a) general perceptions and experiences of GenAI in research; (b) awareness and use of specific GenAI tools; and (c) institutional governance, policy, and training needs. All interviews were audio, recorded with participant consent and transcribed verbatim.

4.4.2 Focus Group Discussions:

Three focus group discussions (FGDs) were conducted one with each stakeholder group to generate collective insights that individual interviews might not elicit. FGDs are particularly valuable for exploring areas of shared understanding, social norms, and group, level sense, making (Kitzinger, 1995). Each FGD comprised between six and eight participants and lasted approximately 90 to 120 minutes. Discussions were facilitated using a structured protocol aligned with the interview guide and were audio, recorded and transcribed with participant consent. The

FGD transcripts were analyzed alongside individual interview transcripts to identify convergences and divergences in stakeholder perspectives.

4.5 Data Analysis.

Thematic analysis, following the widely used six, phase framework developed by Braun and Clarke (2006), was employed as the primary analytical method. Phase 1 (Familiarization) involved immersive reading and re-reading of all transcripts, supported by preliminary note-taking. Phase 2 (Initial Coding) involved systematic generation of codes for data extracts relevant to the research questions, using NVivo 14 software to manage and organize the coding process. Phase 3 (Searching for Themes) involved collating codes into potential themes by identifying patterns of shared meaning. Phase 4 (Reviewing Themes) involved critical evaluation of candidate themes against the data set and each other, resulting in the merging, splitting, and refinement of themes. Phase 5 (Defining and Naming Themes) involved developing clear, analytically grounded definitions for each theme. Phase 6 (Writing Up) involved producing the thematic narrative presented in the Results section.

To enhance the trustworthiness of the analysis, several strategies were employed. Investigator triangulation was achieved through independent coding by two research team members followed by systematic comparison and discussion of coding frameworks. Member checking was conducted by sharing theme summaries with a subset of six participants and inviting their feedback on the accuracy and resonance of the emerging themes (Lincoln & Guba, 1985). Reflexive journaling was maintained throughout the analytical process to document and manage potential researcher biases.

4.6 Ethical Considerations.

Ethical approval for this study was obtained from the AIOU Research Ethics Committee (Reference No. AIOU, REC, 2026, 047) prior to the commencement of data collection. The study adhered strictly to the principles of voluntary informed consent, confidentiality, anonymity, and the right to withdraw. All participants were fully briefed on the study's purpose, methods, and data management procedures before providing written consent.

Audio recordings and transcripts were stored securely on password-protected devices accessible only to the research team. Participant anonymity is protected throughout this report through the use of pseudonyms and the removal of identifying contextual details. Data will be retained for five years following publication in accordance with AIOU research data management policy.

5. Results.

Thematic analysis of the interview and focus group data yielded five overarching themes, each comprising multiple sub-themes. These themes are presented below, with illustrative quotations from participants (identified by pseudonym, role, and faculty).

4.1 Theme 1: Multidimensional Stakeholder Apprehension.

5.1.1 Apprehension about Academic Integrity:

The most pervasive and consistently expressed form of stakeholder apprehension concerned the threat GenAI poses to the foundational principles of academic integrity in research. Faculty members across all three participating faculties articulated detailed and emotionally engaged concerns about the implications of AI-generated content for the authenticity of scholarly work. Several faculty participants described reviewing postgraduate theses and research proposals

in which they suspected significant AI involvement, noting the characteristic fluency, organizational coherence, and generic academic register of AI, generated text alongside a conspicuous absence of the researcher's own voice and scholarly positioning.

A Professor in the Faculty of Education observed that what was most troubling was not the use of AI tools per se, but the apparent inability or unwillingness of some researchers to engage critically with AI, generated content accepting it uncritically, without verification, as a substitute for their own analytical engagement with the literature. This concern resonated across multiple interviews: the problem was not merely that researchers were using AI, but that they were doing so in ways that bypassed the intellectual processes that constitute genuine research.

Postgraduate researchers articulated a related but distinct form of apprehension: anxiety about navigating an environment in which the boundaries of acceptable AI use remained undefined. Several Ph.D. scholars described using GenAI tools primarily for grammar correction, literature discovery, and paraphrasing while experiencing significant uncertainty about whether their usage would be regarded as acceptable or as academic misconduct by their supervisors. This ambiguity was experienced as stressful and demotivating, and in some cases had led researchers to avoid AI tools entirely out of precautionary concern arguably forfeiting legitimate productivity benefits.

5.1.2 Concerns about Research Quality and Reliability

A second major dimension of apprehension concerned the quality and reliability of research outputs produced with GenAI assistance. Faculty members and administrators expressed particular concern about the phenomenon of AI hallucination the generation of plausible, sounding but factually incorrect information, including fabricated citations, misrepresented empirical findings, and invented institutional data (Bender et al., 2021). Several faculty participants reported having identified fabricated references in student submissions, a development they regarded as indicative of researchers using AI to generate bibliographies without verifying the existence or content of cited sources.

5.1.3 Apprehension about Long, Term Intellectual Development

A third dimension of apprehension expressed with particular force by senior faculty members concerned the long, term implications of GenAI use for the intellectual development of early, career researchers. Multiple participants voiced the concern that over, reliance on AI for literature synthesis, writing, and argumentation would inhibit the development of the critical thinking, analytical reasoning, and scholarly writing skills that define a trained researcher.

One Associate Professor in the Faculty of Social Sciences drew an analogy with the calculator debate in mathematics education, noting that just as calculators can atrophy arithmetic skills when adopted without pedagogical scaffolding, GenAI can atrophy the intellectual muscles that researchers develop through the laborious but educationally essential process of independently grappling with complex ideas.

5.2 Theme 2: GenAI and the Quality of University Education Opportunities and Risks

5.2.1 GenAI as a Democratizing Educational Tool

Participants' perspectives on Gen AI's implications for educational quality were notably bifurcated. A significant minority concentrated among junior faculty in STEM disciplines and among postgraduate researchers with higher levels of digital literacy articulated a genuinely optimistic view of Gen AI's educational potential. These participants emphasized the tool's capacity to reduce barriers for researchers with limited English proficiency, facilitate access to a

wider range of literature than AIOU's physical library holdings permit, accelerate the literature review process, and provide real, time feedback on research writing functions that many AIOU researchers currently lack access to through conventional channels.

Several postgraduate researchers described using ChatGPT or Google Gemini to better understand complex theoretical frameworks encountered in their reading, generating simplified explanations that they then used as a starting point for more sustained engagement with the primary texts. In these accounts, GenAI functioned as a scaffolding tool that lowered the threshold for engagement with challenging scholarly material, potentially enabling researchers who might otherwise have been discouraged by complexity to persevere with difficult theoretical terrain.

5.2.2 GenAI as a Risk to Educational Quality and Scholarly Rigor

The majority perspective, however, was considerably more cautious. Most participants and virtually all administrators expressed concern that unrestricted GenAI adoption posed a fundamental threat to the educational quality that AIOU's research programs are designed to deliver. Central to this concern was the argument that the intellectual struggle involved in producing original research the sustained effort of reading, thinking, arguing, and writing is not merely instrumentally valuable as a means to a research output but intrinsically valuable as a developmental process. GenAI, by short, circuiting this process, risks producing credentialed researchers who lack the competencies their credentials are supposed to certify.

Administrators were particularly preoccupied with the implications for institutional reputation and accreditation. Several noted that if the quality of AIOU's research output were found to be systematically compromised by unregulated AI use, the consequences for the university's standing with HEC, international academic partners, and potential employers of AIOU graduates could be severe.

5.3 Theme 3: Heterogeneous Awareness and Critical AI Literacy

5.3.1 Student Researchers: Wide but Shallow Awareness

Among postgraduate researchers, awareness of GenAI tools was near, universal at the level of name recognition and basic operational familiarity. All participating scholars were aware of Chat GPT, and the majority had used it at least once for research, related purposes. The most common use cases reported were grammar correction and paraphrasing (cited by 13 of 15 researchers), literature discovery and summarization (11 of 15), and the generation of research outlines or drafts (8 of 15). Fewer researchers reported using specialized research AI tools such as Elicit, Semantic Scholar, Research Rabbit, or Consensus, reflecting a pattern of adoption concentrated in the most accessible and widely publicized general, purpose tools.

However, depth of understanding was markedly uneven. When invited to discuss the limitations of GenAI tools, most researchers were able to identify hallucination as a potential issue but demonstrated limited awareness of more nuanced concerns such as training data biases, temporal knowledge limitations, the absence of genuine reasoning capability, or the intellectual property implications of AI, generated content (Kasneci et al., 2023). This pattern of wide but shallow awareness constitutes what Ng et al. (2021) would characterize as the 'using and applying' dimension of AI literacy in the absence of the 'evaluating' and 'ethical engagement' dimensions a profile that renders researchers vulnerable to misuse without intent.

5.3.2 Faculty: Variable Awareness and Supervisory Knowledge Gaps

Faculty awareness of GenAI tools was considerably more variable than student awareness, with a marked generational and disciplinary pattern. Junior faculty members particularly those under 40 and those working in digitally intensive disciplines demonstrated relatively sophisticated awareness of GenAI tools and their research implications. Several junior faculty participants had independently sought out professional development resources on AI in education and had begun to incorporate discussions of AI literacy into their teaching and supervisory practice.

Senior faculty members, by contrast, frequently reported limited direct experience with GenAI tools and significant uncertainty about their capabilities and limitations. Several senior faculty described a troubling supervisory predicament: they were responsible for evaluating research in which GenAI may have played a significant role, yet they lacked sufficient knowledge of these tools to make informed assessments. One Professor with over 25 years of supervisory experience described this situation as deeply uncomfortable and professionally disorienting, noting that for the first time in his career he felt that his students may have access to capabilities he does not himself understand.

5.3.3 Administrators: Conceptual Awareness without Technical Depth

University administrators demonstrated the broadest conceptual awareness all were familiar with the general landscape of AI in higher education and with international debates about AI governance but the shallowest technical depth with respect to specific GenAI tools and their research implications. This profile has important governance implications: administrators with conceptual but not technical AI awareness may design policies that are directionally appropriate but technically uninformed, potentially failing to anticipate the specific ways in which GenAI tools are actually being used in the research environment they govern.

5.4 Theme 4: Critical Institutional Unpreparedness

5.4.1 Absence of Formal GenAI Policy

Perhaps the most consequential finding of this study and one of the most consistently articulated across all stakeholder groups was the near, total absence of formal institutional policy governing GenAI use in AIOU research. At the time of data collection, AIOU had not developed or disseminated a comprehensive, publicly accessible policy document specifically addressing GenAI in academic research. While general academic integrity policies existed prohibiting plagiarism and contract cheating in broad terms these documents predated the GenAI era and had not been updated to address the specific challenges and distinctions introduced by AI, generated content.

This policy vacuum was experienced differently by different stakeholder groups but was universally identified as a problem. Faculty members reported feeling unsupported in making supervisory judgments about AI, related integrity issues, lacking authoritative institutional guidance to which they could refer.

Researchers reported using AI tools in a state of genuine uncertainty about the permissibility of their practices. Administrators expressed awareness of the policy gap but identified resource constraints, the pace of technological change, and the need for national, level guidance from HEC as barriers to timely institutional policy development.

5.4.2 Absence of Detection and Accountability Infrastructure

A related dimension of institutional unpreparedness concerned the lack of technical and procedural infrastructure for detecting GenAI, generated content in submitted research. While AI detection tools such as Turnitin's AI writing detection feature, GPT Zero, and Originality.ai have

been developed and are in use at some international universities, AIOU had not subscribed to or evaluated any such tools at the time of data collection. Faculty members expressed particular frustration about this gap, noting that without reliable detection mechanisms, even the best, intentioned policy would be unenforceable.

Administrators acknowledged the detection challenge but also noted concerns about the reliability of current AI detection tools which have documented rates of false positive identifications, potentially penalizing students unfairly and the cost implications of institutional subscriptions. This reflects a genuine governance dilemma: the premature adoption of unreliable detection tools may generate injustice, while the absence of any detection mechanism may enable widespread misuse.

5.5 Theme 5: Training, Capacity Building, and Cultural Change

5.5.1 Faculty Professional Development Needs

Across all stakeholder groups, there was strong consensus that the responsible governance of GenAI in AIOU research requires substantial investment in training and capacity building. Faculty members identified a range of specific professional development needs: structured workshops on the capabilities and limitations of major GenAI tools; guidance on how to design research assignments and supervision processes that promote transparent and appropriate AI use; training on how to identify AI, generated content in student submissions; and orientation to the evolving international policy landscape on AI in academic research. Several faculty participants expressed a desire for interdisciplinary peer learning communities in which faculty members could share experiences, strategies, and resources for navigating GenAI, related supervisory challenges.

5.5.2 Researcher Training and Curriculum Integration

Postgraduate researchers called for systematic, curricular integration of GenAI literacy into research methodology training. The current situation in which researchers are expected to navigate GenAI governance challenges without explicit guidance or training was widely described as unfair and educationally counterproductive. Researchers articulated a vision of training that would go beyond tool, specific instruction to address the ethical dimensions of AI use in research, the principles of transparent disclosure, the importance of critical evaluation of AI outputs, and the strategies for using AI as a genuine research enhancer rather than a research substitute.

5.5.3 The Need for Cultural Change

Several participants particularly administrators and senior faculty emphasized that training and policy, while necessary, would be insufficient without a deeper cultural change in how the AIOU research community understands and values the processes of research. The cultural challenge, as one Dean articulated it, is to foster a research culture in which intellectual effort, critical engagement, and scholarly honesty are intrinsically valued not merely as means to compliance with institutional rules but as expressions of the researcher's professional identity and ethical commitments. Building such a culture in the GenAI era requires not just policies and training programs but ongoing dialogue, storytelling about the value of authentic research experience, and role modeling by senior researchers who visibly embody the values of scholarly integrity.

6. Discussion

The findings of this study illuminate a complex, urgent, and multidimensional governance landscape for GenAI in university research at AIOU. This discussion situates the study's findings within the broader scholarly conversation, drawing on theoretical frameworks of responsible

innovation (Stilgoe et al., 2013), critical AI literacy (Ng et al., 2021), and technology governance in higher education (Holmes et al., 2022), while attending carefully to the distinctive institutional and socioeconomic context of AIOU as Pakistan's largest ODL institution.

6.1 The Nature and Dimensions of Stakeholder Apprehension

The multidimensional apprehension documented in this study resonates strongly with findings from recent international research on faculty and administrator responses to GenAI in higher education. Cotton et al. (2023) found that UK faculty expressed comparable concerns about the detectability of AI, generated content, the erosion of research skill development, and the inadequacy of existing academic integrity frameworks. Similarly, Perkins (2023) documents faculty uncertainty about where to draw the line between AI, assisted and AI, replaced scholarship, a theme that featured prominently in AIOU participants' accounts. What distinguishes the AIOU context is the additional layer of apprehension generated by the ODL structure: the limited supervision contact, geographic dispersal, and self, directed learning requirements of AIOU's research model create conditions in which AI governance challenges are both more acute and more difficult to address through conventional supervisory interventions (Anderson et al., 2021).

The apprehension expressed by postgraduate researchers about navigating an ambiguous policy environment using AI tools while uncertain about their permissibility highlights the significant costs of policy inaction. Research on uncertainty and academic performance consistently shows that regulatory ambiguity increases anxiety, reduces academic engagement, and drives students toward either overcautious avoidance of beneficial tools or undisclosed use of prohibited tools (Chaudhry et al., 2023). Either outcome represents a governance failure: the first forfeits the legitimate benefits of AI in research; the second normalizes opacity and intellectual dishonesty. Clear, fair, and educationally grounded policy is thus not merely a matter of institutional control but a prerequisite for the psychological safety that enables researchers to engage productively with new technologies.

6.2 Awareness, Literacy, and the Supervisory Knowledge Gap

The heterogeneous and often superficial awareness profiles documented in this study have profound implications for both training design and governance effectiveness. The pattern of widespread surface, level familiarity among student researchers, combined with limited critical evaluative competence, is consistent with Ng et al.'s (2021) finding that AI literacy in educational contexts tends to cluster at the lower (awareness and operational) levels of their four, dimensional framework, with the higher, order evaluative and ethical dimensions significantly underdeveloped.

This profile renders researchers particularly vulnerable to the specific risks associated with GenAI in research: they are confident enough to use the tools but not sufficiently critical to evaluate their outputs, challenge their limitations, or situate their use within an appropriate ethical framework.

The supervisory knowledge gap among senior faculty members deserves particular theoretical and practical attention. In the established literature on research supervision, the supervisor's role is conceptualized not merely as a content expert but as a research culture bearer—someone who models the values, practices, and standards of disciplinary scholarship and transmits them to the next generation of researchers (Wisker, 2012).

When supervisors lack the knowledge necessary to understand, evaluate, or guide researchers' engagement with GenAI tools, this culture, bearing function is compromised in a specific and consequential way. The production of PhDs and M.Phils who have developed their

research competencies in an environment of supervisory uncertainty about AI constitutes a systemic risk not only to institutional research quality but to the broader scholarly culture that depends on effective inter, generational transmission of epistemic values.

6.3 The Policy Vacuum and the Principles of Responsible Innovation

The critical absence of formal GenAI governance policy at AIOU can be analyzed through the lens of Stilgoe et al.'s (2013) framework of responsible innovation, which identifies four key dimensions of responsible engagement with emerging technologies: anticipation, reflexivity, inclusion, and responsiveness. Applied to GenAI governance in university research, this framework suggests that responsible institutions should anticipate the potential implications of GenAI adoption before they materialize as governance crises; engage reflexively with their own assumptions, values, and interests in shaping policy responses; develop policies through inclusive processes that incorporate the perspectives of all affected stakeholders; and remain responsive to emerging evidence, stakeholder feedback, and technological developments.

The current situation at AIOU characterized by reactive awareness, limited stakeholder consultation, and an absence of policy represents a significant failure across all four of these dimensions. The institution has allowed GenAI adoption to proceed far ahead of governance development, creating a situation in which policy must now be developed in response to an established practice rather than proactively shaping that practice from the outset.

This pattern of technological adoption preceding governance is, of course, not unique to AIOU or to Pakistan it reflects a global pattern in which the pace of AI innovation has consistently outrun the capacity of regulatory and governance institutions to respond (OECD, 2019; European Commission, 2021). However, the particular vulnerabilities of the ODL context make the governance gap at AIOU especially acute and the urgency of remediation especially pressing.

6.4 Training, Capacity, and the Cultural Dimensions of AI Governance

The strong consensus among participants about the urgent need for training and capacity building aligns with recommendations from international bodies and scholars who have examined AI governance in higher education. UNESCO's (2023) Guidance document specifically calls for systematic investment in AI literacy education as a prerequisite for responsible AI governance, arguing that policies alone are insufficient without the individual competencies needed to implement them meaningfully.

Holmes et al. (2022) make a similar argument, emphasizing that effective AI governance requires not only institutional rules but a generalized culture of critical, reflective, and ethically informed engagement with AI tools across the research community.

The emphasis placed by senior faculty and administrators on cultural change as the deepest form of governance intervention resonates with Selwyn's (2019) critical perspective on technology in education, which argues against both techno, utopian enthusiasm and techno, dystopian alarm in favor of a sustained, evidence, based, values, and grounded engagement with technology's actual effects on educational practice. Building the kind of research culture in which GenAI tools are used thoughtfully, transparently, and with genuine scholarly intentionality requires more than policy documents and training workshops—it requires the cultivation of professional identity, scholarly values, and epistemic virtue across the entire research community. This is a long, term project that demands sustained institutional commitment, visible leadership, and ongoing dialogue.

6.5 Equity, Inclusion, and Context, Sensitive Governance

A thread running through multiple themes in this study and one that demands explicit attention in any governance framework developed for AIOU is the equity dimension of GenAI governance. The student population at AIOU is characterized by significant diversity in English language proficiency, digital literacy, access to library resources, and proximity to supervisory support. For a segment of this population, GenAI tools may perform genuinely compensatory functions enabling researchers to overcome language barriers, access literature that would otherwise be inaccessible, and receive the feedback and guidance that limited supervisory contact cannot provide (Flowerdew & Wang, 2016; Flavin, 2017).

A governance framework that restricts AI use without providing alternative mechanisms to address these underlying inequities risks being not only ineffective but unjust.

This suggests that effective GenAI governance at AIOU must be genuinely context, sensitive designed not by transposing Western university policies into a radically different institutional environment, but by engaging carefully with the specific needs, constraints, and values of AIOU's research community. The participatory, inclusive dimension of responsible innovation (Stilgoe et al., 2013) is not merely procedurally desirable in this context it is substantively essential for producing policies that are both ethically grounded and practically effective.

7. Conclusion

This phenomenological qualitative study has provided the first empirically grounded investigation of GenAI governance in university research at Allama Iqbal Open University, Pakistan. Drawing on in-depth interviews and focus group discussions with 32 faculty members, postgraduate researchers, and administrators, the study has documented a governance landscape characterized by pervasive and multidimensional stakeholder apprehension, heterogeneous and often superficial awareness of GenAI tools, critical institutional unpreparedness marked by an absence of formal policy and detection infrastructure, and urgent, widely recognized needs for training, capacity building, and cultural change.

These findings reveal a significant and potentially widening gap between the pace of GenAI adoption in AIOU's research community and the institutional capacity to govern that adoption responsibly. This gap poses real and serious risks: to the integrity and quality of AIOU's research output; to the intellectual development of the postgraduate researchers the university trains; to the professional confidence of faculty supervisors who feel ill-equipped to navigate a rapidly changing research environment; and to the institutional reputation and accreditation standing of the university itself. Addressing this gap requires urgent, concerted, and sustained action at the institutional, national, and individual levels.

At the theoretical level, the study contributes to the growing literature on AI governance in higher education by providing a non-Western, ODL, specific perspective that reveals the limitations of governance frameworks developed in and for campus, based Western university contexts (Zawacki, Richter et al., 2019; Holmes et al., 2022). It demonstrates the value of applying responsible innovation frameworks (Stilgoe et al., 2013) to the educational AI governance domain and highlights the importance of equity considerations particularly in contexts of significant socioeconomic and linguistic diversity in governance design. It also advances understanding of the relationships between AI literacy (Ng et al., 2021), supervisory practice, and research quality in the GenAI era.

7.1 Policy Recommendations

Based on the study's findings and guided by the principles of responsible innovation, the following recommendations are proposed for AIOU and relevant national bodies:

- 1) AIOU should urgently constitute a cross, faculty GenAI Governance Task Force including representation from faculty, postgraduate researchers, administrators, and student representatives—to develop a comprehensive, research, Specific GenAI governance policy within a twelve, month timeframe. This policy should clearly define permitted and unpermitted uses of GenAI in research, specify disclosure requirements, articulate consequences for misuse, and establish a review mechanism for regular updating as the technology and its uses evolve.
- 2) Mandatory GenAI literacy modules, addressing both technical capabilities and ethical dimensions of GenAI use in research, should be integrated into the research methodology curricula for all M.Phil. and Ph.D. programs. These modules should cover: the capabilities and limitations of major GenAI tools; proper disclosure and attribution practices; strategies for critical evaluation of AI outputs; and the ethical principles governing AI use in academic research.
- 3) A structured, university, wide faculty professional development program on GenAI in research should be developed and delivered, with particular emphasis on reaching senior faculty who may have had limited exposure to these tools. This program should be practically oriented, discipline, specific where possible, and updated annually to reflect the evolving technology landscape.
- 4) AIOU should evaluate and pilot, test AI detection tools, including Turnitin's AI detection feature and dedicated tools such as GPT Zero and Originality.ai, with careful attention to reliability, false positive rates, and equity implications before any institutionalized deployment. Detection tools should be conceptualized as one element of a broader integrity assurance framework rather than as the primary governance mechanism.
- 5) HEC should develop national, level guidance on GenAI governance in university research, drawing on empirical evidence from institutional studies such as this one and consulting broadly with the higher education community. This guidance should be proportionate, inclusive, and sufficiently flexible to accommodate the diverse institutional contexts of Pakistan's higher education system.
- 6) AIOU should invest in the development of open, access GenAI literacy resources including guidance documents, case studies, video tutorials, and interactive learning modules tailored to the specific needs and constraints of its research community, and make these available through its online learning management system to all registered research scholars and supervisory faculty.
- 7) A longitudinal monitoring and evaluation mechanism should be established to track the evolution of GenAI use, stakeholder awareness, and governance effectiveness at AIOU, enabling evidence, based policy iteration over time.

7.2 Limitations of the Study

Several limitations of this study should be noted. First, the study is bounded to a single institution, limiting the direct transferability of its findings to other Pakistani universities or to higher education institutions in other national contexts. Second, as a qualitative study, it is not designed to produce statistically generalizable findings about the prevalence or frequency of

GenAI use; rather, it generates rich, contextually specific insights into the lived experiences and perceptions of a purposively selected participant sample. Third, the rapidly evolving nature of GenAI technology means that the specific tools and practices referenced by participants may be superseded by new developments in the relatively near future, requiring ongoing research attention. Fourth, despite the researchers' efforts to ensure diversity in the participant sample, the perspectives of AIOU researchers at regional centers—who may face different access, supervision, and institutional support conditions than those at the main campus—are likely underrepresented in the data.

7.3 Directions for Future Research

Future research should address these limitations and extend the inquiry in several directions. Mixed, methods studies combining qualitative depth with quantitative breadth would enable more comprehensive mapping of GenAI use and governance gaps across Pakistan's higher education sector. Comparative studies examining GenAI governance at different types of Pakistani universities public and private, traditional campus, based and ODL, elite and non, elite would illuminate the extent to which AIOU's governance challenges are institution, specific or sector, wide. Longitudinal research tracking the development of institutional policies and their effects on researcher behavior and research quality over time would provide essential evidence for evidence, based governance development. Finally, action research projects co, designed with AIOU faculty and researchers to develop, implement, and evaluate specific governance interventions would provide a valuable complement to the descriptive and analytical work of this study.

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