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Navigating the AI Divide: A Comparative Analysis of Institutional Readiness and Generative AI Policies in Australian and Pakistani Higher Education

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ABSTRACT

The rapid proliferation of Generative Artificial Intelligence (GenAI) has fundamentally disrupted global higher education, prompting a rush to establish institutional governance. However, prevailing discourse often frames this integration as a uniform technological transition, obscuring the profound socio-economic divides that dictate institutional responses in the Global South. This study conducts a qualitative comparative document analysis of primary AI policy frameworks to investigate how macro-economic resource disparities influence policy maturity. Utilizing stratified purposive sampling, this research contrasts national regulatory bodies and institutional tiers-ranging from elite to public universities—within a high-resource ecosystem (Australia) and a resource-constrained environment (Pakistan). Findings reveal that high-resource environments, guided by bodies like TEQSA, operate with universal infrastructural readiness, allowing them to confidently micro-manage AI as an everyday pedagogical tool. Furthermore, elite Pakistani institutions possess the autonomous capital to bypass domestic lags, achieving regulatory convergence with Australia's elite Group of Eight (Go8). However, major public institutions in resource-constrained environments remain trapped in a "technical paradox." Forced to centralize scarce funding into specialized tech-hubs, these institutions successfully train AI engineers but suffer a severe pedagogical policy vacuum, resulting in siloed human capital and high academic friction for non-technical students. The study concludes that navigating the AI divide requires a departure from Western-centric regulatory assumptions. It recommends that developing educational markets transition from aspirational mandates to highly prescriptive frameworks, emphasizing cross-faculty democratization, low-resource assessment redesign, and the deployment of localized open-source models to prevent the acceleration of a domestic and international digital divide.



Introduction

Background of Research

The rapid proliferation of Generative Artificial Intelligence (GenAI) has catalyzed a paradigm shift in global higher education, fundamentally disrupting traditional modes of knowledge production, assessment, and pedagogical design. Globally, universities are rushing to establish governance frameworks to manage the ethical, academic, and operational implications of tools like ChatGPT. However, the prevailing discourse often frames AI integration as a universal technological transition, inadvertently obscuring the profound socio-economic divides that dictate how different educational ecosystems respond to this disruption. Viewed through a cultural and post-humanist lens, the integration of AI is not merely a technological upgrade; it is a process deeply entangled with national priorities, historical inequities, and infrastructural capacities (Ahmed, 2025). This paper argues that institutional AI policy maturity is a direct function of systemic resource readiness. To examine this, the present study conducts a comparative policy analysis of higher education institutions in Australia and Pakistan. These two nations serve as highly illustrative archetypes of the global digital divide: Australia represents a high-resource, digitally mature ecosystem embedded within the Global North, while Pakistan represents a resource-constrained, developing educational market in the Global South. By contrasting the AI governance strategies of these two systems, this paper demonstrates that while high-resource nations are leveraging AI to proactively redesign the future of academic assessment, resource-constrained nations are largely trapped in a reactive policy vacuum, struggling to reconcile advanced technological demands with foundational infrastructural and human capital deficits. It proves the "Subject vs. Tool" divide. In high-resource systems like Australia, universities treat GenAI as a ubiquitous **tool** used by every student (from History to Engineering), requiring university-wide assessment reforms and TEQSA guidelines. In contrast, major public universities in Pakistan like NED are forced to treat AI primarily as a specialized **subject** to build national technical capacity, leaving limited administrative bandwidth to govern its everyday use across all faculties. When a developing nation lacks the money to give AI to everyone, it hoards it in specialized "tech hubs."

Statement of the Problem

While the rapid emergence of Generative Artificial Intelligence (GenAI) has triggered a global mandate for educational reform, current academic discourse disproportionately frames AI integration as a uniform technological transition. Consequently, existing literature predominantly focuses on the pedagogical ethics and assessment strategies of high-resource institutions within the Global North, operating under the assumption of universal digital readiness. The critical problem this study addresses is the profound gap in comparative policy literature regarding how severe macro-economic resource disparities dictate institutional responses in the Global South. Specifically, it remains unclear how a lack of financial capital and the centralization of technological infrastructure into specialized "tech hubs" force developing educational markets into a reactive policy vacuum. Without empirical analysis comparing high-resource ecosystems (e.g., Australia) with resource-constrained environments (e.g., Pakistan), global educational policy risks ignoring the socio-economic realities of developing nations, thereby inadvertently accelerating both an international and domestic academic digital divide.

Research Objectives

The primary aim of this study is to critically evaluate how macro-economic resource disparities influence the formulation and maturity of Generative AI policies in higher education. To achieve this, the study outlines the following specific objectives:

1. To assess and compare the systemic infrastructural readiness of the Australian and Pakistani higher education sectors regarding AI integration.
2. To analyze the explicit institutional governance frameworks and AI policies adopted by universities in both nations.
3. To examine how resource constraints in developing educational markets lead to specialized technical siloing rather than universal pedagogical AI governance.

Research Questions

This comparative analysis is guided by the following central research questions:

- **RQ1:** How do macro-economic realities and infrastructural readiness dictate the differing institutional responses to Generative AI in Australia and Pakistan?
- **RQ2:** In what ways do the explicit AI governance policies of high-resource institutions (e.g., University of Sydney) contrast with the policy environments of elite (NUST/LUMS) and public (NEDUET) institutions in resource-constrained environments?
- **RQ3:** How does the "technical paradox"—the concentration of AI resources into specialized engineering hubs—impact the universal, cross-faculty governance of AI in developing nations?

Significance of the Study

While a robust body of literature exists regarding the pedagogical ethics of Generative AI, there is a critical dearth of comparative policy analyses contrasting the Global North with the Global South. This study holds significant theoretical and practical value. Theoretically, it expands upon post-humanist literature by framing AI integration not as a uniform technological shift, but as a culturally and economically bounded phenomenon. Practically, the findings offer vital diagnostic data for policymakers in developing nations—particularly the Higher Education Commission (HEC) of Pakistan—highlighting the urgent need for centralized, resource-conscious governance frameworks to prevent the widening of a domestic and international digital divide.

Literature Review

The Digital Divide and Post-Humanist Perspectives on AI

The integration of Generative AI into higher education requires an analytical departure from purely techno-centric evaluations. Recent theoretical scholarship advocates for a cultural and post-humanist lens to understand this disruption. As Ahmed (2025) argues, AI technologies are not culturally neutral; they are intrinsically embedded with the socio-economic and infrastructural biases of their predominantly Western developers. When examining the global deployment of these tools, literature increasingly warns against the assumption of universal applicability. The "digital divide"—traditionally understood as the gap in hardware and internet access—has evolved into an "AI divide," characterized by disparities in institutional capacity to ethically govern, domesticate, and critically apply generative models (Ahmed, 2025). In educational ecosystems where technological infrastructure is fragile, the introduction of advanced AI does not merely disrupt pedagogy; it threatens to impose a foreign socio-economic infrastructure that local institutions are ill-equipped to regulate. Therefore, readiness for AI integration is increasingly defined in contemporary literature not just by bandwidth or software licensing, but by an institution's economic capacity to proactively mediate AI technology rather than passively consume it. This

theoretical foundation necessitates a comparative examination of how institutions with vastly different resource realities navigate the governance of these highly disruptive tools.

The High-Resource Ecosystem: The Australian Standard of AI Integration

To understand the impact of macro-economic disparity, it is necessary to first examine AI integration within a high-resource ecosystem. The Australian higher education sector serves as a premier archetype of this environment, characterized by forward-looking educational policies embedded within a robust, universally accessible digital infrastructure (Ahmed, 2025). Within this ecosystem, the foundational prerequisites for technological adoption—such as reliable broadband connectivity, universal device provision, and substantial institutional funding—are largely met. Consequently, the academic literature evaluating the Australian context rarely focuses on basic infrastructural survival; rather, it centers on complex pedagogical optimization, ethical refinement, and advanced policy design. The policy maturity of the Australian sector is well-documented in recent global comparative studies. A comprehensive cross-country analysis of 343 universities conducted by Parker et al. (2025) reveals that formal, highly explicit AI policies are now the standard across Australian institutions. Unlike educational systems that remain paralyzed by the disruptive nature of Generative AI, Australian universities have swiftly moved past initial reactive phases (such as blanket bans) toward nuanced, pedagogical integration. Parker et al. (2025) note that a significant proportion of these institutions have adopted flexible "instructor-discretion" models, allowing educators to actively weave AI into teaching and learning contexts based on specific disciplinary needs. Furthermore, leading institutions—such as Monash University and the University of Sydney—are frequently cited in the literature as global benchmarks for explicit ethical AI guidelines, providing detailed frameworks that address authorship, copyright, and research integrity (Rafiq-Uz-Zaman, 2025; Parker et al., 2025). This advanced policy landscape is fundamentally enabled by a high degree of human capital readiness and leadership capacity. Because Australian educational leaders operate in an environment where infrastructural demands are already satisfied, they are structurally freed to focus on the higher-order implications of AI. As Ishaq et al. (2025) found in their qualitative interviews with educational leaders across both nations, Australian administrators are generally "better equipped for AI integration," directing their administrative bandwidth toward mitigating complex ethical concerns rather than battling foundational operational deficits. Consequently, the Australian literature paints a picture of an ecosystem that is successfully domesticating AI, utilizing comprehensive regulatory support to ensure that Generative AI acts as a catalyst for educational enhancement rather than a threat to academic integrity.

Systemic Fragility and the Policy Vacuum in the Global South: The Pakistani Context

In stark contrast to the mature, well-resourced Australian ecosystem, the integration of Generative AI within the Pakistani higher education sector is defined by profound systemic fragility. Recent empirical investigations paint a concerning picture of an educational landscape struggling to reconcile the demands of a global technological revolution with severe domestic economic constraints. A comprehensive study by Huma et al. (2025) provides the most glaring statistical evidence of this disparity: currently, only 22% of Pakistani higher education institutions officially operate AI applications. When investigating the barriers to adoption, institutional leaders overwhelmingly cite macro-economic hurdles rather than pedagogical resistance, with 82% pointing to a lack of financial resources and 78% identifying inadequate physical infrastructure as primary obstacles (Huma et al., 2025).

These infrastructural bottlenecks are not uniform but are exacerbated across public and rural divides, creating fragmented, highly unequal technological environments (Tahir et al., 2025;

Khurshid et al., 2024). Because institutional leadership is forced to remain hyper-focused on foundational issues—such as basic teacher training, internet connectivity, and hardware procurement—the development of advanced, ethical AI governance is continuously delayed (Ishaq et al., 2025). The direct consequence of this infrastructural and financial rationing is what current literature defines as a "policy vacuum" or "policy laggardness" (Rafiq-Uz-Zaman, 2025).

Operating within this vacuum, the vast majority of Pakistani universities lack formal, university-wide governance frameworks specifically tailored to Generative AI. Qamar and Shaiq (2025) note that public universities, in particular, demonstrate hesitant and uneven adoption, resulting in poor policy communication where faculty and staff report having no clear guidelines on permissible AI usage. Instead of proactively drafting new guidelines, institutional reflexivity in Pakistan heavily favors reliance on outdated, legacy frameworks. Multiple studies indicate that Pakistani institutions are attempting to govern cutting-edge Generative AI through the lens of traditional plagiarism policies originally designed for standard copy-paste infractions (Rafiq-Uz-Zaman, 2025; Huma et al., 2025; Ehtsham et al., 2025). A prime example of this reactive ambiguity is documented by Rafiq-Uz-Zaman (2025), who notes that while major regional institutions like the Islamia University of Bahawalpur have launched specialized "AI-backed" technical programs, they simultaneously revised their broader thesis regulations without including a single mention of AI tools or ethical frameworks. This environment of regulatory ambiguity has generated significant friction at the grassroots level. Qualitative research focusing on student and faculty perspectives reveals a high demand for institutional clarity. Both educators and learners are actively requesting accountability frameworks, legal guidelines, and clear ethical boundaries for AI use to protect themselves from arbitrary academic penalization (Naseer et al., 2025; Majeed et al., 2025). Ultimately, the current body of literature demonstrates that the Pakistani higher education sector is not devoid of the *desire* to govern AI, but is profoundly constrained by a lack of the economic and structural capital required to execute that governance effectively.

The Gap in Current Research

While the existing body of literature comprehensively documents the theoretical digital divide (Ahmed, 2025) and provides statistical evidence of adoption barriers in developing nations (Huma et al., 2025), a significant methodological gap remains. The majority of contemporary comparative studies rely heavily on survey data, self-reported institutional questionnaires, or qualitative interviews with educational leaders to gauge *perceptions* of readiness (Ishaq et al., 2025; Tahir et al., 2025). However, there is a critical dearth of literature that conducts a direct, side-by-side textual analysis of the actual *primary policy documents* governing these institutions. Surveys capture what university administrators *feel* about AI, but official policy frameworks dictate what institutions actually *enforce*. Relying solely on perceptual data obscures the explicit lexicons, structural directives, and legal frameworks that constitute the reality of AI governance. Therefore, to truly understand how macro-economic resource disparities translate into pedagogical rules, research must move beyond surveys to analyze the structural anatomy of institutional guidelines. This study addresses this exact gap by systematically analyzing and contrasting the primary generative AI policy documents from high-resource and resource-constrained ecosystems.

Research Methodology

Research Design

To systematically investigate how macro-economic resource disparities influence AI governance, this study employs a Qualitative Comparative Document Analysis design. Document analysis is a highly rigorous qualitative method wherein structural and textual data are evaluated to extract

empirical knowledge and trace institutional priorities. This specific design was selected because official policy frameworks—unlike self-reported surveys or qualitative interviews—act as binding institutional artifacts. They reveal the exact regulatory posture, financial capacities, and pedagogical values that a university is actively enforcing. By comparatively evaluating documents from two diametrically opposed economic ecosystems (Australia and Pakistan), this design effectively isolates "institutional resource readiness" as the primary variable influencing policy maturity.

Sampling Strategy and Selection Criteria

Because it is impossible to analyze the policy documents of every higher education institution in both nations, this study utilized **Stratified Purposive Sampling** (also known as judgmental sampling). Rather than selecting universities at random, institutions and national bodies were deliberately chosen because they serve as highly illustrative "archetypes" of their respective national ecosystems. Crucially, to ensure methodological parity and avoid skewed comparative baselines, the sampling strategy was stratified into three corresponding tiers for both nations: (1) National Regulatory Bodies, (2) Elite/High-Resource Institutions, and (3) Major Public/Regional Institutions. The selection criteria mandated that all included documents must: (a) be officially ratified institutional guidelines, academic policies, or official public press releases, (b) specifically address Generative Artificial Intelligence, and (c) be published, drafted, or actively enforced during the 2023–2026 academic period to ensure contemporary relevance.

The Sample (Data Sources)

The final purposive sample consists of primary policy frameworks, regulatory guidelines, and official institutional publications drawn from the two national streams:

- **The Australian Context (High-Resource Sample):**
 - *National Regulatory Level:* Multiple comprehensive frameworks and "Emerging Practice Toolkits" published by the Tertiary Education Quality and Standards Agency (TEQSA), specifically addressing assessment reform, research training, and academic integrity.
 - *Elite Institutional Level (Group of Eight):* The Generative AI governance frameworks, position statements, and student survey reports from Australia's premier research-intensive institutions, specifically the University of Melbourne, the University of Adelaide, the University of New South Wales (UNSW), and the Australian National University (ANU).
 - *Major Public/Regional Level:* Official Generative AI guidelines and fact sheets from Western Australian public universities, including Curtin University and Edith Cowan University (ECU), utilized to represent the widespread, decentralized integration of AI outside the elite tier.
- **The Pakistani Context (Resource-Constrained Sample):**
 - *National Regulatory Level:* The *National Artificial Intelligence Policy* (2025) drafted by the Ministry of Information Technology and Telecommunication (MoITT) and the *Draft Framework on Use of Generative AI Tools* drafted by the Higher Education Commission (HEC), utilized to assess macroeconomic infrastructural baselines.

- *Elite Institutional Level:* The formally ratified AI frameworks from elite private and federal institutions, specifically the Aga Khan University (AKU), the National University of Sciences and Technology (NUST), and the Lahore University of Management Sciences (LUMS), utilized to represent the governance capabilities of heavily funded institutions within a developing economy.
- *Major Public/Technical Institutional Level:* Official institutional publications and press releases from major public sector hubs, specifically the University of the Punjab, Iqra University and the NED University of Engineering and Technology (NEDUET), utilized to analyze the integration of AI within resource-constrained environments.

Data Collection Procedure

Data collection was conducted through a systematic digital archival retrieval process. Primary documents for the Australian sample were retrieved directly from the official TEQSA governmental database and individual university public policy repositories. For the Pakistani sample, documents were sourced from the MoITT official portal, the HEC database, internal policy domains (e.g., AKU, LUMS, NUST), and university advancement publications. All documents were downloaded in PDF or Word format, cataloged by institution, publication date, and target audience (e.g., faculty vs. students), and verified for official institutional authorship before being entered into the qualitative dataset.

Data Analysis Strategy

The accumulated data was subjected to an inductive Thematic Analysis, structurally guided by the framework established by Braun and Clarke (2006). This strategy was explicitly chosen to allow natural patterns regarding resource disparity and regulatory lexicons to emerge from the texts. The analysis was conducted in three distinct phases:

1. **Familiarization and Open Coding:** The primary documents were subjected to multiple close readings. Initial open codes were generated, focusing specifically on the lexicon used to describe AI (e.g., "everyday tool" vs. "engineering discipline"), explicit legal categorizations (e.g., "sensitive data," "data fabrication"), and directives regarding pedagogical reform versus hardware acquisition.
2. **Theme Generation:** Codes were subsequently clustered into broader analytical themes aligned with the research questions. The data organically synthesized into three primary comparative domains: (1) National Regulatory Postures, (2) Elite Institutional Convergence, and (3) Operational Mechanics versus Aspirational Capacity.
3. **Comparative Synthesis:** In the final analytical phase, the emergent themes from the Australian documents were systematically contrasted against the Pakistani documents. This cross-case synthesis allowed the researcher to identify critical divergences—such as the overarching policy vacuum in public Pakistani institutions versus the proactive pedagogical regulation in Australia—ultimately forming the basis for the study's primary arguments.

Data Analysis and Results

The thematic analysis of the primary policy documents reveals stark divergences in how Generative AI is structurally governed across the two national ecosystems. The data naturally synthesized into three primary comparative domains: (1) National Regulatory Postures, (2) Elite

Institutional Convergence, and (3) The Discourse of Operational Mechanics vs. Aspirational Capacity.

National Regulatory Postures: Pedagogical Reform vs. Infrastructural Survival

An analysis of the national regulatory frameworks demonstrates fundamentally different institutional priorities regarding AI integration. This divergence is explicitly tied to macro-economic realities: high-resource ecosystems regulate the *pedagogical application* of AI, whereas resource-constrained ecosystems are primarily focused on *infrastructural acquisition* and baseline literacy.

The Australian National Posture: Micro-Managing Pedagogical Adaptation

In Australia, the national regulatory body, the Tertiary Education Quality and Standards Agency (TEQSA), operates from a baseline assumption of universal digital readiness. Consequently, TEQSA's extensive suite of documentation does not concern itself with hardware procurement or internet connectivity. Instead, its regulatory bandwidth is entirely dedicated to advanced pedagogical adaptation, assessment security, and systemic academic integrity.

A textual analysis of TEQSA's *Enacting Assessment Reform in a Time of Artificial Intelligence* (2025) toolkit reveals a highly prescriptive and operational lexicon. The document forces institutions to rethink evaluation on a macro-pedagogical scale, detailing "Three Pathways" for assessment reform. TEQSA actively guides universities to transition toward "Pathway 1: Assuring learning across the whole degree program," rather than relying on isolated, unit-by-unit assessments that are highly vulnerable to AI manipulation.

This operational micro-management is further evidenced in TEQSA's *Emerging Practice Toolkit* (2024), which provides universities with rigorous, mandatory compliance matrices. The document explicitly asks governance boards to document "What review processes will be put in place" and demands verifiable evidence of "short-term goals to be achieved within the first year." Furthermore, TEQSA's *Research Training* toolkit extends this strict governance to Higher Degree by Research (HDR) candidates, providing exact alignments with national grant bodies like the NHMRC and ARC regarding the declaration of GenAI in research outputs. Finally, TEQSA's *International Day of Action for Academic Integrity* (2025) document reveals a cultural objective: to foster an environment of "Everyday integrity" by "normalizing discussions around the use of generative artificial intelligence." The Australian national posture is therefore one of confident domestication—treating AI as an embedded, ubiquitous tool that must be managed through continuous, granular administrative oversight.

The Pakistani National Posture: Macro-Economic Deficits and Foundational Mandates

Conversely, an analysis of the national policy documents from Pakistan reveals a regulatory environment heavily constrained by severe macro-economic limitations. Unlike TEQSA, federal bodies in Pakistan must dedicate their strategic focus to foundational infrastructural survival before they can address complex pedagogical nuances.

This reality is starkly articulated in the Ministry of Information Technology and Telecommunication's (MoITT) *National Artificial Intelligence Policy* (2025). The MoITT document explicitly diagnoses the national deficit, citing a "Lack of national-scale AI model sharing infrastructure" and "Limited institutional access to AI compute and training data." Because the foundational hardware does not exist universally, the national policy is built around aspirational, medium-term acquisition goals rather than immediate pedagogical regulation. For

example, the MoITT framework outlines strategic goals to "Launch national AI platforms including model repositories" and aims to "Provide datasets and computing resources to 150 academic institutions" by 2026 and 2027. A lexical analysis of this document reveals a discourse of *technological catching-up*; the national priority is to build "Data Center Expansion" and a "Network of data centers" rather than issuing granular rubrics on how to prevent ChatGPT-assisted plagiarism.

Working within this infrastructural deficit, the Higher Education Commission (HEC) of Pakistan attempts to provide pedagogical guidance through its *Draft Framework on the Use of Generative AI Tools*. However, compared to TEQSA's rigorous compliance matrices, the HEC framework is notably aspirational and non-prescriptive. It relies heavily on generalized suggestions, encouraging institutions to rely on "Peer Support & Collaborative Efforts" and suggesting the formation of "Departmental Standing Committees (DSC)" to practice ethical AI use. The framework lacks the highly specific, actionable checklists provided to Australian universities, leaving Pakistani institutions in a state of regulatory ambiguity regarding the day-to-day mechanics of AI integration.

Most crucially, documentary evidence regarding the HEC's latest strategic mandates reveals a clear pivot: because AI cannot yet be universally governed as an everyday academic tool, it is instead being mandated as a specialized technical subject. According to 2026 notifications, the HEC has made a three-credit-hour course on Artificial Intelligence mandatory for all undergraduate and postgraduate degree programs (Dawn, 2026). The HEC's explicit rationale is that "the inclusion of AI education aims to equip students with the knowledge and skills required to effectively use such tools." This policy directive perfectly illustrates the macro-economic reality of the Global South: rather than deploying university-wide assessment reforms (like TEQSA's Three Pathways), the national response is to force AI into the curriculum as an isolated, mandatory technical discipline to rapidly build baseline national literacy.

Elite Institutional Convergence: The Go8 and the Pakistani Elite Sector

While the national regulatory postures of Australia and Pakistan diverge significantly due to macro-economic constraints, a textual analysis of the institutional documents reveals a striking convergence at the elite level. When comparing Australia's Group of Eight (Go8) universities with Pakistan's elite private and federal institutions, the policy lexicons are virtually indistinguishable. The data indicates that highly resourced environments behave uniformly; elite Pakistani universities possess the financial and administrative capital to bypass their national policy vacuum, effectively domesticating AI at the same regulatory standard as the Global North.

The Go8 Standard: Granular Risk Mitigation and Philosophical Debate

The documents produced by Australia's Go8 represent the apex of institutional AI readiness. Because these universities are insulated from foundational infrastructural deficits, their policies reflect a luxury of administrative bandwidth dedicated to complex legal and ethical mitigation.

A primary example is the University of Adelaide's *Use of Artificial Intelligence and Generative AI Policy* (2026). This document moves far beyond basic academic integrity, formally legally categorizing AI interactions to protect corporate and community interests. The policy establishes strict, binding definitions for concepts such as "Prompt Engineering" and demarcates acceptable use between "Personal Data" and "Sensitive Data" (specifically noting racial, ethnic, and health information). Similarly, the *UNSW Position on Generative AI in Research* (2024) enforces rigid boundaries on the use of Large Language Models (LLMs) in data analysis, explicitly ruling that

"ChatGPT cannot ever meet the requirements for authorship or inventorship," thereby forcing researchers to take ultimate legal responsibility for AI outputs.

Furthermore, the documentary evidence reveals that Go8 institutions actively engage in the philosophical framing of national AI algorithms. The University of Melbourne's *Response to Australia's Ethics Framework* (2019/2024) demonstrates an institution with the capacity to debate the semantics of AI governance. The document critiques national guidelines, arguing that while 'fairness' is often discussed as non-discrimination, "there is a need to determine what counts as 'unfair discrimination' and who determines this" in automated systems. Coupled with the Australian National University's (ANU) *Institutional Principles* (2023), which mandate the production of graduates with "the knowledge and skills to operate effectively and ethically in an AI informed world," the Go8 data illustrates an ecosystem focused on the micro-management of data privacy, algorithmic accountability, and comprehensive "AI literacy."

The Pakistani Elite Parallel: Pedagogical Luxury and Global Benchmarking

Remarkably, an analysis of the policy documents from elite Pakistani institutions—specifically LUMS, NUST, and AKU—reveals that they perfectly mirror the Go8 standard, operating entirely independent of the foundational struggles outlined in the MoITT and HEC frameworks.

The Lahore University of Management Sciences (LUMS) *Guiding AI* framework (2024) adopts a distinctly pedagogical and protective tone that mirrors the University of Sydney's assessment reform strategies. Acknowledging AI as fundamentally disruptive, the LUMS document explicitly prioritizes "genuine human expertise development over technological shortcuts." Rather than issuing blanket bans—which are common in under-resourced schools lacking detection software—LUMS equips its faculty with a sophisticated "Tiered Visual Guide." This matrix maps permissible usage from "Level 1: No AI" to "Level 5: Full AI," allowing instructors to safely integrate AI based on specific assignment objectives. This complex mapping reflects an environment of pedagogical luxury; LUMS possesses the resources to focus on *how* students process information, rather than merely policing their final outputs.

This advanced regulatory alignment is explicitly acknowledged in the federal public sector by the National University of Sciences and Technology (NUST). The *NUST Artificial Intelligence Policy* (2025) utilizes a governance lexicon heavily focused on Western alignment, emphasizing core tenets such as "Transparency," "Fairness & bias mitigation," and "Accountability." Crucially, the document explicitly benchmarks its standards against high-resource global leaders, openly citing policies from the University of Sydney and Harvard University as its foundational templates. This textual benchmarking proves that elite Pakistani tiers actively mimic the regulatory maturity of Western systems to maintain global competitiveness.

Finally, the Aga Khan University (AKU) demonstrates an administrative capacity identical to the Go8 by deploying a multi-tiered, specialized governance structure. Rather than relying on a single generic policy, AKU has produced highly targeted documents. Its *Guidelines for Faculty* (2023) utilizes a progressive lexicon, actively instructing educators to participate in an internal "AI in Education Playground" to gain practical experience with tools like DALL-E and ChatGPT. Simultaneously, its updated *Student Academic Integrity Policy* (Policy 017) explicitly codifies the "fabrication and / or falsification of research related data" as severe misconduct. By creating specialized "playgrounds" for faculty while maintaining strict legal boundaries for data fabrication, AKU demonstrates that elite Pakistani institutions have the financial autonomy to foster innovation and enforce compliance simultaneously, exactly like their Australian Go8 counterparts.

The Technical Paradox in Public Universities: Operational Mechanics vs. Aspirational Capacity

The most significant divergence in the dataset emerges when analyzing how non-elite, major public universities communicate AI integration to their broader student bodies and researchers. This tier of the educational ecosystem perfectly illustrates the "technical paradox" of the Global South: while public universities in resource-constrained environments possess pockets of immense technical capacity, economic realities force them to treat AI as a specialized engineering discipline rather than a universally governed pedagogical tool.

The Australian Public Sector: Decentralized and Operational

In the Australian sample, major public and regional universities deploy highly specific, utilitarian guidelines designed for the everyday mechanics of GenAI. Because the foundational infrastructure is universally accessible, institutions like Edith Cowan University (ECU) and Curtin University do not need to restrict AI usage to specialized computer science laboratories. Instead, their documentation treats Generative AI as a decentralized, functional software tool available to researchers across all disciplines.

A textual analysis of ECU's *Guideline for the Responsible Use of Generative AI in Research* (2024) reveals a focus on the precise, daily mechanics of academic production. The document explicitly addresses the risks of deep neural networks "learning underlying patterns" and provides operational guardrails for Higher Degree by Research (HDR) candidates regarding prompt engineering and data security. Similarly, Curtin University's *GenAI Fact Sheet 3* (2024) moves entirely past the philosophical debate of AI, providing highly explicit, practical examples of acceptable use. The document instructs researchers on how to use AI for complex tasks such as "Synthetic Data Generation" (to replicate datasets while protecting privacy) and "Sentiment Analysis" (to rapidly evaluate survey responses). By providing these highly specific use-case parameters, Australian public institutions demonstrate that AI has been fully normalized; it is governed not as an event, but as a standard piece of university-issued software, akin to statistical analysis programs.

The Pakistani Public Sector: Centralized Tech-Hubs and The Technical Paradox

In sharp contrast, documents sourced from major Pakistani public institutions reveal a structural environment heavily skewed toward centralized, aspirational tech-capacity. Due to limited overarching financial resources, public funding for AI cannot be distributed universally across all faculties (e.g., providing premium AI access to literature or sociology departments). Instead, capital is funneled into specialized "tech hubs." Consequently, the institutional discourse frames AI almost exclusively as a commercial skill or an engineering discipline.

This dynamic is explicitly visible in the official press releases from the University of the Punjab (2026), which detail the "Launch of Artificial Intelligence (AI) Training Program under Prime Minister Youth Program (PMYP)." The lexicon of this document is highly revealing. It does not speak of integrating AI into existing coursework; rather, it advertises a separate, centralized program utilizing "designated smart classrooms" to teach "Generative AI and Agentic AI" to targeted students. AI is framed as a specialized track designed to prepare students for "emerging opportunities in the rapidly evolving field."

Similarly, institutional publications from the NED University of Engineering and Technology (NEDUET) highlight advanced, grassroots technical capacity, but strictly within the confines of engineering disciplines. *The NEDIAN* (Issue 8, 2024) prominently features the "2nd AI & IoT

Exhibition," hosted specifically by the Intelligent Mechanical Engineering Systems Lab. The publication highlights student projects designed to "address intricate engineering challenges." However, while NEDUET and Punjab University demonstrate the ability to train elite AI developers, they concurrently lack the highly visible, university-wide operational guidelines (like Curtin's Fact Sheets) that instruct a non-technical student on the ethical boundaries of using ChatGPT to outline a thesis. This is the crux of the technical paradox: resources are dedicated to teaching AI as a subject of innovation, leaving a severe policy vacuum regarding the governance of AI as an everyday academic tool.

The Discourse of Futurism vs. Present-Day Regulation

Finally, this disparity is reflected in the broader aspirational rhetoric of the Pakistani higher education sector. While Australian public universities publish granular rules on how to cite an AI prompt today, Pakistani publications frequently focus on macro-level, futuristic transformation. For instance, Iqra University's published article, *From Campus to Cosmos: How AI Will Shape the HEIs and the World by 2030*, utilizes sweeping visionary rhetoric. The document discusses the "great transformation" of society and states that institutions must "foster interdisciplinary research" and "adopt AI tools." While pedagogically inspiring, this discourse remains trapped in the philosophical and aspirational stage. It highlights that the broader, non-elite sector in Pakistan is currently focused on building awareness and predicting future shifts, lacking the structural resources to transition into the micro-management and regulatory enforcement phase currently characterizing the Australian ecosystem.

Discussion

The primary objective of this comparative document analysis was to evaluate how macro-economic resource disparities influence the formulation and maturity of Generative AI policies in higher education. By analyzing primary institutional frameworks through the cultural-economic lens established in current literature, this study reveals that AI policy maturity is not a function of geographic location, but rather a direct reflection of systemic resource readiness. The findings clearly address the study's central research questions, demonstrating that infrastructural deficits force developing educational markets into a reactive, bifurcated regulatory environment.

The Infrastructural Dictation of Policy (Answering RQ1)

The first research question sought to understand how macro-economic realities dictate differing institutional responses to AI. The textual data strongly corroborates the post-humanist theories proposed by Ahmed (2025), which argue that generative AI imposes a socio-economic infrastructure that under-resourced nations are ill-equipped to seamlessly integrate. The analysis of national regulatory postures reveals that policy maturity acts as a lagging indicator of infrastructural readiness. In the Australian context, TEQSA operates within an ecosystem where foundational digital access is secured. This infrastructural security provides Australian regulators with the administrative luxury to focus entirely on pedagogical micro-management, resulting in the "Three Pathways" of assessment reform and highly explicit guidelines for research training. Because the hardware is assumed, the policy can focus on the human application of that hardware. Conversely, the Pakistani regulatory response is fundamentally constrained by what Huma et al. (2025) statistically identified as an 82% lack of financial resources across the sector. The textual evidence from the MoITT National Artificial Intelligence Policy explicitly confirms this macro-economic deficit, orienting national goals around basic "Data Center Expansion" and hardware acquisition rather than assessment reform. The data reveals that when an educational ecosystem lacks universal computational access, regulatory bodies (such as the HEC) are forced to rely on

aspirational, non-prescriptive frameworks. Consequently, this study argues that the overarching "policy vacuum" observed in developing nations is not rooted in institutional ignorance or an unwillingness to govern AI; rather, it is a forced prioritization of infrastructural survival over pedagogical refinement.

The Insularity of Elite Tiers and Global Benchmarking (Answering RQ2)

The second research question examined how explicit AI governance policies of high-resource institutions contrast with varying tiers in resource-constrained environments. A critical finding of this study is the remarkable policy convergence at the elite tier, regardless of national borders. The data demonstrates that Australia's Group of Eight (Go8) universities (e.g., Melbourne, Adelaide) and Pakistan's elite institutions (e.g., LUMS, AKU, NUST) share an almost identical regulatory lexicon. This convergence effectively proves that high-resource environments behave uniformly. Elite Pakistani institutions possess the autonomous financial capital to insulate themselves from the domestic infrastructural fragility outlined by the MoITT. Because they are well-funded, institutions like LUMS and AKU can bypass the national policy vacuum. They demonstrate the capacity to deploy sophisticated, multi-tiered governance structures—such as LUMS's "Tiered Visual Guide" and AKU's "AI in Education Playground"—which precisely mirror the complex risk mitigation strategies utilized by the Australian Go8. Furthermore, NUST's explicit textual benchmarking against Western universities (e.g., citing the University of Sydney) highlights a broader global dynamic: elite institutions in the Global South prioritize regulatory alignment with the Global North to maintain international academic competitiveness. However, as noted in the literature by Rafiq-Uz-Zaman (2025), this advanced domestication of AI is highly isolated. While elite institutions successfully protect their academic integrity and train their faculty through customized frameworks, these solutions do not trickle down to the broader, under-funded public sector. The result is a fractured national ecosystem where pedagogical luxury is restricted to a wealthy minority.

The Technical Paradox and Siloed Human Capital (Answering RQ3)

The third research question investigated how the concentration of AI resources into specialized engineering hubs impacts the universal, cross-faculty governance of AI in developing nations. The primary data from major Pakistani public institutions perfectly illustrates a phenomenon this study terms the "technical paradox." In resource-constrained environments, limited capital cannot be spread universally across all university departments. Consequently, as observed in the literature by Tahir et al. (2025) and Khurshid et al. (2024), infrastructural bottlenecks force institutional leadership to centralize their technological investments to remain operational. The documentary evidence confirms this reality: rather than deploying Generative AI as a ubiquitous academic tool, public institutions are forced to frame it almost exclusively as an advanced engineering discipline.

This centralization fundamentally alters the trajectory of human capital development. The literature demonstrates that high-resource environments, such as the Australian public sector, utilize their universal digital infrastructure to focus on training *all* faculty and students to use AI pedagogically (Parker et al., 2025). In contrast, the Pakistani public sector must focus its limited resources on training a select group of specialized students to *build* AI. The documentary data explicitly highlights this approach. The launch of the Prime Minister Youth Program (PMYP) at the University of the Punjab, which utilizes scarce "designated smart classrooms" to teach "Agentic AI," and NEDUET's specialized "AI & IoT Exhibition" hosted by mechanical engineering labs, demonstrate impressive grassroots innovation. However, this creates deeply "siloed human capital." AI proficiency becomes gated behind specialized STEM programs, excluding the broader academic community from developing the essential, everyday AI literacy required in the modern

global workforce. This dynamic directly substantiates Ahmed's (2025) post-humanist critique: the deployment of advanced AI without equitable, university-wide infrastructure inadvertently accelerates a domestic digital divide.

The most critical impact of this technical paradox is the resultant pedagogical policy void across non-technical faculties. Because institutional funding and administrative bandwidth are heavily concentrated on these specialized tech hubs, universal governance is neglected. While an engineering student at a Pakistani public university may be actively building neural networks, a sociology or literature student at the same institution is left navigating tools like ChatGPT without clear ethical guardrails. This disparity perfectly explains the findings of Qamar and Shaiq (2025) and Rafiq-Uz-Zaman (2025), who noted that public universities exhibit hesitant, uneven adoption and rely heavily on outdated, legacy plagiarism policies.

Without universal operational guidelines—such as the highly functional "Fact Sheets" and data security rubrics provided by Curtin University or Edith Cowan University in Australia—educators and learners in the Global South face significant academic friction. As Naseer et al. (2025) and Majeed et al. (2025) identified in their qualitative research, this policy vacuum creates a hostile learning environment where students actively demand legal clarity to protect themselves from arbitrary penalization. Ultimately, the technical paradox reveals that the Global South is not rejecting Generative AI; it is merely surviving its integration through severe compartmentalization. While Australia governs AI as a decentralized, democratic tool meant to assure learning across entire degree structures, Pakistan is forced to govern it as a centralized, high-value technical commodity. Until the macro-economic baseline improves, allowing public institutions to transition from aspirational tech-capacity to operational pedagogical regulation, AI will remain a siloed skill rather than a universal educational catalyst.

Recommendations

The findings of this comparative analysis demonstrate that the current trajectory of Generative AI integration in resource-constrained environments—characterized by a pedagogical policy vacuum and siloed technical hubs—will inevitably widen the domestic digital divide. To mitigate this, policy formulation in the Global South cannot simply mimic the Global North; it must be explicitly designed around macro-economic constraints. Based on the documentary evidence and theoretical frameworks explored in this study, the following strategic recommendations are proposed for the Higher Education Commission (HEC) of Pakistan and public sector universities:

Transitioning from Aspirational to Prescriptive National Governance

The HEC must evolve its current *Draft Framework* from an aspirational document into a highly prescriptive, operational toolkit. The reliance on generalized "peer support" and voluntary "Departmental Standing Committees" is insufficient for institutions lacking foundational digital readiness. Drawing inspiration from TEQSA's *Emerging Practice Toolkit*, the HEC should develop universally applicable, standardized policy templates that public universities can immediately adopt. These templates must include explicit "Tiered Visual Guides" (similar to those successfully deployed by LUMS) that establish clear boundaries for AI usage across different assignment types. By providing ready-made, operational rubrics, the HEC can alleviate the administrative burden on under-resourced universities, allowing them to rapidly close the pedagogical policy vacuum without requiring immense local administrative capital.

Dismantling the Technical Paradox via Cross-Faculty Democratization

To address the "technical paradox" identified at major public institutions like NEDUET and the University of the Punjab, university leadership must actively dismantle "siloesd human capital." While training specialized AI engineers through initiatives like the PMYP is vital for national economic growth, it cannot come at the expense of universal AI literacy. Universities must establish cross-disciplinary AI task forces that connect elite engineering faculties with the humanities, social sciences, and business departments. Engineering departments should be incentivized to host "AI Literacy Workshops" aimed specifically at non-technical students and faculty. By democratizing access to the institutional knowledge held within these technical hubs, universities can foster a culture of universal, everyday AI integration rather than isolated technical supremacy.

Embracing Open-Source and Localized AI Deployments

The primary barrier to universal AI governance in the Global South is the prohibitive financial cost of commercial, proprietary AI models (e.g., ChatGPT Plus, Microsoft Copilot) and AI-detection software. To circumvent this infrastructural bottleneck, the MoITT and the HEC should aggressively pivot national strategy toward the deployment of open-source Large Language Models (LLMs) hosted on localized, sovereign university servers. By utilizing free, open-source models (such as Meta's LLMs), Pakistani public universities can provide equitable, free access to GenAI for all enrolled students, effectively bypassing the financial gatekeeping of Western tech monopolies. This strategy not only bridges the internal resource divide but also ensures data privacy and allows institutions to establish universal rules of engagement on platforms they actively control.

Low-Resource Assessment Redesign

Finally, in the absence of universal access to reliable AI-detection software, public universities must cease relying on outdated, legacy plagiarism frameworks to police AI usage. Instead, institutions must mandate a shift toward low-resource assessment redesign. Following TEQSA's "Pathway 1" recommendations, faculty in resource-constrained environments should be trained to design "AI-immune" assessments. This includes shifting grading weight toward process-based learning, in-class oral defenses (vivas), reflective writing that incorporates highly localized contexts, and collaborative group projects. By designing assessments where the *process of learning* is evaluated rather than just the final textual output, Pakistani universities can protect academic integrity without needing to invest in expensive, and often flawed, technological surveillance.

Conclusion

The rapid emergence of Generative Artificial Intelligence represents a profound inflection point in global higher education. However, as this comparative document analysis has demonstrated, the institutional response to this disruption is not uniform; it is strictly bounded by macro-economic realities. By contrasting the high-resource Australian ecosystem with the resource-constrained Pakistani environment, this study empirically proves that institutional readiness and policy maturity are inextricably linked to foundational infrastructural capital. The findings reveal that when digital access is universal—as seen in the Australian Group of Eight and regional universities, guided by TEQSA—institutions possess the administrative bandwidth to micro-manage AI as a decentralized, everyday pedagogical tool. Conversely, in the Global South, severe financial deficits force a bifurcated, highly unequal response. While elite, well-funded institutions (such as LUMS, NUST, and AKU) possess the autonomy to bypass national lags and benchmark their regulations against global leaders, the broader public sector remains caught in a "technical paradox." Forced to centralize scarce resources, public institutions deploy AI predominantly as an

advanced engineering discipline, leaving a critical pedagogical policy vacuum for the vast majority of non-technical learners. Consequently, without targeted, resource-conscious interventions from regulatory bodies like the HEC, the integration of Generative AI threatens to silently accelerate both an international and domestic academic digital divide.

While this study provides critical foundational data regarding the structural governance of AI, it is not without limitations. As a qualitative document analysis, the findings inherently represent the *intended* regulatory postures of these institutions rather than their *enacted* realities. Official policy frameworks—or the lack thereof—do not always perfectly align with grassroots classroom dynamics. Therefore, future research must build upon this structural analysis by conducting primary qualitative investigations. Semi-structured interviews and observational studies with faculty and students—particularly within the non-technical departments of Pakistani public universities—are urgently required. This subsequent research will illuminate how academic integrity and pedagogical innovation are actually being negotiated on the ground in the absence of explicit institutional guidelines. Ultimately, navigating the AI divide requires moving beyond the assumption of universal technological readiness, demanding global and national policies that recognize, rather than ignore, the profound socio-economic realities of the developing world.

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