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Policy Alignment and Trustworthy AI Governance in Higher Education: A Conceptual Analysis of Malaysia's Reform Agenda and ASEAN Governance Imperatives

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ABSTRACT

Artificial intelligence (AI) is increasingly reshaping higher education through learning analytics, assessment support, academic integrity monitoring, student services, and institutional decision-making. This conceptual paper examines how Malaysia's higher education reform agenda can be aligned with ASEAN AI governance imperatives through the institutional role of universities. Using a qualitative policy-informed conceptual synthesis, the study identifies four governance gaps: human-centered values and operational oversight, institutional autonomy and accountability, AI adoption and institutional capacity, and regional principles and uneven implementation readiness. This paper proposes an integrated framework that links policy vision, institutional governance, educational practice, feedback-based learning, and ASEAN regional coordination. These findings suggest that universities should act as intermediary governance actors for the adoption of trustworthy AI.

Keywords: AI governance, ASEAN, generative AI, higher education governance, trustworthy AI

INTRODUCTION

Artificial intelligence (AI) is increasingly embedded in higher education through learning analytics, assessment support, student services, research assistance, academic integrity monitoring, and institutional decision-making. Although these applications are often framed as tools for efficiency, personalization, and innovation, they also raise concerns about transparency, accountability, equity, academic integrity, human oversight, and institutional trust.

AI is no longer peripheral to educational practice. In many institutions, AI-informed systems now influence student support, assessment feedback, progression monitoring, and resource allocation. This shift means that AI adoption should be understood not only as a technical or pedagogical issue but also as a governance issue involving authority, justification, responsibility, and public trust.

In response, national governments and regional bodies have begun to develop policy frameworks for responsible AI adoption. In Malaysia, the Higher Education Blueprint 2026–2035 outlines a reform agenda emphasizing human-centered education, institutional autonomy with accountability, and future-ready capabilities (Ministry of Higher Education Malaysia, 2026b). At the regional level, the ASEAN has advanced principles for ethical, inclusive, and responsible AI governance, including guidance on transparency, fairness, human oversight, accountability, and generative AI risk management (ASEAN, 2024, 2026). However, limited attention has been given to how national higher education reform agendas can be operationalized through universities in ways that also support ASEAN-level AI governance aspirations.

This paper addresses this gap by examining how Malaysia's higher education reform agenda can be conceptually aligned with ASEAN AI governance imperatives through the institutional role of universities. This study is guided by the following research question: How can Malaysia's higher education reform agenda be conceptually aligned with ASEAN AI governance imperatives through the institutional governance role of universities? Two supporting questions further guide the analysis. First, what governance gaps emerge when Malaysia's higher education reform agenda is interpreted through AI governance principles? Second, how can universities translate national and regional AI governance expectations into institutional routines and educational practices?

This paper makes three contributions to interdisciplinary higher education scholarship. First, it reframes AI adoption in higher education as a governance challenge rather than a purely technical, pedagogical, or administrative issue. Second, it develops an integrated framework connecting policy vision, institutional governance, educational practice, feedback-based learning, and regional coordination. Third, it positions universities as intermediary governance actors that can translate national reform priorities and ASEAN-level AI governance principles into accountable, transparent, and context-sensitive governance routines.

The novelty of the proposed framework lies in its higher education-specific governance orientation. Existing AI governance models often emphasize broad ethical principles, technical accountability, risk management, or organizational implementation. This study extends these approaches by showing how trustworthy AI governance in universities depends on the alignment of policy intent, institutional oversight, everyday academic practice, feedback-based learning, and regional coordination.

Artificial Intelligence as a Governance Problem in Higher Education

AI is frequently presented in higher education as a technical solution to administrative burden, student engagement, assessment support, and institutional efficiency. However, AI does not merely automate existing practices; it reshapes how decisions are produced, how authority is exercised, and how responsibility is distributed. Three governance concerns are especially important: how AI changes decision-making authority, how AI-influenced decisions can be explained and contested, and how institutions safeguard equity and trust when algorithmic systems affect students and staff.

Governance challenges emerge when technological systems alter decision-making arrangements more rapidly than institutions can adapt their rules, norms, and accountability mechanisms. In higher education, AI increasingly influences domains traditionally governed through professional judgment and collegial processes, including assessment feedback, academic integrity monitoring, student progression, and student support. When algorithmic systems enter these domains, questions arise regarding transparency, explainability, responsibility, and procedural fairness.

AI adoption also redistributes authority within universities. Decisions once shaped through academic committees, professional discretion, or peer review may increasingly be guided by algorithmic outputs embedded in institutional systems. This raises concerns related to human oversight, vendor dependence, institutional autonomy, and alignment between AI systems and educational values rather than commercial priorities (Williamson & Eynon, 2020).

Equity and trust are also central governance concerns. AI systems may reproduce historical inequalities if they rely on biased data or if institutions lack mechanisms to detect, contest, and correct unfair outcomes. Trust in AI-mediated

education depends not only on technical accuracy but also on whether institutions can justify AI-influenced decisions, provide meaningful human review, and maintain clear accountability structures (UNESCO, 2023).

Recent research reinforces this institutional framing. University AI guidance requires multiunit governance, role-specific expectations, discipline-sensitive policies, and attention to academic integrity, responsible use, data privacy, and institutional support (An et al., 2025; Barus et al., 2025; Jin et al., 2025; Wang et al., 2024; Wu et al., 2024). Recent studies also show that generative AI use in higher education is increasingly connected to student engagement, digital literacy, institutional policy, and responsible use expectations (Pattier, 2026; Sampah et al., 2026). These studies suggest that high-level AI principles must be translated into institutional rules and oversight processes that guide teaching, assessment, student support, academic integrity, and AI literacy.

Why Higher Education Is Institutionally Different

Higher education institutions differ from private firms or government agencies in ways that shape how AI should be governed. First, universities are normative institutions whose authority rests on epistemic credibility, academic freedom, peer review, and the pursuit of knowledge for public benefit. AI systems used in assessment, student progression, or research evaluation must therefore support, rather than replace, scholarly judgment and intellectual accountability (Marginson, 2018).

Second, universities operate through shared governance. Authority is distributed across academics, administrators, governing boards, students, professional bodies, and regulators. AI systems that centralize decisions or bypass academic consultation may weaken collegial decision-making and professional autonomy (Shattock, 2014). Third, universities are embedded within public accountability regimes. Because many institutions receive public funding and shape educational opportunities, AI use in admissions, assessment, or student monitoring must be transparent, explainable, and open to review (OECD, 2021).

Fourth, higher education is developmental in orientation. Educational value is produced through sustained engagement, mentorship, reflective learning, and human interaction. AI governance should therefore consider long-term effects on learning culture, academic identity, student development, and institutional trust. Finally, universities are globally connected but nationally regulated. They rely on transnational technology providers and cross-border knowledge networks while remaining accountable to national laws, data protection expectations, and public values.

These characteristics explain why higher education requires a distinct approach to AI governance. Universities cannot simply import corporate AI ethics codes or state-centric regulatory models; governance must respect academic

judgment, shared governance, public accountability, developmental purposes, and national-regional policy alignment.

LITERATURE REVIEW

This section draws on three strands of scholarship: sociotechnical AI governance, institutional governance and legitimacy in higher education, and policy futures through anticipatory governance. Together, these perspectives explain why AI governance in higher education requires alignment between technical systems, institutional arrangements, policy values, and everyday academic practice.

AI Governance as a Sociotechnical System

AI governance is increasingly understood as a sociotechnical challenge rather than a purely technical or regulatory challenge. Sociotechnical perspectives emphasize that technologies operate through interactions between technical systems, institutional structures, professional practices, and normative expectations while also embedding ethical choices and public values into design and use (Bijker et al., 2012; Jasanoff, 2016; van den Hoven et al., 2015). Governance failures often arise not only from technical weaknesses but also from misalignment between system design, institutional values, and decision-making contexts.

In higher education, AI systems are embedded within environments characterized by multiple stakeholders, layered accountability, academic freedom, and public value. Learning analytics platforms, automated feedback systems, and predictive models shape how problems are defined and which outcomes are prioritized. Responsibility may also become fragmented across system designers, institutional leaders, academic staff, and external vendors unless explicit governance mechanisms are in place (Kroll et al., 2017).

Responsible AI governance scholarship shows that principles alone are insufficient unless they are operationalized through structural, relational, and procedural practices (Papagiannidis et al., 2025). In this paper, sociotechnical governance therefore refers to the practical design of oversight routines, accountability pathways, participatory review, and feedback mechanisms that sustain responsible AI use over time.

Institutional Governance, Trust, and Legitimacy in Higher Education

Institutional governance in higher education is closely tied to trust and legitimacy. Universities depend on societal trust in their role as producers of knowledge, cultivators of human capital, and custodians of public value. This trust is sustained through academic freedom, peer review, professional autonomy, and shared governance (Suchman, 1995; Marginson, 2018).

AI adoption affects legitimacy because it introduces new actors and logics into academic and administrative decision-making, including data specialists, technology vendors, algorithmic standards, and automated recommendations. If AI systems influence assessment, admissions, student progression, or student support without adequate explanation or review, stakeholders may perceive institutional decisions as opaque or unfair. Effective governance must therefore ensure human oversight, clear responsibility, and mechanisms for review and appeal.

Recent higher education studies support this argument. Wu et al. (2024) reported that leading universities commonly distribute AI governance across multiple institutional units and user roles, indicating that trust is not produced by a single policy statement but by coordinated governance arrangements. Barus et al. (2025) further report that students expect AI governance to include ethics training, clear usage guidelines, plagiarism detection, and consequences for misuse. These findings reinforce the need for AI governance arrangements that are understandable, accountable, and open to review.

Policy Futures and Anticipatory Governance in Education

Policy futures scholarship is relevant to AI governance because it focuses on uncertainty, long-term consequences, and the limits of reactive policymaking. Anticipatory governance refers to the ability of institutions to assess emerging risks, explore possible futures, and shape technological adoption in alignment with public values (Miller, 2018). This is especially important for AI, where technological development often outpaces institutional and regulatory capacity.

In higher education, anticipatory governance means recognizing that AI use in curriculum design, assessment, student support, research, and administration has cumulative effects on academic norms, learning culture, and institutional trust. Governance arrangements must therefore allow for ongoing monitoring, reflexivity, and revision rather than assuming that ethical principles or policies can be fixed in advance (Stilgoe et al., 2013).

A policy futures perspective is increasingly relevant because compared with many institutional policies, generative AI practices are evolving more quickly. Thaldar et al. (2025) reported that institutional AI guidelines require consultative development, academic integrity provisions, AI literacy, disclosure mechanisms, implementation support, and continuous monitoring. Similarly, Abedin et al. (2026) highlight that responsible generative AI adoption in higher education requires institutional attention to academic integrity, learner dependence, faculty preparedness, infrastructure readiness, policy differences, data privacy, algorithmic bias, transparency, and accountability. This finding supports the view that universities must develop adaptive governance capacity for future developments in teaching, assessment, research, and institutional management.

RESEARCH METHOD

Research Design

This study adopts a qualitative policy-informed conceptual synthesis to examine AI governance in higher education through the alignment of national reform agendas and regional governance imperatives. Conceptual synthesis is appropriate for studies that seek to integrate existing theories, policy texts, and scholarly insights to develop an analytical framework rather than test causal relationships or estimate empirical effects (Jabareen, 2009).

This study is guided by the following research question: How can Malaysia's higher education reform agenda be conceptually aligned with ASEAN AI governance imperatives through the institutional governance role of universities? The analysis does not aim to evaluate the effectiveness of AI implementation in Malaysian universities. Instead, it examines how policy values, governance principles, and institutional responsibilities can be conceptually connected to support trustworthy AI adoption in higher education.

Data Sources and Document Selection

The analysis draws on six policy and governance documents selected for their relevance to higher education reform, AI governance, regional coordination, and responsible AI adoption in education. The primary national documents are the Malaysia Higher Education Blueprint 2026–2035 (Ministry of Higher Education Malaysia, 2026b) and the Executive Summary of the Malaysia Higher Education Blueprint 2026–2035 (Ministry of Higher Education Malaysia, 2026a). These documents were selected because they articulate Malaysia's current reform direction for higher education, including human-centered education, holistic well-being, future-ready talent, digital transformation, institutional accountability, equity, and global engagement.

The regional and international documents comprise the ASEAN Guide on AI Governance and Ethics, the Expanded ASEAN Guide on AI Governance and Ethics: Generative AI, UNESCO's Guidance for Generative AI in Education and Research, and relevant OECD education and AI governance guidance. These documents outline principles for ethical AI, human agency, transparency, accountability, inclusivity, data governance, capacity building, and responsible technological adoption.

The documents were selected on the basis of four criteria: relevance to higher education reform or AI governance; issuance by a public, regional, or international organization; inclusion of governance principles or institutional implications; and relevance to Malaysia, ASEAN, or global higher education governance debates. Peer-reviewed literature was used to support interpretation and situate the analysis within current scholarship.

Analytical Procedure

The analysis was conducted in four stages. First, the selected documents were reviewed to identify recurring governance concepts, including human-centered education, ethical AI, accountability, transparency, equity, institutional responsibility, AI literacy, and regional coordination. Second, these categories were compared across national, regional, and international documents to identify areas of alignment, tension, and underspecification.

Third, the categories were interpreted through three theoretical lenses: sociotechnical governance, institutional trust and legitimacy, and anticipatory governance. Fourth, the insights were synthesized into an integrated framework linking policy vision, institutional governance, educational practice, feedback-based learning, and ASEAN regional coordination. This framework clarifies how high-level policy principles can be translated into accountable and context-sensitive governance arrangements within higher education institutions.

Trustworthiness, validity, and reliability

Although this study is conceptual and policy-based, analytical trustworthiness was strengthened through transparency, triangulation, and consistency checks. Credibility was enhanced by analyzing national, regional, and international documents rather than relying on a single policy source. Dependability was supported through a staged analytical procedure moving from document review to thematic comparison, to theoretical interpretation, and finally to framework development.

Confirmability was strengthened by grounding the interpretation in documented policy statements and peer-reviewed scholarship. Here, reliability refers to analytical consistency rather than statistical reproducibility. To strengthen consistency, the same analytical categories were applied across the selected documents: human-centeredness, accountability, transparency, equity, institutional responsibility, AI literacy, capacity building, and governance coordination.

Scope of the Study

This study is limited to conceptual and policy analysis. It does not involve interviews, surveys, institutional case studies, or evaluations of AI implementation outcomes. The focus is on Malaysia and ASEAN as an illustrative policy context, with international guidance and peer-reviewed literature used to support broader interpretation. The aim is not empirical generalization but conceptual clarification and policy-relevant framework development.

RESULTS

This section presents the findings of policy-informed conceptual synthesis. Rather than treating policy documents as background information, the analysis examines how national higher education reform priorities, ASEAN AI governance principles, and institutional responsibilities intersect. Four governance gaps are identified: the gap between human-centered policy values and operational AI oversight, the gap between institutional autonomy and accountability, the gap between AI adoption and institutional capacity, and the gap between regional ethical principles and uneven implementation readiness. These gaps clarify why universities are central to translating high-level AI governance principles into accountable institutional practice.

Table 1: Policy Alignment and Governance Gaps for Trustworthy AI in Higher Education

Analytical dimension	Malaysia higher education reform implication	ASEAN/international AI governance implication	Governance gap for universities	Institutional response needed
Human-centered governance	Higher education should support holistic human development, ethical reasoning, and future-ready capabilities.	AI should preserve human agency, transparency, accountability, and responsible use.	Human-centered values may remain rhetorical if universities lack clear rules on human oversight in AI-influenced decisions.	Establish human oversight requirements for AI use in assessment, student support, academic integrity, and institutional decision-making.
Autonomy and accountability	Universities are expected to innovate while remaining accountable for quality, equity, and public trust.	Responsible AI governance requires clear responsibility, risk management, and review mechanisms.	Institutional autonomy may produce fragmented AI practices if minimum governance expectations are unclear.	Embed AI oversight within academic senates, ethics committees, data governance units, and quality assurance systems.

Equity and inclusion	Higher education reform emphasizes inclusive access, shared prosperity, and holistic well-being.	AI governance frameworks emphasize fairness, inclusivity, nondiscrimination, and risk mitigation.	AI systems may reproduce bias or widen digital divides if impacts are not monitored.	Conduct AI impact assessments, monitor equity effects, and create accessible appeal and redress mechanisms.
Capacity and AI literacy	Future-ready talent and digital transformation require institutional and human capability development.	Responsible AI adoption requires AI literacy, implementation capacity, and organizational readiness.	Staff and students may use AI tools before institutions develop sufficient governance literacy.	Provide AI literacy training for leaders, academics, administrators, students, and governance committees.
Regional coordination	Malaysia's reform agenda is nationally grounded but globally and regionally connected.	ASEAN promotes interoperable and principles-based AI governance across diverse member states.	Regional principles may not translate evenly because institutions differ in capacity, infrastructure, and readiness.	Use ASEAN higher education networks for peer learning, shared resources, governance toolkits, and capacity building.

Note. The table synthesizes national higher education reform priorities from the Malaysia Higher Education Blueprint 2026–2035 (Ministry of Higher Education Malaysia, 2026b), ASEAN/international AI governance principles, and institutional implications for trustworthy AI adoption in higher education.

Table 1 shows that the core governance challenge is not the absence of policy values but the translation of these values into institutional routines. Malaysia's higher education reform agenda provides a human-centered and future-oriented policy foundation, while ASEAN and international AI governance guidance emphasizes transparency, accountability, fairness, and responsible use. However, these principles require university-level mechanisms to become operational. Without such mechanisms, AI governance may remain fragmented across academic departments, administrative units, technology offices, and external vendors.

The findings also show that universities occupy an intermediary governance position. They are not merely recipients of national policy or users of AI platforms. Instead, they are institutional sites where policy vision, academic norms, technological systems, and stakeholder expectations intersect. This

intermediary role is especially important in higher education because AI can influence high-stakes decisions involving assessment, academic integrity, student progression, student support, research practice, and resource allocation.

Malaysia's Higher Education Blueprint 2026–2035: Strategic Thrusts and AI Implications

The Malaysia Higher Education Blueprint 2026–2035 positions higher education as a driver of national development, resilience, and global relevance (Ministry of Higher Education Malaysia, 2026b). Although it does not present a dedicated AI governance framework, its strategic thrusts provide normative anchors for interpreting responsible AI adoption in universities.

First, the Blueprint's emphasis on human-centered education implies that AI should support human development rather than replace human judgment. In terms of teaching, assessment, student support, and academic decision-making, meaningful human oversight and clear rules on where AI can assist and where human deliberation must remain primary are needed. Second, the focus on lifelong learning and future-ready talent positions AI literacy as a core graduate and institutional capability, including ethical reasoning, awareness of AI limitations, and understanding of data governance.

Third, the Blueprint's emphasis on institutional autonomy with accountability creates a governance tension. Universities may experiment with AI in diverse ways, but without shared expectations and oversight, practices may become fragmented and uneven. Fourth, digital transformation and innovation capacity raise governance issues related to data protection, cybersecurity, infrastructure readiness, and vendor management. Finally, the blueprint's emphasis on equity, inclusivity, and global engagement implies that institutions should assess the distributional impacts of AI adoption, including risks related to bias, digital access, language, culture, cross-border data flows, and reliance on multinational technology providers.

Overall, the Blueprint provides a strong value orientation for AI governance but leaves AI-specific mechanisms underspecified. This creates both opportunities for context-sensitive institutional governance and risks of inconsistent implementation across universities.

ASEAN AI Governance Landscape and Regional Diversity

ASEAN's approach to AI governance reflects wide variation in economic capacity, institutional readiness, and digital infrastructure across member states. Rather than adopting a single binding regulatory model, ASEAN governance discourse emphasizes principles-based guidance, including ethical development, inclusivity, transparency, accountability, and human-centricity. This approach recognizes that governance capacity must be developed alongside technological capability, especially as education systems respond to technological disruption,

changing skill demands, and the need to preserve equity and human-centered learning (OECD, 2025).

For higher education, the regional challenge is not limited to infrastructure access. It also involves AI literacy, governance expertise, cybersecurity readiness, data protection, and experience with ethical oversight. Universities are central to this challenge because they shape talent pipelines, research capacity, public understanding of AI, and institutional experimentation. However, their ability to contribute to regional AI governance is uneven because institutions differ in terms of funding, staffing, regulatory clarity, infrastructure, and digital maturity.

Within this landscape, Malaysia represents a potential bridging case. Its higher education reform agenda shares important values with ASEAN's AI governance discourse, including human-centeredness, equity, and institutional accountability. This positioning suggests that Malaysian universities can contribute to regional learning by demonstrating how national reform commitments can be translated into institution-level governance arrangements without requiring uniform regulation across ASEAN countries.

However, the governance role of universities is not automatic. Without supportive national policy guidance and regional coordination mechanisms, AI governance practices may remain fragmented. This finding reinforces the need for alignment between national reform agendas and ASEAN-level principles in ways that strengthen institutional capacity, reduce disparities, and support responsible AI integration across diverse higher education systems.

Illustrative AI Governance Examples in Higher Education

Three examples illustrate how AI governance issues become visible in everyday higher education practice. First, learning analytics systems may identify students as academically "at risk" on the basis of attendance, online engagement, grades, or behavioral data. While useful for early intervention, such systems raise questions about data quality, bias, transparency, responsibility, and appeal mechanisms.

Second, AI-supported academic integrity systems may be used to detect plagiarism, contract cheating, or inappropriate generative AI use, although recent scholarship shows that generative AI has complicated academic integrity governance by blurring boundaries between assistance, authorship, and misconduct (Bittle & El-Gayar, 2025). These tools can support academic standards but may also produce false positives or disadvantage students whose writing styles differ from their dominant linguistic norms. Governance is therefore needed to ensure that AI-generated reports do not replace academic judgment.

Third, generative AI tools are being increasingly used for assessment feedback, research assistance, administrative communication, and curriculum design, requiring responsible-use frameworks that address accuracy, privacy, authorship, accountability, and research integrity (Smith et al., 2026). Recent

higher education studies further show that generative AI use is associated with issues of student engagement, digital literacy, institutional policy, academic responsibility, and responsible integration (Pattier, 2026; Sampah et al., 2026). These uses may improve efficiency but also raise concerns about accuracy, privacy, intellectual property, overreliance, academic integrity, and weakened human interaction. These examples show why AI governance must be embedded in institutional decision-making rather than treated as a purely technical matter.

DISCUSSION

This section presents the core contribution of the paper by advancing an integrated governance framework for AI in higher education and a set of policy propositions. The framework synthesizes sociotechnical governance, institutional trust, and policy futures perspectives to conceptualize how AI governance operates across policy vision, institutional governance, and practice. The policy propositions translate this framework into strategic directions for national and regional implementation.

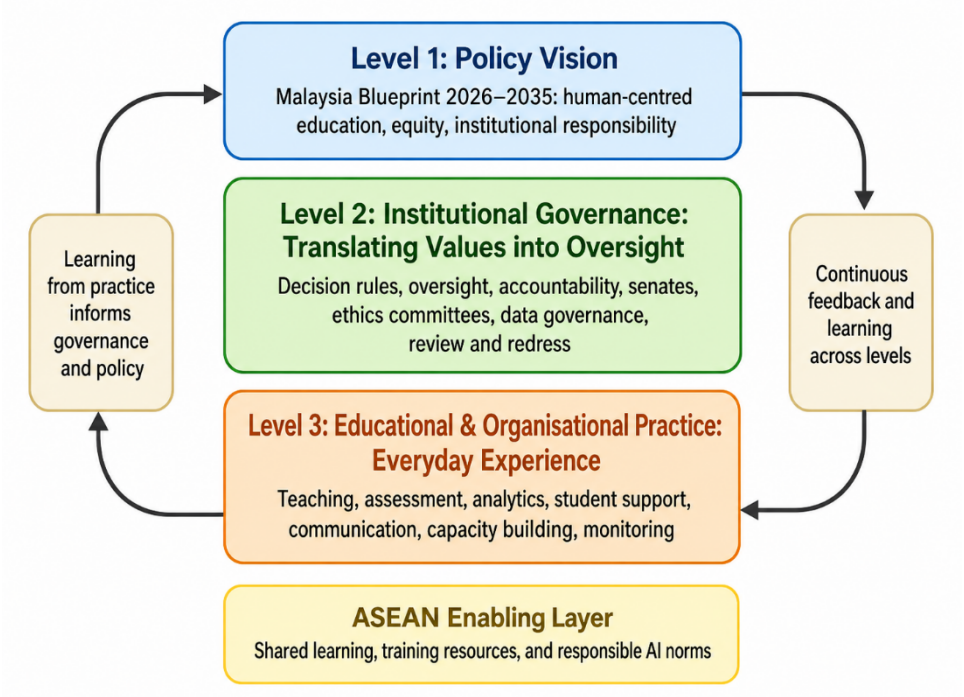
An Integrated Governance Framework for AI in Higher Education

This paper advances an integrated governance framework that conceptualizes AI governance in higher education as a multilevel process that links policy vision, institutional governance, and educational practice. The framework responds to a recurring weakness in current approaches where ethical principles, regulatory statements, and institutional practices often operate in parallel rather than in alignment. By connecting these layers, the framework clarifies how governance can be operationalized while remaining sensitive to institutional diversity and sociotechnical complexity.

The integrated governance framework developed in this study is presented in Figure 1. It shows that trustworthy AI governance begins with a national policy vision, is translated through institutional governance, and becomes operational through everyday educational and organizational practices. Feedback-based learning connects practice back to institutional and policy refinement, while ASEAN regional coordination provides an enabling layer through shared principles, peer learning, training resources, and responsible AI norms.

At the policy level, the Malaysia Higher Education Blueprint 2026–2035 provides a normative foundation through human-centered education, equity, and institutional responsibility (Ministry of Higher Education Malaysia, 2026b). At the institutional and practical levels, universities translate these values into oversight, data governance, ethics review, academic deliberation, teaching, assessment, student support, academic integrity, capacity building, and monitoring.

Figure 1: *Integrated Governance Framework for Trustworthy AI in Higher Education*



The framework differs from that of general AI governance models in three ways. First, it is designed specifically for higher education, where AI governance must protect academic judgment, student development, shared governance, and public accountability. Second, it links policy, institutional structures, and everyday academic practice rather than treating AI governance as a standalone technical or ethical issue. Third, it incorporates feedback-based learning and regional coordination, recognizing that universities must adapt their governance arrangements as AI technologies, academic practices, and regulatory expectations evolve.

Policy Propositions for National and Regional Implementation

Building on the integrated framework, five governance propositions are advanced.

Proposition 1: Creating system-level coordination for AI governance in higher education

A national coordinating mechanism can provide shared guidance on ethical standards, academic integrity, data governance, risk management,

institutional policy modeling, and capacity building while preserving institutional autonomy.

Proposition 2: Embedding AI oversight within existing university governance structures

Universities should integrate AI-related reviews into academic senates, ethics committees, data governance units, and quality assurance systems rather than creating disconnected parallel structures.

Proposition 3: Treat AI literacy as governance capacity

Professional development for leaders, academics, administrators, and students should include ethical reasoning, data protection, bias recognition, academic integrity, disclosure practices, and the limits of AI-generated outputs.

Proposition 4: Use pilots to learn, not to legitimize early adoption

Sandboxes or living labs should test both AI tools and oversight arrangements through clear approval criteria, stakeholder consultation, evaluation indicators, risk documentation, and procedures for revision.

Proposition 5: Strengthen ASEAN coordination through higher education networks.

Regional efforts can prioritize shared resources, peer learning, joint training, and governance toolkits to reduce disparities without requiring harmonized regulation.

Together, these propositions operationalize the framework by linking policy vision to governance practices while remaining sensitive to institutional diversity and the pace of AI change.

IMPLICATIONS

This study examined how Malaysia's higher education reform agenda can be aligned with ASEAN AI governance imperatives through universities. The findings show that the main challenge is not whether AI should be adopted but how adoption can be aligned with human-centered education, institutional accountability, equity, academic integrity, and public trust.

Theoretical Implications

This study contributes to AI governance scholarship by extending sociotechnical governance thinking to the institutional context of higher education. AI systems do not operate independently of educational values, academic norms, institutional rules, or stakeholder expectations. Their effects depend on how they

are embedded in decision-making routines, data systems, academic practices, and accountability arrangements. This finding supports the argument that AI governance should be understood as a sociotechnical process rather than a purely technical or regulatory exercise.

The study also contributes to institutional governance theory by showing that trust and legitimacy are central to AI adoption in higher education. Universities depend on public confidence, academic credibility, and procedural fairness. When AI systems influence assessment, student support, academic integrity, or institutional decision-making, legitimacy depends on whether decisions can be explained, reviewed, or contested. In this sense, trustworthy AI governance is not achieved by issuing general ethical principles alone. It requires clear decision rights, human oversight, transparent procedures, appeal mechanisms, and continuous monitoring.

The framework further contributes to policy futures and anticipatory governance scholarship. AI technologies, especially generative AI, are developing faster than many institutional policies are. Universities therefore require adaptive governance capacity rather than one-time compliance. The feedback loop in the proposed framework reflects this need for continuous monitoring, institutional learning, and policy refinement. This is particularly important in ASEAN countries, where governance principles must be implemented across diverse systems with uneven institutional readiness.

Policy Implications

The findings suggest that national higher education reform agendas should provide clearer governance signals for AI adoption. Malaysia's higher education reform direction provides strong normative anchors through human-centered education, holistic development, equity, digital transformation, and accountability (Ministry of Higher Education Malaysia, 2026b). However, these values require operational guidance if they are to shape AI adoption consistently across universities. National-level guidance could help institutions identify high-risk AI uses, establish minimum oversight expectations, and develop shared standards for transparency, data governance, academic integrity, and human oversight, which are increasingly recognized as core elements of AI governance in higher education (Oncioiu & Bularca, 2025).

At the regional level, ASEAN countries can support AI governance in higher education by promoting shared resources, peer learning, and capacity building. A principles-based approach is appropriate because ASEAN member states differ in terms of infrastructure, regulatory capacity, institutional readiness, and digital maturity. However, principles alone are unlikely to produce consistent governance outcomes. Regional collaboration should therefore focus on practical tools such as AI literacy modules, institutional policy templates, risk assessment

guides, and cross-border communities of practice for higher education leaders and policymakers.

Practical Implications for Universities

For universities, the findings suggest that AI governance should be embedded within existing institutional governance structures. Academic senates, ethics committees, quality assurance units, data governance offices, and institutional leadership should be involved in reviewing AI-related decisions. This is especially important for high-stakes AI uses involving assessment, academic integrity, student progression, student support, admissions, research evaluation, and resource allocation.

Universities should also treat AI literacy as a form of governance capacity. Staff and students need more than technical familiarity with AI tools. They require an understanding of ethical use, data privacy, bias, hallucination, disclosure, academic integrity, and the limits of AI-generated outputs, supported by structured AI ethics education and professional learning (Wiese et al., 2025). Recent JISE studies also show that responsible AI integration in higher education depends on digital literacy, formal learning opportunities, institutional policies, and student engagement with generative AI tools (Pattier, 2026; Sampah et al., 2026). Institutional leaders and administrators also require AI governance literacy so that they can evaluate risks, approve appropriate use cases, and establish accountability mechanisms.

Practical AI governance should include documentation and review. When AI is used in academic or administrative decision-making, institutions should document the purpose of use, data involved, level of human oversight, responsible unit, risk assessment, and review mechanism. Such documentation strengthens institutional accountability and helps ensure that AI-supported decisions can be explained and contested.

Implications for Global Higher Education

Although the study focuses on Malaysia and the ASEAN, the framework is relevant for higher education systems beyond this context. Many universities globally face similar challenges: rapid AI adoption, fragmented institutional policies, uneven staff and student literacy, vendor dependence, academic integrity concerns, and uncertainty about responsible use. The proposed framework can therefore support comparative research and policy adaptation in other regions.

The Malaysia–ASEAN context is useful because it highlights a common governance problem in middle-income and regionally diverse systems: the need to align national reform ambitions with institutional capacity and regional governance expectations. This situation is not unique to ASEAN countries. Higher education systems in other regions also need frameworks that translate broad AI principles into practical institutional routines. The framework developed in this

study therefore offers a transferable lens for examining how universities can act as governance intermediaries in rapidly changing technological environments.

LIMITATIONS AND FUTURE RESEARCH

This study has three limitations. First, it is based on conceptual and policy analysis rather than primary empirical data. It does not examine how specific universities implement AI governance or evaluate institutional AI policies in practice. Second, it focuses on Malaysia and the ASEAN as an illustrative context, although governance arrangements may differ across national and institutional settings. Third, it relies on selected policy and governance documents in a rapidly evolving field where new AI regulations, guidelines, and institutional policies may emerge.

Future research may test and refine the framework through institutional case studies, comparative ASEAN research, and longitudinal analysis. Case studies could examine how universities translate AI governance principles into committees, policies, training programs, risk assessments, and review mechanisms. Comparative studies could identify how institutional capacity, regulatory maturity, and digital infrastructure shape AI governance readiness. Empirical studies involving university leaders, academics, students, policymakers, and technology providers would also deepen the understanding of how trustworthy AI governance is experienced by different stakeholders.

CONCLUSIONS

This paper examined the governance of AI in higher education through the alignment of Malaysia's higher education reform agenda and ASEAN AI governance imperatives. By framing AI as a governance challenge rather than a purely technical innovation, the study highlights the institutional responsibilities, policy choices, and accountability mechanisms required for trustworthy AI adoption.

The analysis identified four governance gaps: human-centered policy values and operational AI oversight, institutional autonomy and accountability, AI adoption and institutional capacity, and regional ethical principles and uneven implementation readiness. These gaps show that AI governance requires institutional routines that clarify decision rights, ensure human oversight, support transparency, protect equity, and provide review and redress mechanisms.

The integrated framework positions universities as intermediary governance actors capable of translating national and regional principles into accountable practices. For policymakers, the study suggests clearer AI governance guidance in higher education. For universities, it highlights the importance of embedding AI oversight within existing governance structures and developing AI

literacy as institutional capacity. For ASEAN countries, it points to the value of regional peer learning, shared resources, and capacity-building mechanisms.

Ethical Considerations

Ethical approval was not needed for this study, as it is based on the analysis of publicly available policy documents and published literature and does not involve human participants, human data, or human tissue.

Consent to Participate

Not applicable.

Consent for Publication

Not applicable.

Declaration of Conflicting Interest

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Data Availability

No new data were generated or analyzed in this study. All the sources used are publicly available policy documents and published academic literature.

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