A COMPREHENSIVE ACADEMIC INTEGRITY ECOSYSTEM FOR THAI HIGHER EDUCATION IN THE AGE OF ARTIFICIAL INTELLIGENCE: ALIGNING WITH SDG 4 (QUALITY EDUCATION)

UM ECOSSISTEMA ABRANGENTE DE INTEGRIDADE ACADÊMICA PARA O ENSINO SUPERIOR TAILANDÊS NA ERA DA INTELIGÊNCIA ARTIFICIAL: ALINHANDO-SE AO ODS 4 (EDUCAÇÃO DE QUALIDADE)

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Abstract

Objectives: This study examines the systemic challenges of academic integrity in Thai higher education amid the rapid expansion of generative artificial intelligence (AI), and proposes an ecosystem-based model aligned with SDG 4 (Quality Education) to strengthen integrity, governance, and assessment. Theoretical Framework: The research draws on systems thinking, academic integrity theory, and AI governance principles, integrating cultural responsiveness relevant to Southeast Asian contexts. Method: A multi-site qualitative design was employed across 12 universities in Thailand, involving 283 participants including administrators, faculty, support staff, student leaders, and international experts. Data were collected through focus groups, semi-structured interviews, and policy document analyses, and analyzed using thematic analysis. Results and Discussion: Findings reveal six systemic integrity challenges: fragmented policies, assessment vulnerabilities heightened by AI, academic literacy gaps, faculty workload constraints, cultural norms affecting enforcement, and uneven digital infrastructure. These challenges collectively weaken institutional coherence and create opportunities for AI-enabled misconduct. Research Implications: The study proposes an Academic Integrity Ecosystem Model encompassing governance, assessment reform, literacy development, faculty capacity building, student engagement, digital infrastructure, and AI ethics—supporting the operationalization of SDG 4 within higher education policy and practice. Originality/Value: This is the first multi-university qualitative study in Thailand to integrate AI governance, cultural dynamics, and

Resumo

Objetivos: Este estudo examina os desafios sistêmicos da integridade acadêmica no ensino superior tailandês em meio à rápida expansão da inteligência artificial (IA) generativa e propõe um modelo baseado em ecossistemas, alinhado ao ODS 4 (Educação de Qualidade), para fortalecer a integridade, a governança e a avaliação. Referencial Teórico: A pesquisa se baseia no pensamento sistêmico, na teoria da integridade acadêmica e nos princípios de governança da IA, integrando a sensibilidade cultural relevante para os contextos do Sudeste Asiático. Método: Foi empregado um delineamento qualitativo multissítio em 12 universidades na Tailândia, envolvendo 283 participantes, incluindo administradores, docentes, equipe de apoio, líderes estudantis e especialistas internacionais. Os dados foram coletados por meio de grupos focais, entrevistas semiestruturadas e análises de documentos de políticas, e analisados utilizando análise temática. Resultados e Discussão: Os resultados revelam seis desafios sistêmicos à integridade: políticas fragmentadas, vulnerabilidades na avaliação exacerbadas pela IA, lacunas na alfabetização acadêmica, restrições na carga de trabalho docente, normas culturais que afetam a aplicação das políticas e infraestrutura digital desigual. Esses desafios, em conjunto, enfraquecem a coerência institucional e criam oportunidades para condutas impróprias facilitadas pela IA. Implicações da pesquisa: O estudo propõe um Modelo de Ecossistema de Integridade Acadêmica que abrange governança, reforma da avaliação, desenvolvimento da alfabetização acadêmica, capacitação do corpo docente, engajamento estudantil, infraestrutura digital e ética da IA —

systems thinking into a comprehensive integrity framework. It offers a practical roadmap for ASEAN institutions strengthening academic integrity in the AI era.

Keywords: Academic Integrity. SDG 4 (Quality Education). Higher Education. Generative Artificial Intelligence. Assessment Design. Governance. Thailand. Academic Literacy. AI Ethics.

apoiando a operacionalização do ODS 4 nas políticas e práticas do ensino superior. Originalidade/Valor: Este é o primeiro estudo qualitativo multiuniversitário na Tailândia a integrar governança de IA, dinâmicas culturais e pensamento sistêmico em uma estrutura abrangente de integridade. Ele oferece um roteiro prático para instituições da ASEAN que buscam fortalecer a integridade acadêmica na era da IA.

Palavras-chave: *Integridade Acadêmica. ODS 4 (Educação de Qualidade). Ensino Superior. Inteligência Artificial Generativa. Design de Avaliação. Governança. Tailândia, Alfabetização Acadêmica. Ética da IA.*

1 INTRODUCTION

Academic integrity is a central pillar of higher education, underpinning educational quality, institutional trust, and the legitimacy of academic credentials. Over the past decade, integrity has shifted from being understood primarily as the absence of cheating or plagiarism to a broader concept encompassing ethical scholarship, fairness, responsibility, and shared community values (Bretag, 2016; ICAI, 2021). This conceptual expansion has coincided with unprecedented transformations in higher education, including massification, internationalization, and digitalization. Most recently, the rapid emergence of generative artificial intelligence (AI) tools such as ChatGPT and related systems has further complicated the landscape of academic integrity, raising fundamental questions about authorship, originality, and the nature of evidence of learning.

In many Western systems, academic integrity has been addressed through relatively mature frameworks, including the ICAI Fundamental Values, TEQSA's integrity guidance in Australia, and the UK QAA's expectations for managing academic misconduct. These frameworks emphasize coherent institutional policy, transparent procedures, authentic assessment, robust academic literacy support, and sector-wide standards. However, such models are not automatically transferable to non-Western contexts. In Asia, and Southeast Asia in particular, academic integrity practices are shaped by distinct cultural norms, linguistic realities, educational traditions, and resource conditions (Choi & Jang, 2020). Applying Western frameworks without adaptation risks overlooking local sociocultural dynamics and institutional constraints.

In Thailand, academic integrity is increasingly recognized as a concern by university leaders and policymakers, yet the sector lacks a unified national framework or shared standards. Individual universities develop their own policies and procedures, resulting in considerable variation in definitions, enforcement, and student awareness. Many institutions continue to rely heavily on exam-centric, text-based assessment, with limited structural support for academic writing, referencing, and research literacy. At the same time, faculty face heavy teaching loads and have limited access to professional development in assessment or academic integrity. These conditions create fertile ground for academic misconduct, particularly as digital and AI tools expand.

Cultural dynamics further shape academic integrity in Thailand. A cultural norm involving deference, consideration for others' feelings, and avoidance of open conflict has significant implications for reporting misconduct, handling disputes, and interacting across hierarchical roles. Collectivism and strong peer solidarity influence how students perceive collaboration, sharing answers, or "helping" friends. Hierarchical relationships may inhibit students from seeking clarification or challenging unclear instructions, while faculty may avoid formal reporting to preserve relationships or prevent loss of face. These dynamics underscore the need for integrity frameworks that are explicitly culturally responsive.

The rise of generative AI adds another layer of complexity. Students increasingly use AI tools to generate drafts, paraphrase sources, summarize readings, or even produce entire assignments. Faculty often feel unprepared to evaluate AI-supported work or distinguish legitimate use from misconduct. AI detection technologies remain unreliable, particularly for non-native English texts, and overreliance on them risks unfair treatment and false accusations. At present, most Thai institutions have limited or no formal AI policies, leaving both students and staff in a state of uncertainty.

Despite these pressing issues, there is a lack of large-scale empirical research on academic integrity in Thailand. Existing studies tend to focus on single institutions, small samples, or specific aspects such as plagiarism or exam cheating. Very few integrate policy, culture, assessment, literacy, and technology into a systemic analysis. No prior work has proposed a comprehensive academic integrity model specifically for Thai higher education that accounts for cultural norms and AI-era dynamics.

This study addresses these gaps by conducting a multi-university qualitative investigation of academic integrity in Thailand and, on this basis, developing an

Academic Integrity Ecosystem Model tailored to Thai higher education in the age of AI. Three research questions guide the study:

1. What institutional, cultural, pedagogical, and technological factors shape academic integrity in Thai higher education?
2. How do stakeholders perceive the challenges and opportunities associated with AI-enabled academic practices?
3. What kind of systemic framework can effectively support academic integrity in Thai universities in the AI era?

By engaging administrators, faculty, academic support staff, student leaders, and international experts across 12 universities, the study offers a comprehensive picture of integrity conditions in Thai higher education. It contributes to international scholarship by integrating AI governance and cultural responsiveness into a systems-based academic integrity framework and by providing insights relevant to other ASEAN and non-Western systems facing similar challenges.

2 LITERATURE REVIEW

2.1 Global perspectives on academic integrity

Academic integrity has evolved from a narrow focus on rule violations to a broader understanding encompassing values, culture, and institutional systems. The International Center for Academic Integrity (ICAI, 2021) articulates core values of honesty, trust, fairness, respect, responsibility, and courage, emphasizing that integrity is a shared community commitment rather than solely an individual obligation. Research in North America, Europe, and Australia has noted that institutional integrity depends on clear policies, fair procedures, coherent communication, robust assessment practices, and the integration of academic literacy support (Bretag, 2016; Dawson, 2021; Eaton, 2021).

More recently, integrity has been conceptualized as an ecosystem or system-of-systems, in which governance structures, teaching and assessment, student development, faculty capacity, digital tools, and broader cultural norms are interconnected (Eaton, 2023). Such models foreground shared responsibility and call for whole-institution approaches rather than fragmented, reactive interventions.

2.2 Academic integrity in Asian and non-Western contexts

Research in Asian contexts has highlighted the importance of culture in shaping academic conduct and perceptions of misconduct (Choi & Jang, 2020; Macfarlane *et al.*, 2014). In Confucian heritage cultures, educational traditions emphasizing memorization, respect for authority, and exam performance influence how students approach learning, collaboration, and source use. Collectivism sometimes blurs the boundaries between acceptable collaboration and collusion, while face-saving norms can discourage reporting or open confrontation.

English as a Foreign Language (EFL) contexts add another layer of complexity. Limited writing proficiency, unfamiliarity with citation norms, and translation across languages can lead to patchwriting and unintentional plagiarism (Zheng & Cheng, 2021). Students may resort to copying not primarily out of intent to deceive, but due to academic insecurity or lack of support.

Studies in China, Malaysia, Indonesia, and Vietnam highlight similar themes: fragmented policies, limited enforcement, exam-centric assessment, and an emerging but incomplete awareness of integrity principles (Carroll & Zetterling, 2022). However, large-scale, multi-university studies remain rare.

2.3 Academic integrity in Thailand

Existing research on academic integrity in Thailand identifies several recurring themes: inconsistent or vague institutional policies, limited understanding of plagiarism and citation among students, heavy reliance on written exams and assignments, and faculty tendencies to resolve misconduct informally rather than through formal processes. Cultural concepts such as *kreng jai* and respect for authority encourage harmony and deference but can inhibit transparent discussion of misconduct.

Empirical studies suggest that many Thai students struggle with paraphrasing, academic argumentation, and referencing in both Thai and English. Writing centers and academic literacy programs are limited or unevenly developed. Digital tools, such as plagiarism detection software, are not consistently used across institutions, and training in their use is often minimal.

Despite these findings, the literature remains fragmented, with most studies focusing on single institutions or small samples. There has been no multi-university study that integrates cultural, policy, assessment, technological, and AI-related dimensions into a comprehensive model.

2.4 Assessment design, AI, and integrity

Assessment design is widely recognized as a central factor influencing academic misconduct (Bailey, 2020; Sotiriadou *et al*., 2020). Traditional, decontextualized, and heavily text-based assessments are more vulnerable to plagiarism and outsourcing, whereas authentic, process-based, and multimodal assessments tend to reduce opportunities for misconduct and increase student engagement (Frick & Dagli, 2022; Gupta & Ferns, 2021).

Generative AI dramatically shifts the integrity landscape. AI can produce grammatically correct, coherent text, synthetic data, code, and even literature reviews. Empirical studies indicate that students increasingly use AI as a writing assistant or content generator, often without institutional guidance (Jiang & Huang, 2023; Wang & Li, 2023). Meanwhile, AI detection tools remain limited and unreliable, particularly across languages and disciplines (Introna, 2021). As such, ethics and governance frameworks are needed to manage AI use and clarify expectations.

2.5 Academic literacy and faculty capacity

Weak academic literacy has consistently been linked to plagiarism and other integrity breaches, particularly among EFL learners (Ashton & Davies, 2021). Yet writing centers, embedded literacy curricula, and structured support are unevenly distributed, especially outside well-resourced Western institutions. Faculty play a crucial role in guiding students and designing assessments, but they often receive little training in academic integrity, assessment literacy, or AI governance (Saffold & Brown, 2021). Faculty workloads and institutional cultures further influence willingness to confront misconduct.

2.6 Gaps addressed by this study

The literature suggests that academic integrity is a systemic, culturally embedded, and technologically mediated phenomenon. However, there is a lack of comprehensive, empirically grounded models for integrity in Thai and ASEAN higher education, particularly models that integrate AI governance and cultural responsiveness. This study addresses this gap by developing an Academic Integrity Ecosystem Model based on multi-site qualitative research across diverse Thai universities.

3 METHODS

This study employed a qualitative multi-site case study design to explore academic integrity across multiple institutional contexts in Thailand. The approach allowed for in-depth analysis of how policy, culture, pedagogy, and technology interact within and across universities.

3.1 Research sites and participants

Twelve universities were purposively selected to represent variation in:
- geographic region (North, Northeast, Central, South),
- type (technology universities, public comprehensive universities, teaching-focused institutions, private universities),
- size and mission, and
- program profiles (e.g., health sciences, engineering, social sciences, business).

Within these institutions, 283 participants were recruited using purposive and snowball sampling:
- 36 administrators (e.g., vice presidents, deans, quality assurance directors)
- 48 faculty members across disciplines
- 48 academic support staff (e.g., teaching and learning center staff, exam officers, writing center staff, librarians)
- 132 student leaders and representatives
- 19 international experts from countries with established integrity frameworks (e.g., USA, Australia, and New Zealand)

Participants were selected based on their involvement with academic integrity policy, teaching and assessment, student support, or related governance activities.

3.2 Data collection

Data were collected through:

- 12 focus group discussions (one per university), involving mixed groups of faculty, staff, and student leaders where appropriate; each focus group lasted 90–120 minutes.
- 76 in-depth semi-structured interviews with administrators, integrity officers, faculty, and international experts, each lasting 45–75 minutes.
- Document review of university integrity policies, student handbooks, assessment guidelines, and related documents, where available.

Focus group protocols explored participants' understanding of academic integrity, standard forms of misconduct, assessment practices, perceived student and faculty challenges, experiences with AI tools, and cultural influences. Interview protocols probed in more depth issues of governance, policy development, resource allocation, AI governance, and institutional strategies.

All interviews and focus groups were audio-recorded with consent and transcribed verbatim in Thai or English. Where necessary, selected excerpts were translated into English for analysis and reporting.

3.3 Data analysis

Data were analyzed using thematic analysis following Braun and Clarke's (2006) framework. The process included:

1. Familiarization: repeated reading of transcripts and field notes.
2. Initial coding: line-by-line inductive coding to identify concepts related to policy, assessment, culture, technology, AI use, literacy, and enforcement practices.
3. Theme development: clustering codes into candidate themes and subthemes (e.g., policy fragmentation, assessment vulnerability, literacy gaps, AI confusion, cultural dynamics).

4. Cross-case analysis: comparing themes across universities to identify common patterns and institutional variations.

5. Model building: synthesizing themes into a conceptual Academic Integrity Ecosystem Model, informed by existing literature, systems thinking, and expert feedback.

NVivo software was used to support coding and data organization.

3.4 Trustworthiness

Trustworthiness was enhanced through several strategies:

- Triangulation of data sources (administrators, faculty, staff, students, experts) and methods (focus groups, interviews, document review).
- Member checking with selected participants to validate interpretations.
- Peer debriefing with academic integrity experts.
- Audit trail documenting coding decisions and model development.
- Thick description of context to support transferability.

Ethical approval was obtained from the lead university's ethics committee, and all participants provided informed consent.

3.5 Ethics approval

This study received ethical approval from the Mahidol University Social Sciences Institutional Review Board (MUSSIRB). The research protocol titled *"Ecosystem Development for Academic Integrity Enhancement of the University Student in Thailand"* was reviewed and approved under Certificate of Approval No. **2025/082.1909** and MUSSIRB No. **2025/114**. The approval covers the submission form, protocol, participant information sheet, informed consent form, and focus group discussion guideline, all dated **18 September 2025**. The project was approved on **19 September 2025,** with an expiration date of **18 September 2026**.

4 RESULTS

Six overarching thematic domains were identified across the 12 universities: (1) policy fragmentation and inconsistent enforcement, (2) assessment vulnerabilities and AI-related risks, (3) academic literacy challenges, (4) faculty capacity constraints, (5) cultural dynamics, and (6) digital infrastructure limitations.

4.1 Policy fragmentation and inconsistent enforcement

Although most universities had formal regulations addressing academic misconduct, participants described policies as often vague, outdated, or inconsistently applied. Definitions of plagiarism, collusion, or contract cheating were not always clear. Few institutions explicitly addressed AI-generated content in their policies.

Students frequently reported limited awareness of policy details and uncertainty about the consequences of misconduct. Faculty acknowledged that they did not always read policy documents closely or found them difficult to interpret.

Enforcement varied substantially between faculties within the same institution. Similar infractions could result in different sanctions, ranging from informal warnings to formal academic penalties. Faculty and administrators cited workload pressures, lack of clarity, and cultural reluctance as reasons for inconsistent enforcement.

4.2 Assessment vulnerabilities and the impact of AI

Assessment practices were identified as a significant vulnerability. Across universities, written assignments and final examinations were the dominant forms of assessment. Many assignments were generic and could easily be outsourced, copied, or generated using AI tools.

Faculty reported increasing suspicion of AI-generated work, describing sudden changes in student writing quality, generic or off-topic argumentation, and fabricated citations. However, most felt ill-equipped to confirm AI use or respond to suspected cases. Institutions lacked explicit AI policies, confusing where to draw the line between acceptable assistance and misconduct.

Students acknowledged that AI tools were widely used for drafting, paraphrasing, summarizing, and translation. Many expressed uncertainty about the legitimacy of this use, citing time pressure, literacy challenges, or a lack of support.

4.3 Academic literacy challenges

Participants consistently identified significant academic literacy gaps among students. These included difficulties with paraphrasing, integrating multiple sources, structuring arguments, and applying referencing conventions. These challenges were reported for Thai-language work and, especially, for English-medium assignments.

Writing support was limited or uneven. Only a minority of universities had fully operational writing centers. Where support existed, it often focused on grammar rather than higher-order academic skills. Students, particularly first-generation and regional students, reported feeling underprepared for the academic writing demands of university study.

4.4 Faculty capacity and workload

Faculty reported feeling overburdened by teaching, administrative work, and research expectations, with little institutional recognition or time allocated to assessment redesign, integrity education, or investigations of misconduct. Many had received no formal training in academic integrity policies, assessment design, or AI-related issues.

Cultural norms and emotional considerations also played a role. Faculty hesitated to report misconduct due to concerns about damaging student futures, creating interpersonal conflict, or being perceived as excessively harsh. This reluctance often led to informal resolutions and underreporting.

4.5 Cultural dynamics

Thai cultural norms profoundly influenced how integrity issues were understood and managed. They encouraged individuals to avoid confrontation, affecting both student and faculty behavior. Students were reluctant to report peers, and faculty often preferred unofficial conversations over formal reporting.

Collectivism shaped peer relationships and group work. Students frequently "helped" friends with assignments in ways that blurred the line between collaboration and collusion. Hierarchical relationships made some students feel they could not question or seek clarification from instructors about integrity expectations.

These cultural dynamics complicated efforts to apply policy in a strict, punitive fashion and highlighted the need for culturally attuned, dialogic approaches.

4.6 Digital infrastructure and technology

Technological capacity varied widely. Some universities had learning management systems with integrated plagiarism detection; others lacked such tools entirely. Even where tools were available, faculty training was limited, and originality reports were sometimes misunderstood.

Online exams introduced new vulnerabilities due to limited proctoring, challenges with identity verification, and insufficient technical safeguards. AI detectors, where available, were treated cautiously due to concerns about reliability and potential unfairness toward non-native English writers.

5 DISCUSSION

The findings confirm that academic integrity in Thai higher education is a systemic issue influenced by intersecting institutional, cultural, pedagogical, and technological factors. They align with global literature emphasizing whole-institution approaches (Bretag, 2016; Eaton, 2021), while also highlighting unique characteristics of the Thai context.

Policy fragmentation and inconsistent enforcement echo challenges reported in other non-Western systems, but are further exacerbated by the absence of national integrity guidelines. Cultural dynamics such as *kreng jai*, collectivism, and respect for authority shape how misconduct is perceived and addressed, underscoring the limitations of importing Western-style punitive models without adaptation.

Assessment practices emerged as a critical pressure point. Overreliance on vulnerable assessments, coupled with faculty capacity constraints and limited AI governance, creates conditions in which misconduct—especially AI-enabled

misconduct—is increasingly likely. This situates Thailand within global conversations about AI and integrity, while highlighting specific vulnerabilities in EFL settings and exam-centric traditions.

Academic literacy and faculty development gaps connect integrity to broader questions of educational quality and equity. Students from under-resourced backgrounds and faculty lacking institutional support are disproportionately impacted, suggesting that integrity should be understood as both a moral and a social justice concern.

Technological limitations, particularly regarding LMS capacity, detection tools, and exam security, further constrain institutional responses. Reliance on imperfect AI detectors risks introducing new forms of bias, particularly against non-native English writers.

Taken together, these findings justify the need for a comprehensive, context-sensitive Academic Integrity Ecosystem Model that integrates governance, assessment, literacy, student culture, faculty capacity, infrastructure, and AI ethics.

6 CONCLUSION

This study offers a multi-institutional, multi-stakeholder analysis of academic integrity in Thai higher education, revealing a complex and deeply interconnected set of challenges shaped by policy gaps, assessment practices, literacy issues, cultural norms, and technological constraints. It demonstrates that academic integrity cannot be addressed through isolated interventions or by targeting student behavior alone. Instead, integrity must be understood as an emergent property of institutional systems and cultures.

The Academic Integrity Ecosystem Model proposed in this study responds to this complexity by integrating seven components:

1. Governance and policy – clear, coherent, accessible policies; consistent and fair enforcement; AI-specific regulations.
2. Assessment design – authentic, process-based, and AI-resilient assessment; moderation and calibration practices.
3. Academic literacy – embedded writing instruction, writing centers, discipline-specific literacy support, and ethical AI literacy.
4. Student engagement and culture – student representation in integrity governance, peer education, and culturally sensitive awareness initiatives.

5. Faculty capacity – structured professional development in integrity, assessment, and AI; recognition of integrity work in promotion and workload models.

6. Digital infrastructure – secure LMS platforms, ethical use of detection tools, exam security systems, and integrity analytics.

7. AI governance and ethics – institutional guidelines defining permitted, conditional, and prohibited AI use; AI ethics education; alignment with national and international AI principles.

The model advances academic integrity theory by explicitly integrating AI governance and cultural responsiveness within a systems-thinking framework. Practically, it provides Thai universities with a roadmap for coordinated reform and offers conceptual tools for other ASEAN systems facing similar dynamics.

7 IMPLICATIONS (SUMMARY)

- For national policy: Develop a national academic integrity framework; establish AI governance guidelines; invest in faculty development and digital infrastructure.

- For institutions: Create cross-unit integrity committees or offices; review and harmonize policies; integrate integrity into quality assurance and strategic planning.

- For pedagogy: Redesign assessments; embed academic and AI literacy across curricula; strengthen writing centers and student support.

- For research: Conduct longitudinal studies on AI and integrity; compare ASEAN systems; evaluate interventions such as AI literacy programs, writing centers, and assessment reform.

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Authors' Contribution

All authors contributed equally to the development of this article.

Data availability

All datasets relevant to this study's findings are fully available within the article.

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