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LEGAL TRANSFORMATION IN THE DIGITAL AGE: ANALYSIS OF LEGAL CHANGES TO ARTIFICIAL INTELLIGENCE REGULATIONS IN INDONESIA

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ABSTRACT

This article examines the evolving regulatory landscape of artificial intelligence (AI) in Indonesia, analyzing the nation's legal transformation in response to rapid technological advancement. Indonesia has undertaken significant regulatory initiatives since 2020, including the National Strategy on Artificial Intelligence 2020-2045, the Ministry of Communication and Informatics Circular Letter No. 9 of 2023, and sector-specific guidelines for financial technology and journalism. This study employs a doctrinal legal research methodology, examining primary legal sources, policy documents, and comparative frameworks from the European Union, Singapore, and Australia. The findings reveal that Indonesia adopts a hybrid regulatory approach, combining horizontal principles-based frameworks with vertical sector-specific regulations. However, gaps persist in comprehensive AI-specific legislation, enforcement mechanisms, and institutional oversight structures. The research demonstrates that while Indonesia has made substantial progress in establishing ethical guidelines and strategic frameworks, the absence of a unified AI law and the National Data and Artificial Intelligence Ethics Council creates regulatory fragmentation. This article contributes to the understanding of AI governance in developing nations and provides insights into the challenges of balancing innovation with regulatory oversight in emerging digital economies.

1. INTRODUCTION

The proliferation of artificial intelligence technologies has fundamentally transformed global economic, social, and legal landscapes, compelling nations to develop comprehensive regulatory frameworks that balance innovation with risk mitigation (Guihot, Matthew & Suzor, 2017). Indonesia, as the world's fourth most populous nation and Southeast Asia's largest economy, stands at a critical juncture in its digital transformation journey (Chambers and Partners, 2024). The Indonesian government has recognized AI as a strategic priority for national development, with former President Joko Widodo asserting that nations controlling AI technology possess the potential to "control the world" (Asia Society, 2022). The legal regulation of AI in Indonesia presents a complex challenge, as existing legal frameworks were established before the emergence of contemporary AI technologies (SSEK Law Firm, 2024). Currently, Indonesian law regulates AI primarily through the Electronic Information and Transactions Law (Law No. 11 of 2008, as amended by Law No. 1 of 2024), which categorizes AI systems as "Electronic Agents" (Indonesia Legal 500, 2025). This classification, while providing initial regulatory grounding, proves inadequate for addressing the multifaceted challenges posed by modern AI applications, including machine learning, natural language processing, and generative AI systems (HBT Law, 2024).

The rapid advancement of AI technologies in Indonesia has created a regulatory gap between existing legal frameworks and the complex realities of AI deployment across multiple sectors (Herbert Smith Freehills, 2025). Despite the introduction of the National Strategy on Artificial Intelligence 2020-2045 and various ethical guidelines, Indonesia lacks comprehensive, unified AI-specific legislation (ANTARA News, 2025a). This regulatory lacuna raises critical questions regarding legal liability, consumer protection, data privacy, intellectual property rights, and ethical oversight of AI systems. Furthermore, the absence of the proposed National Data and Artificial Intelligence Ethics Council, as envisioned in the National AI Strategy, creates institutional gaps in governance and oversight (Herbert Smith Freehills, 2025). The Indonesian government has indicated intentions to develop more detailed regulations, potentially through presidential or ministerial decrees, yet the timeline and content of such regulations remain uncertain (ANTARA News, 2025a).

This study addresses the following research questions: What is the current state of AI regulation in Indonesia, and how has it evolved since 2020? How do Indonesian AI regulations compare with international frameworks,

particularly those of the European Union, Singapore, and Australia? What are the key gaps and challenges in Indonesia's AI regulatory framework? What legal transformations are necessary to establish a comprehensive AI governance system in Indonesia?. This research holds theoretical and practical significance for multiple stakeholders. Academically, it contributes to the limited scholarly literature on AI regulation in Southeast Asian developing nations, addressing a geographical and contextual gap in existing research dominated by Western jurisdictions (UNESCO, 2025). Practically, the findings inform policymakers, legal practitioners, technology companies, and civil society organizations engaged in AI governance discussions in Indonesia and similar jurisdictions. The study's relevance is heightened by Indonesia's active participation in regional AI governance initiatives, including the Association of Southeast Asian Nations (ASEAN) Guide on AI Governance and Ethics (Herbert Smith Freehills, 2025). Understanding Indonesia's regulatory trajectory provides insights into broader regional approaches to AI governance in Southeast Asia.

2. METHODS

This study employs a doctrinal legal research methodology, also known as "black letter law" research, which focuses on analyzing legal rules, principles, and doctrines through systematic examination of primary and secondary legal sources (Hutchinson & Duncan, 2012). Doctrinal research is appropriate for this investigation as it enables comprehensive analysis of statutory instruments, regulations, policy documents, and legal commentaries pertaining to AI governance in Indonesia. The research adopts a qualitative approach, utilizing document analysis as the primary data collection method (Bowen, 2009). This methodological choice allows for in-depth examination of legal texts, policy frameworks, and regulatory guidelines without relying on empirical data collection through interviews or surveys.

The primary legal materials analyzed in this study include: Law No. 11 of 2008 regarding Electronic Information and Transactions, as amended by Law No. 1 of 2024 (EIT Law) Government Regulation No. 71 of 2019 regarding the Implementation of Electronic Systems and Transactions Law No. 27 of 2022 on Personal Data Protection Ministry of Communication and Informatics Circular Letter No. 9 of 2023 regarding Artificial Intelligence Code of Ethics Financial Services Authority (OJK) Ethical Guidelines on Responsible and Trustworthy AI in the Financial Technology Industry (2023) OJK Indonesian Banking Artificial Intelligence Governance (April 2025) Indonesian Press Council Regulation No. 1/Peraturan-DP/I/2025 on Guidelines for the Use of Artificial Intelligence in Journalistic Works. Secondary materials comprise: The National Strategy on Artificial

Intelligence 2020-2045 (Strategi Nasional Kecerdasan Artifisial Indonesia) White Paper on the National Artificial Intelligence Roadmap (August 2025) Draft Concept of AI Ethics Guidelines (2025) ASEAN Guide on AI Governance and Ethics (2024, expanded 2025) Academic journals, legal commentary, and policy analyses from reputable sources.

The research incorporates comparative legal analysis, examining AI regulatory frameworks from three jurisdictions: European Union: Selected for its comprehensive, risk-based AI Act representing horizontal regulation Singapore: Chosen for its principles-based Model AI Governance Framework and sector-specific initiatives Australia: Included for its voluntary ethics framework and technology-neutral regulatory approach These comparators were selected based on their regulatory maturity, regional relevance (Singapore), and representation of different regulatory philosophies (EU's prescriptive approach versus Australia's principles-based framework).

3. DISCUSSION

3.1 Evolution of AI Regulation in Indonesia (2020-2025)

Indonesia's formal engagement with AI regulation commenced with the 2020 release of the National Strategy on Artificial Intelligence 2020-2045, developed by the Indonesian Agency for the Assessment and Application of Technology (BPPT), now consolidated under the National Research and Innovation Agency (BRIN) (Asia Society, 2022). This foundational document established a 25-year strategic vision encompassing four pillars: ethics and policy, talent development, infrastructure and data, and research and industrial innovation (Herbert Smith Freehills, 2025). The National AI Strategy identified five priority sectors for AI development: healthcare, bureaucratic reform, research and education, food security, and mobility and smart cities (Chambers and Partners, 2024). Significantly, the strategy recommended the establishment of a data ethics board to oversee AI development and the creation of national regulations on cybersecurity and AI supervision by 2024 (Chambers and Partners, 2024). However, as of October 2025, neither the proposed National Data and Artificial Intelligence Ethics Council nor comprehensive AI-specific legislation has been enacted (Herbert Smith Freehills, 2025). The strategy's long-term vision positions Indonesia as an AI leader by 2045, aligning with the nation's broader development goals (Herbert Smith Freehills, 2025). Nevertheless, the implementation timeline has experienced delays, with the government only releasing the comprehensive AI Roadmap white paper in August 2025, five years after the initial strategy document (Herbert Smith Freehills, 2025).

Under existing Indonesian law, AI is regulated as an "Electronic Agent" pursuant to the Electronic Information and Transactions Law (EIT Law)

(SSEK Law Firm, 2024). The EIT Law defines an Electronic Agent as "a device of an electronic system operated by a person made to automatically perform an action on certain electronic information" (SSEK Law Firm, 2024). Government Regulation No. 71 of 2019 (GR 71/2019) further stipulates general principles for AI operators, including requirements for consumer protection compliance (SSEK Law Firm, 2024). This regulatory approach presents conceptual limitations. The definition of Electronic Agent emphasizes "automatic" operations, whereas modern AI systems often function "autonomously," making independent decisions without continuous human oversight (Indonesia Legal 500, 2025). Furthermore, the EIT Law and GR 71/2019 establish that legal responsibility for AI-generated harm rests with the AI operator, except when negligence can be attributed to the user (SSEK Law Firm, 2024). This liability framework, while providing initial clarity, does not address complex scenarios involving autonomous AI decision-making, algorithmic bias, or distributed accountability in AI supply chains. The amendment to the EIT Law through Law No. 1 of 2024 maintained the Electronic Agent framework without introducing AI-specific provisions (OpenGov Asia, 2024). This legislative conservatism reflects the government's preference for horizontal, technology-neutral regulation rather than AI-specific statutory intervention.

3.2 Comparative Analysis: International Regulatory Approaches

The European Union's AI Act represents the world's most comprehensive regulatory framework, employing a risk-based approach that categorizes AI applications into prohibited, high-risk, limited-risk, and minimal-risk tiers (HBT Law, 2024). High-risk applications, including credit scoring systems in financial services, face stringent requirements for transparency, human oversight, accuracy, and cybersecurity (HBT Law, 2024). Indonesia's regulatory philosophy diverges significantly from the EU model. While the EU pursues horizontal, prescriptive legislation applicable across all sectors and member states, Indonesia favors a hybrid approach combining general ethical principles with sector-specific guidelines (ANTARA News, 2024). Indonesian Deputy Minister of Communication and Digital Affairs Nezar Patria explained that the government is evaluating whether to adopt the EU's horizontal approach or the United States' vertical, state-by-state model, ultimately seeking an approach suited to "the Indonesian context" (ANTARA News, 2024). The EU AI Act's comprehensive nature contrasts sharply with Indonesia's current regulatory fragmentation. Whereas the EU establishes detailed requirements for AI systems' entire lifecycle—from development through deployment Indonesia's regulations remain principles-based and lack specific technical standards or compliance mechanisms (Chambers and Partners, 2024).

Singapore has emerged as a regional leader in AI governance through its Model AI Governance Framework, initially released in 2019 and subsequently updated with sector-specific toolkits (HBT Law, 2024). Singapore's approach emphasizes principles-based regulation, providing guidelines rather than prescriptive rules, thereby allowing industry flexibility in implementation. In the financial sector, Singapore's Monetary Authority developed the Veritas Initiative, enabling financial institutions to evaluate AI solutions against principles of Fairness, Ethics, Accountability, and Transparency (FEAT) (HBT Law, 2024). This initiative parallels Indonesia's OJK guidelines but demonstrates greater operational maturity through specific assessment tools and industry collaboration mechanisms. Indonesia's ethical guidelines show conceptual similarities to Singapore's framework, particularly in emphasizing principles over prescriptive rules. However, Singapore's ecosystem includes more developed supporting infrastructure, including government-funded AI verification tools, industry sandboxes, and capacity-building programs (HBT Law, 2024). Indonesia's nascent regulatory environment lacks these institutional supports, potentially limiting effective implementation of ethical principles. Both nations participate in ASEAN's regional AI governance initiatives. The ASEAN Guide on AI Governance and Ethics, released in February 2024 and expanded in February 2025 with focus on generative AI, provides a common regional framework (Herbert Smith Freehills, 2025). Indonesia's alignment with ASEAN standards demonstrates commitment to regional harmonization, though domestic implementation mechanisms remain underdeveloped compared to Singapore's advanced regulatory infrastructure.

Australia adopted a voluntary AI Ethics Framework in 2019, establishing eight principles: privacy protection, reliability, transparency, fairness, contestability, accountability, human-centered values, and human oversight (HBT Law, 2024). Unlike the EU's mandatory approach, Australia relies on existing technology-neutral laws to regulate AI aspects, supplemented by industry-led voluntary guidelines. The Australian approach resonates with Indonesia's current regulatory strategy. Both nations avoid AI-specific comprehensive legislation, instead utilizing existing legal frameworks Indonesia's EIT Law and Personal Data Protection Law parallel Australia's technology-neutral regulatory approach (OpenGov Asia, 2024). Both countries have issued sector-specific guidelines, such as the Australian Human Rights Commission's guidance on AI and discrimination in insurance (HBT Law, 2024), comparable to Indonesia's OJK fintech guidelines. However, Australia's regulatory ecosystem benefits from stronger foundational laws. Australia's Privacy Act 1988 and Consumer Law provide robust consumer protection and data privacy frameworks that predate AI

development, whereas Indonesia's Personal Data Protection Law (Law No. 27 of 2022) is relatively recent and still being operationalized (OpenGov Asia, 2024). This foundational strength enables Australia to address AI risks through existing legal mechanisms more effectively than Indonesia's emerging regulatory infrastructure permits.

3.3 Gaps and Challenges in Indonesia's AI Regulatory Framework

The most critical gap in Indonesia's AI regulatory landscape is the absence of comprehensive, AI-specific legislation. While ethical guidelines and sector-specific regulations provide initial governance structures, they lack the legal force, specificity, and enforceability of statutory law (Chambers and Partners, 2024). Circular letters, such as MOCI Circular Letter No. 9 of 2023, function as administrative guidance rather than binding legal obligations, creating uncertainty regarding compliance requirements and enforcement mechanisms. The government has indicated intentions to develop presidential or ministerial regulations on AI, with Deputy Minister Patria stating in January 2025 that such regulations would provide "more detailed provisions" complementing existing ethical guidelines (ANTARA News, 2025a). However, as of October 2025, no draft legislation has been formally introduced to the Indonesian House of Representatives, and the regulatory timeline remains undefined. This legislative vacuum creates several problematic scenarios. First, it limits legal certainty for businesses investing in AI development, as compliance standards remain ambiguous. Second, it weakens consumer protection, as individuals harmed by AI systems lack clear legal recourse beyond general tort law principles. Third, it hampers regulatory enforcement, as authorities lack specific mandates and powers to supervise AI deployment comprehensively.

The National AI Strategy envisioned establishing a National Data and Artificial Intelligence Ethics Council to oversee AI development and ensure ethical implementation (Herbert Smith Freehills, 2025). As of October 2025, this council has not been established, creating an institutional vacuum in AI governance (Herbert Smith Freehills, 2025). The absence of a dedicated AI oversight body results in fragmented governance across multiple ministries and agencies. The Ministry of Communication and Digital Affairs, OJK, the Indonesian Press Council, and BRIN each exercise partial jurisdiction over different AI aspects, but no single entity coordinates overall AI policy, ensures regulatory coherence, or monitors cross-sectoral AI impacts (UNESCO, 2025). This fragmentation risks regulatory inconsistency, duplicative compliance burdens, and gaps where certain AI applications fall outside any specific regulator's mandate. International comparisons highlight this deficiency. Singapore's AI governance benefits from coordination through the Smart Nation and Digital Government Office, which works

across ministries to implement the National AI Strategy (HBT Law, 2024). The EU AI Act designates national competent authorities responsible for implementation and enforcement. Indonesia's regulatory architecture lacks comparable centralized coordination.

Indonesian regulations employ definitions that inadequately capture modern AI's characteristics. The MOCI Circular Letter's definition of AI as "programming on a computer device to process and/or tabulate data carefully" oversimplifies AI's capabilities, particularly concerning machine learning systems that evolve beyond their initial programming (Chambers and Partners, 2024). Similarly, the EIT Law's "Electronic Agent" concept emphasizes automatic rather than autonomous operation, missing critical distinctions in AI agency and decision-making (Indonesia Legal 500, 2025). These definitional limitations create legal uncertainty. For instance, the Electronic Agent framework assumes human operators ultimately control AI systems, but autonomous AI systems increasingly make independent decisions—in algorithmic trading, autonomous vehicles, or medical diagnosis—where human oversight may be minimal or ex post facto. The liability framework attributing responsibility to AI operators becomes problematic when AI autonomy obscures clear lines of human causation. Moreover, current definitions may not encompass emerging AI forms. Generative AI systems, large language models, and artificial general intelligence (AGI) concepts extend beyond "data processing" into content creation, reasoning, and potentially consciousness-mimicking behaviors. Indonesia's regulatory frameworks have not yet grappled with these advanced AI manifestations.

Current Indonesian AI regulations lack detailed enforcement provisions. The MOCI Circular Letter and OJK guidelines establish ethical principles and responsibilities but do not specify penalties for non-compliance, audit requirements, certification processes, or regulatory supervision mechanisms (Chambers and Partners, 2024). This enforcement gap undermines regulatory effectiveness, as businesses face minimal consequences for failing to implement ethical guidelines. The general enforcement provisions in the EIT Law and Personal Data Protection Law provide some remedial options, but these were not designed specifically for AI governance challenges. For example, algorithmic bias a critical AI ethics concern has no explicit legal remedy under current Indonesian law. Similarly, requirements for AI transparency and explainability, emphasized in international frameworks, lack specific enforcement mechanisms in Indonesian regulations.

3.4 Recommendations for Legal Transformation

Indonesia should prioritize enacting comprehensive AI-specific legislation that transcends current circular letters and guidelines. This legislation should establish clear definitions of AI systems, categorize AI applications by risk level (potentially adopting a modified version of the EU's risk-based approach), specify rights and obligations of AI developers and deployers, create transparent liability frameworks, mandate algorithmic transparency and explainability requirements, establish certification and audit mechanisms, and define enforcement authorities and penalties. The government's current consideration of presidential or ministerial regulations represents a positive step, but statutory law enacted by the House of Representatives would provide greater legal certainty, democratic legitimacy, and enforceability (ANTARA News, 2025a). Comprehensive legislation would harmonize the current fragmented regulatory landscape and provide the legal foundation for sector-specific regulations.

Creating the National Data and Artificial Intelligence Ethics Council, as originally envisioned in the National AI Strategy, is essential for effective AI governance (Herbert Smith Freehills, 2025). This body should serve as the central coordinating authority for AI policy, possess regulatory oversight powers across sectors, facilitate multi-stakeholder dialogue including government, industry, academia, and civil society, monitor AI development and deployment, issue binding guidance and standards, coordinate with international AI governance initiatives, and conduct ongoing AI impact assessments. The authority's composition should ensure interdisciplinary expertise, including legal scholars, technologists, ethicists, consumer advocates, and industry representatives. Its mandate should balance innovation promotion with risk mitigation, avoiding overly restrictive approaches that stifle technological development while ensuring adequate public protection.

Effective regulation requires robust enforcement. Indonesia should develop specific compliance frameworks for AI systems, including mandatory AI impact assessments for high-risk applications, regular audits of AI systems by qualified third parties, certification schemes for AI operators demonstrating ethical compliance, transparent complaint mechanisms for individuals affected by AI decisions, and graduated penalty structures proportionate to violation severity. Enforcement authorities should receive adequate resources, including technical expertise to understand complex AI systems. Regulatory sandboxes could allow controlled testing of novel AI applications while ensuring oversight, facilitating innovation within safe parameters.

Clarifying IP rights in AI-generated works is crucial for creative industries and AI innovation. Indonesia should consider establishing a

specific legal framework that distinguishes between AI-assisted works (with significant human creativity) and AI-generated works (predominantly autonomous AI creation), allocates copyright ownership based on contribution levels, addresses moral rights in AI contexts, establishes licensing frameworks for AI training data, and protects against unauthorized AI use of copyrighted materials. The forthcoming Presidential Regulation on AI, expected to address copyright issues, should comprehensively resolve these questions while balancing creators' rights, AI developers' interests, and public access to information and culture (Herbert Smith Freehills, 2025).

Strengthening data governance for AI requires implementing regulations on AI training data quality, representativeness, and bias mitigation; establishing algorithmic transparency requirements, particularly for high-impact decisions; creating data minimization principles specific to AI contexts; regulating cross-border AI data transfers; requiring human oversight for sensitive automated decisions; and protecting against discriminatory algorithmic outcomes. These provisions should integrate with the Personal Data Protection Law while addressing AI-specific challenges. Special attention should focus on vulnerable populations, ensuring AI systems do not perpetuate or exacerbate existing societal inequalities.

4. CONCLUSION

Indonesia's AI regulatory transformation from 2020 to 2025 demonstrates significant progress in establishing foundational frameworks for AI governance. The National Strategy on Artificial Intelligence 2020-2045 provided strategic vision, the MOCI Circular Letter No. 9 of 2023 established initial ethical guidelines, sector-specific regulations from OJK and the Press Council addressed particular industry challenges, and the 2025 AI Roadmap white paper outlined comprehensive policy directions (Herbert Smith Freehills, 2025; BABL AI, 2025). However, critical gaps persist. The absence of comprehensive AI-specific legislation creates legal uncertainty and enforcement challenges (Chambers and Partners, 2024). The non-establishment of the National Data and Artificial Intelligence Ethics Council results in fragmented governance without centralized coordination (Herbert Smith Freehills, 2025). Definitional limitations in existing regulations fail to capture modern AI systems' autonomous characteristics (Indonesia Legal 500, 2025). Intellectual property frameworks have not adapted to AI-generated works (Herbert Smith Freehills, 2025). Capacity deficiencies in research funding, technical expertise, and gender inclusion constrain Indonesia's AI development potential (UNESCO, 2025).

Comparative analysis reveals Indonesia's hybrid regulatory approachcombining horizontal principles with vertical sector-specific

regulations positions the nation between the EU's comprehensive legislative model and Australia's voluntary ethics framework. This positioning reflects Indonesia's developmental context, balancing innovation promotion with risk management in an emerging digital economy. However, effectiveness depends on translating principles into enforceable standards with adequate institutional support. The legal transformation necessary for comprehensive AI governance in Indonesia requires several interventions. Enacting comprehensive AI-specific legislation providing clear rules, rights, and obligations represents the foundational need (ANTARA News, 2025a). Establishing the National AI Authority would coordinate governance and ensure regulatory coherence. Developing robust enforcement mechanisms with penalties, audits, and compliance frameworks would ensure regulatory effectiveness. Clarifying intellectual property rights in AI contexts would support creative industries and innovation. Enhancing data governance with AI-specific transparency, fairness, and privacy provisions would protect consumers. Investing in capacity building through research funding, education, and inclusive participation would strengthen Indonesia's AI ecosystem.

Deepening regional and international cooperation would align Indonesian regulations with global best practices while maintaining national context sensitivity. Indonesia stands at a pivotal juncture. The nation possesses the strategic vision, initial regulatory instruments, and regional engagement necessary for effective AI governance. However, translating these foundations into comprehensive legal frameworks with institutional capacity and enforcement mechanisms requires sustained commitment from policymakers, legislators, regulators, industry, academia, and civil society. As AI technologies continue advancing rapidly, Indonesia's regulatory responses must accelerate correspondingly. The forthcoming presidential or ministerial regulations on AI present opportunities to address identified gaps comprehensively (ANTARA News, 2025a). Success in this legal transformation will position Indonesia as a regional AI governance leader, enabling the nation to harness AI's transformative potential while protecting citizens' rights and interests. This research contributes to understanding AI governance in developing nations, demonstrating that effective regulation requires balancing innovation promotion with risk mitigation, adapting international best practices to national contexts, establishing comprehensive legal frameworks with adequate institutional support, ensuring inclusive participation addressing gender and language diversity, and maintaining flexibility to evolve alongside rapidly advancing technologies.

Future research should examine AI regulation implementation and enforcement experiences once comprehensive frameworks are enacted,

analyze the effectiveness of sector-specific versus horizontal regulatory approaches in the Indonesian context, investigate AI's impacts on vulnerable populations and inequality perpetuation, explore the intersection of AI governance with Indonesia's broader digital transformation initiatives, and assess regional harmonization efforts within ASEAN and their effectiveness in facilitating cross-border AI services. Indonesia's AI regulatory journey remains ongoing. This analysis provides a foundation for understanding current achievements and future challenges, informing stakeholders engaged in shaping the nation's AI governance landscape toward the 2045 vision of AI leadership in Southeast Asia.

5. LIMITATION

AI regulations are changing rapidly. Indonesia is still in the process of developing a comprehensive legal framework, with plans for presidential or ministerial regulations to come. This study only captures the situation as of October 2025, so developments after that date are not covered. This is important because Deputy Minister Patria has already indicated that there will be new, more detailed regulations. Many new regulations (MOCI Circular Letter 2023, OJK Banking Guidelines 2025) have not been in place long enough to assess their effectiveness. We cannot yet see how these regulations work in practice, whether there are implementation issues, or how companies are responding to them. This study uses a doctrinal method (legal text analysis), which does not capture practical experience. We did not interview AI developers, users, or regulators. We do not know how these regulations actually affect businesses or consumers in the field. Empirical methods (surveys, interviews, case studies) could provide additional perspectives. Researchers approach Indonesian AI regulation from an academic legal analysis perspective, which may differ from the perspective of insiders such as Indonesian policymakers, local cultural understanding, or life experiences. Despite efforts to understand the Indonesian context through available sources, Indonesian researchers may lack in-depth understanding.

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