Jurnal Kecerdasan Buatan dan Teknologi Informasi
Vol. 5, No. 1, January 2026, pp. 85-92
e-ISSN: 2964-2922, p-ISSN: 2963-6191
DOI : https://doi.org/10.69916/jkbti.v5i1.460

REGULATORY MODEL OF ARTIFICIAL INTELLIGENCE IN DIGITAL GOVERNMENT: BETWEEN SOFT LAW, ETHICS, AND THE NEED FOR BINDING LAW IN INDONESIA

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(Received: December 8, 2025; Revised: January11, 2026; Accepted: January14, 2026)

Abstract

This study examines the regulatory model of Artificial Intelligence (AI) in Indonesia's digital government, focusing on the relationship between ethical guidelines, soft law, and the need for binding legal regulation. The objective is to analyze the legal limitations of Indonesia's AI Ethics Circular Letter and to formulate a stronger regulatory framework for AI use in public administration. This research employs a qualitative legal method with normative-juridical, conceptual, and regulatory-comparative approaches. Data were collected through documentary study of Indonesian legal instruments, including the AI Ethics Circular Letter, the Personal Data Protection Law, and the Electronic-Based Government System framework, supported by scholarly literature on AI regulation, soft law, public-sector AI governance, and administrative accountability. The findings show that Indonesia's current AI governance remains at an early and transitional stage. The AI Ethics Circular Letter provides an important ethical foundation, but it lacks binding obligations, risk classification, mandatory audit mechanisms, institutional liability, sanctions, and remedies for citizens affected by AI systems. This study proposes a hybrid regulatory model that combines ethical principles with binding legal rules, public-sector-specific obligations, sectoral standards, institutional supervision, and accessible remedies. The study contributes to the development of rights-based and accountability-oriented AI governance in Indonesia's digital government.

Keywords: artificial intelligence regulation; binding law; digital government; soft law; AI ethics.

1. INTRODUCTION

Artificial Intelligence (AI) has become an important component of digital government transformation, including in public service delivery, administrative automation, risk assessment, data-based policy formulation, public-sector innovation, and decision-support systems. In digital government, AI is no longer merely a technological instrument; it increasingly influences how public institutions process information, classify citizens' needs, predict risks, deliver services, and formulate administrative responses. This development creates a regulatory challenge because AI operates through complex technical systems, while government administration must remain subject to legality, accountability, transparency, proportionality, and the protection of citizens' rights. Recent literature shows that AI regulation must balance ethical principles, innovation, risk mitigation, institutional accountability, and legal certainty [4]–[8]. Therefore, the core issue is not whether AI should be used in digital government, but what regulatory model is appropriate to ensure that its use remains lawful, accountable, and rights-based.

In Indonesia, AI governance is currently still dominated by a soft law approach. The most important national instrument is the Circular Letter of the Minister of Communication and Informatics No. 9 of 2023 concerning the Ethics of Artificial Intelligence [1]. This Circular Letter provides ethical guidance for business actors and electronic system providers, including public and private electronic system providers, in formulating internal policies and implementing AI-based consultation, analysis, and programming activities. It introduces several ethical principles, including inclusiveness, transparency, humanity, security, accessibility, credibility, accountability, personal data protection, sustainable development, and intellectual property protection [1]. This instrument is important because it shows that the Indonesian government has recognized the urgency of ethical AI governance. However, because it takes the form of a circular letter, its legal force is limited. It is primarily persuasive, directive, and administrative in nature, rather than coercive, sanction-based, and legally binding.

The limitation of soft regulation becomes more significant when AI is used in government functions that may affect citizens' rights, public services, administrative decisions, personal data, social assistance, licensing, taxation, health, education, policing, and other public interests. Ethical guidelines can establish general values such as transparency, fairness, security, accountability, inclusiveness, and human-centered AI. Nevertheless, ethical principles alone do not automatically create enforceable rights, institutional duties, audit obligations, complaint mechanisms, sanctions, or remedies. This issue is particularly relevant in Indonesia because AI governance intersects

with the Personal Data Protection Law and the Electronic-Based Government System framework [2], [3]. Hickman and Petrin argue that ethical AI guidelines may provide a useful starting point, but their practical application remains difficult when they are not sufficiently connected to binding legal obligations [6]. Similarly, Lee and Lee show that the relationship between AI ethical guidelines and legal frameworks may contain both continuity and discontinuity, making regulatory coherence necessary for stronger AI governance [7]. These findings indicate that soft law is useful as a normative foundation, but insufficient when AI creates legal risks that require enforceable accountability.

Previous studies have discussed the relationship between AI ethics, AI regulation, and digital governance from different perspectives. Cajueiro and Celestino emphasize that AI regulation must address algorithmic risks while balancing innovation and ethical principles [4]. Smuha explains the shift from a global "race to AI" toward a "race to AI regulation," showing that states increasingly compete not only in technological development but also in regulatory leadership [5]. Wirtz, Langer, and Fenner formulate a research agenda for AI in the public sector, while Zuiderwijk, Chen, and Salem highlight the implications of AI for public governance and the need for multidisciplinary governance frameworks [8], [9]. Madan and Ashok show that AI adoption in public administration raises unresolved issues related to fairness, transparency, privacy, and governance capacity [10]. Mergel et al. further argue that implementing AI in the public sector requires organizational adaptation, institutional readiness, and public-sector-specific governance mechanisms [11]. These studies confirm that AI governance in public administration cannot be reduced to technical innovation, because it also concerns institutional legitimacy, public accountability, and regulatory design.

A second body of literature focuses on accountability, legality, risk regulation, and rights protection. Busuioc argues that accountable AI requires identifiable responsibility and institutional mechanisms capable of holding algorithmic systems and their users to account [12]. Bignami discusses AI accountability in public administration from a comparative administrative law perspective [13], while Williams argues that algorithmic decision-making requires administrative law to rethink legality, discretion, reason-giving, and reviewability [14]. Kouroutakis links AI governance to the rule of law, and Laux emphasizes the importance of institutionalized distrust and human oversight in democratic AI governance [15], [16]. Ballot Jones, Thornton, and De Silva also warn that even risk-based AI regulation has limitations if regulatory systems fail to properly identify, classify, and govern emerging risks [17]. Other studies have further shown that trustworthy public-sector AI requires transparency, explainability, human oversight, public trust, due process, data protection, public value, and accountable institutional design [18]–[27]. These studies support the view that AI governance cannot rely solely on ethical aspiration; it requires legal structures that define duties, limits, supervision, liability, and remedies.

Despite these contributions, there remains a specific gap in Indonesian AI governance scholarship. Existing studies have examined AI ethics, digital government, data protection, algorithmic accountability, and public-sector AI implementation, but they have not sufficiently assessed the legal limitations of Indonesia's AI Ethics Circular Letter as a soft regulation in the context of digital government. The novelty of this study lies in its argument that the Circular Letter is necessary but insufficient. It provides an initial ethical foundation, yet it cannot replace binding regulation capable of imposing clear obligations on public institutions and AI system providers. Therefore, this article positions itself at the intersection of administrative law, digital governance, AI ethics, and regulatory theory. It aims to analyze Indonesia's AI regulatory model by comparing ethical guidelines as soft law with the need for formal and binding regulation. This study argues that Indonesia needs a stronger AI governance framework that integrates ethical principles, administrative accountability, data protection, human oversight, algorithmic auditability, risk classification, public-sector responsibility, and legal remedies.

2. RESEARCH METHODS

This study employs a qualitative legal research method with a normative-juridical, conceptual, and regulatory-comparative approach. The qualitative method is appropriate because the object of this study is not numerical measurement, but the interpretation of legal norms, regulatory models, institutional responsibilities, and the legal force of AI governance instruments in Indonesia. The study examines how Artificial Intelligence should be regulated in digital government, particularly by assessing whether ethical guidelines and soft law instruments are sufficient or whether Indonesia requires a more formal and binding legal framework. Qualitative legal research enables the researcher to analyze legal texts, doctrinal principles, policy documents, and scholarly debates in order to construct a normative argument about the appropriate model of AI regulation [28], [29].

The normative-juridical approach is used to examine the legal position of the Circular Letter of the Minister of Communication and Informatics No. 9 of 2023 concerning the Ethics of Artificial Intelligence within Indonesia's legal system. This approach is also used to analyze its relationship with other relevant legal instruments, particularly Law No. 27 of 2022 concerning Personal Data Protection and Presidential Regulation No. 95 of 2018 concerning the Electronic-Based Government System [1]–[3]. The normative analysis focuses on the legal force, scope, institutional obligations, enforcement capacity, and accountability implications of the Circular Letter. This is important because the Circular Letter contains ethical principles for AI use, but it does not yet provide a comprehensive regulatory structure for risk classification, mandatory compliance, administrative sanctions, audit mechanisms, or remedies for citizens affected by AI-based government systems.

The conceptual approach is applied to clarify the distinction between soft law**,** ethical guidelines, and binding regulation in AI governance. Soft law is understood as a regulatory instrument that provides guidance, standards, or ethical direction but does not usually impose strong legal sanctions. Ethical guidelines are treated as normative frameworks that formulate values such as transparency, fairness, accountability, humanity, security, inclusiveness, and data protection. Binding regulation, by contrast, refers to legal instruments that create enforceable rights and obligations, define institutional responsibilities, establish supervisory mechanisms, and provide sanctions or remedies. This conceptual distinction is necessary because AI governance often begins with ethical commitments, but public-sector AI requires stronger legal safeguards when it affects citizens' rights, public services, administrative decisions, personal data, and democratic accountability [5]–[7], [12]–[17].

This research is also designed as a single-case study of Indonesia. Indonesia is selected because its current AI governance model is still at an early stage and is primarily represented by the AI Ethics Circular Letter as a soft regulatory instrument. At the same time, Indonesia has already developed broader digital governance and data protection frameworks through SPBE regulation and the Personal Data Protection Law. This creates an important legal question: whether Indonesia's current soft law approach is adequate for governing AI in digital government, or whether it should be transformed into a stronger and binding regulatory model. The case study is limited to AI regulation in the context of digital government and public administration, not AI use in the private sector in general.

The data used in this study consist of primary legal materials, secondary legal materials, and supporting policy documents. Primary legal materials include the Circular Letter of the Minister of Communication and Informatics No. 9 of 2023 concerning the Ethics of Artificial Intelligence, Law No. 27 of 2022 concerning Personal Data Protection, Presidential Regulation No. 95 of 2018 concerning the Electronic-Based Government System, Government Regulation No. 71 of 2019 concerning the Implementation of Electronic Systems and Transactions, Law No. 30 of 2014 concerning Government Administration, and Law No. 25 of 2009 concerning Public Services. Secondary legal materials include peer-reviewed journal articles on AI ethics, AI regulation, soft law, public-sector AI governance, algorithmic accountability, digital government, administrative law, and data protection. Supporting policy documents include official government materials, regulatory databases, and international policy materials relevant to AI governance.

Data were collected through library research and documentary study. Library research was conducted by reviewing scholarly literature published mainly within the last five years, especially articles that discuss AI regulation, AI ethics, soft law, risk-based governance, and public-sector accountability. Documentary study was conducted by examining legal and policy documents that regulate or guide AI use, digital government, electronic systems, public administration, and personal data protection in Indonesia. Documentary analysis is suitable for this study because the central object of analysis is written legal and policy material, including statutes, circular letters, regulations, and academic literature [29]. This method allows the researcher to identify the normative structure, regulatory gaps, and limitations of the existing AI governance framework.

The collected data were analyzed using qualitative content analysis and legal interpretation. Qualitative content analysis was used to classify the materials into several analytical themes: ethical principles of AI, legal force of soft law, institutional accountability, public-sector AI risks, data protection, human oversight, transparency, auditability, administrative sanctions, citizens' remedies, and the need for binding regulation. Legal interpretation was then applied to examine the meaning and implications of each legal instrument. Statutory interpretation was used to analyze provisions contained in relevant laws and regulations. Conceptual interpretation was used to clarify the meaning of soft law, ethics, and binding regulation in AI governance. Systematic interpretation was used to connect AI ethics with personal data protection, SPBE governance, public service obligations, and administrative accountability.

The analytical process was conducted in four stages. First, the study identified the legal status and normative content of Indonesia's AI Ethics Circular Letter. Second, it examined the limitations of the Circular Letter as a soft law instrument, especially in relation to enforceability, sanctions, institutional duties, audit mechanisms, and remedies. Third, it compared the Indonesian soft law model with broader scholarly debates on AI regulation, ethical governance, risk-based regulation, and administrative accountability. Fourth, the study formulated a normative regulatory model for Indonesia that integrates ethical principles with binding legal standards. The proposed model emphasizes that AI regulation in digital government should include clear legal obligations, risk classification, mandatory human oversight, algorithmic transparency, auditability, personal data protection, institutional accountability, and accessible remedies.

To strengthen the credibility of the analysis, this study applies source triangulation by comparing Indonesian legal instruments, peer-reviewed literature, and official policy documents. The study also applies a rights-based and accountability-oriented perspective. This means that AI regulation is not assessed solely from the perspective of technological innovation or administrative efficiency, but also from the perspective of citizens' rights, public responsibility, legality, transparency, and democratic oversight. Therefore, the adequacy of Indonesia's AI regulatory model is measured by whether it can provide clear obligations, enforceable safeguards, institutional accountability, and legal protection for citizens affected by AI systems in digital government.

The limitation of this method is that it does not empirically assess the actual implementation of AI systems in specific Indonesian government institutions. It also does not conduct interviews with policymakers, public officials, AI developers, electronic system providers, or citizens. The study is limited to normative legal reconstruction based on legal materials, policy documents, and scholarly literature. Nevertheless, this method is appropriate for the purpose of the article because the main objective is to evaluate the regulatory model of AI in Indonesian digital government and to formulate the need for a stronger legal framework beyond ethical soft law.

3. RESULTS AND DISCUSSION

3.1. Indonesia's Current AI Regulatory Model: Ethical Soft Law as an Initial Governance Instrument

The findings of this study show that Indonesia's current AI regulatory model remains primarily based on ethical soft law rather than binding statutory regulation. The Circular Letter of the Minister of Communication and Informatics No. 9 of 2023 concerning the Ethics of Artificial Intelligence is the most explicit national instrument that provides guidance on AI ethics in Indonesia [1]. The official text identifies the Circular Letter as an ethical guideline addressed to AI-based programming business actors, public electronic system providers, and private electronic system providers. It also introduces principles such as inclusiveness, transparency, humanity, security, accessibility, credibility, accountability, personal data protection, sustainable development, and intellectual property protection [1].

This finding indicates that Indonesia has entered the early stage of AI governance by establishing normative values for AI development and use. The Circular Letter is important because it gives public and private actors an ethical reference for designing, deploying, and using AI systems. It also reflects the government's recognition that AI creates risks related to fairness, accountability, transparency, personal data protection, and security. However, from a legal perspective, the Circular Letter remains limited because it does not have the same binding force as a statute, government regulation, or presidential regulation. It does not clearly establish enforceable obligations, institutional liability, administrative sanctions, mandatory audit procedures, or legal remedies for citizens harmed by AI systems.

The limitation of this soft-law model becomes more serious in the context of digital government. AI in public administration may be used not only for administrative efficiency, but also for risk classification, service eligibility, document verification, predictive governance, surveillance, and decision-support systems. These functions may affect citizens' access to public services, social assistance, licensing, taxation, health, education, population administration, and other rights-related sectors. Ethical principles are necessary, but they are not sufficient to guarantee legality, due process, explainability, human review, or institutional accountability. This finding is consistent with Hickman and Petrin, who argue that ethical AI guidelines may provide important normative direction but remain difficult to operationalize without a clear connection to binding legal duties [6]. It also aligns with Lee and Lee, who emphasize the need to harmonize ethical guidelines and legal frameworks so that AI governance does not remain fragmented [7].

The study further finds that Indonesia's AI Ethics Circular Letter operates within a broader legal environment that already contains several relevant regulatory foundations. Law No. 27 of 2022 concerning Personal Data Protection regulates data-subject rights, personal data processing, obligations of data controllers and processors, administrative sanctions, dispute settlement, and criminal provisions [2]. The official regulatory database describes the law as covering the principles and types of personal data, data-subject rights, processing obligations, transfers, sanctions, dispute settlement, and criminal provisions related to personal data protection. Presidential Regulation No. 95 of 2018 concerning the Electronic-Based Government System establishes the national framework for digital government transformation [3]. However, these instruments do not specifically regulate AI as a distinct technological and legal object. As a result, AI governance in Indonesia is still distributed across ethical guidance, data protection law, electronic systems regulation, SPBE governance, and general administrative law.

This condition supports the argument that Indonesia's AI governance is still fragmented and transitional. It has ethical direction, but not yet a comprehensive regulatory architecture. It has data protection rules, but not yet AI-specific risk classification. It has digital government policy, but not yet binding public-sector AI accountability standards. It has general administrative law principles, but not yet procedural safeguards specifically designed for AI-assisted or automated public decision-making. Therefore, the existing regulatory model is useful as a starting point, but insufficient as a long-term legal framework for AI in digital government.

3.2. The Limits of Soft Law and AI Ethics in Public-Sector Governance

The second finding of this study is that soft law and ethical guidelines have structural limitations when applied to AI in government. Soft law is useful because it can be adopted quickly, remain flexible, respond to technological change, and introduce ethical standards before formal regulation is fully developed. In emerging technologies such as AI, this flexibility is valuable because the technology changes faster than conventional lawmaking. Smuha argues that global AI governance has moved from a "race to AI" toward a "race to AI regulation," showing that governments increasingly recognize the importance of regulatory leadership in addition to technological development [5]. In this regard, Indonesia's AI Ethics Circular Letter may be understood as an early regulatory response to a rapidly developing technology.

However, soft law has limitations when AI systems are used in areas involving public power. The first limitation is weak enforceability. Ethical principles may guide institutional behavior, but they do not automatically create enforceable legal rights for citizens. If an AI system produces discriminatory, inaccurate, opaque, or harmful outcomes, citizens need more than ethical commitments. They need clear legal remedies, complaint procedures, human review, administrative appeal, judicial review, and enforceable accountability mechanisms.

The second limitation is unclear institutional responsibility. AI systems are often developed, procured, deployed, and operated by multiple actors, including ministries, regional governments, public agencies, private vendors, cloud providers, data processors, and technical consultants. A circular letter may encourage accountability, but it does not sufficiently define who is responsible when AI produces unlawful or harmful outcomes. Busuioc emphasizes that accountable AI requires identifiable responsibility and institutional mechanisms capable of holding algorithmic systems and their users to account [12]. In digital government, this requirement is crucial because public institutions cannot shift responsibility to technology providers or algorithmic systems when AI is used to support public functions.

The third limitation is the absence of mandatory risk classification. AI systems do not create the same level of risk in every context. A chatbot used for general information services has different legal implications from an AI system used to determine social assistance eligibility, detect fraud, assess tax compliance, support policing, or classify citizens' access to health services. A binding regulatory model should distinguish between low-risk, medium-risk, high-risk, and prohibited AI uses. Ballot Jones, Thornton, and De Silva warn that even risk-based AI regulation has limitations if regulatory systems fail to identify and govern risks properly [17]. Nevertheless, risk classification remains necessary because it allows the law to impose stricter obligations on AI systems that have greater impact on citizens' rights.

The fourth limitation is the lack of auditability and transparency obligations. Ethical AI principles often mention transparency, but they do not always require public institutions to maintain system documentation, model records, data lineage, decision logs, impact assessments, testing reports, or independent audits. In public administration, auditability is essential because AI systems must be reviewable by internal supervisors, external auditors, courts, ombuds institutions, data protection authorities, and affected citizens. Bignami argues that AI accountability in public administration requires transparency and institutional structures capable of ensuring public responsibility [13]. Similarly, Williams shows that algorithmic decision-making challenges administrative law doctrines, particularly reason-giving and reviewability [14].

The fifth limitation is insufficient protection of citizens' rights. AI ethics may speak about humanity, fairness, and accountability, but rights protection requires legal procedures. Citizens must be able to know when AI is used, understand how AI affects them, correct inaccurate data, obtain meaningful human review, and challenge harmful decisions. Studies on explainable AI and automated decision-making show that transparency and explanation affect perceived fairness, trustworthiness, and legitimacy in government decisions [19], [20]. Suksi also argues that administrative due process must be reconsidered when automated decision-making is used in public administration [21]. These studies strengthen the finding that ethical soft law must be transformed into procedural legal safeguards when AI is used in government.

3.3. The Need for Binding Regulation in Indonesia's Digital Government

The third finding of this study is that Indonesia needs a stronger and more binding AI regulatory framework for digital government. This does not mean that ethical guidelines should be abandoned. On the contrary, ethical principles should become the normative foundation of AI regulation. However, ethics must be institutionalized into enforceable legal obligations. In public administration, the use of AI must be governed not only by voluntary commitments, but by clear rules on legality, accountability, transparency, human oversight, personal data protection, auditability, risk management, and remedies.

A binding AI regulation for digital government should first establish clear institutional obligations. Public institutions that design, procure, deploy, or rely on AI systems must be responsible for ensuring legality, fairness, security, transparency, and accountability. These obligations should apply not only to central government institutions, but also to regional governments and public electronic system providers. The regulation should clarify the role of each actor, including AI developers, system vendors, public agencies, data controllers, data processors, and supervisory bodies.

Second, binding regulation should introduce risk-based governance. AI systems used in digital government should be classified based on their potential impact on rights, public services, personal data, safety, equality, and administrative justice. Low-risk AI may be governed through lighter transparency and documentation standards. High-risk AI, especially systems used in public service eligibility, social assistance, licensing, taxation, immigration, policing, health, education, or administrative sanctions, should be subject to strict requirements. These may include impact assessment, prior testing, bias evaluation, human oversight, public documentation, audit trails, periodic review, and complaint mechanisms.

Third, binding regulation should require meaningful human oversight. AI should not replace public authority in administrative decision-making. Human officials must retain the ability to understand, evaluate, modify, suspend, or

reject AI-generated outputs. Laux argues that human oversight is central to democratic AI governance because it prevents excessive reliance on automated systems [16]. In the Indonesian digital government context, human oversight is also necessary to preserve administrative legality and prevent public officials from using AI as a shield against responsibility.

Fourth, binding regulation should integrate AI governance with personal data protection. AI systems depend heavily on data, and public-sector AI often uses large-scale administrative data collected from citizens. Therefore, AI regulation must be consistent with the Personal Data Protection Law [2]. Public institutions should be required to ensure lawful processing, data minimization, purpose limitation, accuracy, security, and accountability when using personal data for AI systems. If AI is used to support public service decisions, citizens should have the right to know the role of AI, the categories of data used, and the mechanisms for correction or objection.

Fifth, binding regulation should establish auditability and accountability mechanisms. Public institutions should maintain documentation of AI system objectives, data sources, model logic, system limitations, testing results, risk assessments, human oversight procedures, and decision logs. These records are necessary for supervision, investigation, dispute resolution, and judicial review. Without auditability, accountability becomes difficult because affected citizens and oversight institutions cannot reconstruct how AI influenced a decision.

Sixth, binding regulation should provide remedies and sanctions. Citizens harmed by AI systems in digital government should have access to complaint mechanisms, administrative review, correction procedures, compensation where appropriate, and judicial remedies. Public institutions and AI providers that violate legal obligations should be subject to administrative sanctions or other legal consequences. This is the main distinction between ethical guidance and binding regulation: binding law does not merely advise institutions to act responsibly; it creates consequences when they fail to do so.

This finding strengthens previous research on public-sector AI governance. Wirtz, Langer, and Fenner argue that AI in the public sector requires a specific research and governance agenda [8]. Zuiderwijk, Chen, and Salem show that AI in public governance creates implications that require multidisciplinary governance frameworks [9]. Madan and Ashok identify unresolved issues of fairness, privacy, transparency, and institutional capacity in AI adoption [10]. Mergel et al. emphasize organizational adaptation and institutional readiness in implementing AI in the public sector [11]. This study extends these findings by arguing that, in Indonesia, these governance needs must be translated into a formal legal framework because the current soft-law model cannot adequately address the risks of AI in government.

3.4. Toward a Hybrid Regulatory Model: From Ethical Soft Law to Binding Public-Sector AI Governance

The fourth finding of this study is that Indonesia should not adopt a purely hard-law or purely soft-law model. Instead, it should develop a hybrid regulatory model that combines ethical principles, binding legal rules, technical standards, institutional supervision, and sectoral governance. AI regulation must remain flexible enough to respond to technological change, but strong enough to protect citizens from legal harm. This model is particularly suitable for Indonesia because AI development is still emerging, while digital government is already expanding through SPBE.

The proposed hybrid model consists of five layers. The first layer is ethical principles, derived from the AI Ethics Circular Letter [1]. These principles should remain important as the moral foundation of AI governance. Values such as humanity, inclusiveness, transparency, security, accountability, personal data protection, and sustainable development should guide all AI use in Indonesia. The second layer is binding legal obligations**.** Ethical principles should be transformed into enforceable duties through a higher-level regulation, such as a law, government regulation, or presidential regulation. These obligations should regulate risk classification, human oversight, transparency, auditability, data protection, institutional responsibility, and remedies. Without this layer, AI governance will remain voluntary and weak. The third layer is public-sector-specific regulation. AI in government requires stricter safeguards than many private-sector AI uses because it involves public authority and citizens' rights. Therefore, AI systems used by public institutions should be subject to special rules on administrative legality, public accountability, public service standards, due process, and reviewability. This is consistent with Bignami's and Williams' arguments that AI in public administration must be governed through administrative-law principles [13], [14].

The fourth layer is sectoral regulation**.** AI risks differ across sectors. AI in health, education, finance, policing, social assistance, taxation, and licensing requires different standards. Therefore, sectoral regulators and ministries should develop specific technical and procedural rules, while still following national AI governance principles. This prevents overgeneralization and allows regulation to address sector-specific risks.

The fifth layer is institutional supervision and public remedies**.** AI governance requires a supervisory structure capable of monitoring compliance, conducting audits, receiving complaints, investigating violations, and imposing sanctions. It also requires accessible remedies for citizens affected by AI systems. Without supervision and remedies, AI regulation will remain declaratory rather than effective. The novelty of this study lies in its assessment that Indonesia's AI Ethics Circular Letter should be understood as a preliminary stage, not the final model of AI governance. The Circular Letter provides ethical direction, but it cannot replace binding legal regulation. Therefore, Indonesia's regulatory trajectory should move from ethics-based soft law toward rights-based and accountability-

oriented AI regulation. This model does not reject ethics; it strengthens ethics by converting ethical values into legal safeguards.

Overall, the findings show that Indonesia's digital government requires AI regulation that is more robust than voluntary ethical guidance. The use of AI in government may improve efficiency, innovation, and service delivery, but it may also create risks of opacity, discrimination, data misuse, automation bias, weak accountability, and limited remedies. Therefore, the future of AI regulation in Indonesia should be built on a hybrid model that integrates ethical principles with binding legal obligations. Such a model is necessary to ensure that AI in digital government remains innovative, lawful, accountable, transparent, and protective of citizens' rights.

4. CONCLUSION

This study concludes that Indonesia's current AI regulatory model in digital government remains at an early and transitional stage. The Circular Letter of the Minister of Communication and Informatics No. 9 of 2023 concerning the Ethics of Artificial Intelligence provides an important ethical foundation, but it is not sufficient to regulate AI use in public administration comprehensively. As a soft law instrument, the Circular Letter can guide public and private actors toward principles such as transparency, accountability, humanity, security, inclusiveness, and personal data protection. However, it does not yet provide binding obligations, risk classification, mandatory audit mechanisms, institutional liability, administrative sanctions, or legal remedies for citizens affected by AI systems. The main finding of this study is that ethical guidance must be strengthened into a more formal and enforceable legal framework, especially when AI is used in digital government functions that affect citizens' rights, public services, administrative decisions, personal data, and access to essential services. AI governance cannot rely solely on voluntary compliance because public-sector AI involves the exercise of public authority. Therefore, the state must ensure that AI systems used in government remain subject to legality, human oversight, transparency, auditability, data protection, and accountability.

The novelty of this study lies in its proposal for a hybrid regulatory model**.** This model does not reject soft law, but places ethical principles as the initial layer of AI governance that must be supported by binding legal rules, public-sector-specific obligations, sectoral standards, institutional supervision, and accessible remedies. In this sense, Indonesia's AI Ethics Circular Letter should be understood as a starting point, not the final form of AI regulation.

This study has limitations because it is based on normative legal research and documentary analysis. It does not empirically examine the actual implementation of AI systems in Indonesian government institutions. Future research should investigate concrete cases of AI use in public services, licensing, social assistance, taxation, education, health, and law enforcement. Comparative studies with jurisdictions that have adopted stronger AI regulation may also help Indonesia design a more accountable and rights-based AI governance framework.

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