The Urgency of Establishing AI Regulations to Ensure Legal Certainty and AI Ethics in Responding to Challenges Digitalization in Indonesia

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Abstract

The rapid development of artificial intelligence (AI) technology in Indonesia has had a significant impact on various aspects of life, including the legal realm and the protection of individual rights. Phenomena such as deepfakes and generative AI, as seen in the case of the "Polaroid Gemini AI Trend," demonstrate the weak legal protection of privacy and personal image due to the absence of regulations specifically governing the use and responsibilities for AI. This study uses a normative juridical approach with a literature review and descriptive-analytical analysis method to assess the effectiveness of current regulations, such as the ITE Law and the PDP Law, and examines the urgency of establishing specific regulations regarding artificial intelligence. The results show that both laws are unable to accommodate the complexity of AI, particularly regarding legal accountability for automatically generated digital content. Therefore, the establishment of specific regulations based on Luciano Floridi's digital ethics theory and UNESCO's AI Ethics, which emphasize the principles of transparency, justice, accountability, and respect for human rights, is needed. These regulations are expected to create adaptive legal certainty and realize ethical, equitable, and sustainable AI governance in Indonesia.

Keywords: *Artificial Intelligence; Legal Certainty; AI Ethics; Personal Data Protection and UNESCO AI Ethics.*

I.   INTRODUCTION

The rapid development of artificial intelligence (AI) technology has transformed the digital landscape in Indonesia, significantly impacting various sectors, from the economy to social and legal sectors. The use of AI is now widespread in personal data processing, algorithm-based decision-making, and digital content creation. As time goes by, artificial intelligence systems are developing rapidly and with increasingly enhanced capabilities. (Disemadi, 2021) This technology no longer functions solely as a tool but is also capable of producing works that resemble human creations, such as text, music, paintings, photographs, and films. (Abdi & Adhari, 2025) AI is considered one of the most transformative technological breakthroughs today, due to its ability to analyze data on a large scale, make independent decisions, and overcome complex challenges. (Rudy Hartanto et al., 2024) However, this development also creates serious legal and ethical challenges. Phenomena such as deepfakes and generative AI can manipulate an individual's personal image into digital content that appears authentic, opening up opportunities for harmful abuse. The case of misuse of AI in the Polaroid Gemini AI trend that is trending on social media is a real example of the weak legal protection of personal image and individual privacy in the digital world, showing that the use of this technology without a clear regulatory framework can threaten the fundamental rights of society. Along with the widespread use of digital technology for the advancement and welfare of society, there is also the potential for misuse of this technology. This can be seen in various new types of crimes that violate individual privacy rights.

(Martinelli et al., 2023) The case of abuse of the Polaroid Gemini AI trend began in early September 2025 on the TikTok platform, where a style of image processing using artificial intelligence (AI) known as "Polaroid Gemini AI" became very popular. This is done by uploading personal photos or public figures (idols) which are then combined with specific text commands or prompts that are widely spread in the comments column. By utilizing the creation function of a large language model or what is often known as the Google Gemini Large Language Model (LLM), users can create highly realistic Polaroid-style artificial images. LLM is a type of artificial intelligence (AI) model that utilizes deep learning. (Aghnia & Marsiela, 2025) However, the ease of access to this technology, which allows many people to create static deepfake images, immediately experienced a significant increase in abuse. As the trend spread rapidly, its purpose shifted from simply expressing fan admiration to creating non-consensual content that violates moral norms.

The technology was misused to produce and distribute images depicting explicit intimate poses, such as kissing or hugging, without the consent or knowledge of the individuals involved, thus causing immaterial harm to the idol's reputation and dignity.Indonesia currently has laws and regulations that generally regulate the digital space, such as Law Number 1 of 2024 concerning Electronic Information and Transactions (ITE Law) and Law Number 27 of 2022 concerning Personal Data Protection (PDP Law).

However, these regulations fail to comprehensively address the complexities posed by AI, particularly regarding accountability for AI-generated content and specific protections for individuals' moral rights and personal image. This legal vacuum has resulted in uncertainty in law enforcement and a weakened position for victims of AI abuse. Beyond legal certainty, the urgency of AI regulation is also closely related to the dimension of digital ethics. Without binding ethical guidelines, the use of AI has the potential to create injustice, algorithmic bias, and human rights violations. Although the Ministry of Communication and Informatics has issued Circular Letter Number 9 of 2023 concerning the Ethics of Artificial Intelligence, this regulation remains a moral appeal without binding legal force, indicating that the regulation of AI ethics in Indonesia is still not fully and comprehensively regulated. In addition to the challenges of rapid technological change, Indonesia also faces obstacles in developing AI regulations due to a lack of adequate legal infrastructure and a shortage of human resources with a deep understanding of AI. (M. Wildan Mufti1, 2024) This study aims to deeply analyze the level of protection afforded by current legal regulations in Indonesia to individuals' privacy and personal image rights from the use of AI in digital content. Furthermore, this study also examines the urgency and normative need to establish comprehensive, adaptive, and ethically oriented AI regulations to ensure legal certainty, transparency, and accountability.

Through this study, it is hoped that weaknesses in existing legal regulations can be identified and the need for specific regulations regarding artificial intelligence can be assessed, which can ultimately make a significant contribution to the development of national law that aligns with the challenges of digitalization in Indonesia.Based on the background description above, a problem formulation can be formulated as follows: (1) Are the current legal regulations in Indonesia capable of protecting the privacy rights and personal image of individuals regarding the use of artificial intelligence technology in creating digital content? and (2) How urgent is the formation of special regulations regarding artificial intelligence to provide legal certainty and regulate the ethics of AI use in Indonesia?

II.   METHODS

This research uses a normative juridical approach gathered through literature review with two main approaches: the statute approach and the conceptual approach. The statutory approach is used to examine various laws and regulations related to artificial intelligence, personal data protection, and AI ethics in Indonesia. This approach aims to identify the extent to which current legal norms are able to provide legal protection for individuals' privacy and personal image rights from the misuse of artificial intelligence technology in digital content creation. Furthermore, the conceptual approach is used to understand basic concepts related to artificial intelligence, such as legal certainty and AI ethics. This approach is used by examining legal theories, expert doctrines, and recommendations on AI ethics by UNESCO that are relevant to the urgency of AI regulation in responding to challenges to digitalization in Indonesia.

Legal theory is formulated to explain a legal condition or resolve problems related to the law itself. (Dr. H. Nur Solikin, 2021) As analytical tools, this study uses the Legal Certainty Theory by Gustav Radbruch and the Digital Ethics Theory developed by Luciano Floridi. This study uses types of legal materials divided into primary legal materials (such as the Personal Data Protection Law, the ITE Law, and the Minister of Communication and Information's Circular Letter on the Ethics of Artificial Intelligence), secondary legal materials (literature, textbooks, and scientific journals), and tertiary legal materials (legal dictionaries and legal encyclopedias). The analysis was conducted descriptively and analytically to examine the weaknesses of existing legal regulations and assess the urgency of establishing specific regulations regarding artificial intelligence. In this study, data was obtained through library research, such as collecting legal documents and relevant literature.

III.   RESULT AND DISCUSSION

The Effectiveness of Regulations in Indonesia in Protecting Individuals' Rights to Privacy and Personal Image against the Misuse of Artificial Intelligence

Current legal regulations in Indonesia, particularly Law Number 1 of 2024 concerning Electronic Information and Transactions (ITE Law) and Law Number 27 of 2022 concerning Personal Data Protection (PDP Law), have provided a normative foundation for protecting individuals' rights to privacy and personal image. In the context of the use of artificial intelligence (AI) technology for digital content creation, these two laws play a crucial role in establishing ethical and legal boundaries for the processing, dissemination, and manipulation of individuals' personal and visual data. However, in practice, the protection provided by these two regulations remains limited in addressing the complexities of AI technology, particularly those involving synthetic content such as deepfakes and/or AI-generated images. Furthermore, the ITE Law and the PDP Law do not comprehensively regulate the responsibilities of AI developers or service providers who process and produce digital content that imitates a person's identity without permission. The lack of a clear legal definition of "AI-generated content" means that law enforcement often relies on interpretations of general articles such as violation of privacy, defamation, or misuse of personal data, which are not always adequate to address the impacts of misuse of AI technology. To prosecute someone legally, there must be an article that has been concretely violated. If we look at Article 2 paragraph (2) of the PDP Law, it explicitly states that this PDP Law does not apply to "the processing of personal data by people and individuals in the context of personal or household activities" so that making or processing images such as the Gemini Polaroid trend which is only for personal consumption can be categorized as "personal activities".

Furthermore, to be considered a cyber crime such as defamation as regulated in Article 27 A of the ITE Law, there must be an element of "intentionally attacking someone's honor or good name" however, a fan who makes a Polaroid picture with his idol can certainly not have such an intention, because the goal is to express admiration or personal entertainment. Without malicious intent and evidence of damage to reputation, the elements in this article cannot be fulfilled. If we refer to Article 40 A paragraph (1) of the ITE Law, which states that "The government is responsible for encouraging the creation of a fair, accountable, safe and innovative digital ecosystem." Therefore, as stated previously in the ITE Law, the government is responsible for developing technology that is transparent and accountable, and secure from threats. (Sakti et al., 2025) In essence, the legal system is expected to consistently guarantee certainty and act as a source of solutions to the various problems faced by individuals, who are the entities governed by these regulations. (Palindria et al., 2024) In terms of legal certainty, the weaknesses in current regulations create gaps in the protection of personal image. For example, the Personal Data Protection Law emphasizes the principles of legal compliance, fairness, and transparency in data processing, but does not detail the accountability mechanisms if AI automatically generates content without clear human intervention. Similarly, the ITE Law, which focuses on the dissemination of information and electronic transactions, does not address algorithm-based AI content production.

This situation has the potential to lead to violations of individuals' rights to privacy and personal image without adequate legal protection. Inadequate regulation is another risk, where the lack of an adequate regulatory framework can create loopholes for the unethical development and use of AI. (FRANSESCO AGNES RANUBAYA, 2024) Therefore, the government needs to establish specific regulations related to artificial intelligence, given the rapid development and high level of complexity of this technology. (M. Wildan Mufti1, 2024) Gustav Radbruch's theory of legal certainty emphasizes that the law must contain three main principles: justice, utility, and legal certainty in regulating social relations so that society can know with certainty what is permitted and prohibited. In the context of the use of AI in Indonesia, this principle of legal certainty is crucial, given that the rapid development of technology is often not accompanied by adequate regulatory adaptation. When the law does not explicitly regulate the responsibilities, limitations, and protection mechanisms against the misuse of AI, for example in the case of personal image manipulation through deepfakes, society loses certainty regarding its legal protection. The role of law in the use of artificial intelligence technology encompasses several important and fundamental aspects, namely justice, regulatory systems, accountability, and protection of individual rights. (DR.

DANRIVANTO BUDHIJANTO, 2024) Therefore, in accordance with Radbruch's view, the establishment of specific regulations regarding AI is not only a technical necessity but also a manifestation of the state's efforts to realize legal certainty that aligns with the values of justice and utility for a modern digital society.

The Urgency of Establishing Special Regulations Regarding Artificial Intelligence to Provide Legal Certainty and Regulate AI Ethics in Indonesia

The urgency of establishing specific regulations regarding artificial intelligence (AI) in Indonesia is not only related to the need for positive law, but also concerns the ethical dimensions and moral responsibility in the use of digital technology. In this context, the theory of digital ethics proposed by Luciano Floridi is relevant, as Floridi emphasizes that digital ethics is no longer solely human-centered, but rather the information environment itself (the infosphere) where humans, machines, and data interact dynamically. Therefore, establishing AI regulations based on digital ethical principles is crucial so that this technology is not only subject to formal law but also aligned with moral values and social responsibility in cyberspace.Furthermore, from a legal certainty perspective, the absence of specific regulations has created considerable ambiguity in the application of legal principles to cases involving AI technology. Currently, Indonesia relies on general regulations such as the ITE Law and the Privacy and Security Law, which do not comprehensively address responsibility, algorithm transparency, or individual rights regarding AI-generated decisions. The popular "Polaroid Gemini AI Trend" online phenomenon demonstrates the dual impact of digitalization in Indonesia. On the one hand, it accelerates the use of generative artificial intelligence technology as a platform for public expression. However, on the other hand, it also opens up serious legal loopholes due to the widespread misuse of the technology to create deceptive content or deepfakes. This issue is all the more pressing given that Indonesia currently lacks specific laws regarding artificial intelligence.

Existing laws, such as the ITE Law and the Privacy and Security Law, often face challenges in enforcement. This is due to the unique nature of AI-based actions, which often do not adequately meet the elements of applicable criminal offenses. The limitations of existing regulations in adapting to the complexity and development of this technology underscore the urgent need to establish a comprehensive and clear legal framework. This framework will serve to fill legal gaps and establish clear ethical boundaries and legal standards to ensure legal certainty amidst the ever-changing challenges of the digital era. A comprehensive digital understanding is crucial for accurately sorting information and preventing the spread of fake news, especially given the increasing use of AI-based deepfake technology. (Palindria et al., 2024) This uncertainty creates a legal vacuum when rights violations or data misuse by AI occur, as law enforcement lacks a clear legal basis for action. Therefore, establishing AI regulations is a strategic step to ensure legal certainty and provide clear direction regarding rights, obligations, and ethical boundaries in the development and application of artificial intelligence technology in Indonesia. Furthermore, the application of AI ethics, based on Floridi's theory, requires regulations that ensure the principles of transparency, accountability, and fairness at every stage of AI utilization. AI regulations will need to govern how data is collected, processed, and used by AI systems to prevent harm to individuals or groups. For example, in the context of using AI for public surveillance, without adequate regulation, the potential for privacy violations and algorithmic bias will increase.

Floridi's principles of digital ethics remind us that every decision made by technology reflects the values embedded in humans, so moral and legal responsibility must remain with technology developers and users.Thus, the urgency of establishing specific regulations regarding AI in Indonesia lies in two main aspects: to create legal certainty in the face of rapid technological developments and to uphold digital ethics that ensure AI is developed and used responsibly. Regulations based on digital ethics theory will encourage the creation of an AI ecosystem that is fair, transparent, and oriented towards societal sustainability, thereby capable of addressing the challenges of sustainable digitalization in Indonesia. Effective regulations addressing AI advancements should be grounded in social goals relevant to societal needs. This means that the government and policymakers need to strive to understand and respond to public expectations regarding ideal AI governance. The role of state institutions in cyber law enforcement is crucial in ensuring that the regulations that have been formulated can be implemented effectively. (Husni et al., 2025) This demands

transparent discussions between the government, legislative bodies, technology experts, academics, and various community stakeholders who experience the impacts of AI. (Rudy Hartanto et al., 2024) Building a society that benefits from AI requires a multi-stakeholder approach, which is the most efficient method to ensure that AI truly serves societal needs, by involving developers, users, and regulators in contributing and collaborating from the outset. (Dr. Ir. Agus Wibowo, 2023) Ethics plays a crucial role as a guideline for the use of technology to align with social values, protect privacy, and ensure responsible use.

Based on ethical principles, the negative impacts of technology can be minimized, social inequality prevented, and sustainability and societal well-being achieved. (FRANSESCO AGNES RANUBAYA, 2024) In 2023, the government swiftly responded to the development of artificial intelligence by issuing Circular Letter of the Minister of Communication and Informatics Number 9 of 2023 concerning the Ethics of Artificial Intelligence, which serves as a guideline for the ethical application of AI. However, this circular is not classified as a statutory regulation under the Law on the Formation of Legislation, meaning that the Circular Letter is merely a directive that does not have binding legal force. When linked to the principles of AI Ethics formulated by UNESCO in its Recommendation on the Ethics of Artificial Intelligence (2021), UNESCO emphasizes that the development and utilization of AI must be based on humanitarian values, social justice, human rights, and environmental sustainability. According to UNESCO, AI ethics encompasses key principles such as do no harm, fairness and non-discrimination, transparency, accountability, and respect for privacy. These principles require national regulations that ensure that every stage of the AI lifecycle, from design and development to implementation, is carried out responsibly and oriented toward protecting individual rights and the well-being of society.

Therefore, specific regulations are an important instrument for translating global ethical values into a national legal framework that is appropriate to the social and cultural context in Indonesia. In addition to ensuring legal certainty, the implementation of AI ethics based on UNESCO's AI Ethics also serves as a moral and public policy guideline in shaping the relationship between humans and technology. UNESCO emphasizes the importance of ethical impact assessment, multi-stakeholder governance, and human oversight to ensure that every use of AI can be ethically and legally accounted for. (UNESCO, 2022) In Indonesia, the establishment of AI regulations that adopt these principles will strengthen legal legitimacy in overseeing AI practices. With regulations aligned with global ethical standards, Indonesia not only creates legal certainty that is adaptive to technological advances but also upholds the values of humanity, justice, and moral responsibility that form the basis of ethical and sustainable digital development. The public can be legally protected if the programming and use of artificial intelligence are carried out ethically. (Mendrofa Jaya et al., 2025) Given that various countries around the world have begun implementing various regulations to mitigate the impacts and risks posed by artificial intelligence, it is appropriate for the Indonesian government to take similar action. (Raffi Putra Jumantoro et al., 2024)

IV. CONCLUSION

Based on the study, it can be concluded that advances in artificial intelligence technology in Indonesia have had a substantial impact on various sectors of life, including the protection of individuals' rights to privacy and personal image. Although Indonesia already has regulations such as Law Number 1 of 2024 concerning Electronic Information and Transactions (ITE Law) and Law Number 27 of 2022 concerning Personal Data Protection (PDP Law), these two legal instruments have not been able to comprehensively address the legal challenges arising from advances in AI technology, particularly in cases of misuse such as deepfakes and generative AI. This situation creates a legal vacuum that leads to uncertainty in law enforcement and weak protection for victims of digital technology misuse. Furthermore, the urgency of establishing specific regulations regarding artificial intelligence is based on the need for legal certainty and protection of human rights in the digital era.

These regulations are expected to not only address the legal responsibilities and oversight mechanisms for AI developers and users, but also be based on Luciano Floridi's digital ethics theory, which emphasizes balance, fairness, and responsibility within the information ecosystem (infosphere). Furthermore, the AI Ethics principles issued by UNESCO in 2021 reinforce this urgency by emphasizing values such as

justice, transparency, accountability, do no harm, and respect for privacy. Implementing these principles within the national legal system will help ensure that all uses of AI are carried out responsibly, transparently, and respectfully. Therefore, establishing AI regulations that combine the principles of legal certainty and global ethics is a strategic step towards realizing fair, sustainable, and dignified technology governance in Indonesia.

V. SUGGESTION

The government's top priority is to formulate and ratify a comprehensive, flexible Artificial Intelligence Law (AI Law) that invites participation from various parties. The development of this regulation should involve cross-sector synergy, including from the government itself, academics, technology practitioners, and civil society. This collaboration is crucial to ensure that the resulting legal regulations truly reflect the real needs of the digital society and align with global developments. The law must include clear provisions on legal accountability, the principle of algorithmic transparency, an ethical evaluation process, and maximum protection of individual rights from potential misuse of AI technology.Equally important are efforts to increase digital literacy and understanding of AI ethics within the community. This aims to foster collective awareness of the responsible use of technology. Thus, strong regulations and extensive education can go hand in hand. This will ensure that the use of artificial intelligence in Indonesia is not only innovative and competitive, but also ethical, safe, and equitable for all citizens.

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