ARTIFICIAL INTELLIGENCE AND LEGAL PROCESS IN INDONESIA, NAVIGATING LEGAL ETHICS IN THE ALGORITHM ERA

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Abstract

This study aims to analyze the dynamics of the use of artificial intelligence (AI) in the Indonesian legal system, as well as to formulate an ethical and legal framework that can ensure that the use of this technology remains within the corridor of justice and constitutional principles. This study uses a juridical-normative approach with a library research method, which examines primary legal materials such as national and international laws and regulations, as well as secondary legal materials in the form of academic literature and reports from global institutions such as the OECD, UNESCO, and the European Union. The results of the study show that at the international level, regulation of AI in law is developing rapidly with a risk-based approach and ethical principles. Meanwhile, Indonesia still faces regulatory and institutional challenges due to the absence of a specific legal framework governing AI in the legal process. In this context, the risk of algorithmic bias, the absence of accountability, and the weak digital literacy of law enforcement officers are crucial issues. This study recommends a normative model that guarantees human control, algorithm audits, and public participation. As a result, this study contributes to strengthening the national legal framework in facing the digital era, as well as opening up space for dialogue between sectors in formulating fair, transparent, and human rights-oriented AI policies.

INTRODUCTION

Artificial intelligence (AI) has become the most significant driving force of digital transformation in the last decade. Globally, AI has not only penetrated the industrial and economic sectors, but has also begun to intervene in the judicial system,

legal decision-making institutions, and public policy-making mechanisms. Countries such as the United States, the United Kingdom, and China have developed AI implementation models in various lines of legal services, including *predictive policing* , risk assessment tools *(Engin & Treleaven, 2019)* , and even in the automated processing of simple civil cases. While these advances are seen as promising in terms of efficiency, there are also serious concerns about algorithmic bias, loss of legal accountability, and threats to the principle of due process of law. The international community, including the UN and UNESCO, has issued guidelines on the ethics of using AI, but there is no established normative consensus on the limits and ideal design of AI in the legal domain.(Završnik, 2021)

This global phenomenon confirms that the shift to the algorithmic era is inevitable and actually demands the reconstruction of traditional legal concepts, especially in the dimensions of ethics and justice. In many modern legal systems, the concept of justice is not only about the accuracy of decisions, but also related to the legitimacy of the process, the independence of institutions, and public participation. So, when AI begins to take over some of the interpretative and evaluative functions previously monopolized by humans (judges, prosecutors, lawyers), a fundamental question arises: how to maintain ethical values in a legal system that is increasingly driven by technology? This discourse then developed into a critique of overly technical legal positivism, as well as demands for law to be more reflective of human values. Amidst demands for efficiency and acceleration of the administration of justice, developed countries have begun to build a digital legal ethics framework through an interdisciplinary approach between law, technology, and moral philosophy.

In the Indonesian context, the discourse on the integration of artificial intelligence into the legal system is still in its embryonic stage, but shows signs of developing significantly. Several government institutions have initiated the digitalization of legal services, such as the e-court at the Supreme Court, the e-ticket system, and a chatbot-based public service platform (Chan & Lo, 2025) . However, the use of AI in substantive legal decision-making still faces resistance, both in terms of regulation, human resource readiness, and uneven digital infrastructure. On the other hand, Indonesia is also faced with the challenge of a legal culture that tends to be procedural and centralistic, which makes it difficult to adopt algorithmic systems that require data transparency and institutional flexibility. The absence of specific regulations regarding AI in the legal system makes Indonesia vulnerable to the application of technology without adequate ethical and normative controls.

In addition, the issue of access to justice *in* Indonesia is a challenge in itself in integrating technology into the legal system. Although digitalization is considered a solution to expand the reach of legal services, the fact is that most people do not have sufficient digital literacy to understand, let alone utilize, AI-based platforms. In remote areas, there is still a large gap in terms of infrastructure, which has a direct impact on equal access to law. Not to mention the problem of algorithms that are developed without considering the local context or characteristics of customary law, which can give rise to inequality in the provision of justice. In this situation, Indonesia faces a dilemma between the need to follow the flow of global modernization and the responsibility to uphold the principle of substantive justice in the context of a pluralistic society.

The debate on law and AI at the international level shows that the most crucial

issue is no longer simply "can or cannot" AI be used in legal processes, but "how" its use can be ethically and legally accounted for. The 2023 OECD report highlights that AI risks reinforcing systemic injustice if developed without transparency, accountability, and public participation. The concept of explainable AI (XAI) is beginning to be developed to avoid what is known as " *black box decision-making* " in the justice system (Završnik, 2021) . In Europe, the AI Act currently being discussed by the European Union even classifies the use of AI in the legal system as a high-risk application that must be subject to strict ethical tests. This trend shows that the use of AI in law is not only a technical issue, but also a philosophical debate about the relationship between humans, technology, and justice.

In Indonesia itself, although it does not yet have a rigid legal framework regarding AI in the legal system, there is an urgent need to formulate ethical and legal standards that can guide the development of this technology. Currently, existing regulations are still general and scattered, such as the ITE Law, the Personal Data Protection Law, and the SPBE Law. There are no specific provisions governing the limitations of algorithms in the legal process, even though challenges such as data bias, digital discrimination, and system failures can have serious impacts on citizens' constitutional rights. If not anticipated, the use of AI in the legal process is feared to erode principles such as *the presumption of innocence, fair trial* , and the right to legal defense, especially in cases involving vulnerable groups or indigenous peoples who have their own legal systems (Oatley, 2022) .

The urgency of normative research on this topic becomes increasingly clear when we realize that the legal system should not simply be a spectator in the flow of the digital revolution. In fact, the law must be the commander who directs the direction of technological development so that it remains within the corridor of justice and humanity. This research seeks to answer the need for the formulation of new legal norms that can guarantee the ethical and fair use of AI in the legal process. Through a normative approach, this study will explore the legal foundations and ethical principles that must be inherent in every form of AI intervention in the legal sector. Thus, the law not only reacts to technological advances, but is also proactive in shaping the direction and boundaries of such development.

METHOD STUDY

This study uses *a library research method* with a *juridical-normative approach* , which aims to analyze and interpret legal norms relevant to the development of artificial intelligence in the context of legal processes, both at the national and international levels. This approach is considered appropriate because the phenomenon of algorithmic technology intervention in the legal system is still within a normative framework that continues to develop and requires conceptual evaluation. This study relies on primary legal materials, such as national laws and regulations (UUD 1945, UU ITE, UU PDP), as well as international documents that are global references such as *the European Union AI Act* , *OECD Principles on Artificial Intelligence* , and *UNESCO Recommendation on the Ethics of AI* in 2021. In addition, secondary legal materials are also used in the form of books, scientific journal articles, academic conference results, and reports from credible research institutions (such as Stanford HAI, BCG, and Kominfo) to examine the dynamics of ethics and principles of justice in the use of artificial intelligence in the legal sector.

Within the framework of this literature review, the analysis was conducted *qualitatively-descriptively and reflectively* (Muthoifin et al., 2024) , focusing on reading the structure of legal norms and values contained in regulations and academic literature. The legal reasoning techniques used include the deductive method, namely drawing conclusions from general legal principles into the concrete context of the use of AI in Indonesian law; and the comparative method, namely comparing AI regulatory practices in the legal systems of other countries (such as Canada, Singapore, and the European Union) with the normative reality in Indonesia. In addition, a teleological approach is used to understand the purpose behind the legal norms that are formed—especially in ensuring that the development of AI does not conflict with the principles of human rights, due process, and substantive justice. This study also maps the issues from the perspective of legal professional ethics and institutional integrity, in order to formulate a legal governance model that can accommodate digital transformation without sacrificing the moral dimensions inherent in law enforcement. With this methodology, it is hoped that this scientific article can provide theoretical and practical contributions to the formulation of ethical and accountable regulations in the algorithm era.

RESULTS AND DISCUSSION
Developments in AI Ethics and Law in Legal Processes at the International Level
The development of ethical and legal frameworks related to the use of artificial intelligence (AI) in the global legal system has accelerated significantly since the early 2020s. International institutions such as the OECD and UNESCO have issued ethical principles that emphasize algorithmic transparency, non-discrimination, accountability, and human involvement in AI-based decision-making (Strikwerda, 2021) . In the context of the justice system, the European Union is drafting *an Artificial Intelligence Act* that explicitly classifies AI in the legal sector as *a high-risk application* , requiring ethical evaluation, algorithm audits, and *human oversight* . Canada, through its *Algorithmic Impact Assessment* (AIA) program, encourages public institutions to assess the social consequences of AI use before implementation, including in legal services (Christophe et al., 2023) .

A case study in Brazil as a developing country that is proactive in the digitalization of law shows how the justice system uses *Victor* , an algorithm that helps the Brazilian Supreme Court in classifying legal cases (Dupont et al., 2024) . Although it has been shown to increase administrative efficiency, there have been criticisms about data bias and limited transparency to the public. This illustrates that the use of AI in the judiciary requires strict legal instruments and ethical controls so as not to violate the principle of procedural justice. In general, the current international approach focuses on normative *guardrails* that ensure that technological sophistication does not justify the indiscriminate delegation of judicial authority to machines.

Challenges and National Regulatory Responses to AI in Indonesian Law
Indonesia is still in the early stages of integrating AI into the legal system. National regulations have not explicitly mentioned the use of AI in the judicial system or public legal services. Legal products such as the ITE Law, the Personal Data Protection Law (Law No. 27 of 2022), and Presidential Regulation No. 95 of 2018 concerning SPBE, only provide a general framework for digital governance, without detailing the ethical and procedural aspects of AI in the legal process (Belli & Doneda,

2023). Meanwhile, the Supreme Court through *its e-court* and *e-litigation systems* has paved the way for administrative automation, but there is no standardized AI-based mechanism for legal reasoning.

The biggest challenge is the lack of digital literacy among legal actors, as well as the gap in technological infrastructure in various regions. In the 2022 Kominfo survey, only 14% of legal institutions at the regional level have AI-based information system readiness (Utami, 2024). On the other hand, the National AI policy launched by BRIN and Kominfo in 2020 has not touched on the legal realm substantively. This situation creates a regulatory and conceptual vacuum that risks plunging Indonesia into premature use of AI, without ethical guidance and solid legal protection standards.

The Impact of AI Ethics on Fairness, Transparency, and Accountability

AI in the legal system has the potential to create a paradox between efficiency and fairness. On the one hand, AI can speed up case processing, reduce administrative burdens, and increase consistency of decisions. But on the other hand, the main risk lies in *algorithmic bias* , where systems trained with historical data tend to reproduce systemic injustice. In the context of legal ethics, this has the potential to violate the principles of *equality before the law* and *due process* , especially if legal decisions are left to a system whose working logic cannot be verified by ordinary humans.

COMPAS Algorithm case in the United States has become a global warning (Chan & Lo, 2025). This system is used to assess the risk of recidivism in sentencing decisions, but has recently been proven to be discriminatory against minority groups. If a similar model is used in Indonesia without adjustments to the local social and legal context, the risk of human rights violations becomes real. In addition, AI without clear legal accountability will blur responsibility: is the decision error the responsibility of the developer, the user institution, or the system itself? Therefore, the presence of AI in law must always be accompanied by an audit mechanism, human appeal rights, and transparency of *the source code* in decision making.

International Comparison: Indonesia vs Developed and Developing Countries

Indonesia's approach to AI in law can be compared to several countries that are more advanced in their regulation and implementation. Singapore, for example, has *an AI Governance Framework Model* adopted by judicial institutions to maintain transparency and human control (Aziz, 2024). Meanwhile, Estonia has trialed *a robot-judge system* to resolve small civil cases, but still limits its functions so as not to violate the principle of judicial independence (Gstrein, 2019). This comparison shows that countries with a progressive legal vision tend to adopt AI in a limited manner, with the principles of prudence and accountability as the basis.

In contrast, developing countries such as Kenya and India are trying to integrate AI to reduce case backlogs and expand access to justice in remote areas (Cole & Quintel, 2018). However, a report by the Open Society Foundation notes that weak ethical and oversight frameworks increase the risk of abuse, especially in the police and criminal justice systems. Indonesia is somewhere in between: it has the potential to utilize AI, but does not yet have adequate legal and ethical instruments. Therefore, comparative studies are important to develop a regulatory framework that not only replicates the practices of other countries, but is also adapted to Indonesia's pluralistic legal culture rooted in Pancasila and the 1945 Constitution.

Draft of Indonesian Legal Normative Model for Algorithmic Era

Based on the literature review, the development of a normative model in Indonesian law needs to consider three main principles: algorithm accountability, human control, and protection of basic rights (Al-Dulaimi & Mohammed, 2025). First, every AI system used in the legal process must go through an *ethical impact assessment process* and be certified by an independent institution. Second, substantive decision-making remains under human control, and AI only acts as *a decision-support tool* , not *a decision-maker* . Third, an appeal and oversight mechanism needs to be established to maintain transparency and provide public access to assess the basis for algorithmic decisions.

The normative model also needs to be based on the values of progressive constitutionalism, which not only guarantees legal certainty but also emphasizes the side of social justice (Montasari, 2023). In this case, an *interdisciplinary approach* between law, ethics, and computer science is absolutely necessary. Regulations need to include citizens' rights to explanation , periodic algorithmic audits, and a ban on the use of AI in certain legal processes concerning the rights to life, liberty, and human dignity. With this kind of model, Indonesia is not only following the global flow of AI, but shaping it according to a vision of inclusive and sustainable justice.

CONCLUSION

The development of artificial intelligence (AI) technology has brought structural changes in various sectors, including the legal field. In the international context, the use of AI in legal processes not only demands efficiency and accuracy, but also raises deep ethical and legal debates. Countries such as the European Union, Canada, and Singapore have begun to build legal frameworks that guarantee transparency, accountability, and human control in the use of AI, especially in judicial decision-making. The experiences of developing countries such as Brazil and India also show the importance of ethical regulation in the use of algorithms so as not to harm the principles of social justice.

In Indonesia, the use of AI in the legal system is still very limited and does not yet have an explicit legal umbrella. Several national digital policies such as the Presidential Regulation on the SPBE and the PDP Law only touch on general aspects of information technology governance, and have not substantially touched on the use of AI in the judiciary. The absence of ethical standards, supervisory institutions, or algorithmic audit procedures poses the risk that premature use of AI could threaten basic legal principles such as legal certainty, equality before the law, and the right to a fair trial.

The use of AI in the legal system is not merely a technical issue, but rather a legal and philosophical issue rooted in the values of justice, humanity, and human rights. The potential of AI to help accelerate the legal process, minimize human error, and expand access to justice is enormous. However, without solid regulations and a mature ethical foundation, technological sophistication can actually become a tool for reproducing bias, discrimination, and even dehumanization in legal decision-making. Therefore, the formation of a normative model and AI governance that is responsive to Indonesia's constitutional values is a must.

In conclusion, artificial intelligence regulation in the context of Indonesian law must prioritize the principles of prudence, human control, and transparency. Cross-

sector collaboration is needed between policymakers, academics, legal practitioners, and the technology community to design an adaptive and accountable AI ethical and legal framework. Indonesia needs to learn from international practices, but also adapt them to social structures, legal culture, and Pancasila values. Thus, the era of algorithms is not a threat, but rather an opportunity to revitalize legal justice that is more humane and effective.

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