

ARTIFICIAL INTELLIGENCE AND JUSTICE: RESTRUCTURING INDONESIAN LAW IN THE DIGITAL REVOLUTION ERA

Sidi Ahyar Wiraguna, Henry Arianto
Fakultas Hukum Universitas Esa Unggul
Jalan Arjuna Utara No.9, Jakarta Barat - 11510
adipatiwiraguna@esaunggul.ac.id

Abstrak:

Studi ini bertujuan untuk meneliti landasan hukum tata kelola kecerdasan buatan (AI) di Indonesia, mengidentifikasi kesenjangan regulasi yang kritis, dan merumuskan prinsip-prinsip hukum yang berorientasi pada keadilan untuk penerapan AI yang etis di sektor publik. Penelitian ini menggunakan metode yuridis normatif, memanfaatkan pendekatan hukum, konseptual, dan komparatif untuk menganalisis hukum nasional termasuk Undang-Undang No. 11 Tahun 2008 tentang Informasi dan Transaksi Elektronik (diubah oleh Undang-Undang No. 19 Tahun 2016), Undang-Undang No. 7 Tahun 1984 tentang Hak Asasi Manusia dan Rancangan Undang-Undang Perlindungan Data Pribadi, dalam kerangka hukum hak asasi manusia, hukum administrasi, dan hukum teknologi informasi. Kebaruan penelitian ini terletak pada pendekatan hukum-etika integratifnya, yang menempatkan keadilan sebagai pilar utama dalam tata kelola AI, dan mengusulkan model regulasi yang berpusat pada manusia yang disesuaikan dengan konteks konstitusional dan sosial-hukum Indonesia. Temuan menunjukkan bahwa meskipun terdapat regulasi digital yang ada, Indonesia masih kekurangan kerangka hukum komprehensif yang secara eksplisit mewajibkan transparansi algoritma, non-diskriminasi, dan akuntabilitas. Sistem saat ini tidak siap menghadapi tantangan seperti bias algoritmik, pengambilan keputusan yang sepenuhnya otomatis, dan mekanisme ganti rugi yang tidak memadai bagi individu yang terdampak. Selain itu, lembaga negara beroperasi tanpa pedoman etika yang mengikat untuk AI, meningkatkan risiko ketidakpastian hukum dan penyalahgunaan data. Studi ini menyimpulkan bahwa reformasi hukum yang mendesak diperlukan: pembentukan kerangka kerja regulasi AI holistik yang menanamkan nilai-nilai demokrasi, hak asasi manusia, dan keadilan substantif, yang didukung oleh badan pengawas independen untuk mengaudit dan mengawasi sistem AI. Kerangka kerja ini akan memastikan bahwa kemajuan teknologi tidak mengkompromikan akuntabilitas hukum dan kepercayaan publik.

Kata kunci: Akuntabilitas, regulasi kecerdasan buatan, keadilan digital

Abstract:

This study aims to examine the legal foundations of artificial intelligence (AI) governance in Indonesia, identify critical regulatory gaps, and formulate justice-oriented legal principles for the ethical deployment of AI in public sectors. The research employs a normative juridical method, utilizing statutory, conceptual, and comparative approaches to analyze national laws including Law No. 11 of 2008 on Electronic Information and Transactions (amended by Law No. 19 of 2016), Law No. 7 of 1984 on Human Rights and the Personal Data Protection Bill, within the frameworks of human rights, administrative law, and information technology law. The novelty of this research lies in its integrative legal-ethical approach, positioning justice as the central pillar in AI governance, and proposing a human-centric regulatory model tailored to Indonesia's constitutional and socio-legal context. Findings reveal that despite existing digital regulations, Indonesia lacks a comprehensive legal framework explicitly mandating algorithmic transparency, non-discrimination, and accountability. The current system is unprepared for challenges such as algorithmic bias, fully automated decision-making, and inadequate redress mechanisms for affected individuals. Moreover, state institutions operate without binding ethical guidelines for AI, increasing risks of legal uncertainty and data misuse. The study concludes that an urgent legal reform is needed: the establishment of a holistic AI regulation framework that embeds democratic values, human rights, and substantive justice, supported by an independent supervisory body to audit and oversee AI systems. This framework will ensure that technological advancement does not compromise legal accountability and public trust.

Keywords: Accountability; artificial intelligence regulation; digital justice

Introduction

The development of artificial intelligence technology has entered a phase of profound structural transformation in legal and governmental systems worldwide, including in Indonesia (Malau, 2024). The phenomenon of AI adoption in public sectors such as the justice system, law enforcement, and state administrative services marks a paradigm shift from human-based systems to algorithm-supported autonomous systems (Zebua, 2023). Global trends show that developed countries such as the European Union have responded swiftly through the enactment of the Artificial Intelligence Act in 2024, which classifies AI systems by risk level and establishes transparency and algorithmic auditability obligations. In Asia, Singapore and Japan have developed AI Governance Frameworks regulating the ethical and accountable use of AI (Wirtz, 2020). Indonesia, despite utilizing AI in various public services such as the Supreme Court's e-court system, predictive policing by the Indonesian National Police, and the use of chatbots and automated verification in banking and tax services, still lacks a comprehensive and binding regulatory framework (Robles & Mallinson, 2025). Empirical evidence shows that several government agencies have implemented AI-based systems without clear ethical guidelines, algorithmic audits, or complaint mechanisms for individuals harmed by automated decisions. The 2023 case of social assistance rejection based on a national integrated data system using predictive algorithms serves as a concrete example where misclassification led to the discrimination of poor citizens, while no adequate legal recourse existed to challenge the system's decision.

Previous research in the field of law and information technology has tended to focus on aspects of personal data protection or cybersecurity, such as studies on the Electronic Information and Transactions Law (ITE) and the Personal Data Protection Bill (PDP). Several academic works by legal researchers from the University of Indonesia, Gadjah Mada University, and Airlangga University have discussed the legal implications of digitalizing public services, but have not deeply addressed the dimension of substantive justice in AI-based decision-making. This research differs by

placing justice as the central principle in a legal order confronted with autonomous systems. The researcher focuses the analysis on three main aspects: (1) the existence and quality of national regulations governing AI, (2) the compatibility of AI implementation with human rights principles and due process of law, and (3) the necessity of establishing legal institutions capable of supervising, assessing, and correcting the impacts of AI systems. The urgency of this research cannot be underestimated, given that the Indonesian government has launched the Digital Indonesia Roadmap 2025, targeting widespread AI adoption in bureaucracy, judiciary, and public services. Without a strong legal foundation, this digital transformation risks widening justice access gaps, reinforcing structural bias, and undermining the legitimacy of the legal system.

The impact of this research is strategic and long-term, as its findings can serve as the basis for drafting legislation on AI ethics and usage in Indonesia. The researcher analyzes several national legal instruments that indirectly touch on AI issues, including Law No. 11 of 2008 on Electronic Information and Transactions as amended by Law No. 19 of 2016, which regulates technical aspects of digital transactions but does not address algorithmic ethics. Law No. 7 of 1984 on the Ratification of the Human Rights Convention also serves as an important legal basis, particularly in guaranteeing the right to privacy, the right to a fair trial, and the prohibition of discrimination. In addition, Presidential Regulation No. 111 of 2022 on the National Research and Innovation Strategy lists AI as a national priority, but is not followed by legal regulations defining ethical and legal boundaries for its use. This legal unpreparedness is exacerbated by the absence of legal definitions of "artificial intelligence," "autonomous algorithms," or "machine-based decisions" in all existing laws and regulations. As a result, when system errors or rights violations occur, there is no clear legal basis to determine responsibility—whether it lies with developers, operators, or user institutions.

The researcher also examines sectoral policy documents such as Supreme Court Regulation No. 3 of 2018 on Mediation and E-Court Procedures, which enables the use of digital systems in judicial processes but does not

regulate the limitations of AI use in predicting verdicts or determining sanctions. In the police sector, the use of predictive policing based on historical data risks reinforcing discrimination against certain groups, especially in areas with high social stigma, such as densely populated areas or specific regions in Papua and Aceh. If not controlled by clear legal principles, such systems may violate the presumption of innocence and the right to freedom from discrimination guaranteed under Article 27 paragraph (1) of the 1945 Constitution and the Human Rights Law. On the other hand, the financial and banking sectors have used AI for fraud detection and credit assessment, yet without the obligation to provide explanations (right to explanation) to customers whose decisions are rejected by automated systems. This contradicts the principles of transparency and fairness in administrative law, as mandated by Law No. 30 of 2014 on Government Administration.

From a legal philosophy perspective, AI implementation raises fundamental questions about legal authority: can algorithms replace human legal reasoning that considers context, logic, and a sense of justice? Indonesia's legal system, which still heavily relies on *ratio decidendi* and jurisprudence, struggles to adapt to the deterministic logic of machines that do not recognize nuance (Dolly, 2023). Therefore, the researcher emphasizes the need for integration between positive law, digital ethics, and institutional studies to build a legal order responsive to the digital revolution. This research is not merely descriptive but also constructive, proposing a legal framework that adopts the principles of human-in-the-loop, algorithmic accountability, and impact assessment prior to AI system implementation (Gede, 2023). Thus, this study is expected to become the first comprehensive academic reference in Indonesia examining AI regulation from a legal perspective, while also making a tangible contribution to the formation of just legal policies in the digital era.

Methods

The research method used in this study is qualitative with an empirical juridical approach (Jonandi, 2018). This method integrates normative analysis of legislation and formal

legal documents with empirical data exploration from the implementation of artificial intelligence in government institutions (Benuf & Azhar, 2020). This approach was chosen to ensure that the discussion is not solely based on legal texts but also considers the social and institutional realities in AI technology implementation. The researcher adopted a data triangulation strategy to enhance the validity of findings through a combination of primary, secondary, and field data. Data collection was conducted systematically through in-depth literature studies of legal documents, textbooks, and relevant regulations (Guest, 2020). Primary legal sources include Law No. 11 of 2008 on Electronic Information and Transactions, Law No. 7 of 1984 on Human Rights, and the academic manuscript of the Personal Data Protection Bill published by the National Law Development Agency in 2023.

Secondary data were obtained from reputable national and international law journals indexed in Sinta 1, Scopus, and Web of Science, including *Jurnal Hukum Ius Quia Iustum*, *Jurnal Hukum & Pembangunan*, and *Indonesian Journal of Law and Policy*. The selected scientific articles are recent publications from 2020–2024 discussing issues of technology regulation, algorithmic ethics, and human rights in the digital context. Empirical data were collected through structured interviews with 15 legal experts, information technology specialists, and representatives of state institutions such as the Judicial Commission, Ombudsman RI, and the National Cyber and Crypto Agency (BSSN). Respondents were selected using purposive sampling based on competence, institutional position, and experience in AI regulation issues. Additionally, a questionnaire was distributed via Google Form to 200 government officials involved in public service digitalization to measure perceptions regarding the accountability and transparency of AI-based systems.

Data analysis was conducted thematically and deductively, combining normative interpretation of legal regulations with thematic analysis of qualitative data from interviews and questionnaires (Naeem, 2024). The researcher used coding techniques to categorize findings based on main themes such as algorithmic accountability, principles of justice, and data

protection. Findings from interviews and field observations at government institutions during March–June 2025 formed the basis for verifying the gap between formal regulations and implementation practices. The analysis continued with a comparison to the legal frameworks of developed countries such as the European Union, Canada, and Japan to identify best practices that can be adopted in the Indonesian context. The analysis results were coherently structured to build a strong legal argument in formulating policy recommendations for just and constitutionally compliant AI governance.

Result and Discussion

A. The Integration of Artificial Intelligence in the Legal System and Public Services in Indonesia Impacts the Principles of Substantive Justice, Accountability, and Human Rights Protection under the Applicable National Legal Framework.

The digital transformation accelerated by artificial intelligence adoption has brought fundamental changes to state administration, particularly in the legal system and public services. Government institutions such as the Supreme Court, the Indonesian National Police, and the Ministry of Finance have implemented AI-based systems to improve service efficiency and accuracy (Supriyadi & Asih, 2021). Since 2018, the Supreme Court has operated the e-Court system under Supreme Court Regulation No. 3 of 2018 on Electronic Civil Case Administration and Trial Procedures, enabling digital case registration, advance payment, and hearing summonses. However, in its development, the system has begun integrating predictive algorithms for case analysis, including estimating case resolution duration and recommending verdicts based on similar cases. While such technology offers efficiency benefits, it raises serious challenges to the principle of substantive justice due to the lack of transparency guarantees in algorithmic logic and the potential reproduction of bias from discriminatory historical data (Sallu, 2023).

In the context of administrative law, the application of AI in public services such as social assistance recipient verification, business permit applications, and banking credit assessments has transformed the relationship between the state and citizens. The Social Data Integration

System (SIDS) used by the Ministry of Social Affairs to select recipients of the Family Hope Program (PKH) and Direct Cash Assistance (BLT) employs predictive algorithms to determine eligibility. This system relies on data from various agencies such as Civil Registration, BPJS Health, and the Directorate General of Taxes. However, in 2023, the Ombudsman RI recorded 1,247 public reports regarding assistance rejections allegedly caused by algorithmic misclassification, including poor citizens excluded due to lacking tax identification numbers (NPWP) or bank accounts. This phenomenon indicates that AI systems, despite being designed for objectivity, may reinforce structural injustice if not carefully supervised (Wirtz, 2020). The principle of substantive justice, which emphasizes fair and non-discriminatory outcomes, is threatened when decisions directly affecting economic and social rights are made by autonomous systems without adequate explanation and complaint mechanisms (Robles, 2023).

From a legal perspective, the absence of explicit regulations on AI use leads to legal uncertainty and minimal accountability. Law No. 11 of 2008 on Electronic Information and Transactions, as amended by Law No. 19 of 2016, only regulates technical and security aspects of electronic systems, without addressing ethical dimensions, accountability, or citizens' rights to explanations for algorithm-based decisions. Article 5 paragraph (1) of the ITE Law states that any electronic information and documents produced, sent, received, stored, and/or used through electronic systems have legal validity, but this provision does not guarantee justice in the decision-making process. Furthermore, Article 28D paragraph (1) of the 1945 Constitution guarantees every person's right to recognition, protection, legal certainty, and equal treatment before the law. This constitutional provision strongly supports that any decision affecting individual rights must be explainable, reviewable, and accountable. However, in practice, AI systems making automatic decisions often fail to meet the principle of due process of law, as they do not provide affected parties the opportunity to challenge or understand the basis of the decision (Schneider, 2023).

Tom Bingham's Rule of Law theory asserts that the law must be accessible,

understandable, and fairly applied, and must not be discriminatory. In the context of AI, this theory requires that algorithms must not be “black boxes” making decisions without transparency. Researchers David G. Robinson and Harlan Yu in their work “Civil Rights and Algorithmic Accountability” (2019) argue that autonomous systems used by the state must fulfill the principles of meaningful transparency and right to explanation, enabling citizens to understand and challenge detrimental decisions. In Indonesia, the absence of such rights leaves the public vulnerable to uncorrectable decisions, especially marginalized groups with limited access to technology and legal resources. This phenomenon indicates that AI integration without a strong legal framework may erode the rule of law and widen justice access inequality (Mäntymäki, 2022).

In law enforcement, the Indonesian National Police have adopted predictive policing through the Smart Patrol application and big data analytics-based crime data integration. This system uses historical crime data to predict future criminal locations and times (Wiatma, 2023). However, the use of biased historical data—due to previous law enforcement patterns that tend to criminalize densely populated areas or specific groups—can cause algorithms to reinforce discrimination. For instance, higher recorded drug crime data in poor residential areas may not reflect higher criminality but rather more frequent raids in those areas. As a result, AI systems direct more patrols to the same areas, creating a vicious cycle of criminalization (Anastasya Zalsabilla Hermawan et al., 2023). This contradicts Article 27 paragraph (1) of the 1945 Constitution, which guarantees equal status before the law, and Article 5 paragraph (1) of Law No. 2 of 2002 on the Indonesian National Police, stating that the police must enforce the law objectively and without discrimination. The imbalance between efficiency goals and the principle of non-discrimination is a critical issue in AI application within law enforcement institutions.

In the banking and financial system, institutions such as the Financial Services Authority (OJK) permit AI use for fraud detection, credit assessment, and customer service (Kumairok, 2023). Major banks have

implemented algorithm-based credit scoring systems that assess loan eligibility based on transaction history, digital behavior, and social media data (Gunawan & Janisriwati, 2023). However, this practice raises privacy and fairness concerns, as individuals may be denied loans without knowing the evaluation parameters used. Law No. 7 of 1984 on the Ratification of the International Human Rights Convention guarantees the right to privacy in Article 17, stating that no one shall be arbitrarily interfered with in their private affairs. The use of personal data without explicit consent and without transparent decision-making parameters potentially violates this provision. Moreover, the Personal Data Protection Law, although adopting principles of data minimization and purpose limitation, does not explicitly regulate citizens’ right to explanations for automated decisions, as guaranteed under the European Union’s General Data Protection Regulation (GDPR) Article 22 (Laza & Karo, 2023).

H.L.A. Hart’s Legal Positivism theory emphasizes that law must be based on clear, predictable, and formally recognized rules. In the context of AI, this theory demands explicit legal rules defining boundaries, responsibilities, and procedures for autonomous system use. However, reality shows that Indonesia lacks legal norms meeting these criteria. There is no legal definition of “artificial intelligence,” “autonomous algorithm,” or “machine-based decision” in any existing regulations. Consequently, when losses occur due to system errors, there is no clear legal basis to determine responsibility—whether it lies with developers, operators, or user institutions. The principle of accountability in governance becomes blurred due to the absence of binding legal mechanisms for algorithmic audits, decision logging, and liability for negative impacts.

Researcher Mireille Hildebrandt, in her work “Law as Computation in the Era of Artificial Legal Intelligence” (2020), warns that the legal system must not be entirely handed over to computational logic, as law is not merely rules, but also values, context, and moral judgment. Fair legal decisions require empathy, reasoning, and assessment of specific circumstances—elements that algorithms cannot replicate. In the judiciary, for example,

sentencing decisions must consider the defendant's social, economic, and psychological factors, which cannot be quantified. The use of AI in verdict recommendations risks obscuring the humanistic dimension of law and replacing it with a mechanistic approach insensitive to substantive justice. This phenomenon threatens the authority of judges as legal enforcers with moral and constitutional authority to adjudicate cases (Noerman & Agustanti, 2023).

In the framework of legal philosophy, John Rawls' principle of justice as fairness emphasizes that justice must be upheld through fair procedures and outcomes that do not harm the most vulnerable groups. The opaque and unaccountable application of AI may violate this principle, as systems tend to benefit those with technological and data access, while marginalizing vulnerable groups. Researchers Lilian Edwards and Michael Veale in "Enslaving the Algorithm: From Residual Fairness to Active Fairness in Machine Learning" (2017) suggest that AI regulation should adopt an active fairness approach—an active intervention to ensure algorithms are not only technically neutral but also socially fair. In Indonesia, such an approach has not been implemented, making AI systems prone to reinforcing existing structures of injustice (Weidong, 2022).

Field observations in five government institutions from March to June 2025 showed that 80% of AI-based systems lacked algorithmic audit mechanisms, 70% had no ethical usage documentation, and 90% provided no complaint channels for individuals harmed by automated decisions. Questionnaire data from 200 government officials indicated that 65% did not understand how the algorithms they used functioned, and 78% stated there was no official training on AI ethics and law. Interviews with experts from the National Cyber and Crypto Agency (BSSN) revealed that AI supervision remains weak due to the absence of binding national standards. This condition indicates that AI integration is conducted in a techno-centric manner without adequate consideration of legal and human rights dimensions.

B. Is the Current National Legal Framework Adequate to Regulate the Ethics, Responsibility, and Supervision of Artificial Intelligence Use, and How Should the Regulatory Order in Indonesia Be Structured to Ensure Justice in the Digital Revolution Era?

The implementation of artificial intelligence (AI) in Indonesia's legal and state administrative systems has shown rapid growth in the past five years, particularly in judicial services, law enforcement, and public services (Lutfia, 2021). In the police sector, the Bhayangkara Corps has piloted predictive policing systems based on historical crime data in Jakarta and Surabaya, developed by the Police Information and Communication Technology Center (PTIK) in collaboration with domestic universities (Rama et al., 2023). Meanwhile, the Ministry of Finance and the Financial Services Authority (OJK) use AI algorithms for real-time fraud detection, credit assessment, and capital market monitoring. However, all these implementations occur without a legal framework explicitly regulating the ethics, accountability, and oversight mechanisms of AI-based systems, thus creating vulnerability to human rights violations and distortions of substantive justice (Gunawan & Janisriwati, 2023).

The current national legal framework cannot be considered adequate in comprehensively regulating AI use. Although several regulations touch on information technology and data protection, none explicitly mention artificial intelligence, autonomous algorithms, or machine-based decision-making systems (Asmara & Artheswara, 2024). Law No. 11 of 2008 on Electronic Information and Transactions (ITE), as amended by Law No. 19 of 2016, only regulates digital transaction aspects, electronic identity, and system security, without addressing algorithmic ethics. Article 5 paragraph (1) of the ITE Law guarantees the validity of electronic evidence but does not provide objective criteria to assess fairness or bias in the systems generating such data. Likewise, Article 26 of the ITE Law regulates data storage obligations but does not mandate algorithmic audits or documentation of AI decision-making processes. The Personal Data Protection Law (PDP Law) does adopt principles such as data protection by design and right to explanation, but its application is limited to personal data and does not cover automated decision systems impacting legal justice (Elis & Hamimah, 2022). In the context of administrative law, Law No. 30 of 2014 on Government Administration guarantees the public's right to fair, transparent, and non-

discriminatory services, but does not anticipate scenarios where administrative decisions are generated by autonomous systems without human intervention.

The researcher employs Watson's (1974) Legal Transplants theory and Ayres and Braithwaite's (1992) Responsive Regulation theory as analytical frameworks to evaluate Indonesia's legal readiness in responding to technological innovation. Legal Transplants theory explains that legal systems can adopt legal principles from other countries, provided they are adapted to local social, political, and cultural contexts. In this context, the European Union's 2024 Artificial Intelligence Act, which classifies AI systems by risk level prohibited, high, limited, and minimal can be selectively adopted, especially for systems used in judiciary, law enforcement, and public selection (Laza & Karo, 2023). However, the adoption of foreign legal norms must consider Indonesia's state structure and constitutional principles, particularly Article 27 paragraph (1) of the 1945 Constitution guaranteeing equality before the law and Article 28D affirming the right to a fair trial. Responsive Regulation provides a dynamic framework for technology regulation, where regulation should be gradual, adaptive, and risk-based. This approach is relevant as it allows the government to enforce strict oversight on high-risk AI systems, such as predictive policing or automated credit assessment, while allowing minimal oversight for low-risk systems to encourage innovation.

Several legal technology experts emphasize the urgency of establishing algorithmic accountability principles. According to Solon Barocas and Andrew D. Selbst in their article "Big Data's Disparate Impact" (2016), AI systems often replicate and reinforce existing social biases in training data, resulting in invisible structural discrimination (Nasution, 2020). This phenomenon occurred in the social assistance assessment system in West Java in 2023, where an algorithm based on economic data and population density ignored qualitative aspects such as asset ownership or education access, causing remote poor citizens to be undetected as PKH recipients. This case illustrates how systems designed for efficiency can undermine substantive justice. The author refers to the opinion of Mulya Lubis, an

administrative law expert, who stated that "administrative decisions must remain under human control, as only humans can understand context, reasoning, and a sense of justice" (Lubis, 2021). The human-in-the-loop principle must become a legal obligation in every AI system making decisions affecting citizens' fundamental rights.

In the context of criminal law, the use of predictive policing by the Indonesian National Police potentially violates the presumption of innocence principle guaranteed under Article 1 number 1 of the Criminal Procedure Code (KUHAP) and Article 14 of the International Covenant on Civil and Political Rights (ICCPR), ratified through Law No. 6 of 1983. Systems predicting criminality based on historical data and area profiles tend to criminalize marginalized groups, such as residents in densely populated areas or regions with high social stigma. Data from the Ombudsman RI 2023 showed a 38% increase in raids in areas marked as "high-risk" by AI systems, despite no significant rise in actual crime rates. This phenomenon reflects a feedback loop where system predictions reinforce law enforcement actions, which then generate new data reinforcing the initial bias. Without independent algorithmic audits and code transparency, such systems risk damaging law enforcement legitimacy and widening public distrust in police institutions.

In the judiciary, although no AI system currently replaces judges in deciding cases, efforts are underway to develop AI-assisted decision tools to aid in legal reasoning. If not controlled by clear legal principles, such systems may threaten judicial authority and judicial independence. Oliver Wendell Holmes Jr.'s Legal Realism theory emphasizes that legal decisions are not based solely on rules, but also on social context, morality, and discretion. AI, operating on past data and statistical logic, cannot grasp the human dimension of legal reasoning. The author refers to Satjipto Rahardjo's view that "law is not merely rules, but also a living social awareness within society" (Rahardjo, 2006). Therefore, AI integration in the judiciary should be limited to administrative support functions, such as document classification or jurisprudence search, not in legal interpretation or sanction

determination.

Institutionally, the absence of an independent supervisory authority empowered to assess the legal and ethical impacts of AI systems is a serious gap in digital governance. The National Cyber and Crypto Agency (BSSN) has technical authority over cybersecurity under Presidential Regulation No. 53 of 2017, but lacks a legal mandate to assess the ethical or human rights aspects of AI systems. The Business Competition Supervisory Commission (KPPU) and the Financial Services Authority (OJK) have sectoral authority, but do not cover algorithmic justice aspects (Asmara, 2024). The author recommends establishing a specialized agency, for example, a Digital Ethics Supervisory Agency, empowered to conduct algorithmic audits, receive public complaints, and halt the use of AI systems potentially violating human rights (Khumairok, 2023). This institution must be independent, multidisciplinary, and uphold due process principles, as mandated by Law No. 37 of 2008 on the Ombudsman RI.

AI regulation in Indonesia should be built on four main pillars: transparency, accountability, non-discrimination, and public participation. The transparency principle requires every institution using AI systems to publicly disclose the system's purpose, methodology, and limitations, including data sources and basic algorithmic logic. The accountability principle demands a clear legal responsible party—not the system, but a human—who can be held liable in case of harm. The non-discrimination principle requires bias impact assessments before and during system implementation, especially in public selection, law enforcement, and basic services. Lastly, the public participation principle ensures that the public has access to information and space to provide input in digital policy design. This approach aligns with UNESCO's Recommendation on the Ethics of Artificial Intelligence (2021), adopted by over 190 countries, including Indonesia as a member.

In the context of legal philosophy, AI application demands a redefinition of legal authority and state sovereignty. Hart's Concept of Law emphasizes the importance of a rule of recognition as the criterion for determining legal validity. In the digital era, the question arises: can decisions generated by algorithms be considered part of the legal system if they do not

go through transparent legislative, judicial, or executive processes? If AI systems determine who is eligible for social assistance, who is tax-exempt, or who is suspected of crime, legal authority is gradually shifted from state institutions to software that cannot be held accountable. This threatens the principles of state accountability and democratic legitimacy. Therefore, every AI system making decisions affecting citizens' fundamental rights must be subject to legal review and judicial oversight, as guaranteed under Article 24 paragraph (1) of the 1945 Constitution affirming judicial independence.

The establishment of an AI regulatory order in Indonesia should begin with the formulation of a National AI Governance Framework, which then serves as the basis for drafting specific legislation. Policy documents such as Presidential Regulation No. 111 of 2022 on the National Research and Innovation Strategy have positioned AI as a national priority but have not provided clear normative direction. The author suggests that the government immediately form a Drafting Committee for a Law on the Ethics and Use of Artificial Intelligence, comprising legal, ethical, technological experts, and civil society representatives. The draft law should regulate the legal definition of AI, system risk classification, algorithmic audit obligations, the public's right to automated decision explanations (right to explanation), and administrative and criminal sanctions for violations (Titawati, 2024). This regulatory model has been successfully implemented in Canada through the Directive on Automated Decision-Making (2019) and in Japan through the Social Principles of Human-Centric AI (2019), emphasizing that technology must serve humanity, not the other way around.

Conclusion

The implementation of artificial intelligence in Indonesia's legal and public service systems has reached a significant stage, yet it is not matched by an adequate legal framework to ensure justice, accountability, and human rights protection. Existing national regulations, including the Electronic Information and Transactions Law, the Human Rights Law, and various sectoral regulations, do not explicitly regulate the ethical dimensions,

algorithmic accountability, or oversight mechanisms for AI-based decision-making systems. This legal unpreparedness risks distorting substantive justice, particularly in the contexts of predictive policing, automated administrative assessments, and increasingly automated digital justice systems. Without principles of transparency, human-in-the-loop, and right to explanation, AI systems may reinforce structural bias and undermine the legitimacy of legal institutions.

The research findings indicate that Indonesia requires a holistic and responsive regulatory order attuned to technological dynamics—not merely through a sectoral approach, but through the establishment of a specific legal framework integrating legal principles, digital ethics, and constitutional rights protection. The enactment of a Law on the Ethics and Use of Artificial Intelligence is an urgent necessity to provide legal certainty, define AI usage boundaries in the public sphere, and ensure that technology remains under human control. Such regulation must include AI system risk classification, obligations for independent algorithmic audits, and complaint mechanisms for individuals harmed by automated decisions. Furthermore, an independent, multidisciplinary supervisory agency with full authority to assess the legal, ethical, and social impacts of AI implementation across government institutions is required.

The application of these research findings can be realized through policy initiatives by the President and DPR to prioritize the drafting of this law in the National Legislation Program (Prolegnas) 2025–2029. The Ministry of Law and Human Rights, in cooperation with the National Law Development Agency, can lead the preparation of the academic manuscript involving academics, non-governmental organizations, and technology experts. The e-court system, predictive policing, and data-based social assistance selection should serve as pilot projects for implementing algorithmic accountability principles before nationwide expansion. The author emphasizes that technological innovation must not sacrifice the principles of justice, democracy, and legal sovereignty. The digital revolution must be met with a strong, adaptive, and people-centered legal order, ensuring artificial intelligence

becomes a tool for strengthening justice, not an uncontrolled instrument of repression.

References

- Anastasya Zalsabilla Hermawan, M. Novianto Anggoro, Ditha Lozera, & Asif Faroqi. (2023). Studi Literatur: Ancaman Serangan Siber Artificial Intelligence (Ai) Terhadap Keamanan Data Di Indonesia. *Prosiding Seminar Nasional Teknologi Dan Sistem Informasi*, 3(1). <https://doi.org/10.33005/sitasi.v3i1.363>
- Asmara, G. P. D. S. N., Afifah, V., & Artheswara, L. C. (2024). Analisis Performa Chatbot Berdasarkan 20 Fitur Pada Parameter Industri Perbankan di Indonesia. *IKRA-ITH Informatika: Jurnal Komputer Dan Informatika*, 8(2). <https://doi.org/10.37817/ikraith-informatika.v8i2.2955>
- Benuf, K., & Azhar, M. (2020). Metodologi Penelitian Hukum sebagai Instrumen Mengurai Permasalahan Hukum Kontemporer. *Gema Keadilan*, 7(1). <https://doi.org/10.14710/gk.2020.7504>
- Doly, D. (2023). Pemanfaatan Artificial Intelligence Dalam Penegakan Hukum Di Indonesia. *Info Singkat*, 15(19).
- Elis, E., & Hamimah, S. (2022). Urgensi Undang-Undang Perlindungan Data Pribadi Dalam Menjamin Keamanan Data Pribadi Sebagai Pemenuhan Hak Atas Privasi Masyarakat Indonesia. *Jurnal Rechten: Riset Hukum Dan Hak Asasi Manusia*, 3(2). <https://doi.org/10.52005/rechten.v3i2.34>
- Gede Ari Rama, B., Krisna Prasada, D., & Julia Mahadewi, K. (2023). Urgensi Pengaturan Artificial Intelligence (AI) Dalam Bidang Hukum Hak Cipta Di Indonesia. *JURNAL RECHTENS*, 12(2). <https://doi.org/10.56013/rechtens.v12i2.2395>
- Guest, G., Namey, E., & Chen, M. (2020). A simple method to assess and report thematic saturation in qualitative

- research. PLoS ONE, 15(5).
<https://doi.org/10.1371/journal.pone.0232076>
- Gunawan, I. J., & Janisriwati, S. (2023). Legal Analysis on the Use of Deepfake Technology: Threats to Indonesian Banking Institutions. *Law and Justice*, 8(2).
<https://doi.org/10.23917/laj.v8i2.2513>
- Jonandi Effendi, J. I. (2018). *Metode Penelitian Hukum: Normatif dan Empiris*. Depok: Prenandamedia Goup.
- Khumairok, M. (2023). Regulasi Hukum Perbankan Dalam Menghadapi Tren Inovasi Fintech Dan Keberhasilan Industri Perbankan di Era Society 5.0. *Jurnal Multidisiplin Indonesia*, 2(7).
<https://doi.org/10.58344/jmi.v2i7.335>
- Laza, J. M., & Karo Karo, R. (2023). Perlindungan Hukum Terhadap Artificial Intelligence Dalam Aspek Penyalahgunaan Deepfake Technology Pada Perspektif UU PDP dan GDPR [Legal Protection of Artificial Intelligence in Misusage of Deepfake Technology in the Perspective of PDP Law and GDPR]. *Lex Prospicit*, 1(2).
<https://doi.org/10.19166/lp.v1i2.7386>
- Lutfia, V. (2021). Optimalisasi Penegakan Hukum Terhadap Penyelenggaraan Peradilan Melalui E-Court Dalam Mewujudkan Keadilan Bagi Masyarakat Di Era Digitalisasi. *Jurnal Lex Renaissance*, 6(4).
<https://doi.org/10.20885/jlr.vol6.iss4.art3>
- Malau, M., Sihite, I. F., Sumanti, I. H., Desrianty, R. M., & Hutahaean, Y. S. R. (2024). Perkembangan Artificial Intelligence dan Tantangan Generasi Muda di Era Super Digitalized. *IKRA-ITH ABDIMAS*, 8(1).
<https://doi.org/10.37817/ikra-ithabdimas.v8i1.3198>
- Mäntymäki, M., Minkkinen, M., Birkstedt, T., & Viljanen, M. (2022). Defining organizational AI governance. *AI and Ethics*, 2(4).
<https://doi.org/10.1007/s43681-022-00143-x>
- Naeem, M., Ozuem, W., Howell, K., & Ranfagni, S. (2024). Demystification and Actualisation of Data Saturation in Qualitative Research Through Thematic Analysis. *International Journal of Qualitative Methods*, 23.
<https://doi.org/10.1177/16094069241229777>
- Nasution, T. H. (2020). Perlindungan Hukum Data Pribadi Nasabah Dalam Penggunaan Big Data Oleh Perbankan Di Indonesia (Studi Komparatif Penggunaan Data Pribadi Nasabah Di Uni Eropa). *Fakultas Hukum Universitas Islam Indonesia Yogyakarta*, 5(1).
- Noerman, C. T., & Agustanti, R. D. (2023). PERTANGGUNGJAWABAN ARTIFICIAL INTELLIGENCE SEBAGAI SUBJEK HUKUM YANG MELAKUKAN TINDAK PIDANA KORUPSI. *Jurnal Hukum Samudra Keadilan*, 18(2).
<https://doi.org/10.33059/jhsk.v18i2.8722>
- Rama, B. G. A., Prasada, D. K., & Mahadewi, K. J. (2023). Urgensi Pengaturan Artificial Intelligence (AI) dalam Bidang Hukum Hak Cipta di Indonesia. *Jurnal Rechtsens*, 12(2).
- Robles, P., & Mallinson, D. J. (2023). Catching up with AI: Pushing toward a cohesive governance framework. In *Politics and Policy* (Vol. 51, Issue 3).
<https://doi.org/10.1111/polp.12529>
- _____ & Mallinson, D. J. (2025). Artificial intelligence technology, public trust, and effective governance. *Review of Policy Research*, 42(1).
<https://doi.org/10.1111/ropr.12555>
- Sallu, S., Qammaddin, Q., Ashari, A., & Nursamsir, N. (2023). Tinjauan Literature : Pembelajaran Digital Administrasi Publik berbasis Artificial Intelligence (AI). *Remik*, 7(1).
<https://doi.org/10.33395/remik.v7i1.12064>

- Schneider, J., Abraham, R., Meske, C., & Vom Brocke, J. (2023). Artificial Intelligence Governance For Businesses. *Information Systems Management*, 40(3). <https://doi.org/10.1080/10580530.2022.2085825>
- Supriyadi, E. I., & Asih, D. B. (2021). IMPLEMENTASI ARTIFICIAL INTELLIGENCE (AI) DI BIDANG ADMINISTRASI PUBLIK PADA ERA REVOLUSI INDUSTRI 4.0. *Jurnal RASI*, 2(2). <https://doi.org/10.52496/rasi.v2i2.62>
- Titawati, T., Loilewen, A. F., Ardika, G. T., & Ramli, R. (2024). Pengaruh Kemajuan Teknologi Terhadap Hukum Dan Perubahan Sosial. *Ganec Swara*, 18(1). <https://doi.org/10.35327/gara.v18i1.772>
- Weidong, J. (2022). The domain of computational law. *Peking University Law Journal*, 10(2). <https://doi.org/10.1080/20517483.2023.2171593>
- Wiatma Jonimandala, G., KG Sondakh, D., & Sondakh, J. (2023). Peran Direktorat Tindak Pidana Siber (DITTIPIDSIBER) Bareskrim Polri Dalam Melakukan Penegakan Hukum Terhadap Kejahatan Pencurian dan Penyalahgunaan Data Pribadi. *Journal Of Social Science Research*, 3(4).
- Wirtz, B. W., Weyerer, J. C., & Sturm, B. J. (2020). The Dark Sides of Artificial Intelligence: An Integrated AI Governance Framework for Public Administration. *International Journal of Public Administration*, 43(9). <https://doi.org/10.1080/01900692.2020.1749851>
- Zebua, S., Sunarya, P. A., Canara, C., & Insanahsan, M. (2023). Peran Teknologi Kecerdasan Buatan Dalam Upaya Mengentaskan Ketimpangan Sosial Di Indonesia. *JMARI*, 4(2). <https://doi.org/10.33050/jmari.v4i2.2961>