REGULATORY REFORM IN THE ERA OF DIGITAL CONSTITUTIONALISM

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Abstract

The digital era has permeated the legal and justice systems, posing serious challenges to constitutional justice. AI can replicate algorithmic bias and reinforce inequality. Indonesian regulations (the *PDP Law and the ITE Law*) are insufficient to address AI ethics and procedural justice. This gap requires a robust ethical framework for technology to be a tool of justice. This study aims to formulate ethical standards and principles based on Siyasah Dusturiyah, integrating them into Digital Constitutionalism to fill this legal void. The study uses a normative legal method (doctrinal legal research) with legislative and comparative approaches. A descriptive-comparative analysis examines the Indonesian legal framework alongside EU regulations (the EU AI Act and the GDPR) to identify best practices. Results show significant gaps in Indonesian law on AI ethics, in contrast to the EU's proactive integration of ethical standards. Thus, this study proposes adapting three principles—Ethical Impact Assessment, Human Oversight, and Right to Be Fixed—as the ethical foundation of Indonesian Digital Constitutionalism. Such adaptation is crucial to ensure accountability of digital systems and strengthen citizens' constitutional rights.

Keywords: EU AI Act; digital constitutionalism; Artificial Intelligence (AI) Ethics; GDPR; Principles of Siyasah Dusturiyah.

Introduction

The digital era has brought revolutionary changes. Artificial intelligence (AI) technology and algorithms are now integral to human life. This is because digital technology offers efficiency and speed beyond manual processes. It changes how people interact and manage resources. For example, sectors like banking and social media now rely on algorithms to improve service and optimize operations. Thus, digital technology has become a fundamental element defining today's economic and social structure.

The expansion of digital technology now extends beyond the commercial sector into the legal and justice systems. This integration aims to improve accessibility, accuracy, and transparency in legal processes. Complex data makes these improvements urgent. Examples include using algorithms for case management, legal document analysis, and decision support in courts. Algorithms help determine the risk of recidivism or process legal aid applications.[1] These changes mark a new paradigm shift, as digital efficiency becomes a key tool in the pursuit of justice.

Although promising progress, this technology also poses serious challenges. Unequal access creates a digital divide and worsens social injustice. People in remote areas or with limited incomes struggle to reach digital services. Algorithmic bias in decision-making can replicate or reinforce social biases, such as in credit assessment or job candidate selection. The vulnerability of personal data is a real threat. Countless data breaches have threatened privacy and security.[2] In Indonesia, these challenges are increasingly apparent as reliance on technology grows in both public and private sectors.

The main legal issue is how to ensure that digital technology in the justice system is efficient and also upholds justice and constitutionalism. This requires rethinking traditional legal concepts for the digital age. The Constitution guarantees justice for every citizen. The challenge is how to apply this in decisions made by machines or algorithms. This is

[1] Peter Stone et al., *Artificial Intelligence and Life in 2030 One Hundred Year Study on Artificial Intelligence: Report of the 2015-2016 Study Panel*, *Stanford University*, 2016.

[2] Mona M. Soliman et al., "Artificial Intelligence Powered Metaverse: Analysis, Challenges and Future Perspectives," *Artificial Intelligence Review* 57, no. 2 (2024), doi:10.1007/s10462-023-10641-x.

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not just a technical issue, but a fundamental issue of human rights and substantive justice.[3]

Furthermore, this legal issue raises key questions. First: who is responsible if an algorithm causes harm?[4] Is it the developer, the user, or the algorithm itself? Second: Does an individual have a right to an explanation for automated decisions? People deserve to know why they are rejected for credit or not selected for a job, even if AI made the decision. Third: how do we guard against data-based discrimination? If historic training data is biased, how can we prevent algorithms from producing systemic discrimination? All these questions highlight a legal vacuum that must be addressed to ensure the digital age strengthens, not erodes, the foundations of justice.[5]

Currently, Indonesian legal regulations, such as Law No. 27 of 2022 on Personal Data Protection (PDP Law), lay an important foundation for data governance. The PDP Law outlines principles such as purpose limitation, accuracy, and data security. This is a step forward. However, the law's interpretation mainly covers general protection of individual data and does not address more complex issues.[6] Similarly, Law No. 19 of 2016 on Electronic Information and Transactions (ITE Law) regulates the legality of information and forbids illegal content.[7] Yet, neither regulation addresses the ethics of AI or algorithmic bias specifically. Thus, despite basic data protection, there is no legal

[3] Imad Antoine Ibrahim, "AI Governance in a Complex and Rapidly Changing Regulatory Landscape: A Global Perspective," *SSRN Electronic Journal*, 2025, doi:10.2139/ssrn.5258174.

[4] Lu Cheng, Kush R. Varshney, and Huan Liu, "Socially Responsible AI Algorithms: Issues, Purposes, and Challenges," *Journal of Artificial Intelligence Research* 71 (2021), doi:10.1613/JAIR.1.12814.

[5] Andreas Tsamados et al., "The Ethics of Algorithms: Key Problems and Solutions," *AI and Society* 37, no. 1 (2022), doi:10.1007/s00146-021-01154-8.

[6] Dony Dwi Wijayanto, Kadek Wiwik Indrayanti, and Diah Ayu Wisnu W, "Personal Data Protection in Digital Business Based on the Law on Personal Data Protection," *International Journal of Research in Social Science and Humanities* 06, no. 08 (2025), doi:10.47505/ijrss.2025.8.2.

[7] Hanafi Ramsi, "The Dialectics of Freedom of Expression and Legal Restrictions on Digital Platforms: An Analysis of Human Rights Principles, the Electronic Information and Transactions Law, and Constitutional Court Decision No. 105/PUU-XXII/2024," *International Journal of Law, Environment, and Natural Resources* 5, no. 1 (2025), doi:10.51749/injurlens.v5i1.132.

framework for an individual's right to know why algorithms make certain decisions or how to address invisible bias in automated systems.

Based on the above analysis, Indonesia already has regulations on data and electronic transactions. However, there remain legal gaps and a lack of clear ethical guidelines to address the challenges posed by digital technology, especially regarding AI ethics and algorithmic bias. This gap is even more obvious compared to the proactive approach of other jurisdictions, such as the European Union. The EU has addressed this complexity by developing a comprehensive legal and ethical framework, like the EU AI Act, which regulates the risks and obligations associated with AI systems.[8] This difference shows Indonesia should not wait, but actively develop and adapt ethical standards to keep pace with global development. Various related studies have been conducted in the research context examined by the author.r examined. For example, Nanang Subekti et al.'s work "*Konstitusionalisme Digital di Indonesia: Mengartikulasikan Hak dan Kekuasaan dalam Masyarakat Digital" only focuses on how* digital constitutionalism is implemented to protect citizens' basic rights.[9] Research by Giovanni De Gregorio and Roxana Radu, titled "*Digital Constitutionalism in the New Era of Internet Governance," also solely analyzes how* the evolution of Internet governance leads to a new constitutional paradigm in the digital age.[10] Similarly, Mery Christian Putri and Nalom Kurniawan's study, "Digital Constitutionalism Era in the Development of Banking Law in Indonesia," only describes the transition process of digital constitutionalism in Indonesian banking law, recounts its benefits, and points out irregularities from easy access to technology.[11]

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[8] Marta Cantero Gamito and Christopher T. Marsden, "Artificial Intelligence Co-Regulation? The Role of Standards in the EU AI Act," *International Journal of Law and Information Technology* 32, no. 1 (2024), doi:10.1093/ijlit/eaae011.

[9] Nanang Subekti, I Gusti Ayu Ketut Rahmi Handayani, and Arief Hidayat, "Konstitusionalisme Digital Di Indonesia," *Peradaban Journal of Law and Society* 2, no. 1 (2023), doi:10.59001/pjls.v2i1.74.

[10] Giovanni De Gregorio and Roxana Radu, "Digital Constitutionalism in the New Era of Internet Governance," *International Journal of Law and Information Technology* 30, no. 1 (2022), doi:10.1093/ijlit/eaac004.

[11] Nalom Kurniawan and Mery Christian Putri, "DIGITAL CONSTITUTIONALISM ERA IN THE DEVELOPMENT OF BANKING LAW IN INDONESIA," *Journal of Central Banking Law and Institutions* 1, no. 3 (2022), doi:10.21098/jcli.v1i3.29.

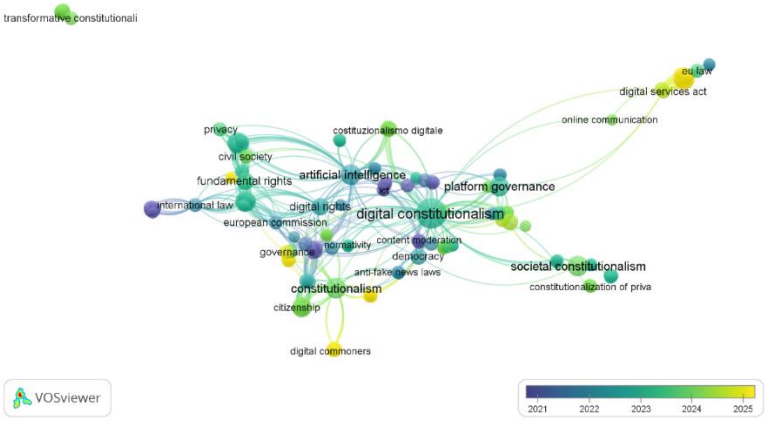
Based on the literature review above, in-depth research is needed to ensure substantive and procedural justice in the digital age. Therefore, the author's research on identifying and formulating ethical standards and principles for digital constitutionalism in Indonesia is crucial. This serves as a reference point to quickly address legal vacuums and build a strong foundation so that digital technology can serve the public fairly and accountably.

To understand research trends in digital constitutionalism, a bibliometric analysis was conducted using VOSviewer software.[12] The analysis identifies how frequently keywords co-occur in scientific publications. This approach maps the conceptual structure and focus of global digital constitutionalism research. Visualization shows topic development, thematic clusters, and the most researched keywords in the literature.[13]

The resulting visualization provides a comprehensive overview of the distribution of academic discourse on digital constitutionalism across scientific databases. By mapping interrelated keywords, this analysis can strengthen the research's theoretical framework and reveal gaps in studies that have not been widely explored. Figure 1 below shows the results of the keyword network map visualization, analyzed using VOSviewer, based on publications collected from the Scopus database.

[12] Airiza Silfia Mahda et al., "KOLABORASI LINTAS SEKTOR: MEMBANGUN KESEPAKATAN UNTUK INDONESIA YANG INKLUSIF," *Jurnal Ilmu Pengetahuan Sosial* 12, no. 5 (2025).

[13] E Engkizar et al., "Analysis of Quran Education Problems in Majority Muslim Countries," *International Journal of Islamic Studies Higher Education* 3, no. 1 (2024).



Source: Scopus Data Analysis 2020-2025

Figure 1. *Analysis of Keyword Network Visualization Using VOSviewer*

Based on the network visualization generated by VOSviewer software, we can see a map of keyword interconnectivity in scientific publications on the theme of "*digital constitutionalism*." This map illustrates the conceptual structure in this field, where each node (circle) represents a keyword that frequently appears in the literature, while the connecting lines (links) show the relationships between terms.

General, this visualization shows that the concept of "*digital constitutionalism*" is a strong central node and is closely related to various issues. This connection is evident in the main cluster, which includes "*artificial intelligence*," "*digital rights*," "*platform governance*," and "*privacy*." This indicates that most academic literature tends to focus on fundamental issues surrounding digital rights, platform governance, and privacy protection that have emerged alongside the development of AI. Furthermore, there are clusters related to "*EU law*" and "*digital services legislation*," underscoring the European Union's legal framework as a key reference in global discussions on digital governance.

However, this visualization also reveals an important gap—marked by colors in the graph with shades of blue to yellow representing the 2021 to 2025 period of literature publication, showing a predominance of fundamental issues—between the connections of "*digital constitutionalism*" and "*mechanisms of justice*" that appear to be less deeply

integrated. Topics such as "*transformative constitutionalism*" and "social constitutionalism" do exist, but their connection to technical issues such as "*algorithmic bias*" and "*ethical standards*" is not as strong as their connection to themes of privacy or fundamental rights. This shows that although these challenges have been identified, approaches to concrete solutions and procedural mechanisms to ensure substantive justice have not been the main focus of the existing literature. This means there is a serious research gap regarding how constitutional principles can be practically translated into operational ethical standards and legal mechanisms to address the biases inherent in technology.

The current lack of AI ethics regulations calls for a robust framework to ensure that technology serves as a fully effective instrument of substantive justice, rather than merely a tool for technical efficiency. Therefore, this study aims to formulate ethical standards and principles based on the values of Siyasah Dusturiyah, which will then be integrated into the framework of digital constitutionalism. This integration effort seeks to fill existing legal gaps, thereby ensuring that technological developments remain in line with the principles of justice, human rights, and human dignity within the national legal system.

The main contribution of this study lies in its attempt to go beyond mere description by formulating concrete solutions and solution-oriented regulations to address technological disruption in Indonesia. Through a comparative analysis of the EU AI Act and national legal frameworks, this study not only maps existing problems but also identifies best practices to be legally adopted to protect citizens' rights in cyberspace. By offering implementation strategies based on real solutions, this research provides significant added value to the development of legal policy in Indonesia while enriching contemporary legal literature to ensure the sustainability of justice in the digital age.

Research Methods

This study employs a normative-doctrinal legal research method to dissect the complexities of digital ethics and justice. The unit of analysis centers on a comparative study of the legal and ethical frameworks in two pivotal jurisdictions: Indonesia and the European Union. Specifically, the research evaluates Indonesian regulations, such as the Law on Personal Data Protection (UU PDP) and the Electronic

Information and Transactions Law (UU ITE), by aligning them with benchmark international standards, namely the EU AI Act and the General Data Protection Regulation (GDPR). This comparison is instrumental in identifying global best practices and regulatory gaps that persist in the domestic landscape.[14]

To ensure depth and accuracy, the data sources are bifurcated into primary and secondary categories. Primary data consists of authoritative legal instruments, including statutory laws, government regulations, and relevant judicial precedents in Indonesia, as well as the foundational regulatory frameworks of the EU. Secondary data encompasses supporting legal materials such as peer-reviewed scientific journals, books, research reports, and policy documents that provide doctrinal depth to the primary norms. These data are gathered through a systematic literature study (documentation), involving a rigorous process of searching, classifying, and extracting information from credible academic and institutional repositories.

The analytical framework utilizes a descriptive-comparative analysis approach. The descriptive phase systematically maps the existing legal and ethical landscape in both jurisdictions, while the comparative phase identifies specific regulatory "best practices" regarding transparency, accountability, and human oversight. Beyond mere comparison, this methodology facilitates a critical synthesis: the ultimate purpose is to formulate ethical standards and principles rooted in Siyasah Dusturiyah (Islamic Constitutionalism) and strategically integrated into the framework of Digital Constitutionalism. By doing so, this research aims to fill the current legal void, ensuring that the proposed digital ethics framework addresses technical complexities, such as algorithmic bias, and upholds Indonesia's constitutional values of justice and human dignity in the digital era.

Result and Discussion

An analysis of the legal frameworks in Indonesia and the European Union reveals fundamental differences in approaches to justice in the digital age. Within the national legal system, the Electronic Information

[14] Sanne Taekema, "Methodologies of Rule of Law Research: Why Legal Philosophy Needs Empirical and Doctrinal Scholarship," *Law and Philosophy* 40, no. 1 (2021), doi:10.1007/s10982-020-09388-1.

and Transactions Law (EIT Law) and the Personal Data Protection Law (PDPA) serve as fundamental pillars governing all activities in Indonesia's cyberspace. The EITL serves as a lex specialis instrument regulating the legality of interactions and electronic transactions, and the governance of digital information, while the PDPA stands as a cornerstone of data sovereignty, guaranteeing the protection of individuals' fundamental rights regarding their personal information. However, with the massive integration of artificial intelligence, the status of these two laws is also being critically examined as a legal framework that—while providing legal certainty—still has significant gaps in addressing ethical complexities and algorithmic biases that have not been specifically regulated.[15]

Unlike Indonesia, the European Union has established robust safeguards through two main pillars: a risk-based approach under the EU AI Act and the strengthening of individual rights through the GDPR. The first pillar serves as a preventive mechanism that classifies technologies based on their level of risk to fundamental rights, while the second pillar ensures citizens' autonomy over their personal data.[16] This comparison highlights that the European Union not only focuses on data protection but also proactively formulates ethical standards that are directly integrated into its regulations. With this comparative basis, this discussion will outline three main points, namely the Urgency of Developing Ethical Standards, Analysis of the EU Regulatory Framework, and Strategic Adaptation of the Digital Constitutionalism Model.

The Urgency of Developing Ethical Standards to Complement Positive Law

The legal and ethical framework for digital technology in Indonesia, particularly as outlined in Law No. 27 of 2022 on Personal Data

[15] Loso Judijanto, Nuryati Solapari, and Irman Putra, "An Analysis of the Gap Between Data Protection Regulations and Privacy Rights Implementation in Indonesia," *The Easta Journal Law and Human Rights* 3, no. 01 (2024), doi:10.58812/eslhr.v3i01.351.

[16] Giovanni de Gregorio and Pietro Dunn, "THE EUROPEAN RISK-BASED APPROACHES: CONNECTING CONSTITUTIONAL DOTS INTHE DIGITAL AGE," *Common Market Law Review* 59, no. 2 (2022), doi:10.54648/cola2022032.

Protection (PDP Law) and Law No. 19 of 2016 on Electronic Information and Transactions (EIT Law), has become an important foundation for addressing challenges of justice in the digital age. However, analysis shows that these two regulations are not yet fully adequate to address the complexities arising from the use of advanced technology, particularly in terms of algorithmic bias and unequal access.[17]

The PDP Law provides basic protection for individuals, such as the right to privacy and data security, which is a step forward in addressing the vulnerability of personal data. This is clearly stated in Article 5 paragraph (1) of the PDP Law, which states, "*The Subject of Personal Data has the right to obtain information about the clarity of identity, legal basis, purpose of request and use of Personal Data, and accountability of the party requesting Personal Data*." In addition, this law also explicitly regulates the rights of data subjects, the obligations of data controllers, and sanctions for violations.[18] However, interpretation of this law tends to focus on issues of data leaks and misuse, and does not specifically regulate the ethics of AI (artificial intelligence) use. As a result, the issue of algorithmic bias—where algorithms replicate social bias or discrimination—has no clear legal basis for handling. There are no provisions requiring algorithm transparency or the right to obtain an explanation for automated decisions that are detrimental.

Meanwhile, the ITE Law focuses more on the legality of information, electronic transactions, and the prohibition of illegal content, as stipulated in Articles 27 to 36, which criminalize various acts such as the dissemination of immoral content, defamation, and online fraud.[19] Although relevant, this law is not designed to address deeper challenges related to digital justice. The ITE Law does not specifically regulate unequal access to technology, so the digital divide between

[17] Ilman Maulana Kholis, "Perlindungan Data Pribadi Dan Keamanan Siber Di Sektor Perbankan: Studi Kritis Atas Penerapan UU PDP Dan UU ITE Di Indonesia," *Staatsrecht: Jurnal Hukum Kenegaraan Dan Politik Islam* 4, no. 2 (2025), doi:10.14421/t5sfe747.

[18] Berto Purnomo Sidik and Sidi Ahyar Wiraguna, "Tinjauan Hukum Terhadap Aplikasi Digital Sebagai Upaya Meningkatkan Kesadaran Perlindungan Hak Privasi Data Pribadi," *Hukum Inovatif: Jurnal Ilmu Hukum Sosial Dan Humaniora* 2, no. 2 (2025).

[19] Mulyati Pawennei2 & Asriati Ainun Jariah A. Kadir1, "Implementasi UU ITE Dalam Rangka Pemberantasan Tindak Pidana Pemerasan Dalam Dunia Digital," *Journal of Lex Philosophy (JLP)* 5, no. 1 (2024).

urban and rural communities cannot be resolved through this legal framework. In addition, the ITE Law also lacks mechanisms to audit or monitor the social impact of technology use.

Thus, Indonesia's current legal framework cannot comprehensively address the challenges raised in the problem statement. There is a significant legal vacuum regarding AI ethics and algorithmic bias, as well as a lack of regulations that explicitly address injustices resulting from unequal access. This indicates that more specific ethical standards and principles are needed to complement existing regulations and ensure substantive and procedural justice in the digital age.

The European Union's AI Regulatory Framework: A Model of Digital Constitutionalism

The European Union (EU) has taken a step forward in regulating digital technology by creating a comprehensive legal and ethical framework. Their goal is to ensure that artificial intelligence (AI) systems are safe, transparent, and accountable. This framework is based on two main pillars: a Risk-Based Approach and Individual Rights.

First, the risk-based approach: the EU takes a proactive stance in regulating artificial intelligence (AI) through the EU AI Act, the world's first regulation specifically addressing it. This framework is based on a risk-based approach, which categorizes AI systems into four levels. Systems with minimal risk, such as video games, do not require strict regulation. Meanwhile, systems with limited risk, such as chatbots, must comply with transparency rules. This approach also includes a high-risk category—which covers AI systems that could harm fundamental rights, such as those used in recruitment or law enforcement—and a prohibited category, for systems that are considered an unacceptable threat, such as social scoring or emotion recognition systems in the workplace. The foundation of this entire framework is the principle of digital sovereignty and algorithmic accountability, under which technology developers bear full legal responsibility for the social impact of their innovations.[20]

[20] Oskar J. Gstrein, Noman Haleem, and Andrej Zwitter, "General-Purpose AI Regulation and the European Union AI Act," *Internet Policy Review* 13, no. 3 (2024), doi:10.14763/2024.3.1790.

To ensure fairness and safety, the EU AI Act sets strict requirements for high-risk AI systems. This regulation requires, among other things, transparency and accountability. Article 10 of the EU AI Act requires developers to document their processes and the data sets used to reduce potential bias.[21] In addition, Article 14 regulates human oversight, ensuring that important decisions made by high-risk AI systems must always be under human control.[22] This is a crucial step to prevent harmful decisions that are entirely generated by algorithms, thereby reinforcing the principle of procedural fairness.

Second, individual rights: the individual rights approach in the European Union legal framework is embodied in the General Data Protection Regulation (GDPR), which serves as the main foundation for AI regulation. The GDPR not only focuses on the protection of personal data but also strengthens individuals' position in the face of technology. Specifically, Article 22 of the GDPR gives individuals the explicit right to object to automated decisions (right not to be subject to automated decision-making) and to request a review by a human being.[23] This means that if an algorithm makes a decision that has significant legal consequences, such as rejecting a credit or job application, the individual has the right to demand that the decision be reevaluated by a human, not just by a machine. This principle ensures that individual autonomy and dignity remain protected, providing an important mechanism of justice to counteract potential bias and error in AI systems.

In summary, the European Union has built a protective barrier against the challenges posed by AI through a dual strategy that focuses on a risk-based approach and individual rights. The first strategy, enshrined in the EU AI Act, proactively categorizes AI systems based on their level of risk. The higher the risk, the stricter the rules, with developers required to ensure transparency, accountability, and human

[21] Marvin van Bekkum, "Using Sensitive Data to De-Bias AI Systems: Article 10(5) of the EU AI Act," *Computer Law and Security Review* 56 (2025), doi:10.1016/j.clsr.2025.106115.

[22] Juliane Beck and Thomas Burri, "From 'Human Control' in International Law to 'Human Oversight' in the New EU Act on Artificial Intelligence," *SSRN Electronic Journal*, 2022, doi:10.2139/ssrn.4236554.

[23] Reuben Binns and Michael Veale, "Is That Your Final Decision? Multi-Stage Profiling, Selective Effects, and Article 22 of the GDPR," *International Data Privacy Law* 11, no. 4 (2021), doi:10.1093/idpl/ipab020.

oversight to prevent bias and errors that could slip through the cracks. The second strategy, rooted in the GDPR, empowers every individual to obtain an explanation for AI decisions. This ensures that no algorithm can make final decisions that are detrimental without human intervention, thereby protecting the autonomy and fundamental rights of every individual.

The process of creating this legal framework by the European Union was not instantaneous. The rules were born out of extensive discussions and a multidisciplinary approach involving legal, ethical, and technological experts, as well as representatives of civil society. The process began with the identification of the problem, namely, concerns about the impact of AI on society. Then, the European Commission published a "White Paper" on AI, followed by public consultations to gather input from various parties.[24]

The goal is to create pro-innovation rules that protect citizens' fundamental rights. Instead of banning technology, the European Union has chosen to set clear standards that encourage responsible innovation. In this way, the EU has created a legal system responsive to technological dynamics, ensuring that digital progress does not sacrifice the principles of justice and human rights.

Strategic Adaptation of the European Union's Digital Constitutionalism Model in the Indonesian Context

In the context of this study, digital constitutionalism is defined as the adaptation of traditional constitutional principles—such as the limitation of power, the rule of law, and the protection of human rights—to the digital space, where private entities and algorithms now wield quasi-public power. This concept serves as a 'new social contract' that ensures technological efficiency does not disregard human dignity by demanding accountability, transparency, and the right to explanation for citizens, thereby ensuring that technology remains an instrument of substantive justice.

The practical manifestation of this framework can be realized through the best practices of the European Union model, which has

[24] Nathalie A. Smuha et al., "How the EU Can Achieve Legally Trustworthy AI: A Response to the European Commission's Proposal for an Artificial Intelligence Act," *SSRN Electronic Journal*, 2021, doi:10.2139/ssrn.3899991.

been adopted and strategically adapted in Indonesia to address digital injustices that may threaten citizens' constitutional rights. This adoption is not merely a technical imitation but rather an internalization of the ethical principles that underpin the European Union's framework, such as Ethical Impact Assessment, Human Oversight, and the Right to Rectification. By integrating these principles with the values of *siyasah dusturiyah*, Indonesia can build a strong legal foundation to ensure that technological developments remain in line with the principles of justice and human dignity.

Ethical Impact Assessment

The implementation of Ethical Impact Assessment is a crucial tool for ensuring accountability in the development of high-risk artificial intelligence systems. This mechanism requires developers to think critically and proactively in identifying moral consequences and social risks before the technology is widely implemented. This is specifically regulated in Article 9 of the EU AI Act, which requires in-depth analysis to mitigate risks to fundamental rights and potential discrimination before the system is rolled out. Thus, this ethical assessment is not merely a technical procedure, but a fundamental filter that ensures digital innovation remains within the corridor of human rights protection.[25]

Indonesia has an urgent need to strategically adapt the ethical impact assessment principle, especially in the use of automated systems in the public service sector. The active involvement of various stakeholders in the assessment process is crucial to ensure that the algorithms used do not inadvertently reinforce existing social biases. In practice, assessments of systems such as social assistance determination must involve representatives of minority groups or indigenous peoples to ensure that geographic, ethnic, and demographic data do not become the basis for systemic discrimination. This preventive measure is vital to building the foundations of inclusive digital justice and preventing structural injustice in the future.

[25] Isabel Kusche, "Possible Harms of Artificial Intelligence and the EU AI Act: Fundamental Rights and Risk," *Journal of Risk Research*, 2024, doi:10.1080/13669877.2024.2350720.

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Human Oversight

Human oversight is an essential pillar in artificial intelligence governance to ensure that every legal decision remains under human moral and rational control. This is crucial because leaving decisions entirely to algorithms without human intervention risks overlooking complex legal nuances and fundamental civil rights. As a normative basis, Article 14 of the EU AI Act specifically requires high-risk AI systems to be designed so that humans can intervene, reject, or overturn decisions made by machines. Thus, this principle ensures that technology continues to function as an accountable judicial tool, rather than an absolute decision-maker that is free from moral responsibility.[26]

Indonesia can strategically integrate this principle of human oversight by establishing a special committee that serves as a human oversight body (natural persons/overseers) under the auspices of the National Cyber and Crypto Agency (BSSN). Although Indonesia already has BSSN as its cybersecurity authority, an expert committee is needed to ensure that high-risk AI systems are not only technically secure but also in compliance with ethical standards. The presence of human oversight figures is crucial for bridging the gap between the efficiency of automation and the protection of constitutional rights that may be violated by machine decisions. By strengthening the role of BSSN with this special committee, Indonesia can build a solid foundation of accountability in the national digital ecosystem while ensuring that the digitization process remains in line with the principle of the rule of law.

The application of human oversight in the judicial system will create a layered protection mechanism that guarantees substantive justice for people seeking justice. Without a human review process, technical errors or biases inherent in algorithms can become permanent barriers to individuals' rights to fair treatment. As a concrete example, if the AI system at the State Administrative Court (PTUN) automatically rejects an administrative dispute petition, this human oversight committee can serve as an initial channel for citizens to request a review by a judge or court staff before filing a formal lawsuit. The presence of this institutionalized human intervention ensures that

[26] Argyri Panezi, "Article 14 Human Oversight," *The EU Artificial Intelligence (AI) Act: A Commentary*, 2024.

justice is upheld in its entirety and humanely, even when technology is used as part of the digital judicial mechanism.

Right to Rectification

Article 16 of the General Data Protection Regulation (GDPR) gives individuals the explicit right to request the correction of inaccurate personal data. In the context of AI, this principle is extended: individuals have the right to demand correction if algorithmic decisions are based on incorrect or incomplete data.[27] Indonesia can adapt this principle by granting similar rights to its citizens. For example, if the AI system at the State Civil Service Agency (BKN) automatically rejects an employee's promotion due to inaccurate educational history data, the employee has the right to request correction of the data and to review the decision. The application of this principle will empower individuals, ensure they have control over information that affects their lives, and demand accountability from existing systems.

The integration of the principles of ethical impact assessment, human oversight, and the right to rectification is, in essence, a modern manifestation of the values of Siyasah Dusturiyah, which places ethical principles as the highest foundation for achieving the public good (mashlahah ammah). Within the framework of digital constitutionalism, this ethical foundation serves as a strict moral filter—in line with the concepts of *Asy-Syura* (consultation) and *Al-Adalah* (justice)—to ensure that every technological innovation not only pursues efficiency but actively prevents systemic injustice and protects the fundamental rights of the people (*hifz al-maqosid*).

This adaptation is crucial in the Indonesian social and cultural context, where the formal legal system may not yet be fully prepared to accommodate the complexity of algorithmic disputes. As a solution, the principle of human oversight can be realized through a digital mediation body that prioritizes the spirit of kinship and consensus-based deliberation, which substantively aligns with the spirit of Islah (reconciliation) in Islamic governance. By directing dispute resolution through dialogue involving legal experts, technologists, and community representatives, Indonesia not only builds a bridge for an evolving legal system but also affirms that digital justice mechanisms must remain

[27] Andreas Häuselmann and Bart Custers, "The Right to Rectification and Inferred Personal Data," *SSRN Electronic Journal*, 2025, doi:10.2139/ssrn.5116221.

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humanistic, ethical, and oriented toward the protection of human dignity, as mandated by the sovereignty of the people in a state governed by law.

Conclusion

This study concludes that the problem of legal vacuum in Indonesia today does not lie in the absence of data regulations in general, but rather in the absence of algorithmic ethical standards in the judicial system and public services, thus requiring the adoption of the three operational pillars of Digital Constitutionalism as a strategic solution. The three pillars include Ethical Impact Assessment as a mechanism for screening moral risks before AI technology is implemented, Human Oversight, which gives authoritative power to humans through an expert committee under the National Cyber and Crypto Agency (BSSN) to overturn machine decisions, and the Right to Rectification, which guarantees the right of citizens to correct data or automated decisions that are detrimental to them. The integration of these principles is not merely an adoption of Western legal models, but a concrete manifestation of the values of Siyasah Dusturiyah, which fundamentally prioritizes substantive welfare and justice over technical efficiency alone.

Of course, this study has a major limitation: it uses a doctrinal, legal-normative approach, so the analysis remains at the conceptual level and does not address empirical testing of its effectiveness or the challenges of practical implementation in the field. Although this study successfully concludes that the problem of legal vacuum in Indonesia today is not the absence of data regulations in general but rather the absence of algorithmic ethical standards, concrete proposals regarding the three operational pillars of Digital Constitutionalism—namely Ethical Impact Assessment, Human Oversight through an expert committee under the National Cyber and Crypto Agency (BSSN), and the Right to Rectification—have not been measured sociologically in terms of institutional readiness and public acceptance. Therefore, future studies are highly recommended to shift to socio-legal or empirical studies in order to test the validity of this framework in practice, while deepening the philosophical-juridical integration of the principles of Siyasah Dusturiyah into the drafting of more specific technology

regulations so that the manifestation of substantive benefits and justice can be realized operationally above and beyond mere technical efficiency.

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