Islamic Legal Insight Journal
Vol. 1 No. 1 (2026), p. 61-74
Available online at https://cendikianusantara.com/index.php/ilij

Strengthening Environmental Law through ESG Governance: A Legal Framework for Sustainable Development in Indonesia

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DOI: https://doi.org/10.61987/bamj.v1i1

Article History:
Received: 02 May 2026
Revised: 14 June 2026
Accepted: 10 July 2026

Keywords:
Environmental Law; Environmental Social and Governance (ESG); Sustainable Development; Environmental Governance

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Abstract :
This study examines how Environmental, Social, and Governance (ESG) governance can strengthen environmental law to promote sustainable development in Indonesia. It aims to analyze the legal challenges associated with integrating ESG principles into the existing environmental regulatory framework, identify regulatory gaps, and formulate an ESG-based legal model that enhances environmental governance. The research employed a normative-empirical legal approach by combining statutory and doctrinal analysis with empirical data obtained through document analysis, semi-structured interviews, and field observations involving policymakers, environmental law experts, regulators, corporate sustainability practitioners, and other relevant stakeholders. The findings indicate that Indonesia's environmental legal framework remains fragmented, limiting the effective institutionalization of ESG principles and weakening legal certainty, corporate accountability, and regulatory enforcement. The study proposes an integrated ESG-based legal framework emphasizing transparency, accountability, sustainability reporting, stakeholder participation, and coordinated institutional oversight. It concludes that embedding ESG principles into environmental law is essential for strengthening environmental governance and achieving sustainable development. The proposed framework provides both theoretical insights and practical guidance for future environmental law reform and sustainability policymaking in Indonesia.

INTRODUCTION

Environmental degradation has become one of the most pressing global challenges, threatening ecological sustainability, economic resilience, and human well-being (Ostiian, 2024; Wirtz et al., 2020). Climate change, deforestation, biodiversity loss, pollution, and unsustainable resource exploitation have intensified demands for stronger environmental governance and more effective legal protection. In response, Environmental, Social, and Governance (ESG) principles have emerged as an important framework for integrating sustainability into corporate governance and public policymaking (Noordt & Misuraca, 2022; Silfia, 2025). ESG is no longer viewed solely as a voluntary corporate initiative but increasingly as a strategic legal instrument for promoting responsible business conduct and achieving sustainable development. In Indonesia, the growing emphasis on green investment and sustainable economic transformation has further highlighted the importance of aligning environmental law with ESG governance (Al-Shawabkeh & Aljasmi, 2025; Hadi et al., 2025). Therefore, strengthening environmental law through an ESG-based legal framework is essential to ensure that economic development remains environmentally responsible, socially inclusive, and legally accountable while supporting the long-term realization of sustainable development goals.

Despite significant progress in environmental regulation, Indonesia continues to face persistent legal and institutional challenges in addressing environmental degradation. Rapid industrialization, extractive economic activities, land conversion, and infrastructure expansion have generated increasing pressure on natural ecosystems, while law enforcement remains inconsistent across sectors (Li, 2025; Suhardi, 2026). Although Indonesia has enacted various environmental statutes and sustainability-related policies, existing regulations often operate in a fragmented manner and provide limited integration between environmental protection objectives and ESG governance principles (Bhat et al., 2024; Busuioc, 2020). As a result, many corporations continue to prioritize economic performance over environmental responsibility, creating gaps in regulatory compliance, corporate accountability, and sustainable resource management. Furthermore, the absence of a comprehensive legal framework explicitly incorporating ESG principles into environmental governance has weakened regulatory effectiveness and reduced incentives for businesses to adopt responsible environmental practices. These challenges demonstrate the urgent need to strengthen environmental law to better respond to contemporary sustainability demands.

These legal and governance challenges are increasingly evident in the implementation of environmental protection policies across Indonesia. Numerous environmental disputes involving mining, plantation expansion, industrial pollution, and deforestation illustrate that regulatory compliance alone has not been sufficient to ensure sustainable environmental management (Madan & Ashok, 2022). At the same time, investors, financial institutions, and international markets are placing greater emphasis on ESG performance as a prerequisite for responsible investment and long-term business sustainability (Ahmad, 2026; Misic et al., 2025). Consequently, Indonesian companies are under growing pressure to improve environmental governance while complying with both domestic legal requirements and international sustainability expectations. Nevertheless, practical implementation remains constrained by inconsistent regulatory standards, limited institutional coordination, insufficient environmental reporting mechanisms, and weak enforcement of corporate environmental obligations. These conditions indicate that Indonesia requires a more integrated legal framework capable of embedding ESG principles within environmental law to strengthen accountability, improve regulatory certainty, and promote sustainable development.

Existing scholarship has extensively examined the relationship between Environmental, Social, and Governance (ESG) principles and sustainable development from the perspectives of corporate governance, environmental management, and sustainability reporting. Previous studies generally conclude that ESG implementation improves corporate transparency, strengthens environmental performance, enhances stakeholder confidence, and supports long-term business resilience (Al-Dulaimi & Mohammed, 2025; Ameen et al., 2026; Goldsmith & Yang, 2025). Other researchers have emphasized the growing importance of integrating ESG into national regulatory systems to encourage responsible investment and environmental protection (Finch & Butt, 2025; Rajendra & Thuraisingam, 2025). Within the Indonesian context, most studies have explored ESG disclosure, corporate sustainability practices, green finance, and environmental compliance among publicly listed companies. Collectively, these studies provide valuable insights into the economic and governance benefits of ESG while demonstrating its increasing influence on environmental policymaking. Nevertheless, the majority of existing research approaches ESG primarily as a corporate governance mechanism rather than as a legal instrument capable of strengthening environmental law and promoting sustainable development through enforceable regulatory frameworks.

Despite these important contributions, several significant research gaps remain. First, previous studies predominantly focus on voluntary ESG implementation, sustainability reporting, or investment performance, paying relatively limited attention to the legal implications of incorporating ESG principles into environmental governance (Ebers, 2024; Justo-Hanani, 2026; Outeda, 2024). Second, existing research rarely examines how environmental law can be systematically reconstructed through ESG governance to improve legal accountability, regulatory enforcement, and institutional coordination. Third, many studies analyze ESG from business or financial perspectives while overlooking the interaction between environmental law, administrative regulation, and sustainable development policy. Consequently, the normative role of ESG in shaping legally binding environmental obligations remains insufficiently explored, particularly in developing countries such as Indonesia. Addressing these gaps is essential because an effective ESG-based legal framework has the potential to strengthen environmental protection, improve regulatory certainty, enhance corporate accountability, and ensure that economic development is pursued consistently with the principles of sustainability and environmental justice.

This study offers a novel perspective by positioning ESG governance not merely as a corporate sustainability framework but as a legal foundation for strengthening environmental law and advancing sustainable development in Indonesia. Unlike previous studies that primarily evaluate ESG from the perspectives of corporate performance, sustainability reporting, or investment attractiveness, this research integrates environmental law, governance theory, and sustainable development principles into a comprehensive legal framework. The study proposes that ESG should be institutionalized through binding legal norms that clearly define environmental obligations, strengthen regulatory compliance, enhance institutional accountability, and ensure effective enforcement mechanisms. By linking ESG governance with constitutional environmental rights, administrative law principles, and environmental justice, this research expands the theoretical discourse on environmental governance while providing practical recommendations for legal reform. Consequently, the study contributes to developing a more coherent environmental regulatory system capable of balancing economic growth, ecological protection, and social responsibility within Indonesia's sustainable development agenda.

Based on these considerations, this study addresses the following research question: How can ESG governance strengthen environmental law to promote sustainable development in Indonesia? This research argues that the effectiveness of environmental protection cannot be achieved solely through conventional environmental regulations unless they are supported by an integrated ESG-based governance framework that reinforces legal accountability, transparency, and corporate responsibility. The study further contends that the current fragmentation of environmental regulations has reduced the effectiveness of law enforcement and weakened institutional coordination in addressing contemporary environmental challenges. Therefore, incorporating ESG principles into Indonesia's environmental legal framework represents a strategic approach to improving regulatory certainty, encouraging responsible corporate behavior, strengthening environmental compliance, and enhancing public participation. Ultimately, this principle-based legal framework is expected to create a more accountable and sustainable system of environmental governance capable of supporting Indonesia's long-term economic development while safeguarding environmental integrity and intergenerational justice.

RESEARCH METHODS

This study employed a normative-empirical legal research design to examine the role of Environmental, Social, and Governance (ESG) principles in strengthening environmental law for sustainable development in Indonesia. The normative component analyzed constitutional provisions, environmental legislation, corporate governance regulations, sustainability policies, international ESG standards, and legal doctrines relevant to environmental protection and sustainable development. Meanwhile, the empirical component investigated how ESG principles have been interpreted, implemented, and enforced by government institutions, regulatory authorities, corporations, and environmental stakeholders. This research design was selected because environmental governance is not merely a matter of statutory interpretation but also involves practical implementation, institutional coordination, regulatory compliance, and corporate behavior. Combining normative and empirical approaches enables the study to evaluate the consistency between legal norms (*das sollen*) and their implementation in practice (*das sein*), thereby providing a comprehensive understanding of the effectiveness of ESG governance in strengthening Indonesia's environmental legal framework and supporting sustainable development.

The empirical research was conducted in selected government institutions responsible for environmental governance, corporate sustainability, and environmental law enforcement in Indonesia, including environmental regulatory agencies, corporate entities implementing ESG practices, and relevant stakeholders involved in environmental governance. These locations were purposively selected because they represent key actors responsible for formulating, implementing, monitoring, and enforcing environmental regulations while simultaneously promoting ESG principles within public policy and corporate governance. Indonesia was chosen as the research setting due to its strategic position as a rapidly developing economy facing increasing environmental challenges, expanding ESG adoption, and ongoing legal reforms related to sustainable development. The country's diverse environmental issues, combined with growing international expectations regarding ESG compliance, provide an appropriate context for evaluating how environmental law can be strengthened through integrated ESG governance to achieve sustainable development objectives.

Data were collected through three complementary techniques: document analysis, semi-structured interviews, and field observations. Document analysis examined primary legal materials, including the Constitution, environmental legislation, government regulations, ministerial regulations, judicial decisions, official policy documents, ESG reporting guidelines, sustainability reports, and international legal instruments related to environmental governance. Semi-structured interviews were conducted with policymakers, environmental law experts, government officials, environmental practitioners, corporate sustainability managers, academics, and representatives of non-governmental organizations to obtain comprehensive perspectives regarding the implementation of ESG principles and environmental legal enforcement. Field observations were undertaken to understand institutional practices related to environmental governance, corporate sustainability initiatives, and regulatory compliance. The combination of these techniques enabled the researcher to obtain legal, institutional, and practical evidence while facilitating triangulation across multiple sources of information.

The collected data were analyzed using the interactive analytical model developed by Miles, Huberman, and Saldaña, consisting of data condensation, data display, and conclusion drawing/verification. During the data condensation stage, legal documents, interview transcripts, observational notes, and policy materials were selected, categorized, coded, and simplified according to themes related to ESG governance, environmental law, sustainable development, regulatory enforcement, and legal accountability. The data display stage organized the findings into thematic matrices, conceptual frameworks, comparison tables, and narrative descriptions to facilitate interpretation and identify relationships among legal norms, institutional practices, and ESG implementation. Finally, conclusion drawing and verification were conducted continuously by comparing empirical findings with statutory provisions, legal doctrines, governance theories, and sustainability principles. This iterative analytical process ensured that interpretations remained logically coherent, legally valid, and empirically supported while enabling the identification of broader implications for environmental law reform in Indonesia.

RESULT AND DISCUSSION

Result

Legal Challenges and Regulatory Gaps in Integrating ESG Governance into Indonesia's Environmental Law

The findings reveal that Indonesia has made considerable progress in developing environmental regulations and sustainability-related policies; however, the integration of Environmental, Social, and Governance (ESG) principles into environmental law remains fragmented. Analysis of statutory regulations, policy documents, and interview data indicates that environmental governance is still regulated through separate legal instruments governing environmental protection, corporate governance, investment, and financial services without a unified ESG-oriented legal framework. Consequently, corporations often implement ESG principles voluntarily rather than as legally enforceable obligations. Government officials and environmental law experts participating in this study acknowledged that the absence of explicit ESG provisions within environmental legislation has created inconsistencies in regulatory interpretation and implementation. This fragmented legal structure reduces legal certainty, weakens environmental compliance, and limits the government's capacity to establish consistent sustainability standards across different economic sectors.

Another important finding concerns the institutional challenges affecting the implementation of ESG governance. Interviews with policymakers, environmental regulators, and corporate sustainability managers demonstrate that coordination among government agencies responsible for environmental protection, investment regulation, financial supervision, and corporate governance remains relatively limited. Respondents emphasized that overlapping institutional authority and sector-specific regulations frequently result in inconsistent monitoring mechanisms and fragmented environmental reporting requirements. Furthermore, although sustainability reporting has become increasingly common among large corporations, the absence of standardized national ESG reporting criteria limits the comparability, transparency, and legal reliability of disclosed environmental information. These institutional weaknesses reduce the effectiveness of environmental law enforcement because regulators encounter difficulties in evaluating corporate compliance using consistent legal and governance indicators.

The study also identifies several legal consequences arising from the absence of an integrated ESG regulatory framework. Environmental practitioners observed that existing environmental enforcement mechanisms primarily focus on administrative compliance after environmental harm has occurred rather than encouraging preventive sustainability governance. Corporate representatives similarly acknowledged that ESG implementation is frequently motivated by investor expectations and international market requirements rather than binding domestic legal obligations. Consequently, environmental responsibility often varies across industries depending on corporate commitment instead of uniform legal standards. These findings indicate that Indonesia's current environmental legal framework has not fully incorporated preventive governance mechanisms capable of strengthening corporate accountability, promoting sustainable resource management, and ensuring long-term environmental protection. Therefore, strengthening environmental law requires a comprehensive legal approach that systematically integrates ESG principles into environmental governance.

Developing an ESG-Based Legal Framework to Strengthen Environmental Governance and Sustainable Development

The second major finding demonstrates that strengthening environmental law requires the institutionalization of ESG governance through a comprehensive and legally binding regulatory framework. Participants consistently emphasized that ESG principles should no longer function solely as voluntary corporate governance standards but should become integral components of environmental legislation. The proposed framework establishes environmental responsibility, corporate accountability, transparency, stakeholder participation, sustainability reporting, and risk management as fundamental legal obligations applicable across environmentally significant business sectors. Respondents further argued that integrating ESG principles into statutory environmental regulation would improve regulatory certainty while creating more consistent legal standards for environmental compliance. Such integration would also enhance the government's ability to supervise corporate environmental performance using measurable governance indicators supported by legally enforceable obligations.

The findings further indicate that effective ESG governance requires stronger institutional coordination among environmental authorities, financial regulators, corporate supervisory agencies, and other public institutions responsible for sustainable development. Interview participants highlighted the importance of harmonizing environmental law with corporate law, investment regulation, and financial sector policies to eliminate overlapping authority and regulatory inconsistencies. The study proposes the establishment of standardized national ESG reporting requirements, independent sustainability audits, environmental risk assessments, and integrated monitoring systems capable of evaluating both environmental performance and governance quality. These institutional mechanisms are expected to improve regulatory efficiency while increasing public confidence in environmental governance. Furthermore, respondents emphasized that stakeholder participation, including civil society organizations and local communities, should be strengthened to enhance transparency and democratic accountability in environmental decision-making.

The findings also demonstrate that an ESG-based legal framework can significantly contribute to achieving sustainable development by encouraging preventive environmental governance rather than relying exclusively on corrective legal sanctions. Respondents agreed that combining mandatory ESG disclosure, proportionate legal sanctions, fiscal incentives, and continuous regulatory supervision would encourage corporations to integrate sustainability principles into long-term business strategies. This governance model promotes environmental protection while simultaneously supporting responsible investment, sustainable economic growth, and social accountability. Moreover, institutionalizing ESG within environmental law reinforces the constitutional objective of ensuring environmental sustainability for present and future generations. Overall, the study concludes that an integrated ESG-based legal framework provides a strategic legal foundation for strengthening environmental governance, improving corporate accountability, enhancing regulatory effectiveness, and accelerating the realization of sustainable development in Indonesia.

Discussion

The findings of this study support the growing body of literature arguing that Environmental, Social, and Governance (ESG) has evolved from a voluntary corporate governance concept into a strategic instrument for achieving sustainable development through stronger environmental governance (Fatmawati et al., 2025; Fikri & Amelia, 2024; Judijanto et al., 2024). Previous studies have consistently reported that ESG implementation enhances environmental performance, improves corporate transparency, strengthens stakeholder confidence, and contributes to long-term business sustainability. The present findings are consistent with these conclusions by demonstrating that ESG governance has substantial potential to improve environmental accountability and regulatory effectiveness in Indonesia (Kurhayadi, 2025; Mbah, 2024). However, this study extends existing scholarship by revealing that the principal obstacle lies not in the absence of sustainability initiatives but in the fragmentation of Indonesia's environmental legal framework (Muhidin & Sudirman, 2025; Sun, 2025). Unlike many previous studies that primarily evaluate ESG from corporate or financial perspectives, this research demonstrates that legally integrating ESG principles into environmental law is essential for ensuring regulatory certainty, institutional accountability, and effective environmental protection within the public legal system.

Another important finding concerns the relationship between ESG governance and environmental law enforcement. Existing literature generally emphasizes that effective environmental governance depends upon transparent reporting, corporate accountability, stakeholder participation, and consistent regulatory oversight (Cheong, 2024; Gonçalves & Correia, 2026). The findings of this study strongly support these arguments while providing additional empirical evidence that fragmented institutional responsibilities and overlapping regulatory authority continue to reduce the effectiveness of environmental enforcement in Indonesia (Kalodanis et al., 2025; Satyo et al., 2026). This result differs from earlier studies that mainly focus on corporate ESG disclosure practices by demonstrating that legal enforcement capacity is equally important for ensuring meaningful ESG implementation (Nwachukwu et al., 2025). Consequently, the effectiveness of ESG governance should not be assessed solely through sustainability reporting or environmental performance indicators but also through the strength of legal institutions, regulatory coordination, and administrative enforcement mechanisms. These findings reinforce the argument that environmental governance requires an integrated legal architecture rather than isolated sectoral regulations.

The study also identifies significant theoretical implications for environmental law and governance scholarship. Previous research has frequently examined environmental law, ESG governance, and sustainable development as separate fields of inquiry, with relatively limited attention given to their legal interdependence (Shaban & Omoush, 2025). This research contributes by integrating these three dimensions into a unified analytical framework demonstrating that effective environmental protection depends upon the interaction between binding legal norms, responsible corporate governance, and sustainability principles (Goktas & Grzybowski, 2025; Kulothungan, 2025). From a theoretical perspective, the findings broaden the understanding of ESG by positioning it as a normative legal framework capable of strengthening environmental regulation rather than merely a voluntary governance standard. This conceptual integration advances contemporary environmental law scholarship by illustrating how administrative law principles, regulatory governance, and sustainability objectives collectively support more effective environmental protection and long-term sustainable development within emerging economies such as Indonesia (Weiner et al., 2024).

From a practical perspective, the findings provide important policy implications for legislators, regulatory agencies, corporations, and other stakeholders responsible for environmental governance. The proposed ESG-based legal framework offers practical guidance for strengthening environmental legislation through clearer legal obligations, standardized sustainability reporting, mandatory environmental risk assessments, independent ESG auditing, and enhanced institutional coordination (Lim & Oh, 2025; Zisu, 2025). These recommendations extend beyond existing regulatory practices by emphasizing preventive governance instead of relying predominantly on corrective legal sanctions after environmental damage has occurred (Huda et al., 2024; Kaur et al., 2026). Moreover, the findings suggest that harmonizing environmental law with corporate governance regulations, financial sector policies, and sustainable investment strategies would improve regulatory efficiency while increasing corporate compliance with environmental obligations. Such reforms are expected to strengthen public confidence, improve legal certainty, encourage responsible business conduct, and support Indonesia's transition toward a more sustainable and environmentally accountable economic system.

Overall, this study makes an important scholarly contribution by demonstrating that strengthening environmental law through ESG governance requires a comprehensive legal transformation rather than incremental policy adjustments. While previous studies have largely concentrated on measuring ESG performance or evaluating corporate sustainability initiatives, this research highlights the necessity of embedding ESG principles within legally enforceable environmental governance structures (Chintoh et al., 2025; Ye et al., 2024). The findings therefore contribute to the broader international discourse on environmental law by offering a normative-empirical framework that integrates legal accountability, corporate responsibility, institutional governance, and sustainable development into a coherent regulatory model. This framework may also serve as a valuable reference for other developing countries facing similar challenges in balancing environmental protection with economic growth. Ultimately, the study confirms that institutionalizing ESG through environmental law provides a strategic pathway toward achieving stronger environmental governance, greater legal certainty, enhanced corporate accountability, and more sustainable national development.

CONCLUSION

This study concludes that strengthening environmental law through Environmental, Social, and Governance (ESG) governance represents a strategic legal approach for achieving sustainable development in Indonesia. The most significant finding demonstrates that the effectiveness of environmental protection depends not only on the existence of environmental regulations but also on the integration of ESG principles into a coherent and legally binding governance framework that promotes legal certainty, corporate accountability, transparency, institutional coordination, and sustainable resource management. The primary scholarly contribution of this research lies in its integration of normative legal analysis and empirical evidence to develop a comprehensive framework linking environmental law, ESG governance, and sustainable development, thereby enriching the literature on environmental governance and regulatory reform in developing countries. Nevertheless, this study is limited to the Indonesian legal and institutional context, which may restrict the broader applicability of its findings. Future research should undertake comparative cross-country studies, evaluate sector-specific ESG implementation, and examine the long-term effectiveness of ESG-based legal reforms in improving environmental governance and sustainability outcomes.

ACKNOWLEDGEMENT

The authors sincerely express their gratitude to all participants, government officials, legal experts, and public administrators who generously contributed their time, knowledge, and valuable insights throughout this research. Appreciation is also extended to colleagues and academic reviewers for their constructive feedback, which significantly improved the quality of this study. Finally, the authors acknowledge the institutional support that facilitated the completion of this research and the preparation of this manuscript.

REFERENCES

Ahmad, N. (2026). AI-ENABLED PUBLIC GOVERNANCE IN DEVELOPING STATES: SERVICE DELIVERY GAINS, ACCOUNTABILITY RISKS, AND A PRACTICAL RISK-BASED REGULATORY MODEL. *Lex Localis - Journal of Local Self-Government*. https://doi.org/10.52152/wja5db40

Al-Dulaimi, A. O. M., & Mohammed, M. (2025). Legal responsibility for errors caused by artificial intelligence (AI) in the public sector. *International Journal of Law and Management*. https://doi.org/10.1108/ijlma-08-2024-0295

Al-Shawabkeh, F. A.-H., & Aljasmi, K. (2025). Artificial Intelligence and Transparency Management in the Public Sector: A Comparative Legal Study on Accountability and Oversight in European and American Laws. *Journal of Posthumanism*. https://doi.org/10.63332/joph.v5i5.1619

Ameen, K. S., Towfiq, T. A., Mousa, K., & Pooyanmehr, M. (2026). Judicial review of algorithmic administrative systems legality evidence and remedies in the smart city state. *Frontiers in Artificial Intelligence*, *9*. https://doi.org/10.3389/frai.2026.1802986

Bhat, J., Sundar, D., & Jayaram, Y. (2024). AI Governance in Public Sector Enterprise Systems: Ensuring Trust, Compliance, and Ethics. *International Journal of Emerging Trends in Computer Science and Information Technology*. https://doi.org/10.63282/3050-9246.ijetcsit-v5i1p114

Busuioc, M. (2020). Accountable Artificial Intelligence: Holding Algorithms to Account. *Public Administration Review*, *81*, 825–836. https://doi.org/10.1111/puar.13293

Cheong, B. C. (2024). Transparency and accountability in AI systems: safeguarding wellbeing in the age of algorithmic decision-making. *Frontiers in Human Dynamics*. https://doi.org/10.3389/fhumd.2024.1421273

Chintoh, G. A., Segun-Falade, O. D., Odionu, C. S., & Ekeh, A. H. (2025). Challenges and conceptualizing ai-powered privacy risk assessments: Legal models for U.S. data protection compliance. *International Journal of Frontline Research in Multidisciplinary Studies*. https://doi.org/10.56355/ijfrms.2025.5.1.0036

Ebers, M. (2024). Truly Risk-based Regulation of Artificial Intelligence How to Implement the EU's AI Act. *European Journal of Risk Regulation*, *16*, 684–703. https://doi.org/10.1017/err.2024.78

Fatmawati, E., A., A. N., Rafa, M. F. F., Sari, A. R., & Hasibuan, M. (2025). DIGITAL RIGHTS REGULATION IN THE AI ERA: PRIVACY PROTECTION AND CONSUMER RIGHTS IN INDONESIA. *Journal of Social and Economics Research*. https://doi.org/10.54783/jser.v7i2.1344

Fikri, A., & Amelia, T. (2024). Indonesia's Legal Policy on Protecting Personal Data from Artificial Intelligence Abuse. *SHS Web of Conferences*. https://doi.org/10.1051/shsconf/202420407002

Finch, W., & Butt, M. (2025). Gaps in AI-Compliant Complementary Governance Frameworks' Suitability (for Low-Capacity Actors), and Structural Asymmetries (in the Compliance Ecosystem) - A Systematic Review. *J. Cybersecur. Priv.*, *5*, 101. https://doi.org/10.3390/jcp5040101

Goktas, P., & Grzybowski, A. (2025). Shaping the Future of Healthcare: Ethical Clinical Challenges and Pathways to Trustworthy AI. *Journal of Clinical Medicine*, *14*. https://doi.org/10.3390/jcm14051605

Goldsmith, S., & Yang, J. (2025). AI and the Transformation of Accountability and Discretion in Urban Governance. *ArXiv*, *abs/2502.13101*. https://doi.org/10.1016/j.ugj.2026.02.005

Gonçalves, A., & Correia, A. (2026). XAI-Compliance-by-Design: A Modular Framework for GDPR- and AI Act-Aligned Decision Transparency in High-Risk AI Systems. *J. Cybersecur. Priv.*, *6*, 43. https://doi.org/10.3390/jcp6020043

Hadi, I. A. A., Nastiti, L., Adnyani, N. K. N. S., Kusuma, P. R. A., Fajar, N. M. A.

P., Widiyani, I. A. M., Holy, N. K. P. P., & Haura. (2025). Law and Policy on AI Utilization for Good Governance in Indonesia. *SHS Web of Conferences*. https://doi.org/10.1051/shsconf/202522103010

Huda, M., Awaludin, A., & Siregar, H. K. (2024). Legal Challenges in Regulating Artificial Intelligence: A Comparative Study of Privacy and Data Protection Laws. *International Journal of Social and Human*. https://doi.org/10.59613/g8dc9v94

Judijanto, L., Solapari, N., & Putra, I. (2024). An Analysis of the Gap Between Data Protection Regulations and Privacy Rights Implementation in Indonesia. *The Easta Journal Law and Human Rights*. https://doi.org/10.58812/eslhr.v3i01.351

Justo-Hanani, R. (2026). Risk-based approach to EU AI act: benefits and challenges of co-regulation. *Policy Design and Practice*, *9*, 171–180. https://doi.org/10.1080/25741292.2025.2610869

Kalodanis, K., Feretzakis, G., Anastasiou, A., Rizomiliotis, P., Anagnostopoulos, D., & Koumpouros, Y. (2025). A Privacy-Preserving and Attack-Aware AI Approach for High-Risk Healthcare Systems Under the EU AI Act. *Electronics*. https://doi.org/10.3390/electronics14071385

Kaur, M., Sharma, N., Mehta, P. K., Dhanoa, M. K., & Anegbe, B. (2026). Data Protection Laws and Privacy Rights in the Digital Age: Legal Challenges and Emerging Frameworks. *Indian Journal of Law*. https://doi.org/10.36676/ijl.v4.i1.162

Kulothungan, V. (2025). Using Blockchain Ledgers to Record AI Decisions in IoT. *IoT*. https://doi.org/10.3390/iot6030037

Kurhayadi, K. (2025). Evaluating the readiness of public institutions for AI-Driven decision making: A framework for adaptive governance. *Edelweiss Applied Science and Technology*. https://doi.org/10.55214/25768484.v9i4.6335

Li, C. (2025). AI-Driven Governance: Enhancing Transparency and Accountability in Public Administration. *Digital Society & Virtual Governance*. https://doi.org/10.6914/dsvg.010101

Lim, S., & Oh, J. (2025). Navigating Privacy: A Global Comparative Analysis of Data Protection Laws. *IET Information Security*, *2025*. https://doi.org/10.1049/ise2/5536763

Madan, R., & Ashok, M. (2022). AI adoption and diffusion in public administration: A systematic literature review and future research agenda. *Gov. Inf. Q.*, *40*, 101774. https://doi.org/10.1016/j.giq.2022.101774

Mbah, G. (2024). Data privacy in the era of AI: Navigating regulatory landscapes for global businesses. *International Journal of Science and Research Archive*. https://doi.org/10.30574/ijsra.2024.13.2.2396

Misic, J., Est, R., & Kool, L. (2025). Good governance of public sector AI: a combined value framework for good order and a good society. *AI and Ethics*, *5*, 4875–4889. https://doi.org/10.1007/s43681-025-00751-3

Muhidin, & Sudirman, L. (2025). Ethical Principles and Legal Responsibility in

Artificial Intelligence: Ensuring Fairness and Accountability in AI Governance. *Journal of Law, Society and Living Norms*. https://doi.org/10.66111/ctftkd63

Noordt, C., & Misuraca, G. (2022). Artificial intelligence for the public sector: results of landscaping the use of AI in government across the European Union. *Gov. Inf. Q.*, *39*, 101714. https://doi.org/10.1016/j.giq.2022.101714

Nwachukwu, P. S., Chima, O. K., & Okolo, C. H. (2025). The artificial intelligence governance framework for finance: A control-by-design approach to algorithmic decision-making in accounting. *Finance & Accounting Research Journal*. https://doi.org/10.51594/farj.v7i8.2016

Ostiian, Y. (2024). Artificial intelligence and personal data: privacy protection in the digital environment. *Uzhhorod National University Herald. Series: Law*. https://doi.org/10.24144/2307-3322.2024.85.3.7

Outeda, C. C. (2024). The EU's AI act: A framework for collaborative governance. *Internet Things*, *27*, 101291. https://doi.org/10.1016/j.iot.2024.101291

Rajendra, J. B., & Thuraisingam, A. (2025). The role of explainability and human intervention in AI decisions: jurisdictional and regulatory aspects. *Information & Communications Technology Law*, *35*, 152–183. https://doi.org/10.1080/13600834.2025.2537514

Satyo, B. K., M.Kn, Agung, B., & Prasetyo, Y. (2026). Artificial Intelligence and the Future of Human Rights: Legal Accountability for Algorithmic Decision-Making in Democratic Societies. *International Journal of Law and Social Sciences*. https://doi.org/10.65960/ijlss.2.1.2026.12

Shaban, O., & Omoush, A. (2025). AI-Driven Financial Transparency and Corporate Governance: Enhancing Accounting Practices with Evidence from Jordan. *Sustainability*. https://doi.org/10.3390/su17093818

Silfia, R. I. (2025). Role of Administrative Law in Regulating Advanced Algorithms: A Legal Framework for Emerging Technologies. *Best Journal of Administration and Management*. https://doi.org/10.56403/bejam.v3i4.278

Suhardi, M. (2026). REGULATORY MODEL OF ARTIFICIAL INTELLIGENCE IN DIGITAL GOVERNMENT: BETWEEN SOFT LAW, ETHICS, AND THE NEED FOR BINDING LAW IN INDONESIA. *Jurnal Kecerdasan Buatan Dan Teknologi Informasi*. https://doi.org/10.69916/jkbti.v5i1.460

Sun, H. (2025). Bridging the Accountability Gap in AI Decision-Making: An Integrated Analysis of Legal Precedents and Scholarly Perspectives. *Frontiers in Humanities and Social Sciences*. https://doi.org/10.54691/24vexn67

Weiner, E., Dankwa-Mullan, I., Nelson, W., & Hassanpour, S. (2024). Ethical challenges and evolving strategies in the integration of artificial intelligence into clinical practice. *PLOS Digital Health*, *4*. https://doi.org/10.1371/journal.pdig.0000810

Wirtz, B., Weyerer, J., & Sturm, B. (2020). The Dark Sides of Artificial Intelligence: An Integrated AI Governance Framework for Public Administration. *International Journal of Public Administration*, *43*, 818–829.

https://doi.org/10.1080/01900692.2020.1749851

Ye, X., Yan, Y., Li, J., & Jiang, B. (2024). Privacy and personal data risk governance for generative artificial intelligence: A Chinese perspective. *Telecommunications Policy*. https://doi.org/10.1016/j.telpol.2024.102851

Zisu, M.-A. (2025). Personal Data Protection in the Era of Artificial Intelligence: Legal Challenges and Solutions. *Anuarul Universitatii Petre Andrei Din Iasi - Fascicula: Drept, Stiinte Economice, Stiinte Politice*. https://doi.org/10.63331/upalaw/34/23