LEX SCIENTIA LAW REVIEW

The Urgency of Legal Profession Regulation Amidst The Integration of Artificial Intelligence

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Abstract

Artificial Intelligence (AI) is reshaping the legal profession by enhancing research speed, document review, and case analysis. Yet, its integration also raises pressing concerns over accountability, data privacy, and ethical standards. This study addresses the research problem: How should Indonesia regulate AI in law to balance innovation with justice and human rights? Three guiding

questions inform the analysis: (1) What is the extent of AI adoption by Indonesian legal practitioners? (2) What legal and ethical risks arise? (3) What regulatory responses are most suitable for Indonesia's plural legal context? Adopting a socio-legal methodology, data were collected through literature review, in-depth interviews, and an online survey of 102 practitioners. Findings show that 38% of respondents currently use AI tools, mainly for legal drafting and research, but skepticism persists. Advocates in Semarang reported errors in AI-generated contracts, illustrating unresolved accountability gaps under existing laws. Judges highlighted risks of bias and opacity if AI expands into case management without safeguards. The novelty of this research lies in its empirical evidence: it is the first Indonesian study to combine practitioner perspectives with regulatory analysis, moving beyond conceptual debates. By linking adoption patterns to deficiencies in the ITE Law, PDP Law, and PERMA No. 1/2019, the study reveals concrete vulnerabilities in legal practice. The study concludes that interim sectoral measures such as PERADI guidelines and judicial ethics updates are urgently needed while developing a comprehensive AI law. Responsible governance is essential to ensure AI strengthens, rather than undermines, fairness, transparency, and the rule of law.

KEYWORDS Artificial Intelligence, Data Security, Ethics, Legal Profession, Regulation.

Introduction

The rapid integration of Artificial Intelligence (AI) into legal practice represents a transformative shift that is reshaping the very foundations of law. For centuries, law has been perceived as a domain deeply rooted in human judgment, reasoning, and interpretation. Yet, technological disruption most notably AI has begun to challenge this conventional paradigm. AI-driven tools now assist with a wide range of legal tasks, including document review, legal research, predictive analytics, and contract analysis, tasks that were once the exclusive domain of lawyers and paralegals. These developments raise fundamental questions regarding the role of lawyers in the digital age, the boundaries of professional responsibility, and the adequacy of existing regulatory frameworks.

As Richard Susskind has argued, "the future of legal services

will not be about lawyers at all, but about the way legal problems can best be solved and disputes resolved" through a combination of human expertise and technological systems.[1] AI has, therefore, become not merely a tool of efficiency but a driver of structural transformation within the legal profession. Large law firms and corporate legal departments across Europe, North America, and parts of Asia have already embraced AI technologies to reduce costs, improve accuracy, and streamline workflows. In doing so, they have redefined the division of labor between human lawyers and machines.

However, this transformative potential is accompanied by equally significant risks. The "black box" nature of AI where algorithms produce outputs without clear explainability poses a challenge to the principle of transparency in justice. Algorithmic bias, as demonstrated in recidivism prediction systems in the United States, shows how reliance on historical data can perpetuate systemic inequalities.[2] Questions of accountability arise: who should be held responsible if an AI system provides flawed legal advice or a court adopts an AI-generated recommendation that proves unjust? These dilemmas underscore the pressing need for robust governance mechanisms.

Globally, jurisdictions have begun to grapple with these challenges, albeit in different ways. The European Union has adopted a proactive stance through its *Ethics Guidelines for Trustworthy AI* (2019), emphasizing human agency, accountability, and transparency.[3] Canada has operationalized an *Algorithmic Impact Assessment (AIA)* tool to evaluate the risks of AI in public sector decision-making.[4] Singapore has issued its *Model AI Governance Framework*, providing practical guidance for the

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[1] Richard Susskind, Tomorrow's Lawyers: An Introduction to Your Future (2nd edn, Oxford University Press 2017).

[2] Julia Angwin et al., 'Machine Bias' ProPublica (23 May 2016) https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing accessed 24 September 2025.

[3] European Commission, Ethics Guidelines for Trustworthy AI (2019) https://digital-strategy.ec.europa.eu/en/library/ethics-guidelines-trustworthy-ai accessed 24 September 2025.

[4] Government of Canada, Algorithmic Impact Assessment (AIA) Tool (2019) https://open.canada.ca/en/aia accessed 24 September 2025.

responsible use of AI in both public and private domains.[5] The United States, meanwhile, remains fragmented, with debates centered on whether existing consumer protection, anti-discrimination, and administrative laws are sufficient or whether entirely new AI-specific legislation is required.[6]

By contrast, Indonesia is at a crossroads. While its digital economy is among the fastest growing in Southeast Asia, its regulatory response to AI remains underdeveloped. The Electronic Information and Transactions Law (Undang-Undang Informasi dan Transaksi Elektronik – UU ITE) provides a rudimentary framework for electronic transactions and cybercrime, while the Personal Data Protection Law (Undang-Undang Perlindungan Data Pribadi – UU PDP, 2022) addresses data privacy.[7] Yet, neither statute was designed to regulate AI-specific applications, especially in the legal profession. This leaves critical issues such as liability, ethical boundaries, and algorithmic accountability unresolved.

The gap between rapid technological adoption and regulatory preparedness creates a profound research problem. On one hand, Indonesian courts and private firms are beginning to implement AI-based solutions, such as the e-court system introduced by the Supreme Court in 2018.[8] On the other, there is no clear legal framework governing how these tools should be designed, deployed, or monitored. Scholars have noted that Indonesia's regulatory approach remains fragmented and reactive, moving only after problems materialize rather than anticipating risks.[9] This reactive stance contrasts sharply with jurisdictions like the EU, Canada, and Singapore, which have adopted proactive models to safeguard fundamental rights while promoting innovation.

This research, therefore, is motivated by a central question: how

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[5] Infocomm Media Development Authority (IMDA) Singapore, Model AI Governance Framework (2nd edn) (2020) https://www.imda.gov.sg/how-we-can-help/ai/Model-AI-Governance-Framework accessed 24 September 2025.

[6] Cary Coglianese and David Lehr, 'Regulating by Robot: Administrative Decision Making in the Machine-Learning Era' (2017) 105 Georgetown Law Journal 1147.

[7] Undang-Undang Republik Indonesia Nomor 27 Tahun 2022 tentang Perlindungan Data Pribadi; Undang-Undang Nomor 11 Tahun 2008 tentang Informasi dan Transaksi Elektronik (as amended by Law No. 19/2016).

[8] Peraturan Mahkamah Agung Republik Indonesia Nomor 3 Tahun 2018 tentang Administrasi Perkara di Pengadilan Secara Elektronik.

[9] Syafriana Yulis, 'Legal Protection on Artificial Intelligence Technology in Indonesia' (2023) 7(2) Jurnal Ilmiah Hukum De'Jure 123.

can Indonesia regulate the integration of AI into its legal profession in a way that balances innovation with the protection of justice and fundamental rights? The urgency of this inquiry lies not only in the accelerating adoption of AI within Indonesia's legal system but also in the potential consequences of regulatory inaction erosion of public trust, systemic biases, and the undermining of constitutional guarantees such as equality before the law and the right to a fair trial.

The debate on how to regulate AI within the legal profession has attracted growing scholarly attention in recent years. Jurisdictions such as the European Union (EU), Canada, Singapore, and the United States have already taken concrete steps, though with differing philosophies and levels of urgency. These comparative experiences provide valuable lessons for Indonesia, particularly in demonstrating how proactive governance can both enable innovation and safeguard fundamental rights.

The European Union (EU) stands as a global leader in AI governance. Its *Ethics Guidelines for Trustworthy AI* (2019) established a normative framework grounded in principles of *human agency, transparency, fairness, accountability, and societal well-being*.[10] These guidelines served as a precursor to the AI Act, adopted in 2024, which categorizes AI systems based on levels of risk *unacceptable, high-risk, limited risk, and minimal risk* and mandates proportionate regulatory obligations.[11] For the legal sector, the AI Act is significant because it explicitly recognizes that AI systems used in judicial or legal advisory functions may fall under the "high-risk" category, requiring strict standards of transparency and human oversight. By embedding safeguards early in its regulatory approach, the EU illustrates the importance of anticipating risks before widespread deployment.

Canada has taken a more administrative and experimental route. In 2019, it launched the *Algorithmic Impact Assessment (AIA)*, a mandatory tool for federal agencies deploying AI systems in decision-making processes.[12] The AIA requires agencies to assess

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[10] European Commission, *Ibid.*
[11] European Parliament and Council, *Ibid.*
[12] Government of Canada, *Algorithmic Impact Assessment (AIA) Tool* (2019) https://open.canada.ca/en/aia accessed 24 September 2025.

the potential impacts of AI on rights, fairness, and accountability prior to implementation. By adopting this ex ante regulatory instrument, Canada seeks to strike a balance between innovation and protection. Scholars argue that this model demonstrates the value of regulatory "sandboxes," where legal technologies can be tested in controlled environments before full adoption.[13] For Indonesia, where regulatory institutions are often risk-averse, the sandbox approach could be a pragmatic way to build capacity while avoiding premature overregulation.

In Singapore, the government has taken a market-friendly yet ethically anchored stance. Its *Model AI Governance Framework* (2020, 2nd edition) offers non-binding but practical guidance to private companies, emphasizing *explainability, accountability, fairness, and human-centricity*.[14] Unlike the EU's top-down legalistic approach, Singapore relies on *soft law instruments* that are flexible, adaptive, and industry-oriented. This framework is supplemented by public-private partnerships, with the Infocomm Media Development Authority (IMDA) actively collaborating with technology firms and law practitioners to pilot AI solutions. Singapore's emphasis on *practical governance* rather than rigid legal codification provides an alternative path that Indonesia given its rapidly expanding digital economy could emulate.

The United States, by contrast, remains fragmented in its regulatory landscape. While federal initiatives have been limited, several states have enacted AI-specific regulations, such as Illinois' *Biometric Information Privacy Act* (BIPA) and New York City's AI bias audit requirement for employment decision tools.[15] At the federal level, discourse has focused on whether existing consumer protection, anti-discrimination, and administrative laws are sufficient to regulate AI applications. Coglianese and Lehr note that U.S. debates reflect a broader skepticism about creating new AI-specific laws, instead preferring to adapt existing frameworks to novel

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[13] Teresa Scassa, 'Administrative Law and the Governance of Artificial Intelligence' (2021) 34(2) Canadian Journal of Administrative Law & Practice 205.

[14] Infocomm Media Development Authority (IMDA) Singapore, *Model AI Governance Framework (2nd edn)* (2020) https://www.imda.gov.sg/how-we-can-help/ai/Model-AI-Governance-Framework accessed 24 September 2025.

[15] Illinois Biometric Information Privacy Act (2008); New York City Local Law 144 (2021) on automated employment decision tools.

contexts.[16] This reactive stance, however, has raised concerns about the adequacy of safeguards against algorithmic bias and lack of transparency.

Taken together, these comparative experiences reveal two key insights. First, jurisdictions that adopt proactive and anticipatory regulation such as the EU and Canada tend to create clearer governance frameworks that balance innovation with rights protection. Second, jurisdictions that rely on soft law instruments and industry collaboration such as Singapore show that flexible approaches can be effective in fostering ethical adoption, particularly in rapidly evolving markets. Conversely, fragmented or reactive approaches, as seen in the United States, risk leaving critical gaps in accountability and public trust.

For Indonesia, the comparative literature underscores the urgency of moving beyond a reactive posture. Currently, the country's legal framework remains general and fragmented, lacking provisions that specifically regulate AI in the legal profession. Unlike the EU, Indonesia has no binding risk-based classification for AI systems. Unlike Canada, it has no algorithmic impact assessment tools. Unlike Singapore, it has no dedicated model governance framework for legal technology. Instead, it continues to rely on broad statutes such as the ITE Law and the PDP Law, which, while valuable, are inadequate to address the distinctive challenges posed by AI. This regulatory gap not only places Indonesia behind global trends but also risks undermining the integrity of its legal system as AI adoption accelerates.

While global discourse on AI governance has advanced rapidly, Indonesia remains at a relatively early stage in articulating clear and comprehensive regulatory frameworks. Unlike the European Union with its AI Act, Canada with its algorithmic assessment tools, or Singapore with its Model Governance Framework, Indonesia has yet to enact specific legislation that directly governs AI applications. Instead, the current regulatory architecture is fragmented, relying on broad and often outdated statutes that were not originally designed with AI in mind. This gap is particularly evident in the legal

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[16] Cary Coglianese and David Lehr, 'Regulating by Robot: Administrative Decision Making in the Machine-Learning Era' (2017) 105 *Georgetown Law Journal* 1147

profession, where AI tools are increasingly being used in areas such as legal research, contract drafting, predictive analytics, and judicial administration.

The primary law that touches upon digital technology in Indonesia is ITE Law, as amended by Law No. 19 of 2016.[17] The ITE Law regulates the use of electronic information and transactions, focusing primarily on issues such as cybercrime, electronic contracts, and the admissibility of electronic evidence. While it establishes a legal foundation for digital activities, it does not address the unique challenges posed by AI, such as algorithmic bias, accountability in automated decision-making, or the ethical use of AI in professional practice.

A second cornerstone is the PDP Law, which represents a significant step forward in aligning Indonesia with global data protection regimes.[18] The PDP Law governs the collection, storage, processing, and transfer of personal data, introducing principles such as consent, purpose limitation, and data subject rights. While the PDP Law is relevant to AI applications that rely on large-scale data processing, it remains general in scope and does not specifically regulate AI-driven profiling, automated legal decision-making, or the use of predictive tools in litigation. In practice, this leaves AI adoption in the legal sector in a gray area, with limited guidance on accountability, transparency, or ethical constraints.

The judiciary itself has begun experimenting with digital technologies through the Supreme Court's e-Court system, launched in 2018 and gradually expanded.[19] This system allows for electronic filing, electronic summons, and electronic payment of court fees. More recently, the Supreme Court introduced e-Litigation, enabling online submission of documents and virtual hearings. These innovations demonstrate an institutional willingness to embrace digital transformation. However, the integration of AI into judicial processes such as predictive analytics for case outcomes, automated drafting of judgments, or AI-assisted legal reasoning

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[17] Undang-Undang Nomor 11 Tahun 2008 tentang Informasi dan Transaksi Elektronik, sebagaimana diubah dengan UU Nomor 19 Tahun 2016.
[18] Undang-Undang Nomor 27 Tahun 2022 tentang Perlindungan Data Pribadi.
[19] Mahkamah Agung Republik Indonesia, *e-Court* https://ecourt.mahkamahagung.go.id accessed 24 September 2025.

remains largely unexplored and unregulated. In the absence of clear safeguards, the risk arises that AI tools could be adopted in ways that compromise transparency, fairness, or due process.

Scholarly commentary within Indonesia has begun to highlight these gaps. For example, Sulistyono argues that the rapid digitalization of the judiciary raises fundamental questions about the role of human judgment, particularly when AI is introduced in dispute resolution processes.[20] Similarly, Wijayanti emphasizes that while the PDP Law provides a general framework for data protection, it lacks the specific safeguards necessary for AI-driven applications in the legal domain, leaving open questions about liability and ethical responsibility.[21] Other scholars, such as Marzuki, caution that Indonesia's regulatory system tends to adopt a reactive stance, responding to crises rather than anticipating emerging risks, a pattern that is ill-suited for rapidly evolving technologies like AI.[22]

The absence of AI-specific regulation in Indonesia creates several practical challenges. First, there is no clear allocation of liability when AI tools malfunction or produce biased outcomes in legal practice. For instance, if an AI-powered contract review system provides flawed analysis leading to financial loss, it is unclear whether responsibility lies with the software provider, the lawyer using the tool, or the client relying on it. Second, there is a lack of transparency requirements; AI tools often operate as "black boxes," making it difficult for legal practitioners or judges to scrutinize their reasoning processes. Without mandatory explainability standards, the risk of unjust outcomes increases. Third, there is limited institutional capacity; many law firms and courts lack the expertise or infrastructure to critically evaluate AI systems, making them dependent on foreign technology providers.

Furthermore, Indonesia faces unique socio-legal challenges that amplify the urgency of AI regulation. The country's legal system is characterized by pluralism, with overlapping statutory, customary (adat), and religious legal frameworks. This complexity makes the

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[20] Henry Sulistyono, 'Digitalisasi Peradilan dan Tantangan Keadilan Prosedural' (2022) *Jurnal Hukum dan Peradilan* 45.

[21] Dwi Wijayanti, 'Implikasi Hukum Undang-Undang Perlindungan Data Pribadi terhadap Penggunaan Artificial Intelligence' (2023) *Jurnal Hukum IUS QUIA IUSTUM* 67.

[22] Marzuki, 'Regulasi Teknologi di Indonesia: Antara Responsivitas dan Kesiapan' (2021) *Jurnal Legislasi Indonesia* 102.

adoption of AI even more sensitive, as automated systems may struggle to navigate diverse legal norms. Moreover, access to justice remains uneven, particularly in rural areas where technological literacy and infrastructure are limited. While AI has the potential to expand access by lowering costs and improving efficiency, unregulated adoption risks deepening existing inequalities.

In light of these challenges, Indonesia stands at a crossroads. It can continue to rely on general statutes like the ITE and PDP Laws, thereby maintaining a fragmented regulatory framework, or it can move toward a more anticipatory and comprehensive approach that directly addresses the unique implications of AI in the legal sector. The comparative lessons from the EU, Canada, Singapore, and the United States show that proactive governance not only protects rights but also enhances public trust in legal institutions. For Indonesia, the stakes are particularly high: the failure to regulate AI in the legal profession risks undermining judicial integrity, professional accountability, and citizens' fundamental rights in the digital age.

Method

This research adopts a qualitative socio-legal approach to analyze the impact of AI on the legal profession in Indonesia and to propose appropriate regulatory frameworks. A qualitative method was considered most appropriate because the challenges and opportunities posed by AI are not merely technical, but deeply embedded in socio-legal, ethical, and institutional contexts. By employing this approach, the study captures nuanced perspectives that cannot be adequately reflected through quantitative analysis alone.[23]

The fieldwork was conducted in Central Java, focusing on major urban centers such as Semarang, Solo, and Yogyakarta. These cities were selected because they represent a spectrum of legal practices: Semarang as a provincial capital with intensive judicial and commercial activity, Solo as a medium-sized city undergoing digital transformation, and Yogyakarta as an academic and judicial hub

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[23] John W. Creswell & Cheryl N. Poth, *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*, 4th ed. (Thousand Oaks: Sage, 2018), p. 45.

where technological initiatives have been piloted. Together, these locations provide a balanced representation of both urban and semi-urban legal practices, reflecting the varied pace of technological adaptation in Indonesia.[24]

Primary data were collected through semi-structured interviews with twenty key stakeholders, including advocates, judges, notaries, curators, and policymakers affiliated with regional offices of the Ministry of Law and Human Rights. The participants were chosen through purposive sampling, with specific criteria guiding the selection process. To be included, interviewees needed to have at least five years of professional experience and demonstrate direct engagement with AI-related applications or digital legal systems, such as e-court platforms, electronic case management, or policy formulation concerning technology and law. Diversity of institutional background was also prioritized to ensure that the perspectives of practitioners, policymakers, and academics were equally represented.[25] Although the sample size was relatively modest, it was sufficient to meet the principle of analytical generalization, which values depth and richness of information over numerical representativeness.[26]

To complement the interviews, an online survey was distributed to a broader group of legal professionals across Central Java. The survey captured both quantitative data, such as the frequency of AI usage and types of tools employed, as well as qualitative insights, including participants' perceptions of risks, ethical dilemmas, and regulatory needs. This combination of data sources enriched the analysis by allowing for cross-comparison between individual narratives and broader professional trends.

Secondary data were drawn from an extensive literature and document review, covering relevant national legislation, judicial regulations, and international policy frameworks. Among the national sources, the study analyzed the ITE Law, the PDP Law, and Peraturan Mahkamah Agung (PERMA) No. 1/2019 on electronic

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[24] Soetandyo Wignjosoebroto, *Hukum: Paradigma, Metode, dan Dinamika Masalahnya* (Jakarta: Elsam, 2002), pp. 123–125.
[25] Alan Bryman, *Social Research Methods*, 5th ed. (Oxford: Oxford University Press, 2016), pp. 408–410.
[26] Matthew B. Miles, A. Michael Huberman & Johnny Saldaña, *Qualitative Data Analysis: A Methods Sourcebook*, 3rd ed. (Thousand Oaks: Sage, 2014), pp. 31–32.

case management. At the international level, key documents such as the EU's Ethics Guidelines for Trustworthy AI and the OECD AI Principles.

Data analysis was conducted using thematic analysis, where transcripts and survey responses were systematically coded and grouped into recurring themes, including AI adoption patterns, perceived benefits and risks, ethical challenges, regulatory gaps, and possible solutions. To strengthen the rigor of this process, the study employed triangulation in three forms. First, methodological triangulation was achieved by combining interviews, surveys, and literature review, thereby reducing the risk of bias inherent in relying on a single method. Second, data source triangulation was ensured by involving participants from different professional backgrounds, which allowed the study to capture both convergent and divergent viewpoints. Third, theoretical triangulation was applied by interpreting findings through socio-legal theory, regulatory governance scholarship, and comparative law perspectives, enhancing the depth of analysis.[27]

This design is not without limitations. The geographical focus on Central Java may limit the generalizability of findings to other regions of Indonesia, particularly areas with less advanced digital infrastructures. In addition, the reliance on voluntary participation introduces the possibility of selection bias, as those already interested in AI and law may have been more inclined to participate. Nonetheless, efforts to ensure professional and institutional diversity mitigate these concerns, and the findings remain transferable to broader discussions of AI governance in Indonesia.

By combining purposive participant selection with multiple forms of triangulation, this socio-legal qualitative methodology ensures both credibility and validity. It provides a holistic understanding of AI's impact on the Indonesian legal profession and supports the development of context-sensitive regulatory recommendations that balance innovation with the protection of fundamental legal principles.

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[27] Lexy J. Moleong, *Metodologi Penelitian Kualitatif*, 40th ed. (Bandung: PT Remaja Rosdakarya, 2021), pp. 330–335.

Result & Discussion
A. The Extent of AI Adoption in the Indonesian Legal Sector

The adoption of AI within Indonesia's legal sector is still in its formative stage, marked more by cautious experimentation than comprehensive integration. Interviews and survey data collected in Central Java specifically Semarang, Surakarta (Solo), and Yogyakarta suggest that although AI is being used, the pattern of adoption remains uneven and is heavily conditioned by structural barriers. These include limitations in digital literacy among both legal professionals and clients, restricted financial resources to access premium AI tools, and institutional capacity gaps that hinder systematic deployment. This section therefore not only describes the extent of AI use but also analyzes the structural obstacles, categorization of AI tools, and the client-side implications for access to justice.

One of the most consistent findings concerns the issue of digital literacy. Younger practitioners, especially those under 40 years of age, were significantly more enthusiastic in experimenting with AI platforms such as *Hukumonline Premium*, *LexisNexis Indonesia*, and document automation software. They described AI as a practical ally for reducing research time, standardizing contracts, and improving communication with clients. Conversely, senior practitioners frequently expressed hesitation, often citing discomfort in relying on opaque technologies or lack of training in using digital tools. A senior advocate in Semarang explicitly mentioned that "it is not AI that is complicated, it is my lack of ability to keep up with digital change that creates the barrier." This generational gap in digital competence reveals that AI adoption is not solely about technological availability, but also about the skills and confidence required to integrate it into everyday legal practice.[28]

Financial barriers constitute another significant limitation. Subscription-based platforms such as *LexisNexis* and *Hukumonline Premium* are priced beyond the reach of many small firms and solo practitioners. Even when institutions recognize the efficiency gains

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[28] Nurcahyadi, "Tantangan Transformasi Digital Profesi Hukum di Indonesia," *Jurnal Hukum & Pembangunan* 51, no. 2 (2021): 356–359.

of AI adoption, budget constraints often force them to prioritize traditional expenditures over investment in digital systems. This dynamic was evident in Solo, where several respondents from small firms admitted that they relied only on free-access online resources, despite recognizing their limited reliability and comprehensiveness.[29] By contrast, larger firms in Semarang with stronger financial backing were able to integrate premium AI tools more seamlessly, widening the digital divide between urban, well-capitalized firms and smaller or semi-urban practices.

Institutional capacity also plays a critical role in shaping adoption patterns. In the judiciary, the introduction of the *e-Court* system under PERMA No. 1 of 2019 has standardized online filing, case management, and scheduling. Yet, beyond this administrative layer, there is little institutional capacity to experiment with AI in substantive judicial decision-making. Judges in Semarang acknowledged the usefulness of digital case filing but were unanimous in rejecting any suggestion that AI could or should determine case outcomes, citing fundamental concerns about transparency, fairness, and judicial discretion.[30] Similar institutional hesitancy exists within government agencies. An official from the Ministry of Law and Human Rights regional office in Semarang noted that discussions are ongoing about using AI for legal drafting and legislative analysis, but these remain preliminary due to limited technical expertise and absence of regulatory guidance.

To provide a clearer picture, this study categorizes the AI tools observed in use into five functional groups:

1. *Legal research platforms* (e.g., *Hukumonline Premium*, *LexisNexis Indonesia*),
2. *Document automation systems* (contract drafting templates, automated clause generators),
3. *Predictive analytics tools* (still rare in Indonesia, with only 15% of survey respondents reporting use),
4. *Case management and e-Court systems* (widely used in

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[29] M. H. Simanjuntak, "Legal Tech and Its Challenges for Small Law Firms in Indonesia," *Hasanuddin Law Review* 8, no. 1 (2022): 45–49.

[30] Supreme Court of the Republic of Indonesia, *Peraturan Mahkamah Agung No. 1 Tahun 2019 tentang Administrasi Perkara dan Persidangan di Pengadilan Secara Elektronik.*

compliance with judicial digitalization), and

5. *Client-facing applications* (online legal consultation apps, AI chat-based advisory services).

Survey data from 50 respondents across Central Java illustrate that legal research tools dominate adoption, with approximately 68% of participants reporting regular use. Case management systems, particularly the Supreme Court's e-Court, were the second most prevalent at 52%. Meanwhile, document automation systems were used by only 28% of respondents, and predictive analytics by 15%. Client-facing applications were the least used, at 11%, but their adoption was concentrated among younger lawyers who were more willing to explore new ways of reaching clients. These figures demonstrate that while AI is slowly becoming part of legal practice in Indonesia, its use is clustered around administrative and research support rather than advanced or client-oriented functions.[31]

A crucial but often overlooked dimension of AI adoption in the legal profession is its impact on clients and access to justice. Interviews and surveys revealed a dual effect. On one hand, AI tools have the potential to lower transaction costs and expand accessibility, particularly through online consultation platforms that allow clients from rural or remote areas to seek legal advice without incurring high transportation costs. In several instances, clients were able to access preliminary legal consultations at reduced fees because practitioners relied on AI to streamline research and drafting.[32] On the other hand, reliance on digital platforms risks reinforcing inequality. Clients with low digital literacy, limited internet connectivity, or mistrust of online systems may find themselves further marginalized. Judges in Yogyakarta emphasized that e-Court filing, while efficient, has created practical obstacles for older clients or those from rural areas who struggle with electronic submission requirements. In effect, digitalization risks becoming a double-edged sword: while AI and digital systems can democratize access to legal services, they may simultaneously create new forms of exclusion

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[31] Richard Susskind, *Tomorrow's Lawyers: An Introduction to Your Future*, 3rd ed. (Oxford: Oxford University Press, 2022), 85–89.

[32] OECD, *Access to Justice and Technology* (Paris: OECD Publishing, 2021), https://doi.org/10.1787/6bcd5c74-en

unless deliberate efforts are made to bridge the digital divide.[33]

Beyond these barriers, there are also ethical and trust-related concerns. Legal professionals repeatedly underscored skepticism regarding the reliability of AI-generated results. A notary in Yogyakarta highlighted that "AI may be reliable for standard templates, but when contracts involve complex commercial arrangements, the nuances of human judgment are irreplaceable." This reflects broader anxieties about the black-box nature of AI tools, which often lack explainability and transparency, thereby raising questions about accountability. Without clear regulatory safeguards, professionals fear that errors or biases embedded in AI outputs may expose them to professional liability or erode client trust.

In sum, AI adoption in the Indonesian legal sector is slow, uneven, and structurally constrained. While research platforms and e-Court systems are gaining traction, advanced applications like predictive analytics or client-facing AI remain marginal. Adoption patterns are significantly shaped by digital literacy gaps, financial constraints, and institutional readiness. Importantly, the client-side perspective reveals that AI may either enhance or undermine access to justice, depending on whether policymakers address structural barriers to inclusivity. For Indonesia to responsibly advance AI in the legal sector, regulatory frameworks must therefore not only guide technological innovation but also ensure that innovation strengthens rather than weakens the principles of fairness, equality, and justice.

B. Risks and Ethical Concerns in AI Use in the Legal Sector

The integration of AI in the legal sector has generated both optimism and apprehension, particularly in jurisdictions such as Indonesia, where legal pluralism and institutional complexity shape the delivery of justice. While AI promises efficiency, consistency, and accessibility, its adoption simultaneously introduces a spectrum of risks and ethical dilemmas that directly intersect with fundamental rights, due process, and societal trust in the legal system. The stakes are especially high in the Indonesian context, given its

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[33] N. Latief and A. Purbasari, "Digital Divide in Indonesia's E-Court Implementation," *Indonesian Journal of Law and Society* 3, no. 2 (2022): 201–210.

multilayered legal structure encompassing civil law, Islamic law, and customary (*adat*) law, combined with relatively uneven levels of digital literacy and institutional preparedness.

Ownership, etymologically, means control or possession of something legally recognized by law.[34] One of the foremost risks identified by legal practitioners in Central Java and Yogyakarta is algorithmic bias. Judges and advocates reported that AI tools trained on past judicial decisions are susceptible to replicating historical patterns of discrimination. For example, in Indonesian religious courts (*peradilan agama*), where many family law disputes are adjudicated, outcomes may historically reflect gendered assumptions about marital roles, child custody, or inheritance. If predictive AI systems are trained on these judgments, there is a tangible risk that the resulting recommendations will perpetuate systemic inequalities, particularly against women in divorce or custody disputes. This problem mirrors global findings, such as the well-documented bias in the COMPAS risk assessment algorithm in the United States, which disproportionately flagged African American defendants as high-risk compared to white defendants under similar circumstances.[35] In Indonesia, the bias could be even more complex due to the coexistence of *adat* law, which varies across regions, and Islamic jurisprudence, which incorporates cultural and religious interpretations. An AI system designed without sufficient sensitivity to this plurality could impose a "one-size-fits-all" logic, undermining the legitimacy of judicial processes at the local level.[36]

Closely tied to bias is the problem of opacity in AI decision-making. Known as the "black box" problem, this refers to the inability of users including judges, lawyers, and clients to understand the reasoning behind AI-generated outcomes. Interviews with notaries and advocates in Semarang revealed a recurring concern: while AI-assisted legal research platforms such as Hukumonline and

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[34] Sakti, B.B.P., Ramli, A. (2024). Mortgaging the Skies? Legal Status of Apartment Ownership in South Sumatra's Financial Practices. *Indonesian Journal of Agrarian Law*, 1(1), 33-52.

[35] Julia Angwin et al, 'Machine Bias: There's Software Used Across the Country to Predict Future Criminals. And It's Biased Against Blacks' *ProPublica* (23 May 2016).

[36] Sulistyowati Irianto, *Pluralisme Hukum: Arah Perkembangan Hukum di Indonesia* (Yayasan Obor 2012).

LexisNexis provide valuable case summaries and predictive analytics, the algorithms underlying these outputs remain non-transparent. Without explainability, litigants and lawyers alike face difficulty in challenging or scrutinizing AI recommendations, thereby compromising procedural fairness.[37] Scholars such as Wachter, Mittelstadt, and Floridi have underscored the necessity of a "right to explanation" in AI-related decisions to preserve due process.[38] However, Indonesian regulations including the Electronic Information and Transactions (ITE) Law provide only generic principles for transparency in electronic systems, without mandating explainability in algorithmic decision-making.

Data privacy and confidentiality represent another set of pressing ethical challenges. Indonesian legal professionals regularly handle sensitive information, including corporate contracts, family disputes, and criminal defense strategies. Surveys conducted as part of this research indicated that approximately 72% of respondents expressed concern about the potential misuse or leakage of sensitive client data when processed by AI platforms hosted by third parties, often outside Indonesia's jurisdiction. This anxiety is amplified by the fragmented enforcement of the Personal Data Protection Law (Law No. 27 of 2022), which, while introducing general obligations for data controllers and processors, does not explicitly address AI-specific risks such as algorithmic data mining or cross-border data transfer.[39] In practice, Indonesian courts have already encountered data misuse cases, particularly in financial technology disputes, which suggest that AI-driven data processing in the legal sector could generate similar controversies if not preemptively regulated.[40]

The liability gap is another critical risk area. Interviews with Central Java advocates revealed hypothetical but plausible scenarios: if an AI tool misclassifies a precedent or generates faulty predictive analysis, and a lawyer relies on it to advise a client, who

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[37] Interview with Advocate in Semarang (August 2025).

[38] Sandra Wachter, Brent Mittelstadt and Luciano Floridi, 'Why a Right to Explanation of Automated Decision-Making Does Not Exist in the General Data Protection Regulation' (2017) 7 *International Data Privacy Law* 76.

[39] Undang-Undang No. 27 Tahun 2022 tentang Perlindungan Data Pribadi (PDP Law).

[40] Andika Putra, 'Tantangan Perlindungan Data Pribadi dalam Era Digital' (2023) 20 *Jurnal Hukum Ius Quia Iustum* 215.

should bear responsibility for the adverse outcome? Current tort and professional liability frameworks in Indonesia place accountability on the human lawyer, yet this does not fully capture the complexity of situations where fault may lie in the design, training data, or operation of AI systems. This dilemma echoes global concerns. Vladeck has argued that traditional liability doctrines are inadequate in addressing harm caused by autonomous systems, as they fail to account for the diffuse chain of accountability involving developers, vendors, and users.[41] Without regulatory clarification, Indonesian courts risk facing a legal vacuum when disputes arising from AI misuse materialize, producing uncertainty and eroding trust in the legal profession.

A related concern involves the erosion of human judgment and professional skills. Several younger practitioners interviewed admitted that they increasingly relied on AI-powered research platforms rather than engaging in critical analysis of statutes and precedents themselves. Senior judges expressed concern that overreliance on AI could lead to a gradual "deskilling" of legal professionals, whereby core competencies in argumentation, statutory interpretation, and ethical reasoning may be outsourced to machines.[42] This trend is not merely a matter of professional pride but has substantive implications for justice. Legal reasoning is inherently contextual and normative, requiring sensitivity to cultural and societal norms. Hildebrandt cautions that reducing legal processes to automated decision-making risks transforming justice into mere administrative efficiency, stripping it of its humanistic and interpretative dimensions.[43] In the Indonesian context, where adjudication often requires balancing statutory law with *adat* or religious values, the risk of losing the "human element" is especially profound.

These risks are compounded by structural barriers to AI adoption in Indonesia. Interviews revealed that many law firms outside major urban centers lack sufficient digital infrastructure to

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[41] David C. Vladeck, 'Machines Without Principals: Liability Rules and Artificial Intelligence' (2014) 89 *Washington Law Review* 117.

[42] Interview with Judge at Pengadilan Negeri Semarang (September 2024).

[43] Mireille Hildebrandt, *Law for Computer Scientists and Other Folk* (Oxford University Press 2020).

deploy AI tools effectively. Limited funding for technological investment, particularly among small law practices and community legal aid organizations (*Lembaga Bantuan Hukum* or LBH), constrains equitable access to AI-driven efficiencies. Moreover, digital literacy among both practitioners and clients remains uneven. While elite Jakarta-based law firms may experiment with advanced AI tools, smaller firms in regions such as Central Java often struggle even with basic digital case management systems. This disparity creates the risk of a "two-tier legal system," where wealthier clients benefit from AI-assisted legal strategies, while marginalized communities face exclusion.[44] Such inequality contradicts the constitutional mandate of equal access to justice and underscores the urgency of addressing structural barriers alongside ethical risks.

From the perspective of clients and access to justice, AI adoption introduces both opportunities and risks. On one hand, AI-powered platforms could democratize legal knowledge by providing affordable access to statutes, case law, and legal advice. On the other hand, interviews with clients in Semarang revealed concerns that excessive reliance on automated advice might reduce the quality of representation, especially in complex cases involving human rights or family law. Several respondents emphasized that justice is not merely about efficiency but about being heard and understood dimensions that AI, lacking empathy and cultural awareness, cannot fulfill.[45] This tension highlights the risk that AI could exacerbate, rather than mitigate, existing barriers to access to justice, especially for vulnerable populations.

In summary, the risks and ethical concerns associated with AI in Indonesia's legal sector are multi-layered and interdependent. Algorithmic bias threatens to replicate historical inequalities across civil, religious, and customary law systems. Opacity in AI processes undermines procedural fairness by impeding explainability. Data privacy concerns remain acute, given gaps in the enforcement of the PDP Law. Liability questions challenge existing frameworks for professional accountability. Overreliance on AI risks eroding the skills and judgment that underpin the legal profession's integrity.

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[44] Interview with LBH Semarang staff (September 2024).
[45] Interview with Client in Semarang (September 2024).

Structural barriers such as digital literacy gaps, funding limitations, and institutional weaknesses exacerbate these risks, while the impact on clients raises fundamental questions about access to justice. Together, these challenges demonstrate that without a proactive regulatory and institutional response, the benefits of AI in law risk being overshadowed by profound ethical and legal dilemmas.

C. Regulatory Analysis: Gaps in Indonesian Laws Regarding AI

The rapid advancement of AI has exposed profound limitations in Indonesia's existing regulatory architecture. While the state has made important strides in digital governance most notably through the ITE Law, the PDP Law, and the Supreme Court's Regulation on electronic court systems these frameworks were never designed with AI in mind. They provide a foundation for digital transactions and data protection but fail to anticipate the autonomy, opacity, and ethical dilemmas introduced by AI in legal practice. The result is a fragmented system where lawyers, judges, and clients are left to navigate AI adoption with little regulatory guidance.

The ITE Law, enacted in 2008 and amended in 2016, was Indonesia's first attempt to regulate the digital environment by recognizing the validity of electronic documents, regulating cybercrime, and providing a legal basis for electronic transactions.[46] While this law remains a milestone, its provisions are anchored in an earlier era of internet governance and do not address the risks of machine learning or algorithmic decision-making. No provisions exist for algorithmic transparency, human oversight, or liability allocation when AI tools influence legal advice, court filings, or even risk assessments. This gap leaves uncertainty about whether outputs generated by AI for example, predictive analytics about case outcomes could be treated as admissible evidence or carry any probative value in judicial proceedings.

The PDP Law, passed in 2022, represents a more modern framework by codifying rights to access, correct, and delete

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[46] Law No. 11 of 2008 on Electronic Information and Transactions, as amended by Law No. 19 of 2016.

personal data, alongside obligations for controllers and processors.[47] Yet its provisions remain too general to address the challenges of AI. Article 58 acknowledges automated decision-making but does not establish safeguards such as mandatory human intervention, algorithmic explainability, or the right to contest AI-generated outcomes.[48] By comparison, the European Union's GDPR Article 22 expressly prohibits decisions made solely through automated processing without meaningful human involvement, and guarantees a "right to explanation."[49] Indonesia's omission of similar protections is particularly troubling in the legal sector, where clients' rights, liberty, and access to justice hinge on transparent reasoning processes.

The Supreme Court has attempted digital modernization through Regulation (PERMA) No. 1 of 2019 on the Administration of Cases and Hearings in Court Electronically, which institutionalized e-Court procedures.[50] While transformative in terms of efficiency allowing online filing, summons, and fee payment—the PERMA focuses only on digitization, not AI. It provides no guidance on the integration of AI modules into judicial processes, such as case triaging, predictive analytics, or automated drafting of judgments. Interviews with judges in Semarang highlighted this concern: while e-Court has improved efficiency, they worry that unregulated AI integration could undermine judicial independence if opaque systems begin shaping case management priorities without transparency.

Beyond these statutory gaps, sectoral regulation is conspicuously absent. The Indonesian Advocates Association (PERADI), which enforces the Code of Ethics for advocates, does not yet regulate the use of AI in legal practice.[51] Lawyers are not required to disclose when advice or documents are AI-assisted, nor are there standards on competence or due diligence when deploying AI tools. This creates an ethical vacuum where lawyers may

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[47] Law No. 27 of 2022 on Personal Data Protection.
[48] Ibid., Article 58.
[49] Regulation (EU) 2016/679 (General Data Protection Regulation), Article 22.
[50] Supreme Court Regulation (PERMA) No. 1 of 2019 on the Administration of Cases and Hearings in Court Electronically.
[51] Indonesian Advocates' Code of Ethics, issued by the Indonesian Advocates Association (PERADI).

inadvertently compromise confidentiality or rely on biased outputs, potentially violating their professional duties without formal accountability. Similarly, judicial ethics under the Code of Ethics and Conduct for Judges (KEPPH) emphasizes impartiality, integrity, and independence but does not contemplate AI's role in decision-making or case management.[52] Without adaptation, these codes risk becoming obsolete in addressing emerging professional risks.

Liability is another unresolved issue. Under the KUHPerdata, liability for wrongful acts (Pasal 1365) presupposes human fault or negligence.[53] But AI systems may generate harmful outcomes such as drafting errors in contracts or biased risk scores independently of direct human control. In such cases, should liability rest with the lawyer who used the AI, the software developer, or the institution that deployed the system? Current doctrine does not provide clear answers, leaving an accountability gap. This mirrors international debates on "AI accountability gaps" identified by scholars like Ryan Calo, underscoring the urgency of regulatory innovation.

Institutional enforcement capacity adds another layer of complexity. Indonesia's supervisory bodies, such as the Ministry of Communication and Information Technology (Kominfo) for data governance and the Supreme Court for judicial conduct, are already overstretched in enforcing existing digital rules. Interviewees from Kemenkumham admitted that AI-specific monitoring frameworks are still in discussion stages, with little capacity to audit complex algorithms or conduct impact assessments. By contrast, international models such as Canada's AIA tool[54] and Singapore's Model AI Governance Framework[55] provide practical methodologies for evaluating and mitigating risks before AI deployment. Without similar mechanisms, Indonesia risks reactive rather than proactive enforcement, undermining regulatory credibility.

Importantly, the absence of AI-specific law does not mean the government is without options. Interim measures could be introduced before comprehensive legislation is enacted. For

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[52] Supreme Court Regulation No. 7 of 2016 on the Code of Ethics and Conduct for Judges (KEPPH).

[53] Indonesian Civil Code (Kitab Undang-Undang Hukum Perdata), Article 1365.

[54] Government of Canada, "Directive on Automated Decision-Making" (2019).

[55] Infocomm Media Development Authority of Singapore, "Model AI Governance Framework" (2nd ed., 2020).

instance, PERADI could issue a binding circular requiring advocates to disclose the use of AI in drafting or research, thereby enhancing transparency and client trust. The Supreme Court could update PERMA to mandate human review of any AI-assisted outputs in case management. Kominfo could pilot algorithmic audit protocols similar to Canada's AIA specifically for high-risk AI applications in law. Universities and professional training institutions could also introduce mandatory AI ethics modules for law students and young advocates, strengthening competence and awareness at the entry level of the profession.

International comparison underscores the urgency of adopting such interim safeguards. The EU's proposed Artificial Intelligence Act classifies judicial and legal AI systems as "high-risk" and subjects them to rigorous obligations of transparency, risk assessment, and human oversight.[56] Canada mandates algorithmic impact assessments before deployment in public services, and Singapore encourages voluntary compliance with its AI governance framework to build trust.[57] These measures demonstrate that even in the absence of comprehensive legislation, sectoral regulators and professional bodies can establish interim standards.

In the Indonesian context, a layered approach may be most feasible: sectoral regulators like PERADI and the Supreme Court can adopt interim professional standards, while Kominfo and Kemenkumham gradually build institutional capacity for algorithmic audits. Ultimately, a comprehensive AI Law will be required to unify these measures under a coherent framework. But without immediate action, Indonesia risks legal uncertainty, erosion of trust, and the proliferation of unregulated AI tools in the legal sector.

D. Towards a Framework for Responsible AI Use in Law

The development of a regulatory framework for AI in Indonesia's legal sector must move beyond aspirational principles and broad commitments. While the opportunities of AI integration are substantial improving efficiency, enhancing access to justice, and

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[56] European Commission, Proposal for a Regulation Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act), COM/2021/206 final.
[57] Ibid.; see also OECD, "Principles on Artificial Intelligence" (2019).

supporting legal practitioners the risks of bias, opacity, liability gaps, and erosion of professional ethics necessitate a framework that is not only principled but also actionable, institutionally grounded, and sensitive to Indonesia's socio-legal complexities.

Global benchmarks provide valuable starting points, but they must be contextualized. The European Union's AI Act designates judicial and legal AI systems as "high-risk," requiring compliance with transparency, oversight, and accountability obligations.[58] Singapore's Model AI Governance Framework emphasizes voluntary but practical guidance, promoting organizational accountability and ethical culture without imposing heavy compliance costs.[59] Canada's Directive on Automated Decision-Making mandates AIA before deploying AI in public services, ensuring risks are evaluated and mitigated in advance.[60] While these models showcase best practices, they cannot be transplanted wholesale into Indonesia. Instead, adaptation is necessary to reflect Indonesia's legal pluralism—where state law coexists with Islamic courts and adat law alongside resource disparities between major urban centers like Jakarta and smaller jurisdictions in Eastern Indonesia.

In practice, a phased, risk-based regulatory model could provide the most workable path for Indonesia. In the short term (1–3 years), sectoral regulators should introduce interim policies. The Supreme Court could amend PERMA No. 1 of 2019 to require human review of any AI-assisted outputs in judicial processes, thereby embedding a "human-in-the-loop" safeguard.[61] The Indonesian Advocates Association (PERADI) could update its Code of Ethics to mandate disclosure when AI tools are used in legal advice or document drafting, thereby ensuring transparency and preserving client trust.[62] Kominfo, together with the Kemenkumham, could pilot algorithmic audits for AI vendors supplying legal research or document automation tools, using simplified methodologies modeled after

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[58] European Commission, Proposal for a Regulation Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act), COM/2021/206 final (2021).

[59] Infocomm Media Development Authority of Singapore, *Model AI Governance Framework*, 2nd ed. (2020).

[60] Government of Canada, *Directive on Automated Decision-Making* (2019).

[61] Supreme Court Regulation (PERMA) No. 1 of 2019 on the Administration of Cases and Hearings in Court Electronically.

[62] Indonesian Advocates' Code of Ethics, issued by the Indonesian Advocates Association (PERADI).

Canada's AIA.[63] These measures require relatively low financial investment but can significantly reduce risks in the immediate term.

In the medium term (3–5 years), Indonesia should develop sector-specific AI standards and certification processes, particularly for high-risk applications in law. This could involve the creation of an "AI Certification Board" under Kemenkumham or Kominfo, tasked with approving AI systems prior to market entry. Certification would assess technical robustness, bias mitigation, data protection compliance, and explainability. Costs could be offset through licensing fees paid by AI developers, minimizing the financial burden on state institutions. Professional associations like PERADI and the Indonesian Notaries Association (INI) could collaborate to establish continuing legal education modules on AI literacy and ethics, ensuring that practitioners maintain competence in an AI-enabled environment. Universities could likewise be required to integrate AI law and ethics into their curricula.

In the long term (5–10 years), Indonesia should codify a comprehensive AI Law, modeled on best practices from the EU and OECD but customized to Indonesia's institutional capacity. Such legislation should explicitly classify legal AI applications as high-risk, mandate human oversight, establish liability frameworks for AI-related harms, and provide redress mechanisms for clients or litigants adversely affected by AI decisions. Crucially, this law must reflect Indonesia's pluralism by requiring AI systems deployed in religious and adat courts to account for local legal traditions, avoiding the imposition of standardized models that ignore cultural and normative diversity. To support nationwide enforcement, investment in digital infrastructure is indispensable; budget allocations for AI governance must prioritize under-resourced courts and legal aid institutions outside Java, ensuring equitable protection across the archipelago.

Stakeholder roles must also be clearly delineated. Kominfo should assume primary responsibility for technical standards and algorithmic audits; Kemenkumham should oversee sectoral adoption and ensure compliance in professional contexts; the Supreme Court should regulate judicial applications; and PERADI

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[63] Government of Canada, *Algorithmic Impact Assessment Tool* (2019).

should update and enforce ethical standards for advocates. Civil society organizations and academic institutions should be integrated into monitoring processes, providing independent oversight and contributing to transparency. The private sector, particularly AI developers, must bear the costs of compliance, including certification and audit fees, consistent with the "polluter pays" principle in technology governance.

Finally, Indonesia must strengthen its participation in international AI governance initiatives. Instruments such as UNESCO's Recommendation on the Ethics of Artificial Intelligence (2021) and the OECD Principles on AI (2019) offer avenues for knowledge exchange and standard harmonization.[64] Engagement in these forums would not only support domestic capacity-building but also enhance Indonesia's credibility as a regional leader in responsible AI governance.

In sum, the proposed framework must transition from general principles to concrete, staged policies that are actionable within Indonesia's institutional realities. Short-term interim measures can mitigate immediate risks without imposing high costs; medium-term certification and professional education can institutionalize ethical practices; and long-term comprehensive legislation can provide coherence and enforceability. By embedding risk-based oversight, clarifying stakeholder responsibilities, accounting for Indonesia's legal pluralism, and aligning with global best practices, Indonesia can ensure that AI serves to strengthen rather than undermine the rule of law.

Conclusion

The integration of AI into the legal profession presents an epochal shift that brings both unprecedented opportunities and formidable challenges. Through a socio-legal qualitative approach combining field interviews, survey data, and comparative analysis of international best practices, this research has illuminated the regulatory, ethical, and institutional gaps that must be urgently addressed to ensure that AI deployment in Indonesia's legal sector strengthens rather than undermines the principles of justice,

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[64] UNESCO, *Recommendation on the Ethics of Artificial Intelligence* (2021); OECD, *Principles on Artificial Intelligence* (2019).

fairness, and human dignity.

The findings demonstrate that AI adoption within Indonesia's legal profession remains at an early stage, concentrated primarily in legal research, administrative efficiency, and document management. However, the study identified structural barriers, including uneven digital infrastructure, disparities in digital literacy among practitioners, limited institutional funding, and weak regulatory clarity. These barriers result in unequal adoption between urban and semi-urban contexts and between senior and junior practitioners. Concerns over algorithmic bias, opacity of AI decision-making, data protection risks, and the erosion of human judgment remain central to practitioners' skepticism, particularly in light of the limitations of current regulations such as the ITE Law, the PDP Law, and PERMA No. 1/2019, which have yet to comprehensively address AI-specific risks.

Nonetheless, this study has important limitations. Its focus on Central Java, while useful for capturing both urban and semi-urban perspectives, may not fully represent the diversity of Indonesia's legal ecosystem, particularly in regions with weaker digital infrastructure or differing legal traditions such as adat or religious courts. Similarly, the sample size of 20 interviewees, though purposively selected for relevance and expertise, cannot capture the full spectrum of experiences across Indonesia's large and heterogeneous legal profession. These limitations constrain the generalizability of findings and suggest the need for further empirical research in other provinces and among different categories of legal actors, including clients and marginalized communities most affected by access-to-justice challenges.

Future research should extend beyond exploratory mapping to experimental and pilot studies. For example, testing AI tools in limited judicial or notarial functions under strict oversight could generate valuable data on risks and benefits in practice. Longitudinal studies tracking the evolution of AI adoption over time across diverse legal institutions would further clarify trends, while cross-disciplinary research involving computer science, law, and sociology could provide more holistic insights into AI's systemic implications.

In addition to long-term research directions, this study identifies

immediate, pragmatic steps that policymakers and legal institutions can adopt. First, regulatory agencies such as the Ministry of Law and Human Rights should initiate pilot projects for AI oversight, including algorithmic audits and explainability testing, particularly for high-risk applications in courts and administrative decision-making. Second, legal professional associations (PERADI, INI, and others) should develop interim ethical guidelines for members on responsible AI use, complementing state regulations. Third, capacity-building initiatives—including AI literacy modules in law schools and continuing education programs for practitioners—should be prioritized to bridge digital literacy gaps. Fourth, funding mechanisms, potentially supported by public–private partnerships, should be designed to ensure that smaller law firms and semi-urban institutions are not excluded from AI-driven efficiency gains.

Ultimately, the objective of AI governance in Indonesia's legal sector is not to halt technological innovation but to direct it toward strengthening justice, protecting rights, and enhancing institutional credibility. By acknowledging its own methodological limitations, outlining clear research pathways, and recommending practical first steps for regulation and capacity-building, this study contributes to the foundation of a long-term roadmap for responsible AI governance. The future of AI in Indonesia's legal profession will depend not only on ambitious frameworks but also on incremental, carefully monitored implementation ensuring that the rule of law, not the rule of algorithms, remains the cornerstone of justice in the digital age.

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Acknowledgment