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Designing an AI-Driven Legislation Framework to Improve Indonesia's Law-Making Transparency and Public Participation

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Abstract

The legislative process in Indonesia faces persistent challenges, including inefficiency, limited transparency, and minimal public participation. This study examines the integration of AI, particularly Natural Language Processing, into the design of an e-legislation system to address these systemic issues. Employing a normative-empirical legal research methodology, this study combines doctrinal legal analysis with a design science approach to prototype an AI-driven legislative platform. The study reveals that integrating AI, particularly Natural Language Processing, can enhance legal drafting efficiency, improve legislative process transparency, and enable real-time public participation. The proposed AI-driven legislation system can detect redundancies, contradictions, and legal inconsistencies, as well as classify public input to support evidence-based decision-making. The study underscores the importance of explainable AI principles, algorithmic transparency, and participatory feedback mechanisms to uphold democratic legitimacy. Pivotal challenges identified include limited digital infrastructure, the absence of specific legal frameworks for AI in legislation, and risks of bias and privacy violations. The study recommends establishing specific regulations, conducting pilot testing of the prototype system, and fostering multidisciplinary collaboration to ensure AI's ethical, accountable, and inclusive use in Indonesia's law-making process.

I. Introduction

The enormous development of digital technology in the last twenty years has fundamentally altered institutional processes, encompassing government and public policy formulation. A significant aspect of this transition is adopting digital technologies in the legislative process, generally referred to as e-legislation. In many countries, this concept is continually evolving, especially with the incorporation of Artificial Intelligence (hereinafter written to AI), which is deemed capable of enhancing efficiency, accuracy, and transparency in the development of statutory rules (Talapina, 2024).

Protracted procedures, inadequate inter-agency cooperation, redundant legal norms, and limited direct and substantive public engagement frequently mark the legislative process in Indonesia. In contemporary democracy, a transparent and inclusive legislative framework is essential for establishing equitable, adaptable, and responsive legal standards. These difficulties underscore the necessity for extensive reform of Indonesia's legislative framework (Wardana & Bachtiar, 2022).

Considering AI's capability to handle extensive legal data, identify discrepancies in legislative drafts, and promote public engagement via interactive real-time digital platforms, its incorporation into legislative frameworks presents a strategic opportunity to tackle Indonesia's systemic legal issues. Technologies like Natural Language Processing (hereinafter written to NLP) may automatically examine and generate legal documents, while machine learning approaches can discern policy trends to formulate evidence-based regulatory recommendations (Kenaphoom et al., 2024).

This study aims to design and construct an AI-driven legislation system that improves legislative efficiency, fosters inclusive public interaction, and enhances transparency in Indonesia's law making processes. Despite the implementation of digitisation across different sectors of Indonesia's government under the Electronic-Based Government System (SPBE) strategy, the legislative sector remains deficient in adopting advanced technology. No comprehensive digital legislative system has systematically employed AI in developing statutory rules (Manjali, 2023).

A significant concern is the inadequate degree of meaningful public involvement in regulatory development. The means for public engagement are frequently superficial, transient, and restricted to particular demographics (De Moraes Azenha, 2022). This circumstance exacerbates the disparity between statutory provisions and the genuine requirements of society. The incorporation of AI via crowdsourcing functionalities or sentiment analysis has the potential to enhance public participation significantly; nevertheless, this integration remains suboptimal.

Moreover, the absence of a legal framework governing the use of AI in legislative processes raises concerns about potential violations of transparency, accountability, and data protection principles (Varošanec, 2024). Without adequate regulation, AI-based legislative systems risk becoming technocratic tools of control, rather than instruments of deliberative democracy. These are the critical challenges that this research intends to

address.

This study aims to design an AI-based digital legislative system that is compatible with Indonesia's legal system and aligned with democratic and open governance principles. The specific objectives include:

1. To develop an AI-driven e-legislation system architecture that automates formulating statutory regulations by utilising NLP and data mining technologies.
2. Enhance legislative transparency through digital tracking and audit trail features that allow the public to monitor regulation development from draft to enactment.
3. To facilitate data-driven public participation by providing an interactive digital platform that can collect, filter, and manage public feedback in real-time.
4. To examine the legal and ethical dimensions of AI implementation in legislation, encompassing data privacy, explainable AI, and accountability in automated decision-making
5. To create and evaluate a system prototype for measuring public and legislative stakeholders' efficacy, efficiency, and adoption rates.

Although the body of research on e-legislation and digital democracy is expanding, especially in industrialised nations with sophisticated digital infrastructures, most studies fail to explore the technological implementation of AI within civil law systems. Research by (De Moraes Azenha, 2022) and (Talapina, 2024) emphasizes e-participation and crowdsourced legislation but has not explored how AI, particularly NLP, can be operationalized to structure national regulations based on participatory data.

Moreover, there is a deficiency of academic research linking the execution of SPBE policies with AI frameworks for national legislation. A further deficiency exists in the lack of multidisciplinary methodologies integrating software engineering, policy research, and legal studies in developing digital legislative systems (Jubaidi & Khoirunnisa, 2024). This study addresses this gap by employing a design science research methodology to create a technological artefact to resolve normative legal issues.

The primary innovation of this work resides in its comprehensive approach to integrating AI with democratic tenets of legal government. This study develops a concrete prototype of an e-legislation system that can be evaluated inside national government frameworks, in contrast to previous studies focusing solely on theoretical or normative evaluations. Consequently, it provides tangible contributions through knowledge artefacts and policy implications.

This study also introduces the application of explainable AI in the legislative context, allowing the public and legislators to understand the rationale behind the system-generated recommendations. This circumstance is critical in addressing the criticism that AI use in government tends to create "black boxes" that resist oversight (Wischmeyer, 2020).

This study strategically fits with Indonesia's Vision 2045, underscoring the significance of digital transformation in government. The program may also act as a prototype for AI integration in the legal sector for other emerging nations, especially those with codified legal systems, like Indonesia (Alfiani & Saptomo, 2024). This study

establishes a robust foundation for developing an AI-driven digital legislative system that promotes efficiency, inclusivity, and legal justice in the digital age, supported by a solid background, precise problem definition, strategic objectives, recognised research gap, and creative contribution.

II. Results and Discussion

A. Comprehensive Description of AI Integration in Indonesia's Legislative Process

Integrating AI into Indonesia's legislative framework represents a progressive advancement consistent with worldwide technology trends. Using AI in legal and legislative fields beyond simple administrative automation can significantly improve public engagement, transparency, and legal efficacy. In Indonesia's intricate legislative framework and extensive bureaucracy, AI has become a pertinent instrument for enhancing the quality of public policy development (Disantara 2024).

Legal pluralism and post-positivist jurisprudence frameworks provide substantial perspectives for comprehending the digital revolution in legal systems (Wilson, 2013). Legal pluralism acknowledges the coexistence of multiple legal sources, including customary, Islamic, and state laws. Within this framework, AI can serve as a means to accommodate diverse perspectives and social norms in the law-making process.

Post-positivist jurisprudence underscores the significance of social context in the development of law. Artificial Intelligence, with its ability to analyse extensive datasets, facilitates the formulation of legislation better attuned to societal realities (Pashentsev, 2024). This transforms the law from being a closed product of legislative elites into a collaborative output that reflects the needs of the populace.

Legal instrumentalism offers a pertinent theoretical framework, perceiving law as a mechanism for attaining societal goals such as fairness and efficiency. In this regard, AI serves not only as a technical tool but also as a strategic approach to augment the legitimacy and efficiency of judicial institutions via increased participation and data-driven decision-making (Munir et al., 2025).

AI can augment public engagement in the legislative process through several means. Initially, it can elucidate intricate legal terminology, rendering legislation more comprehensible to the general populace. This situation allows citizens to comprehend and significantly engage in providing feedback on proposed legislation. Second, AI-based chatbots or virtual assistants can provide real-time responses to public inquiries regarding legislative processes. This helps bridge the communication gaps between citizens and policymakers, particularly in remote regions.

Third, AI can categorise and evaluate numerous public comments regarding legislative writing. Natural Language Processing (NLP) enables categorising feedback by theme, geography, or urgency. Lawmakers can then employ this data to facilitate evidence-based and inclusive decision-making (Pushpa et al., 2024).

AI has been empirically utilised to examine huge quantities of legal material. In Indonesia, natural language processing and machine learning are progressively employed to analyse thousands of legal documents. Algorithms can detect

redundancies, contradictions, and logical errors in statutory texts, which are essential due to the complexity and volume of Indonesia's legal corpus.

A study from the University of Indonesia illustrates that AI can extract essential information from court rulings, including the names of judges, prosecutors, and attorneys. By analysing previous trends, AI has been employed to forecast judicial outcomes, particularly punishment lengths. This facilitates more predictive and objective legal drafting (Yulianti et al., 2024). Despite its potential, the integration of AI into Indonesian law has several significant challenges. First, limited digital infrastructure impedes equitable AI deployment, particularly outside urban centres. Many legislative institutions have only been partially digitised.

Secondly, current legal frameworks do not explicitly endorse the utilisation of AI in legislative procedures. The Electronic Information and Transactions Law (hereafter referred to as the ITE Law) lacks comprehensive provisions concerning AI uses in public policy development. The Personal Data Protection Law (hereafter referred to as the PDP Law) is also constrained in its applicability to data processing inside AI contexts (Fikri and Amelia, 2024). Third, ethical and privacy issues are grave concerns. AI risks perpetuating social biases if training data are not representative. Furthermore, accountability for AI-driven decisions remains unresolved (Humeres et al., 2025).

Indonesia presently possesses many generic legal frameworks for digital technology; nevertheless, it lacks particular regulations governing the use of artificial intelligence in legislation. The National AI Strategic Plan of 2020 delineates five priority sectors, encompassing bureaucracy, although it lacks explicit implementation laws.

It is crucial to develop laws that explicitly govern AI, including principles of algorithmic transparency, accountability, and mechanisms for auditing AI-generated decisions (Asiryan, 2023). This must be accompanied by capacity-building for human resources, both technical and legal, to prevent AI from becoming a "black box" in legal processes.

The advancement of AI-driven legislative systems necessitates interdisciplinary collaboration. Legal specialists must collaborate with computer scientists, sociologists, ethicists, and public administrators to guarantee that these systems are responsive, equitable, and accountable. This collaboration is crucial for recognising possible hazards, including mass surveillance, information manipulation, and access disparities. AI ethics must be incorporated into legal education curricula to provide future practitioners with a thorough comprehension of the technical problems (Kirin et al., 2024).

Incorporating AI into Indonesia's legislative process offers a substantial possibility of establishing a more efficient, participatory, and legal framework. Nonetheless, actualising this potential necessitates a strong infrastructure, regulatory reforms, and continuous multidisciplinary collaboration. With suitable techniques, AI can act as an effective conduit between the public and the state in formulating inclusive and adaptive legislation for the future.

B. From Data to Deliberation: Interpreting AI-Driven Legislative Systems

Integrating AI into legislative processes indicates a fundamental transformation in law making mechanics and governance's epistemic basis. The function of AI has transcended mere technical automation and data processing; it is now important in determining the categorisation, prioritisation, and interpretation of legal material. This nascent field necessitates a comprehensive understanding of the functions of AI and the mechanisms and rationale behind its operations. The successful application of AI in legislative contexts depends not only on its technological performance but also on its ability to be interpreted and to ensure democratic accountability (Bogiatzis-Gibbons, 2024).

AI systems utilised in legislation execute interpretive functions, including analysing public comments, assessing legal documents, and suggesting statutory priorities. This elevates the AI from a passive instrument to an active participant in constructing meaning. This transition adds a new epistemic dimension to legal systems, where algorithmic interpretations coexist with human jurisprudence. The question arises: Can AI be held to the same reasoning, fairness, and transparency standards as human legislators? This inquiry is central to the concept of democratic legitimacy.

Explainability, a subfield of AI focused on rendering computer judgments comprehensible to human stakeholders, offers a potential answer. Explainable AI (XAI) is crucial for transparency and legitimacy in legislative contexts. Stakeholders, comprising legislators, policy analysts, and the public, must comprehend the mechanisms and rationale behind AI's specific judgments. Whether a regulation is marked for amendment, public sentiment is emphasised, or a phrase is designated as high priority, the justification for each outcome must be verifiable (Indra Reddy Mallela et al., 2020).

AI interpretability is particularly urgent in countries with complex legal pluralism, such as Indonesia. Indonesian law comprises codified statutes, local customs (*Adat* Law), religious norms, and administrative traditions. This heterogeneity demands systems sensitive to contextual nuances and capable of engaging in multiple normative frameworks.

In these contexts, AI output must exhibit cultural literacy and social awareness. Regulatory modifications in Indonesia frequently connect with delicate matters, including religious observances, minority rights, and regional autonomy, heightening misinterpretation risks. If AI outputs lack explainability, their legitimacy may be questioned by diverse stakeholders, including civil society organisations and religious institutions (Kurniyanto and Hartoyo, 2023). This underscores the importance of communicative transparency: the ability of a system to articulate its reasoning in ways that resonate with diverse social audiences.

This study applies a dual-layer interpretive framework for AI-driven legislative systems. The initial layer is algorithmic interpretability, which underscores the clarity of computational reasoning. This entails cataloguing training data sources, documenting

model structures, outlining decision routes, and preserving audit trails for weight modifications in NLP models. This guarantees that a transparent and reproducible methodology underpins each recommendation generated by the AI system.

The second layer pertains to communication transparency. The emphasis is on rendering outcomes accessible and significant to nontechnical users. Visual dashboards, narrative annotations, and legal cross-referencing were utilised to connect computer reasoning with human understanding. For instance, when the system emphasises a legal provision for examination, it concurrently offers contextual elucidations, references pertinent precedents, and identifies the stakeholder groups that may be impacted.

This layered interpretive design aligns with principles of procedural justice and participatory governance. This circumstance allows for retrospective understanding—why a decision was made—and prospective engagement—how future decisions can be influenced.

The alignment of technical elucidation with legal justification is fundamental to this methodology. AI outputs in legislative contexts must adhere to legal norms, including rationality, justice, and proportionality. They must also eliminate systematic bias and guarantee non-discrimination. This study included ethical and legal frameworks in creating the AI model. The outputs are accompanied by comments that include legal texts, court precedents, stakeholder submissions, and possible legal disputes (Engelmann, 2023).

Moreover, these annotations serve as metadata that enriches the output, allowing for secondary reviews and institutional checks. In doing so, the system becomes more than a computational entity; it becomes a deliberative partner in law-making process, capable of justifying its conclusions and adapting to normative feedback.

Interpretability should not be unidirectional. It must allow for feedback and dialogue. In this study, participatory design principles were embedded in an AI interface. Citizens are not only recipients of information but also contributors to their formation. Through structured interfaces, users can submit counter-interpretations, challenge system categorizations, and propose alternative legal frameworks (Delgado et al., 2022).

This participatory mechanism fosters a civic agency. It transforms passive observation into active engagement and aligns AI systems with democratic norms. Moreover, by incorporating feedback loops, the system evolves with each interaction, becoming more responsive to public sentiment and adaptive to changing legal paradigms.

Interpretive validity in AI systems is not only a function of technological sophistication but also of social resonance. In pluralistic societies, such as Indonesia, legal systems must navigate multiple, often competing, value systems. An AI system that lacks interpretive responsiveness risks entrenching dominant norms while marginalizing minority perspectives.

To mitigate this issue, the AI model in this study incorporates a diversity audit protocol. Before deploying legislative outputs, the system assesses representational

balance across variables, such as region, religion, gender, and socioeconomic status. Outputs that exhibit disproportionate impacts are flagged for human reviews. This ensures that inclusivity is not an afterthought, but an embedded design principle (Ness et al., 2024).

Finally, interpretability is not only a technical or ethical goal; it is also a constitutional imperative. Democratic legitimacy relies on the transparency and contestability of the governance processes. When integrated into legislation, AI becomes a part of this constitutional ecosystem. Thus, its operations must be subject to scrutiny, reason-giving, and public dialogue.

The Indonesian Constitution enshrines the principles of transparency, accountability, and public participation. Any human or artificial system that contributes to legislation must uphold these values. This study posits interpretability as a constitutional requirement that ensures that AI serves as an instrument of democratic empowerment rather than an opaque technocratic tool (Suswanta et al., 2023).

The success of AI in legislative contexts depends on its ability to explain, justify, and respond to societal complexities. This study affirms that interpretability is both a technical and a democratic necessity. Through a dual-layered approach that combines algorithmic transparency with communicative clarity, and participatory feedback with legal accountability, AI systems can evolve into facilitators of inclusive and adaptive lawmaking. In Indonesia, where legal norms are diverse and deeply embedded in social contexts, this model of interpretive AI offers a path toward technologically enriched, yet normatively grounded governance.

C. Expanding the Jurisprudential and Practical Implications of AI Integration into Legislative Frameworks

Integrating artificial intelligence (AI) into legislative frameworks has catalysed a dual transformation in the theoretical foundations of legal thought and the practical functions of legal work. AI's incursion into law is not simply a matter of digital modernisation; it challenges entrenched jurisprudential paradigms and compels a fundamental reimagining of what it means to reason legally, draft laws, and interpret regulations. At the core of this shift lies a reconfiguration of epistemological authority: the traditional exclusivity of human cognition in law is questioned by the emergence of machine-augmented interpretation, data-driven modelling, and algorithmic reasoning (Poddar, 2022).

In classical jurisprudence, especially within legal positivism, the authority of law originates from human interpretations and institutional legitimacy. H.L.A. Hart and Joseph Raz asserted that legal significance is attributed to the human implementation of regulations within a societal context (Kramer, 2019). AI disrupts this assumption by introducing systems, particularly those powered by NLP, which can independently parse, categorize, and even critique legal text.

These AI systems contest the premise that legal hermeneutics should be exclusively based on human doctrinal study. They advocate for a transition to probabilistic

hermeneutics, wherein legal meaning is obtained through statistical modelling and linguistic pattern identification. AI systems can detect contradictions, redundancies, or semantic drift in several legislative documents, a task that traditionally relied on human judgment and was prone to cognitive bias (Conrad & Branting, 2018).

The implications of this shift are significant. Foundational constructs such as legal validity, coherence, and authority must be examined in light of algorithmic outputs. Can machine-generated interpretations be legally valid? What are the normative thresholds for coherence when the interpretation is probabilistic? Scholars are increasingly grappling with these questions through interdisciplinary research that combines legal theory, data science, epistemology, and the philosophy of language.

The emergence of AI indicates the necessity for a hybrid legal theory that combines normative jurisprudence with computational epistemology. This approach would acknowledge the validity of data-driven discoveries while reinforcing the normative foundations that support democratic legal systems. Legal scholars have introduced the concept of "computational jurisprudence," which perceives legal thinking as a process that can be enhanced but not replaced by algorithmic inference.

In this context, legal texts become prescriptive artefacts and datasets open to interpretive modelling and machine learning techniques. For example, deep learning models trained on legal precedents can accurately predict judicial outcomes, prompting a re-evaluation of judicial discretion and precedent-following practices. However, this shift necessitates robust methodological frameworks to ensure that the inferences drawn from these models align with the core tenets of justice, proportionality, and legality (Luo et al., 2023).

The second axis of transition pertains to the reorganisation of professional legal practices. Artificial intelligence is now extensively employed in automating ordinary legal functions, including contract analysis, compliance verification, and case law retrieval. These advancements have markedly enhanced operational efficiency and cost-effectiveness, enabling legal practitioners to devote increased time to strategic and interpretive tasks.

This change necessitates the acquisition of a new skill set. Legal professionals must now attain digital literacy, encompassing comprehension of AI systems' operations, interpreting their outputs, and mitigating their limitations. This indicates a wider trend in the integration of legal technology, wherein the distinction between legal professionals and technologists is becoming progressively indistinct (Zahra, 2025).

Furthermore, AI extends beyond legal activities. It is progressively utilised in primary legislative roles, including policy forecasting and stakeholder opinion analysis. Artificial Intelligence can deliver immediate insights into public sentiments and legislative developments by utilising Natural Language Processing techniques that extract data from social media, public comment platforms, and news outlets. This improves policymakers' responsiveness, although it also heightens worries regarding the opacity of algorithmic inputs and the possibility of manipulation (Arora et al., 2024).

As AI increasingly impacts legislation writing and public policy development, it

raises concerns regarding democratic legitimacy. Machine-informed legislation may be viewed as technocratic overreach in regions where confidence in institutions is fragile. To avert this, the AI technologies employed in legislation must conform to the tenets of democratic accountability: transparency, traceability, and human oversight (Abiri, 2024).

Transparency ensures that stakeholders can audit how the AI arrives at specific recommendations. Traceability allows for backwards reconstruction of decision-making logic. Human oversight guarantees that no recommendation becomes a policy without a critical review or deliberation. These principles must be embedded in the design architecture of AI systems through explainable AI models, participatory dashboards, and citizen feedback loops.

Integrating AI into regulatory frameworks necessitates a simultaneous evolution of legal and professional ethics. Legal curricula must adapt to incorporate interdisciplinary instruction on computational logic, data ethics, and algorithmic responsibility. Prospective attorneys must comprehend the decision-making processes of algorithms, their epistemological constraints, and methods to contest their outputs within legal frameworks.

Moreover, professional standards of conduct must be amended to tackle challenges specific to AI-assisted legal practice. This encompasses the ethical utilisation of client data in model training, the duty to reveal the involvement of AI tools in legal reasoning, and the clarification of accountability in instances of algorithmic injury. Bar associations and legal regulators must proactively revise license requirements and professional liability standards to adapt to these new modes of practice (Klarin et al., 2024).

This study enhances academic and practical discussions by offering a prototype e-legislation model incorporating explainability, transparency, and participatory design. The concept is founded on the principle that AI should enhance, rather than supplant, human legislative reasoning. This illustrates how machine learning algorithms can aid legislators in pinpointing legal redundancies, enhancing clause coherence, and incorporating public input into the legislative writing process.

The model includes visual interfaces that display legal correlations, semantic overlaps, and precedent alignment. It also features participatory mechanisms that allow users to submit comments, review AI annotations, and propose alternative interpretations. These features foster deliberative dialogue between citizens and systems, enhancing the inclusivity and legitimacy of AI-assisted law-making. (Drahmann and Meuwese, 2022).

The convergence of AI and legal frameworks is a dynamic and growing domain. As AI becomes increasingly integrated into legal infrastructure, its theoretical and practical ramifications will persistently develop. Future research must focus on growing concerns, including bias reduction in legal databases, the cross-jurisdictional application of AI technologies, and the long-term social effects of algorithmic governance (Zahra, 2025).

Moreover, improvements must be maintained by continuous policy creation, stakeholder involvement, and international collaboration. Entities, including the OECD,

the European Commission, and ASEAN, are formulating AI governance frameworks that encompass legal applications. Indonesia, as a pluralistic democracy with varied legal traditions, is ideally situated to influence the ethical and inclusive incorporation of AI in legislation.

Integrating AI into legislative frameworks signifies a significant advancement in legal thought and professional practice. It contests entrenched beliefs on human exclusivity in legal thinking and presents innovative methods that improve efficiency and responsiveness. This also presents significant normative, ethical, and epistemological inquiries. This study highlights the necessity for a hybrid jurisprudence that integrates computational findings while retaining normative principles. This necessitates a legal profession that is both technologically proficient and ethically sound. It also introduces a model of AI-assisted legislation that emphasises transparency, explainability, and democratic engagement as fundamental principles of responsible legal innovation.

D. Bridging Innovation and Implementation: Research Pathways for E-Legislation

The transition from theoretical models of AI-driven legislation to practical legislative systems necessitates ongoing study that examines both technical viability and socio-institutional compatibility. The sheer presence of modern NLP tools and machine learning algorithms does not ensure their effective integration into national legislation. Implementation relies on context-sensitive innovation paths, inclusive design methodologies, and enduring evaluation processes that adapt to changing political and legal circumstances (More et al., 2025).

Creating and testing functional legislative systems utilizing modular AI components is a significant compass for forthcoming research. This entails shifting from singular-function prototypes, such as document classifiers or sentiment analysers, to comprehensive platforms that oversee the entire regulatory lifecycle, encompassing issue discovery, normative formulation, and public review (Hill et al., 2025). These systems should be designed to accommodate procedural norms, transparency requirements, and linguistic diversity of specific jurisdictions.

In Indonesia, a forthcoming study must examine the multilingual characteristics of lawmaking, as local languages and dialects affect public comprehension and legal interpretations. AI systems must be trained on different corpora, encompassing vernacular literature, regional legislation, and community contributions to guarantee semantic inclusivity(Kristanto et al., 2023). Moreover, the socio-political history of legal reform in Indonesia, marked by centralization and top-down rule making, demands that AI systems explicitly include feedback loops and participatory mechanisms to avoid perpetuating historical inequities.

Research should additionally examine the regulatory viability of incorporating AI into legislation. This entails evaluating the preparedness of legal frameworks to facilitate AI implementation, highlighting normative gaps (e.g., lack of requirements for

algorithmic auditability), and suggesting flexible legal instruments (e.g., AI-specific legislative recommendations). Comparative analyses of jurisdictions implementing AI in public governance, like Estonia, Finland, and South Korea, can provide insights for developing scalable, culturally congruent, and ethically sound systems.

Further research emphasises the collaborative development of AI systems with stakeholders. Participatory action research (PAR) approaches facilitate collaboration among legislators, civil society, technologists, and citizens to establish system objectives, usability standards, and assessment metrics collectively. Co-creation augments system legitimacy and cultivates user trust and shared ownership, both of which are critical for sustainable adoption in politically sensitive areas, such as law-making process.

Subsequent investigations should focus on longitudinal assessments. Most pilot studies of legal AI systems emphasise short-term performance indicators, such as accuracy and processing speed, while overlooking long-term effects on institutional behaviour, civic trust, and regulatory coherence. Research examining the impact of AI on legislative results over time, including its effects on normative quality, public engagement levels, and adherence to legal standards, is crucial for comprehending systemic changes.

Ultimately, scholars must establish interdisciplinary frameworks for education and capacity enhancement. E-legislation requires a new cohort of legal professionals, policy analysts, and engineers adept in collaborative work to thrive. Curricula must adapt to incorporate courses in legal informatics, democratic data governance, artificial intelligence ethics, and public participation. Collaborative research laboratories encompassing law schools, computer science departments, and public entities might be incubators for practical solutions.

In summary, reconciling innovation and implementation in e-legislation necessitates a research agenda that is empirically based, contextually aware, and ethically aspirational. AI possesses the capacity to revolutionise legislative processes; yet, its actualisation hinges on our collective capability to design systems that are both intelligent and fundamentally just and democratic.

E. Ethics, Power, and Public Trust: Navigating the Social Consequences of Legal AI

The implementation of AI in legislative systems involves significant technological and procedural changes, as well as substantial ethical and societal consequences. The crux of this argument is a pivotal inquiry: How can we guarantee that AI-enhanced legislation adheres to the tenets of justice, transparency, and democratic legitimacy? To address this inquiry, we must assess the systemic implications of algorithmic governance on legal accountability, civic autonomy, and institutional power relations.

Legal accountability is a significant issue in AI-facilitated judgments. Legislative results generated or suggested by AI systems can profoundly impact individual and societal norms. The automated nature of these outputs complicates the allocation of tasks. Conventional culpability frameworks, based on human agency, may be inadequate if an AI-generated clause results in rights infringements or discriminatory

effects. Consequently, legal scholars promote the establishment of a "accountability chain" that distinctly delineates the responsibilities and liabilities of developers, deployers, lawmakers, and auditors throughout the AI lifespan. Such frameworks must be codified in statutory laws to avert accountability gaps and protect the rule of law from algorithmic opacity (Al-Kemawee, 2024).

Transparency is another essential pillar of ethical AI legislation. The opacity of complex machine learning models, often referred to as the " black-box problem," undermines public trust (Li, 2024). In the context of e-legislation, in which citizen oversight is a democratic imperative, transparency must extend beyond mere code disclosure. It should include algorithmic explainability, accessible documentation, and institutionalized public review mechanisms. These mechanisms must ensure that citizens understand, question, and challenge algorithmic decisions that affect legislative outcomes.

In addition, fairness and non-discrimination require rigorous attention. AI systems trained on historical legal data may inadvertently encode and amplify existing biases in terms of gender, ethnicity, class, or geography. In diverse societies, such as Indonesia, this poses a risk of replicating systemic inequalities through seemingly neutral algorithms. Therefore, the ethical deployment of AI in lawmaking must include periodic bias audits, stakeholder reviews, and inclusive data-sourcing strategies that reflect the pluralism of society (Zuwanda et al., 2024).

Equally important concerns include surveillance and data protection. AI-driven legislative systems often rely on vast amounts of behavioral, demographic, and socioeconomic data to generate recommendations. Without robust data governance protocols, there is a risk of infringing privacy rights or weaponizing data for political manipulation. Hence, ethical AI legislation must be accompanied by stringent data-minimization principles, encryption standards, and legal recourse for data misuse.

At a broader level, the use of AI in legislation can recalibrate the balance of power between governments and citizens. If algorithmic decision making becomes dominant, it may marginalize human deliberation and dilute participatory democracy. To mitigate this, AI must be positioned not as a replacement for public discourse, but as a complement to it. This involves designing civic engagement platforms that incorporate AI outputs as inputs for public discussion, enabling informed collective deliberation rather than technocratic control (Novelli and Sandri, 2024).

Ultimately, ethical and legal education must progress along with technological advancement. Legislators, engineers, public officials, and citizens must be informed about the ramifications of AI for governance. Ethics training must prioritise ideals like beneficence and justice and practical competencies for recognising, assessing, and addressing ethical challenges in real-world AI applications.

In conclusion, addressing AI's social and ethical aspects in legislation necessitates a cohesive, proactive, and inclusive strategy. Ethical frameworks must be integrated into system architecture, legal codes, institutional practices, and public discourse. Only then can AI emerge as a reliable collaborator in the legislative process, promoting efficiency,

innovation, justice, accountability, and human dignity.

III. Conclusion

This study shows that AI, namely NLP, can transform Indonesian legislation. AI can make lawmaking more effective and inclusive by automating legal drafting, increasing transparency, and organizing public interaction. This potential must be matched by a solid commitment to democratic norms, legal responsibility, and ethical oversight to ensure that AI strengthens the legislative process. Integrating AI into lawmaking is a complex socio-legal reform that requires interdisciplinary collaboration and systemic adaptation. Legal theory must adapt to algorithmic reasoning, and lawyers must be digitally literate and ethical. AI systems must be explainable, participatory, and evaluated continuously to maintain public trust and institutional legitimacy. Based on these findings, this study recommends three strategic directions: first, the creation of specific regulatory frameworks for AI use in legislation; second, pilot projects to operationalize and evaluate AI-based legislative platforms; and third, interdisciplinary and civic-inclusive governance models to ensure AI systems remain transparent, accountable, and aligned with justice and democracy.

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References:

Abiri, G. (2024). *Public Constitutional AI* (Version 2). arXiv. https://doi.org/10.48550/ARXIV.2406.16696

Al- Kemawee, J. (2024). Artificial Intelligence and the Law: Legal Frameworks for Regulating AI and Ensuring Accountability. *Utu Journal of Legal Studies (UJLS)*, *1*(1), 18–29. https://doi.org/10.57238/ujls.s90hsa43

Alfiani, F. R. N., & Saptomo, A. (2024). Legal Framework for the Application of Pancasila-Based Artificial Intelligence Technology to Minimize Risks and Optimize Benefits Towards Indonesia Emas 2045. *Asian Journal of Engineering, Social and Health*, *3*(4), 903–910. https://doi.org/10.46799/ajesh.v3i4.365

Arora, A., Gupta, M., Mehmi, S., Khanna, T., Chopra, G., Kaur, R., & Vats, P. (2024). Towards Intelligent Governance: The Role of AI in Policymaking and Decision Support for E-Governance. In C. So In, N. D. Londhe, N. Bhatt, & M. Kitsing (Eds.),

Information Systems for Intelligent Systems (Vol. 379, pp. 229–240). Springer Nature Singapore. https://doi.org/10.1007/978-981-99-8612-5_19

Asiryan, S. (2023). Steps of the EU countries aimed at protecting the constitutional rights in the era of artificial intelligence. *Uzhhorod National University Herald. Series: Law*, *2*(76), 285–290. https://doi.org/10.24144/2307-3322.2022.76.2.45

Bogiatzis-Gibbons, D. J. (2024). Beyond Individual Accountability: (Re-)Asserting Democratic Control of AI. *The 2024 ACM Conference on Fairness, Accountability, and Transparency*, 74–84. https://doi.org/10.1145/3630106.3658541

Conrad, J. G., & Branting, L. K. (2018). Introduction to the special issue on legal text analytics. *Artificial Intelligence and Law*, *26*(2), 99–102. https://doi.org/10.1007/s10506-018-9227-z

De Moraes Azenha, A. L. (2022). E-participation in lawmaking: Background, promises & challenges. *Proceedings of the 15th International Conference on Theory and Practice of Electronic Governance*, 274–278. https://doi.org/10.1145/3560107.3560151

Delgado, F., Barocas, S., & Levy, K. (2022). An Uncommon Task: Participatory Design in Legal AI. *Proceedings of the ACM on Human-Computer Interaction*, *6*(CSCW1), 1–23. https://doi.org/10.1145/3512898

Disantara, F. P. (2024). Innovative Legal Approaches for Contemporary Challenges in Indonesia. *Indonesian Journal of Innovation Studies*, *25*(4). https://doi.org/10.21070/ijins.v25i4.1241

Drahmann, A., & Meuwese, A. (2022). AI and Lawmaking: An Overview. In B. Custers & E. Fosch-Villaronga (Eds.), *Law and Artificial Intelligence* (Vol. 35, pp. 433–449). T.M.C. Asser Press. https://doi.org/10.1007/978-94-6265-523-2_22

Engelmann, A. (2023). Algorithmic transparency as a fundamental right in the democratic rule of law: A comparative approach to regulation in European, North American, and Brazilian Contexts. *Brazilian Journal of Law, Technology and Innovation*, *1*(2), 169–188. https://doi.org/10.59224/bjlti.v1i2.169-188

Fikri, A., & Amelia, T. (2024). Indonesia's Legal Policy on Protecting Personal Data from Artificial Intelligence Abuse. *SHS Web of Conferences*, *204*, 07002. https://doi.org/10.1051/shsconf/202420407002

Hill, G., Waddington, M., & Qiu, L. (2025). From pen to algorithm: Optimizing legislation for the future with artificial intelligence. *AI & SOCIETY*, *40*(4), 3075–3086. https://doi.org/10.1007/s00146-024-02062-3

Humeres, M., Cotoras, D., Moretti, R., Oyarzún-Merino, I., Correa, T., & López, C. (2025). Cooling down AI regulation controversies: Three closure processes in the Chilean legislative arena. *Big Data & Society*, *12*(1), 20539517241311067. https://doi.org/10.1177/20539517241311067

Indra Reddy Mallela, Sneha Aravind, Vishwasrao Salunkhe, Ojaswin Tharan, Prof.(Dr) Punit Goel, & Dr Satendra Pal Singh. (2020). Explainable AI for Compliance and Regulatory Models. *International Journal for Research Publication and Seminar*, *11*(4), 319–339. https://doi.org/10.36676/jrps.v11.i4.1584

Jubaidi, D., & Khoirunnisa, K. (2024). Artificial Intelligence in the Perspective of Indonesian Law: Subject or Object of Law? *Asian Journal of Education and Social Studies*, *50*(11), 302–314. https://doi.org/10.9734/ajess/2024/v50i111655

Kenaphoom, S., Supsin, J., Suktam, W., & Lapchit, S. (2024). Digital Government and AI: Empowering Citizen Participation for a More Inclusive Democracy. In K. Wongmahesak, I. S. Wekke, & P. Suanpang (Eds.), *Practice, Progress, and Proficiency in Sustainability* (pp. 125–142). IGI Global. https://doi.org/10.4018/979-8-3693-7989-9.ch007

Kiki Kristanto, Christio Drakhma Dekapolis, & Isno Pandowo. (2023). Customary Law as Part of the Reform Legal System in Indonesia. *Focus Journal Law Review*, *3*(2). https://doi.org/10.62795/fjl.v3i2.227

Kirin, R., Khomenko, V., & Pashchenko, O. (2024). Prospects Of Legal Regulation Of Educational AI Relations. In O. Kostenko & Y. Yekhanurov (Eds.), *DIGITAL TRANSFORMATION IN UKRAINE: AI, METAVERSE, AND SOCIETY 5.0* (pp. 124–129). SciFormat Publishing Inc. https://doi.org/10.69635/978-1-0690482-1-9-ch13

Klarin, A., Ali Abadi, H., & Sharmelly, R. (2024). Professionalism in artificial intelligence: The link between technology and ethics. *Systems Research and Behavioral Science*, *41*(4), 557–580. https://doi.org/10.1002/sres.2994

Kramer, M. H. (2019). The Legal Positivism of H.L.A. Hart. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3347611

Kurniyanto, F. P., & Hartoyo, A. (2023). Explainable AI: Identification of Writing from Famous Figures in Indonesia Using BERT and Naive Bayes Methods. *JURNAL MEDIA INFORMATIKA BUDIDARMA*, *7*(1), 160. https://doi.org/10.30865/mib.v7i1.5392

Li, X. (2024). Legal Regulation of Algorithmic Black Boxes in Digital Government Governance. *Journal of Humanities, Arts and Social Science*, *8*(1), 220–224. https://doi.org/10.26855/jhass.2024.01.037

Luo, C. F., Bhambhoria, R., Dahan, S., & Zhu, X. (2023). Prototype-Based Interpretability for Legal Citation Prediction. *Findings of the Association for Computational Linguistics: ACL 2023*, 4883–4898. https://doi.org/10.18653/v1/2023.findings-acl.301

Manjali, R. (2023). Mission-Oriented Innovation Policy: E-Government Development Trajectory in Indonesia's Bureaucratic Reform. *Jejaring Administrasi Publik*, *15*(1), 36–46. https://doi.org/10.20473/jap.v15i1.47139

More, M., Shah, S., Shelke, A., & Behare, N. (2025). Ethical and Regulatory Considerations in AI Adoption Within Legal Systems: In H. Bajraktari (Ed.), *Advances in Electronic Government, Digital Divide, and Regional Development* (pp. 163–186). IGI Global. https://doi.org/10.4018/979-8-3693-7205-0.ch009

Munir, B., Ansari, A. A., & Arafat, Y. (2025). Artificial Intelligence and Legal Decision-Making in the USA and Pakistan: A Critical Appreciation of Regulatory Frameworks. *Global Foreign Policies Review*, *VII*(IV), 48–58. https://doi.org/10.31703/gfpr.2024(VII-IV).06

Ness, S., Sarker, M., Volkivskyi, M., & Nerd, N. S. (2024). The Legal and Political Implications of AI Bias: An International Comparative Study. *American Journal of Computing and Engineering*, *7*(1), 37–47. https://doi.org/10.47672/ajce.1879

Novelli, C., & Sandri, G. (2024). Digital Democracy in the Age of Artificial Intelligence. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.4901264

Pashentsev, D. A. (2024). Artificial intelligence in law-making and law enforcement: Risks and new opportunities. *Vestnik of Saint Petersburg University. Law*, *15*(2), 516–526. https://doi.org/10.21638/spbu14.2024.214

Poddar, A. (2022). Jurisprudential Approach to Artificial Intelligence and Legal Reasoning. In U. Chakraborty, A. Banerjee, J. K. Saha, N. Sarkar, & C. Chakraborty, *Artificial Intelligence and the Fourth Industrial Revolution* (1st ed., pp. 219–261). Jenny Stanford Publishing. https://doi.org/10.1201/9781003159742-10

Pushpa R, Walke, S. G., D, S., K, S. P., & S, S. C. (2024). AI Powered Legal Querying System using NLP. *International Journal for Research in Applied Science and Engineering Technology*, *12*(12), 726–730. https://doi.org/10.22214/ijraset.2024.65895

Suswanta, S., Lestari, L., Wiyono, W., & Nur, U. (2023). The Use Of Artificial Intelligence In Governance Through Online Media Evaluation. *JURNAL TRIAS POLITIKA*, *7*(2), 183–204. https://doi.org/10.33373/jtp.v7i2.5511

Talapina, E. V. (2024). Law Making under the Influence of Digital Technologies. *State Power and Local Self-Government*, 38–42. https://doi.org/10.18572/1813-1247-2024-11-38-42

Varošanec, I. (2024). *Transparency and Secrecy as a Spectrum in AI-assisted Trustworthy Public Decision-making: EU Legislator Walking a Tightrope* [University of Groningen]. https://doi.org/10.33612/diss.1161808642

Wardana, D. J., & Bachtiar, H. (2022). Public Participation in the Law-Making in the Digitalization Era. *Indonesia Law Reform Journal*, *2*(3), 289–298. https://doi.org/10.22219/ilrej.v2i3.23764

Wilson, R. A. (2013). Global Legal Pluralism: A Jurisprudence Of Law Beyond Borders. *Journal of Law and Society*, *40*(4), 706–711. https://doi.org/10.1111/j.1467-6478.2013.00650.x

Wischmeyer, T. (2020). Artificial Intelligence and Transparency: Opening the Black Box. In T. Wischmeyer & T. Rademacher (Eds.), *Regulating Artificial Intelligence* (pp. 75–101). Springer International Publishing. https://doi.org/10.1007/978-3-030-32361-5_4

Yulianti, E., Bhary, N., Abdurrohman, J., Dwitilas, F. W., Nuranti, E. Q., & Husin, H. S. (2024). Named entity recognition on Indonesian legal documents: A dataset and study using transformer-based models. *International Journal of Electrical and Computer Engineering (IJECE)*, *14*(5), 5489. https://doi.org/10.11591/ijece.v14i5.pp5489-5501

Zahra, Y. (2025). Regulating AI in Legal Practice: Challenges and Opportunities. *Journal of Computer Science Application and Engineering (JOSAPEN)*, *3*(1), 10–15. https://doi.org/10.70356/josapen.v3i1.47

Zuwanda, Z. S., Lubis, A. F., Solapari, N., Sakmaf, M. S., & Triyantoro, A. (2024). Ethical and Legal Analysis of Artificial Intelligence Systems in Law Enforcement with a Study of Potential Human Rights Violations in Indonesia. *The Easta Journal Law and Human Rights*, *2*(03), 176–185. https://doi.org/10.58812/eslhr.v2i03.283