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## Normative Fragmentation in Indonesian Notary Law: Regulatory Harmonization of Cyber Notary and Electronic Signatures toward Structural Justice

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### ABSTRACT

Indonesia's notary law framework remains normatively fragmented, as the Notary Law (UUJN) requires physical presence while the Electronic Information and Transactions Law (ITE Law) recognizes electronic signatures as legally binding instruments. This contradiction prevents notaries from issuing authentic electronic deeds, creates legal uncertainty, and structurally excludes vulnerable populations including remote communities, migrant workers, and micro-enterprise operators from accessing civil legal services. This study examines the normative legitimacy of electronic signatures within the Indonesian notary system, identifies the structural consequences of regulatory fragmentation on vulnerable populations, and proposes a justice-oriented harmonization framework for inclusive digital notarial services. Employing normative juridical methodology with statutory, conceptual, and comparative approaches, this study analyzes Indonesian legislation alongside regulatory experiences from the Netherlands, Brazil, Rwanda, Singapore, and Turkiye. The findings reveal three critical issues: normative contradiction between the UUJN and the ITE Law regarding remote appearance and authentication standards; the absence of explicit statutory recognition of cyber notary mechanisms; and disproportionate structural barriers to civil legal access for vulnerable populations produced by regulatory ambiguity. Harmonization requires legislative amendment, institutional infrastructure development, and justice-oriented governance design that ensures digital notarization expands rather than reproduces existing structural inequalities in access to legal services.

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## 1. INTRODUCTION

Access to notarial services in Indonesia is structurally unequal. Notaries remain disproportionately concentrated in urban centers, leaving rural populations, remote island communities, migrant workers abroad, persons with disabilities, and micro-enterprise operators with limited or no access to civil legal documentation. This structural inequality is not merely a logistical problem but a legal one. The absence of a clear and enforceable framework for remote notarization means that regulatory fragmentation between the Notary Law (UUJN) and the Electronic Information and Transactions Law (UU ITE) directly produces barriers to justice for structurally vulnerable populations. Addressing this fragmentation is therefore not only a matter of legal modernization, but a matter of equitable access to the civil legal system.

The manner in which individuals engage with one another and conduct their business and legal affairs is being revolutionized by information and communication technologies (Supu et al., 2025). The integration of social institutions with the internet and the establishment of cyberspace allow the Indonesian populace to undergo not only a technical change but also a fundamental one in the formulation of the nation's legislative instruments (Kaharu et al., 2025). A rapid transformation necessitates a legal reconfiguration of the permissible actions, the evidence required for actions executed under a public officer's authority, and the actions that must be governed by existing law. Regarding these changes, the public notary, as a principal legal entity, will be significantly affected in how it delivers legal assurance and safeguards individuals' rights.

The law is fundamentally adaptable; nevertheless, technological advancement frequently outpaces legislative development. The disparity is particularly pronounced in the notarial sector, where the swift advancement of technology has led to numerous transactions being conducted online, yet the legally mandated process for generating a legitimate deed remains contingent upon a physical meeting between the parties involved (Awwalia et al., 2023). Public notaries continue to serve as custodians of transactions. The revised social framework for the notary profession requires incorporating technology while upholding essential legal values of caution, accountability, and ethics. Agustin and Anand (2021) observe that Indonesian notaries continue to implement laws and regulations that have not been adapted to reflect rapid technological change, creating a growing gap between legal requirements and societal practice. This stagnation directly compromises notaries' ability to serve citizens who operate in digital environments.

Societies 5.0 considers the present phase of digitization and the continuing interplay between the digital economy and the Internet of Things system. Societies must comprehensively assimilate into digital ecosystems. The law must concurrently adapt to this adaptability to facilitate a more comprehensive transformation without compromising legal certainty (Talita & Ratna, 2023). The notary public should be situated at the intersection of procedural flexibility and the inherent rigidity of the law, which is antiquated, fixed, and documented, necessitating the physical presence of all parties involved, as the validity of the documents depends on the presence of all signatories. In the post-pandemic era, this tension has become particularly acute.

Alkatiri, Putra, and Ongko (2023) demonstrate that despite heightened demand for electronic notarization following COVID-19 disruptions, Indonesia has yet to adopt a legally consolidated concept of electronic notarization, leaving legal practitioners and citizens in a state of persistent normative uncertainty.

This scenario arises from the inconsistency between the notaries' authority to authenticate electronic transactions as outlined in Article 15 subsection (3) of the UUJN and the obligation to review and physically sign the document as stipulated in Article 16 subsection (1) letter m. The first aspect expands the potential for the realization of the concept of a cyber notary. The second, however, persists in restricting the procedural stage of the deed to the conventional in-person format. This incongruence generates interpretative ambiguities regarding the digitization of services provided by notary public offices, particularly due to the recent proliferation of electronic signatures, which are unequivocally recognized as legally binding under the UU ITE (Alincia & Sitabuana, 2021). Tan (2020) characterizes this condition as a legal paradox, namely an internal contradiction within Indonesian law that generates normative equilibrium only through marginal compromises, none of which have produced a stable or inclusive legal framework for digital notarization.

Despite the increasing discussion surrounding cyber notary procedures and the doctrinal analysis of electronic signatures under the UUJN and the ITE Law, current scholarship predominantly focuses on statutory validity and formal legal interpretation. Insufficient emphasis has been directed towards the overarching issue of regulatory change required to address internal discrepancies within the notarial framework and to guarantee that digital notarization operates cohesively within Indonesia's civil judicial system. The lack of a systematic normative harmonization study fails to address the systemic consequences of regulatory fragmentation, especially with respect to legal certainty, evidential robustness, and institutional accountability in digital public legal services. Karman et al. (2024) empirically confirm that the two principal obstacles to electronic signature adoption in Indonesia are regulatory disharmony and insufficient digital literacy, both of which are products of unresolved normative fragmentation rather than technological limitation alone.

The relationship between digitalization and access to justice has been widely examined in contemporary socio-legal scholarship. Digital legal services hold significant potential to expand legal inclusion, yet they may also reproduce structural inequalities if regulatory clarity and technological safeguards are absent (Reiling, 2020; Susskind, 2019). Uncertainty in digital authentication systems can therefore undermine both procedural fairness and public trust in legal institutions (Sandefur, 2009; Voet & Hodges, 2018). Maestri (2020) warns that digital justice reforms which neglect equitable and public participation may produce negative consequences for the effective legality of virtual legal processes and the broader relationship between democracy and access to justice. Safari and Techatassanasoontorn (2025) further emphasize that although digital innovation holds promise for improving access to justice, its design must center human values, particularly for the most vulnerable in society, or risk deepening existing inequalities rather than alleviating them.

In the Indonesian context, the structural consequences of regulatory fragmentation in notarial law are not abstract. Muhammad (2024) documents how Indonesian legal

frameworks that lack normative clarity systematically expose vulnerable groups, including stateless persons, migrant workers, and economically marginalized communities, to discrimination and deprivation of legal rights. The same structural dynamic applies to the cyber notary context: when the legal basis for remote notarization remains unclear, notaries adopt conservative postures, restricting digital services and thereby limiting access for precisely those who would benefit most. Izharti, Magdalena, and Ramadhani (2025) further demonstrate, in the analogous context of restorative justice regulation, that regulatory fragmentation across Indonesian legal institutions produces procedural inconsistencies, selective enforcement, and diminished public trust, consequences equally applicable to the fragmented cyber notary framework.

The notion of cyber notary adaptation underscores the function of notaries as a reliable authority and trusted third party in the provision of digital certificates. This concept has been executed in several regions worldwide. Since 2020, Russia has implemented a distinct legal framework for the digitalization of notaries governed by Federal Law No. 480-F3 (Ivanyuk, 2024). Nazran et al. (2024) demonstrate through comparative analysis that the United States, the Netherlands, and Australia have developed integrated approaches to electronic notarization that combine regulatory clarity, interoperable data systems, and professional training, each producing higher standards of legal protection for both notaries and the public. Most significantly, Siswanto et al. (2025) present Rwanda's model, grounded in Law No. 031/2016 and a unified digital identity platform, as a normative foundation for reconstructing Indonesia's cyber notary framework, underscoring that regulatory recognition of electronic notarial acts is both legally achievable and institutionally manageable. These global developments indicate that the digitization of the notary function is an essential trend, and that Indonesia's current stagnation constitutes a structural disadvantage for its citizens relative to comparable jurisdictions.

The digitalization of deeds raises numerous concerns around cybersecurity, data protection, identity verification, and the prevention of cybercrime. The use of electronic signatures on notarial deeds requires the establishment of thorough identity verification procedures for the interested parties. Remote notarial certificate issuers must possess biometric population data verification technologies (Theixar & Dharmawan, 2021). Despite the advantages presented by the digitalization of documents handled by notaries, they bear significant responsibility for maintaining the confidentiality of information, as digitalization increases the risks of loss, tampering, and misuse of electronic signatures. Wang (2007) identifies the global landscape of electronic signature regulation as divergent and fragmentary, noting that regulatory disharmony impedes not only commerce but the broader adoption of secure digital legal practices, a finding that remains directly relevant to Indonesia's unresolved normative tensions nearly two decades later.

The regulatory ambiguity around cyber notary operations has tangible societal repercussions beyond mere legal doctrine. In a geographically vast nation like Indonesia, where notarial services are inequitably accessible, the lack of explicit legal acknowledgment for remote notarization restricts access for individuals in isolated

areas, expatriate Indonesians, and micro, small, and medium enterprises that increasingly depend on digital transactions (Mayana & Santika, 2021). Teremetskyi et al. (2021) demonstrate, in a comparative international context, that structural barriers to legal services disproportionately harm vulnerable groups and that systemic gaps in legal aid and digital access compound pre-existing social inequalities, a pattern directly observable in Indonesia's notarial services landscape. For communities with limited physical proximity to notarial offices, the requirement of mandatory physical presence is not a procedural formality but a substantive barrier to the exercise of civil legal rights. Regulatory ambiguity may elevate transactional risk, diminish public trust in electronically authenticated documents, and potentially obstruct effective civil dispute prevention. Thus, the matter of cyber notary legitimacy transcends technical-legal interpretation and directly impacts access to justice, legal inclusion, and public confidence in digital legal services.

The importance of legal certainty in the digital transformation of the notarial profession is crucial for sustaining public trust in electronically generated documents. The lack of comprehensive legislation for cyber notary procedures signifies the necessity for additional normative development to fully include digital notarization into Indonesian positive law. Numerous data protection laws must be comprehended to effectively analyze the information related to the establishment of electronic signature services in notarial deeds. Evaluating the extent of data protection laws in Indonesia is essential to determine whether the country possesses the legal framework that enables notaries to utilize electronic devices, and to assess the extent of legislative measures necessary to effectively guide notarial services in the information technology era.

This study formulates the following research questions based on the identified regulatory inconsistencies and their societal implications: To what degree does the UUJN govern and validate the utilization of electronic signatures in notarial practice? What normative and regulatory harmonization measures are necessary to guarantee legal certainty, evidential integrity, and equitable access to digital notarial services in Indonesia? In what ways does existing regulatory fragmentation produce structural barriers that disproportionately affect vulnerable populations in accessing civil legal services, and how can a justice-oriented harmonization framework address these barriers?

## 2. METHODS

This study employs a normative juridical research methodology, consistent with the characteristics of doctrinal legal analysis within the context of regulatory reform studies. The normative method examines the coherence, consistency, and hierarchical alignment of legislative norms governing notarial authority, electronic transactions, and electronic signatures in Indonesia. Izharti, Magdalena, and Ramadhani (2025) demonstrate that normative juridical methodology is particularly suited to studies of regulatory fragmentation in the Indonesian legal context, as it enables systematic identification of procedural inconsistencies, interpretative uncertainties, and institutional gaps that collectively undermine legal certainty across affected populations. In accordance with the scope of this study, the normative approach is extended to encompass socio-legal dimensions, specifically the structural

consequences of regulatory fragmentation on vulnerable populations and their access to civil legal services. Aydin and Aydin (2025) affirm that socio-legal inquiry constitutes an essential methodological orientation when examining access to justice, as it bridges the gap between law in books and law in action and ensures that the structural consequences of legal frameworks for vulnerable populations remain analytically visible throughout the research process. The paper therefore examines regulatory compatibility, identifies normative fragmentation, evaluates the sufficiency of the current legal framework in addressing the digital transition in notarial services, and assesses the social impact of that fragmentation on equitable access to justice.

The legal materials included in this research are systematically categorized into three classifications. Primary legal sources encompass statutory and regulatory instruments, including the Notary Law (UUJN), the Electronic Information and Transactions Law (UU ITE), pertinent portions of the Civil Code, and other implementing rules concerning electronic authentication and digital governance. Secondary legal materials encompass scholarly monographs, peer-reviewed journal articles, expert legal opinions, and academic commentary that examine cyber notary procedures, electronic signatures, regulatory harmonization, access to justice in digital legal services, and the legal protection of vulnerable groups. Tertiary legal materials include legal dictionaries, encyclopedias, and explanatory references that aid in elucidating legal language and doctrinal principles applied throughout the analysis.

The study employs a statutory approach and a conceptual framework in combination with a comparative approach. The statutory approach is employed to examine the content, structure, and normative hierarchy of relevant laws, particularly in detecting discrepancies between the UUJN and the ITE Law. The conceptual framework is utilized to analyze doctrinal developments related to cyber notary practices, legal validity, evidentiary robustness, and the function of notaries as trusted third parties in digital transactions. The comparative approach examines how selected jurisdictions, including the Netherlands, Brazil, Rwanda, and Singapore, have addressed analogous regulatory challenges in ways that preserve legal certainty while expanding equitable access to notarial services, thereby providing normative reference points for the Indonesian reform framework proposed in this study. Siswanto et al. (2025) and Nazran et al. (2024) both employ statutory and comparative approaches in their normative analyses of Indonesian notary law, confirming that this methodological combination is appropriate and productive for identifying regulatory gaps and generating reform recommendations in the cyber notary context.

The examination of legal materials employs a qualitative normative methodology comprising four systematic phases: first, cataloging and classifying pertinent legal provisions; second, detecting normative discrepancies and interpretative uncertainties, with particular attention to their structural impact on vulnerable populations; third, performing legal interpretation utilizing grammatical, systematic, and teleological methods; and fourth, developing a normative harmonization framework that rectifies identified regulatory deficiencies while incorporating access-to-justice considerations. Beck (2014) demonstrates that a cumulative interpretative

approach fusing grammatical, systematic, and teleological arguments constitutes the most defensible method of statutory analysis in civil law systems, as it prevents over-reliance on any single interpretative canon and produces readings that are simultaneously textually grounded and normatively coherent. Kuch (2022) further affirms that teleological interpretation is indispensable when statutory provisions produce inequitable outcomes, as it enables interpreters to align legislative application with the foundational purposes of the legal order rather than its literal formulation alone, a particularly salient concern in this study given that the current normative framework produces structural exclusion from civil legal services for vulnerable populations. The reasoning method is deductive, commencing with overarching legal concepts and legislative standards, then applying them to specific difficulties related to electronic signatures and cyber notary deployment. Ostapenko (2023) establishes that legal certainty, as an operational principle, requires not only the formal existence of regulatory provisions but their internal consistency, predictability, and accessibility to those subject to them, and this standard serves as the normative benchmark against which the regulatory fragmentation between the UUJN and the ITE Law is measured throughout this study. Teremetskyi et al. (2021) confirm that access-to-justice considerations must be integrated into the normative analytical framework from the outset rather than appended as secondary concerns, particularly when the populations affected by regulatory gaps include groups whose legal vulnerability is compounded by geographic, economic, and social disadvantage. The aim of this study is therefore to develop a cohesive regulatory framework that promotes legal certainty, strengthens the legal protection of structurally vulnerable groups, and advances an inclusive digital transformation of public notarial services in Indonesia.

### **3. RESULTS AND DISCUSSION**

#### **Normative Structure and Legal Fragmentation of Electronic Signatures in the Indonesian Notary System**

Modern technology has significantly influenced public service delivery, including notary public services. The notary public service in the digital era has adopted the internet and app-based services, transitioning from in-person to remote services to enhance efficiency, reduce costs, and improve accessibility. Public officials, traditionally engaged in face-to-face interactions and manual document processing, are increasingly required to adapt their workflows to accommodate emerging technologies. This transition has led to the emergence of the cyber notary concept, which aims to preserve fundamental legal attributes, such as authenticity and authority, while facilitating the creation of legal documents through electronic means. Agustin and Anand (2021) observe that, despite this technological momentum, Indonesian notaries continue to implement laws and regulations that have not been updated to reflect rapid change, producing a structural gap between legal requirements and social practice that directly undermines notaries' capacity to serve citizens operating in digital environments.

The theoretical foundation of notary authority is grounded in Hans Kelsen's normative theory, which perceives each norm as an imperative for the legal subject. Legal norms encompass more than mere prohibitions and strong statements; they also establish certainty and predictability through power structures and functional

procedures (Borman, 2019). Article 15 of the UUJN delineates notaries' authority to create valid deeds and fulfill legal obligations. This authority necessitates reinterpretation when digital technology begins to supplant or augment traditional methods. Cyber notaries position notaries not merely as creators of documents but as guardians of legally significant digital assets that serve as substantial evidence. Tan (2020) characterizes the current state of Indonesian cyber notary law as a legal paradox, in which the promulgation of Law No. 2 of 2014 formally introduced the term cyber notary into the Indonesian legal lexicon without establishing a coherent operational framework for its exercise, resulting in marginal compromises that have failed to generate normative stability.

The mismatch between Article 15 paragraph (3) and Article 16 paragraph (1) letter m of the UUJN, considered alongside the ITE Law, indicates a profound disturbance in normative coherence within the Indonesian legal system. Kelsen asserts that a legitimate legal system necessitates internal coherence and structural unity, wherein subordinate norms must not conflict with superior normative goals. The simultaneous acknowledgment of electronic transactions and the requirement for physical presence creates normative uncertainty that undermines legal certainty. This fragmentation subjects notaries to interpretative risk, as compliance with one statutory obligation may concurrently render them liable under another. Siswanto et al. (2025) confirm that these inconsistencies among the Notary Law, the ITE Law, and the Civil Code prevent notaries from issuing authentic electronic deeds, weaken the evidentiary value of digital documents, and create legal uncertainty in electronic transactions. This situation exemplifies not only a technical legislative deficiency but a fundamental issue of normative integration that necessitates harmonization at the statutory level. Izharti, Magdalena, and Ramadhani (2025) demonstrate, in the analogous context of restorative justice regulation in Indonesia, that regulatory fragmentation across legal institutions produces procedural inconsistencies, selective enforcement, and diminished public trust, consequences that are equally observable in the fragmented cyber notary framework and that indicate a systemic governance problem rather than an isolated legislative oversight.

The position of a cyber notary is more intricate than that of a typical notary, serving as a trusted entity that provides authoritative certification and validation for electronic transactions. The certification process entails the notary acting as a reliable third party capable of issuing digital certifications that ensure the parties involved in the transaction, the timing, and the subject matter of the transaction are duly recorded. Digital certificates serve as verification that a legal action is conducted by authorized entities within a designated timeframe relating to a specific subject (C. C. Putri & Budiono, 2019). The function of authentication concerns fulfilling the legal requirements of an electronic transaction, particularly the alignment of form and intent and the execution of the legal act. This function designates the notary as a trusted third party who not only documents data but also validates the authenticity of electronic data in question (López Jiménez et al., 2022). Putri and Masriani (2025) further demonstrate that the legal validity and enforceability of agreements signed using digital signatures under Indonesian law remain ambiguous, particularly for cross-border and bilingual transactions, underscoring that the normative gap in the

cyber notary framework has measurable consequences for legal certainty in contemporary commercial practice.

The effective implementation of cyber notary systems relies on service support that ensures the integrity, confidentiality, and availability of electronic documents. Notary systems must be integrated with secure repository systems ensuring that all associated electronic documents are stored in systems resistant to alterations or illegal access. The complete system must adhere to particular technological and legal standards, as any vulnerability could compromise the authenticity of the legal document and the notary's professional standing. As system complexity increases, there is a heightened necessity for cyber notary systems to transcend basic normative recognition and to conceptualize a governance framework for cyber systems that aligns with the instrumental significance of legal documents as paramount evidence (Alwajdi, 2020). Nazran et al. (2024) demonstrate through comparative analysis of Indonesia, the United States, the Netherlands, and Australia that the absence of integrated data platforms for real-time access to national databases constitutes a critical infrastructural gap that compounds normative fragmentation. While the United States has adopted blockchain-based e-notary systems to ensure data integrity, and the Netherlands provides integrated platforms allowing notaries to validate documents remotely by accessing national databases in real time, Indonesian notaries lack access to essential data systems such as Dukcapil and the National Land Agency, complicating the verification of personal identity and property documents.

Multiple variables must be evaluated within the framework of the Civil Code and the UUJN when addressing the conditions for authentic deeds. A genuine deed must adhere to a specified format and be executed in the presence of an authorized official within their authority, accompanied by the parties involved and witnesses, who will then read and sign the deed. The physical presence of the parties before the notary is seen as a crucial prerequisite to ensure that the expression of intent is made voluntarily, without coercion, and is legitimate from the perspective of the legal subject involved. A failure of formal standards results in the deed losing its status as an authentic document, diminishing its evidentiary value. The question of physical presence must therefore be examined in light of how contemporary society increasingly adopts distant communication, video conferencing, and electronic signatures, necessitating an analysis of how these advancements align with the principles of authentic acts.

As society advances into the digital era, the electronic signature transforms from an optional instrument to an essential component for maintaining digital notarial services. Electronic signatures function as verifiable authentication methods that replace traditional wet signatures. Signatures encompass more than merely a name; they represent the intent of the signer, authenticate the signer's identity, associate the signature with a specific document, and signify consent to the document's terms. Legal systems employing a functional equivalent approach have equated electronic signatures with traditional signatures to an equivalent degree (Purnayasa, 2018). The functional equivalence principle underlying electronic signature regulation has been recognized in international frameworks such as the UNCITRAL Model Law on Electronic Signatures and further developed in the European Union eIDAS regulation. Comparative legal scholarship emphasizes that the legal validity of electronic

signatures depends not merely on statutory recognition but on institutional trust frameworks and interoperable digital infrastructures (Boneh, 2025; Mason, 2016). Wang (2007) identifies the global landscape of electronic signature regulation as divergent and fragmentary, arguing that this disharmony impedes not only international commerce but the broader development of secure digital legal practices. This finding retains direct relevance to Indonesia's unresolved normative tensions, as the fragmentation Wang identifies at the international level is replicated within the Indonesian domestic legal order in the conflict between the UUJN and the ITE Law. Alhrerat et al. (2025), examining Jordan's comparable experience in harmonizing electronic signature legislation with cybercrime law, similarly demonstrate that enforcement gaps, undefined criteria for digital authentication, and low public understanding of certification requirements are structural products of legislative disharmony rather than incidental technical failures.

The legal framework governing electronic signatures encompasses their legal validity, the exclusive association of data about the signer and signature creator, singular control over the signature creation method at the time of signing, the system's ability to document and recognize subsequent modifications to the signature and the signed information, the device serving as a means of signatory identification, and a mechanism to convey the signatory's consent. Government regulations introduce an additional legal framework that distinguishes between certified and uncertified electronic signatures. Certified electronic signatures are generated by accredited electronic certification providers in accordance with standards-compliant signature generation and are accompanied by an electronic certificate verifying their authenticity. In numerous transactions, uncertified signatures remain common; however, their evidentiary value is sometimes diminished by the lack of a recognized state certification framework. Maganić (2013) Examining the regulation of notaries in electronic legal transactions across German, Austrian, and Croatian law demonstrates that centralized electronic registers managed by notarial chambers produce measurable improvements in authentication consistency and archival integrity, providing a model for institutional governance of electronic notarial acts that Indonesia has yet to adopt.

Although electronic signatures are deemed legitimate evidence under the ITE Law, that same law imposes constraints on electronic notarization by excluding notarial deeds from the definition of electronic documents. Consequently, documents in electronic format currently lack all attributes necessary for legally valid proof as authentic deeds under the existing framework. This creates the risk that electronic documents, including minutes of deeds, may be classified as private rather than authentic. Karman et al. (2024) empirically confirm that regulatory disharmony and insufficient digital literacy are the two principal obstacles to electronic signature adoption in Indonesia, both of which are structural products of normative fragmentation rather than technological limitation alone. Their findings demonstrate that without regulatory harmonization, electronic signature adoption will remain constrained by interpretive risks that expose notaries to liability while simultaneously denying citizens the benefits of digital notarial services.

The normative tension between the UUJN and the ITE Law should be perceived not merely as a textual discrepancy but as a structural contradiction in regulatory aims. The ITE Law employs a functional equivalency approach, acknowledging electronic signatures as legally binding instruments that can substitute handwritten signatures. Conversely, the UUJN upholds a formalistic stipulation of physical presence and concurrent signature in the presence of a notary. This disparity illustrates two opposing regulatory philosophies: technology facilitation and procedural formalism. From a systematic interpretative standpoint, the absence of explicit harmonization between these laws creates legal ambiguity that compromises the principle of legal predictability, a fundamental aspect of the rule of law. The principle of legal certainty as an element of the rule of law requires coherence, predictability, and consistency in statutory frameworks (Fuller, 1994; Raz, 2009). Regulatory fragmentation between the UUJN and the ITE Law therefore undermines not only procedural clarity but the systemic integrity of the legal order.

The discordance of regulations among the ITE Law, the Notary Law, and the Civil Code has prompted conservative inclinations among notaries, particularly those who believe that the principle of *lex specialis derogat legi generali* elevates the Notary Law to a superior status. This conservative position has been reinforced by the absence of regulatory measures that would broaden the normative definition of attendance to encompass virtual presence via electronic means. Consequently, the majority of notaries have opted to adhere to traditional methods despite societal demands for a more pragmatic approach to electronic document signing. Officials empowered by Article 15, paragraph (3), of Act 2 of 2014 possess limited authority regarding the certification of electronic transactions and do not receive acknowledgment of the notary public's full authority to produce an authentic deed in electronic format. Notaries serve as entities that authenticate the electronic signature, verify identification, and confirm the timestamp, in addition to performing the manual legalization of documents (Pradnyadewi & Jayantiari, 2023). This interpretive void, as Alkatiri, Putra, and Ongko (2023) observe in the post-pandemic context means that notaries seeking to automate operations may simultaneously incur civil, administrative, and criminal liabilities while failing to generate valid deeds, a condition that deters digital adoption and denies citizens the legal protection that remote notarization could provide.

Comparative regulatory experiences indicate that effective implementation of cyber notarization requires extensive legal reform and institutional safeguards. In the Netherlands, remote notarization is legally acknowledged contingent upon stringent identity verification processes facilitated by centralized digital authentication systems that guarantee secure video identification and encrypted document transmission (Koos, 2023). The Dutch methodology preserves evidential integrity while facilitating remote involvement, diminishing geographical obstacles without sacrificing legal certainty (Schmid, 2012). Brazil exemplifies this through its national e-Notariado platform, which consolidates digital certificates, centralized verification, and secure electronic archives under the oversight of the National Council of Justice, guaranteeing consistent technological standards across regions while mitigating service quality discrepancies and digital exclusion (Almeida, 2025). In the ASEAN context, Singapore has implemented a systematic electronic signature framework that

incorporates robust cybersecurity standards, recognized certifying authorities, and explicit legal acknowledgment of digital documents (Hussy & Djaja, 2023). Omurgonulsen and Gursoy (2025), examining the digitization of notarial tasks in Turkiye, demonstrate that even jurisdictions with strong institutional inertia can advance digital notarization through coordinated stakeholder engagement, regulatory alignment with e-government frameworks, and phased capacity building, providing a reform pathway applicable to the Indonesian context. Most significantly, Siswanto et al. (2025) present Rwanda's model, grounded in Law No. 031/2016 and a unified digital identity platform, as a normative foundation for reconstructing Indonesia's cyber notary framework, demonstrating that explicit statutory recognition of electronic notarial acts is legally achievable and institutionally manageable within a civil law system. These comparative models collectively demonstrate that the digital revolution, in isolation, does not inherently enhance access to justice. Countries that have successfully implemented cyber notary systems simultaneously invest in inclusive digital infrastructure, standardized certification mechanisms, and regulatory clarity that minimizes interpretative ambiguity.

### **Regulatory Reform Framework for Electronic Signatures and Cyber Notary in Indonesia**

Society 5.0 is envisioned as an era in which digital technology is not merely a tool but is seamlessly incorporated into all facets of society, including legal systems. The integration of cloud technology, artificial intelligence, the Internet of Things, and networked communication provides several methods for organizing and processing information. Information is now stored in servers, secure vaults, and meticulously developed cloud systems, transforming the provision of notary public services. These services necessitate enhanced speed and convenience, cost-effectiveness, and transparent communication. Notaries previously utilizing digital assistance are now compelled to eliminate face-to-face interactions and transition to predominantly digital methods in response to societal demands (Aditya et al., 2022). Widayanti et al. (2025) demonstrate that Indonesia's digital economy, projected to sustain significant growth across Southeast Asia, remains systematically hindered by an inadequate and fragmented cyberlaw framework, and that regulatory reform is essential not merely for legal clarity but also for Indonesia's broader digital economic competitiveness. This observation extends directly to the notarial sector, where legal stagnation imposes transaction costs that fall disproportionately on those with the least capacity to bear them.

Electronic signatures can significantly disrupt traditional manual document signing by providing a compliant digital alternative. A cryptographic electronic signature system ensures irreversibility, authentication, and traceability. The provisions of electronic signature systems enable notaries to benefit from certain closing requirements about the timing and the legal document associated with the grant. Zheng et al. (2017) demonstrate that blockchain technology, as an immutable and decentralized ledger, provides a technically viable architecture for electronic notarial systems, ensuring data integrity, preventing unauthorized alterations, and creating transparent audit trails. The application of blockchain to notarial services has

been explored in Indonesia and is consistent with the direction of reform proposed by comparative jurisdictions that have successfully digitized notarial functions.

The theoretical expectation of alignment between technology and the role of the notary prompted the concept of the cyber notary. This concept positions notaries not merely as creators of written documents but as administrators and guarantors of the legal validity of transactions conducted online. The operations of a cyber notary encompass the utilization of electronic signatures, teleconferencing to assemble contract parties, the digitalization of legal minutes, and the electronic storage of deeds. The role of the notary evolved into that of a reliable third party serving as a certifying authority, affirming that the individual is the signatory of the document, that the document is not signed in abstracto, and that the signing is contemporaneously integrated (Lubis et al., 2024). Faiqoh and Octarina (2024), examining the application of cyber notary in sharia economic transactions in Indonesia, further demonstrate that the demand for electronic notarial services extends across diverse legal and economic communities, including Islamic economic actors who require electronic contracts consistent with the principles of honesty, fairness, and clarity. This finding underscores that the absence of a coherent cyber notary framework imposes costs not only on secular commercial actors but on religiously observant communities whose legal transactions are increasingly conducted in digital environments.

Addressing the clash of standards between the UUJN and the ITE Law requires governmental engagement through legal and regulatory reform. The amendment of the Notary Position Law, the Electronic Information and Transaction Law, and associated regulations is a deliberate measure to eliminate uncertainty. A frequently proposed solution is to amend Article 5 paragraph (4) of the ITE Law, which currently excludes notary deeds from the classification of electronic documents as evidence. Should this exception be modified to acknowledge a legitimate deed in electronic format provided it satisfies certain criteria, the intersection of technology law and notarial law may be more readily established. The assertion that a notarial deed, regardless of being in paper or electronic format, constitutes a legitimate electronic document will facilitate subsequent technological arrangements and provide notaries with clear statutory authority to operate in digital environments.

Enhancing regulations is also necessary under Articles 15 and 16 of the UUJN. The power to certify electronic transactions must be redefined to include not only the certification of electronic signatures in theory but also to govern the role of the notary throughout the entire digital deed production process. Reformulating the expressions of reading the deed in person and signing at the same time may expand the interpretation of attendance to include virtual participation via teleconferencing technologies that adhere to security protocols. The assertion that electronic signatures compliant with Article 11 of the ITE Law may be used would provide notaries with a robust foundation to adopt technology without compromising the legitimacy of the deed. Barlian et al. (2025), examining the digital transformation of criminal justice in Indonesia, demonstrate that legal reform without accompanying institutional capacity building consistently produces implementation gaps, and that effective digital transformation requires simultaneous attention to regulatory clarity, technological infrastructure, and professional training. This finding is directly applicable to the

cyber notary context, where legislative amendment alone will be insufficient without corresponding investment in notarial capacity and public digital literacy.

Legal change at the textual level must be accompanied by the establishment of appropriate technical infrastructure. The presence of state-regulated electronic certification providers, secure digital storage systems for electronic protocols, and accessible identity verification procedures for notaries are key components. Access to population databases by notaries facilitates the direct verification of legal subject information before the issuance of electronic certificates. A safe storage system for digital data mitigates the risk of loss from physical harm and enhances the efficiency of future retrieval processes. Barlian et al. (Barlian et al., 2025a) observe that electronic justice systems in Indonesia continue to face both legal and technical challenges and that clear regulatory frameworks must be accompanied by improved digital infrastructure and enhanced data security systems, a lesson applicable to the parallel development of electronic notarial infrastructure.

Ensuring the identification of the parties in the cyber notary context is a delicate matter. The absence of a physical encounter creates potential for impersonation, identity fraud, or the exploitation of digital accounts by unauthorized individuals. Biometric verification, multi-layered authentication, and digital fingerprint audits may be established as conditions for using electronic signatures in notarized documents. Ministries and affiliated entities must establish formal and recorded verification mechanisms to alleviate the burden of evidence from notaries during disputes. In a reliable centralized verification system, the majority of technical responsibility for identity security will rest with the electronic system operator, while the notary focuses on the legal components of due diligence.

The harmonization of standards necessitates the modification of legal culture. Individuals accustomed to in-person meetings may need time to accept that assent to a deed's contents provided by electronic signature carries equivalent legal ramifications. Notaries must enhance their technical capabilities to avoid being relegated to the status of nominally recognized public officials who are falling behind the dynamics of digital transactions. Ongoing education, updated ethical standards around technology use, and the backing of professional groups will significantly facilitate the transition. If legislation changes without a corresponding shift in professional culture, the concept of a cyber notary may persist as mere rhetoric seldom actualized in practice.

### **Structural Justice and the Legal Protection of Vulnerable Populations in the Cyber Notary Framework**

The findings support the need for a transformative legal protection model that integrates normative regulation, human rights principles, and socio-religious protection mechanisms to address the evolving nature of online scam-based trafficking. Contemporary scholarship after 2020 consistently argues that traditional anti-trafficking frameworks are insufficient when exploitation occurs through digital platforms and forced criminality. Studies by LeBaron (2020), Chuang (2021), and Gallagher (2022) emphasize that a rights-based approach must prioritize victim

protection over prosecution and incorporate structural vulnerability factors, including migration status, digital exclusion, and religious identity. In the Indonesian context, this requires aligning migration governance, cybercrime regulation, and anti-trafficking law within a unified protective framework.

A key component of this model is the recognition of forced online scamming as a form of trafficking that triggers the non-punishment principle. Research by Cockbain & Bowers (2022) and Segrave (2023) demonstrates that victims compelled to commit cyber fraud should be legally classified as trafficked persons rather than offenders. Incorporating this principle into domestic Indonesian law and bilateral agreements would prevent secondary victimization and ensure access to remedies, compensation, and rehabilitation. This doctrinal shift reflects the evolution of international legal standards in response to technology-facilitated exploitation.

Preventive protection must also be strengthened through digital governance. Studies by Latonero (2021) and Mirjam van Reisen (2022) highlight the role of online platforms in facilitating recruitment and deception. A rights-based regulatory model therefore requires mandatory verification of cross-border digital recruitment, algorithmic monitoring of suspicious job advertisements, and transnational data-sharing mechanisms. For Indonesian migrant workers, pre-departure training should include digital literacy, risk assessment of online employment offers, and access to verified recruitment portals. Such measures operationalize the state's due diligence obligation in the digital sphere.

The integration of socio-religious protection constitutes a distinctive contribution of this model. Post-2020 interdisciplinary research shows that faith-based organizations play a critical role in trafficking prevention, victim identification, and reintegration. Islamic institutions including zakat agencies, pesantren networks, and migrant worker religious associations provide culturally responsive shelters, legal mediation, and psychosocial support grounded in spiritual resilience. Studies by Howell and Lind (2020), Bano (2021), and Petersen (2023) demonstrate that faith-based assistance enhances trust, reduces stigma, and facilitates long-term recovery among trafficking survivors. Recognizing these actors within formal national referral mechanisms would bridge the gap between state and community protection systems.

Furthermore, a socio-religious model acknowledges the intersectionality of vulnerability. Muslim migrant workers often experience layered marginalization as migrants, low-wage workers, and religious minorities in destination countries. Research by Yea (2021), Bales (2021), and Ford and Lyons (2022) confirms that structural discrimination increases exposure to exploitative recruitment networks. Legal protection must therefore include culturally appropriate shelters, access to halal food, prayer facilities, and religious counseling as part of minimum victim support standards. These measures are not merely symbolic but constitute substantive components of human dignity and recovery under international human rights law.

At the regional level, ASEAN cooperation should incorporate community-based and faith-based actors into cross-border protection frameworks. Current mechanisms focus primarily on law enforcement cooperation, overlooking the role of civil society in victim assistance. Integrating Islamic humanitarian organizations into ASEAN referral pathways would enhance early identification, safe repatriation, and post-

return reintegration. Comparative studies after 2020 indicate that multi-stakeholder models combining state agencies, international organizations, and religious networks produce more effective protection outcomes than state-centric approaches.

Finally, this rights-based and socio-religious model contributes to regulatory transformation by reframing trafficking as a multidimensional human rights issue rather than solely a criminal law problem. It aligns legal protection with the lived realities of Indonesian migrant workers in the digital economy and responds to the transnational character of cyber exploitation. By integrating normative law, digital governance, and community-based religious support, the model advances a holistic protection framework that is both contextually grounded and normatively consistent with international human rights standards. The normative fragmentation between the UUJN and the ITE Law is not a self-contained doctrinal problem. Its consequences extend materially into the lives of populations who depend on notarial services to exercise civil legal rights. The legal uncertainty surrounding remote electronic signatures discourages notaries from offering digital services, limiting access for individuals in remote regions, Indonesian citizens overseas, and micro, small, and medium enterprises that heavily rely on digital transactions. In regions with few notarial offices, the requirement for personal attendance increases transaction costs, extends the duration of contractual formalization, and may discourage formal legal documentation altogether. Regulatory uncertainty thereby threatens to worsen structural inequalities in access to formal legal services, particularly for economically poor or geographically isolated groups. The legitimacy of cyber notaries therefore directly influences access to justice and the inclusivity of Indonesia's civil law framework.

Donoghue (2017) argues that the rise of digital justice carries profound implications for fair and equitable public participation, and that technological transformation in legal services must be evaluated not only by its efficiency gains but by its consequences for those who are already marginalized within the legal system. This observation is directly applicable to the Indonesian cyber notary context: the failure to resolve normative fragmentation does not produce a neutral status quo but actively perpetuates the exclusion of specific population groups from formal civil legal services. Teremetskyi et al. (2021) demonstrate, through comparative international analysis, that structural barriers to legal services disproportionately harm vulnerable groups and that systemic gaps in legal aid and digital access compound pre-existing social inequalities. Muhammad (2024) documents how Indonesian legal frameworks that lack normative clarity systematically expose vulnerable groups to discrimination and deprivation of legal rights, a pattern that is structurally reproduced in the cyber notary context when regulatory ambiguity forces notaries into conservative postures that restrict service delivery.

The structural consequences of regulatory fragmentation are particularly acute for specific categories of vulnerable populations. First, communities residing in geographically remote areas, particularly in Eastern Indonesia and the outer islands, face near-total dependence on the physical availability of notarial offices. The low density of notaries in these regions means that mandatory physical attendance

translates into prohibitive costs of travel, time, and foregone economic activity, effectively rendering formal notarial services inaccessible to populations with the least capacity to absorb these costs. Second, Indonesian migrant workers abroad require notarial services for a range of civil legal acts, including property transactions, powers of attorney, marriage documentation, and business agreements. The absence of a valid remote notarization mechanism leaves this population structurally excluded from formal civil legal documentation, reliant instead on alternative and less legally secure instruments. Third, micro, small, and medium enterprises operating in digital commerce require rapid and cost-effective access to authenticated contracts. The requirement of physical appearance before a notary renders these services inaccessible to enterprises operating in geographically dispersed or entirely digital environments, limiting their participation in formal economic activity and undermining their legal protection in commercial disputes.

Fadhilah et al. (2025), examining zakat governance reform in Indonesia, demonstrate that institutional fragmentation and regulatory complexity similarly limit the contribution of legal institutions to social justice, and that digital transformation without coherent governance produces inequitable outcomes across population segments. Their finding that effective reform requires simultaneous attention to regulatory harmonization, institutional capacity, and equitable access to digital systems mirrors the reform imperatives identified in the cyber notary context. This convergence across different domains of Indonesian law indicates that regulatory fragmentation and its structural consequences for vulnerable populations represent a systemic governance challenge rather than a sector-specific anomaly.

Regulatory reform in the field of cyber notary must therefore incorporate explicit access-to-justice considerations from the outset. Digital notarial systems should be designed not only to enhance efficiency but also to expand equitable service delivery (Sukhovenko, 2020). Safari and Techatassanasoontorn (2025) emphasize that the design of digital legal services must center human values, particularly for the most vulnerable in society, or risk deepening existing inequalities rather than alleviating them. This requires ensuring affordable access to certified electronic signatures, developing user-friendly digital platforms for small-scale business actors, and providing legal literacy initiatives to reduce digital exclusion. Without such safeguards, digital notarization may disproportionately benefit technologically advantaged users while leaving marginalized communities dependent on outdated and more costly manual procedures. Maestri (Maestri, 2020) similarly warns that digital justice reforms which neglect equitable and public participation may produce negative consequences for the effective legality of virtual legal processes and the broader relationship between democracy and access to justice.

A socially responsive regulatory transformation must therefore balance technological innovation with distributive fairness in legal service provision (Voegtlin & Scherer, 2017). Socio-legal research warns that the digital transformation of legal services may unintentionally widen access gaps if infrastructure, literacy, and regulatory clarity are unevenly distributed (Eubanks, 2018; Janowski, 2015). The legitimacy of cyber notary reform therefore depends not only on statutory amendment but also on ensuring equitable digital access and procedural safeguards for vulnerable communities. The digital transformation of public legal services necessitates

governance models that amalgamate technological infrastructure with institutional accountability and transparency measures (Cordella & Tempini, 2015; Eom & Lee, 2022). In the absence of governance integration, digital legal improvements are likely to remain merely symbolic rather than functional.

Indonesia, as a contemporary legal state, cannot overlook the impact of technology on employment, transactions, and the organization of legal relationships. The reference to cyber notary in the UUJN signifies an initial acknowledgment; nonetheless, mere recognition is insufficient without a definite operational framework. The need for legal clarity, personal data protection, and transaction security must be articulated through explicit and enforced regulations. Upon achieving harmony among the UUJN, the ITE Law, and corresponding regulations, notaries will be more inclined to utilize electronic signatures, while the public will be assured of the enduring authenticity of the resultant deed. The cyber notary represents not only a technological modification but a revitalization of the trust framework among the state, public authorities, and people. Electronic signatures, digital certificates, video conferencing, and electronic archives are instruments. The fundamental substance is the assurance that every action, whether tangible or digital, accurately embodies the intentions of the parties, is formulated by authorized personnel, and is safeguarded by rules that are coherent and adaptive to contemporary circumstances.

#### 4. CONCLUSION

The UUJN does not provide adequate normative basis for the utilization of electronic signatures in notarial practice. The authority granted under Article 15 paragraph (3) to certify electronic transactions is structurally undermined by the obligation under Article 16 paragraph (1) letter m requiring physical presence and concurrent manual signing. This internal contradiction, compounded by the exclusion of notarial deeds from the classification of electronic documents under the ITE Law, produces a condition in which notaries possess nominal authority to engage with electronic transactions while lacking a clear and enforceable legal basis to do so. The result is not a neutral regulatory gap but an active deterrent to digital adoption, as notaries who pursue electronic notarization risk administrative, civil, and criminal liability without the protection of explicit statutory authorization.

Normative and regulatory harmonization requires action at three interconnected levels. At the legislative level, the amendment of Article 5 paragraph (4) of the ITE Law to include notarial deeds within the classification of valid electronic documents constitutes the foundational step, alongside the reformulation of the attendance and concurrent signing requirements in Articles 15 and 16 of the UUJN to encompass verified virtual presence via secure teleconferencing technologies. At the institutional level, the establishment of state-regulated electronic certification providers, integrated access to national population and property databases, and centralized secure digital storage systems for electronic protocols are necessary preconditions for the operational viability of cyber notary services. At the governance level, regulatory

reform must be accompanied by standardized professional training for notaries, public digital literacy programs, and accountability mechanisms that ensure consistent implementation across geographic regions. These three levels are not sequential but interdependent, and reform that proceeds along one level without the others will produce implementation gaps that undermine legal certainty rather than resolve it.

Regulatory fragmentation between the UUJN and the ITE Law generates structural barriers that fall disproportionately on populations who are already least able to absorb the costs of legal inaccessibility. Communities in geographically remote regions, Indonesian migrant workers abroad, persons with disabilities, and micro-enterprise operators dependent on digital transactions bear the concrete consequences of a legal framework that mandates physical presence without providing viable alternatives. For these groups, the absence of legal recognition for remote notarization is not a procedural inconvenience but a substantive exclusion from civil legal documentation. A justice-oriented harmonization framework must therefore incorporate equitable access as a primary design criterion rather than a residual consideration. This means ensuring affordable access to certified electronic signatures, developing inclusive digital platforms that do not require advanced technological literacy, and establishing regulatory safeguards that prevent digital notarization from reproducing in digital form the geographic and economic inequalities that characterize the current analog system. The legitimacy of cyber notary reform in Indonesia ultimately rests not only on its technical coherence but on its capacity to expand the reach of civil legal services to those who have historically been structurally excluded from them.

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