

Legal Protection of Notaries in Document Validation through Technology-Based Systems: A Comparative Legal Review of Indonesia, the United States, the Netherlands, and Australia

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Abstract

This paper examines the legal framework and challenges notaries face in adopting technology-based systems for document validation in Indonesia, with a comparative analysis involving the United States, the Netherlands, and Australia. Indonesia's legal framework, particularly Law No. 2 of 2014 on the Office of Notary, has yet to fully accommodate electronic signatures and remote notarization. The requirement for in-person meetings for authenticating notarial acts creates a regulatory barrier to implementing cyber notary services. Furthermore, Indonesian notaries face limited access to essential data systems, such as Dukcapil (Civil Registration Directorate) and BPN (National Land Agency), complicating the verification of personal identity and property documents. In contrast, the United States has adopted e-notary systems, using blockchain technology to ensure data integrity and mitigate fraud risks. The Netherlands provides an integrated platform, allowing notaries to validate documents remotely by accessing national databases in real time. Meanwhile, Australia has implemented a Digital Identity Program to facilitate efficient online authentication of documents. These innovations demonstrate how interoperability, regulatory flexibility, and digital literacy can enhance notary services and legal certainty. This paper proposes regulatory reforms in Indonesia, including revising existing laws to support remote notarization and electronic signatures. Second, developing integrated data platforms for real-time access. Third, providing training programs for notaries to adopt new technologies and ensure data security. By aligning Indonesia's legal framework with international best practices, cyber notary services can enhance efficiency, security, and legal protection for both notaries and the public, meeting the demands of the digital era.

Keywords: *Comparison, Law, Protection, Notary, Validation.*

Introduction

In the digital era, the application of information technology has transformed not only business and social sectors but also legal and notarial administration. Notaries, as public officials responsible for creating and validating authentic deeds, must adapt to public demand for efficient and accessible legal services. The shift towards technology-based notarial services, known as cyber notaries, offers solutions to accelerate deed-making processes and minimize physical interaction, which has become particularly relevant during the COVID-19 pandemic (T. M. Lubis & Sunarmi, 2022; Nazran et al., 2022; Tan et al., 2024).

Indonesia currently faces challenges in implementing technology-based notary services. Law No. 2 of 2014 on the Office of Notary and Law No. 11 of 2008 on Information and Electronic Transactions (ITE) do not yet fully accommodate electronic signatures and remote notarization. The legal requirement for in-person meetings to authenticate deeds limits the adoption of these technology-based systems (Sari et al., 2023). Meanwhile, advanced nations like the United States, the Netherlands, and Australia have implemented electronic notary services with sufficient digital infrastructure, such as blockchain for data security and Digital Identity Programs for efficient authentication (Sari et al., 2023; Tan et al., 2024).

In the United States, e-notary allows real-time validation of electronic documents through blockchain technology, ensuring service efficiency and security (Tan et al., 2024). The Netherlands has integrated notarial services with government digital infrastructure, enabling remote verification and authentication with high-security standards (Sari et al., 2023). Australia's Digital Identity Program facilitates easy and secure

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document authentication, supporting faster and more transparent public services (Sari et al., 2023; Tan et al., 2024).

In Indonesia, notaries still struggle with limited access to key government systems such as Dukcapil (Civil Registration) and BPN (National Land Agency), resulting in delays and potential errors in deed-making processes (Tan et al., 2024). Singapore's MyInfo system, which allows real-time data access with user consent, exemplifies how effective data integration can minimize risks and legal disputes (Sari et al., 2023). This comparison suggests that Indonesia must pursue regulatory reform and improved system integration to support electronic document validation.

This paper addresses the following questions: First, what are the regulatory and infrastructure challenges faced by Indonesian notaries in implementing technology-based document validation? Second, how does the regulation and practice of electronic notary services in Indonesia compare to that of the United States, the Netherlands, and Australia? Third, what policy recommendations can be proposed to enhance legal protection for notaries in Indonesia's digital ecosystem?

The study's objectives are: To analyze policies and regulations on technology-based document validation in Indonesia and compare them with those in advanced nations such as the United States, the Netherlands, and Australia; To identify regulatory gaps that hinder the implementation of cyber notary services in Indonesia, especially in the context of electronic document validation and inter-agency data access; To propose policy recommendations that strengthen legal protection for notaries and facilitate the adoption of technology-based systems, taking into account data security and due diligence principles.

Several studies indicate that Law No. 2 of 2014 and related regulations in Indonesia do not yet fully support the use of electronic signatures and remote notarization (I. Lubis et al., 2023; Tan et al., 2024). The United States and Australia have already integrated e-notary systems with blockchain technology and Digital Identity Programs to minimize risks and expedite document validation (Tan et al., 2024). The regulatory gap in Indonesia persists as face-to-face interactions remain mandatory, while digital infrastructure remains underdeveloped (Sari et al., 2023).

(Manuaba et al., 2022) Highlight that Indonesian notaries lack adequate access to Dukcapil and BPN systems, which slows down the validation of identity and property documents. Singapore's MyInfo system addresses this challenge by enabling stakeholders to access data in real time with user consent (Tan et al., 2024). The absence of integrated systems in Indonesia makes it difficult to fully implement electronic document validation.

Resistance from traditional notaries further complicates the adoption of cyber notary services in Indonesia (Ikasari, 2023). In countries like Australia and the United States, technology adoption is supported by intensive training and outreach programs for notaries, facilitating a smoother transition to electronic systems (I. Lubis et al., 2023; Tan et al., 2024). In Indonesia, however, the lack of training and infrastructure support hinders progress.

According to Tan et al. (2024), data security risks and the potential for privacy breaches remain major challenges for Indonesia in implementing technology-based systems. In contrast, the Netherlands has developed an integrated system with high-security standards, while Indonesia lacks adequate legal frameworks to protect personal data in notarial transactions (Sari et al., 2023; Tan et al., 2024).

Several key gaps have been identified in the implementation of cyber notary services in Indonesia: First, regulatory limitations in accommodating electronic deeds and signatures. Second, restricted access to inter-agency data from Dukcapil and BPN, slowing down validation processes. Third, resistance from traditional notaries and a lack of digital literacy and training. Fourth, data security challenges and the risk of privacy breaches. Fifth, slow regulatory reform, leaving Indonesia behind in aligning legal and technological frameworks.

Addressing these gaps requires a focus on regulatory reform, digital infrastructure development, and inter-agency collaboration. Cyber notary services can enhance notarial efficiency and security, but their success hinges on regulatory reform, the development of integrated digital infrastructure, and improved data access. Learning from the experiences of the United States, the Netherlands, and Australia, Indonesia can adopt adaptive regulations that support electronic notary services and strengthen public trust in technology-based legal services (Sari et al., 2023; Tan et al., 2024).

Literature Review

Definition and Scope of Cyber Notary According to International Practices

A cyber notary refers to the use of technology-based systems in notarial services, enabling the electronic verification of documents without the need for face-to-face interactions. In an international context, cyber notary aims to enhance the efficiency, security, and transparency of legal services. In the United States, the concept of e-notary leverages blockchain technology to protect document integrity and prevent forgery (Tan et al., 2024). The system supports digital transactions with legally recognized electronic signatures, applicable across jurisdictions.

The Netherlands has integrated notarial services with digital government infrastructure, allowing remote validation. This setup grants direct access to official data for verifying identities and ownership of assets without requiring in-person meetings. Australia's Digital Identity Program facilitates real-time authentication and document validation with high security, reducing the potential for disputes (I. Lubis et al., 2023; Sari et al., 2023).

Comparison between Indonesia, the United States, the Netherlands, and Australia in Electronic Notary Regulation

Indonesia is still in the early stages of implementing cyber notary services. Current regulations, such as Law No. 2 of 2014 and the ITE Law of 2008, do not fully support electronic deeds and digital signatures. The requirement for face-to-face interaction remains a major obstacle to adopting this technology (Putra et al., 2024). In contrast, the United States has introduced e-notary systems in several states, including California and Illinois, with blockchain support to ensure the security and validity of digital transactions (Tan et al., 2024). Additionally, U.S. regulations are flexible, allowing frequent revisions to align with technological advancements (Humam Alkatiri et al., 2023).

Both the Netherlands and Australia have successfully developed integrated electronic notary systems. These countries illustrate how digitization can improve efficiency and security in deed-making and legal transactions. In the Netherlands, notaries can electronically verify identities and documents without in-person meetings while maintaining the integrity of documents. Dutch notaries have direct access to national registers and public data, ensuring swift and accurate deed validation (Sari et al., 2023). The Dutch government has also established high-level security protocols to safeguard digital notary platforms, prevent data misuse, and ensure that electronic transactions are legally valid with clear legal protection (I. Lubis et al., 2023; Sari et al., 2023; Tan et al., 2024).

Australia's Digital Identity Program supports electronic identity verification and authentication during notarial transactions. This program enables notaries and users to access data and documents in real time, expediting the creation and certification of deeds (Tan et al., 2024). Australia also enforces strict data protection regulations, ensuring the security of digital transactions nationwide. This minimizes the risk of data breaches and maintains public trust. Furthermore, Australia's adaptive regulations undergo periodic revisions to keep pace with technological developments and societal needs (Humam Alkatiri et al., 2023).

Currently, Indonesia lacks integrated data access like those used in the Netherlands and Australia. Limited access to *Disdukcapil* (Civil Registration) and BPN (National Land Agency) hampers the validation of electronic documents (Manuaba et al., 2022). In addition, resistance from traditional notaries and insufficient digital infrastructure slow the adoption of cyber notary services in Indonesia (Ikarsari, 2023). Drawing from practices in the Netherlands and Australia, Indonesia could develop integrated cross-agency

platforms for fast and secure data validation. Regulatory reforms are also necessary to align Law No. 2 of 2014 with the use of electronic deeds and digital signatures (Putra et al., 2024; Sari et al., 2023).

Progressive Legal Theory as a Framework for Regulatory Reform

The progressive legal theory emphasizes that regulations must be adaptive and responsive to societal changes and technological advancements (Deriya Fajar Rizki Asril Putra et al., 2022; Putra et al., 2024). In the context of cyber notary services, progressive law advocates for regulatory reforms that embrace innovations such as digital signatures and remote notarization.

This reform is essential because current regulations are viewed as too rigid and misaligned with modern societal needs. For example, Indonesian notaries are still required to meet with parties in person for every deed transaction. A progressive approach could overcome this barrier by introducing a regulatory framework that legally recognizes electronic document validation as both secure and legitimate (Putra et al., 2024).

Progressive law also focuses on achieving legal certainty and fairness, which are relevant to the adoption of cyber notary services. The goal is to create a legal system that prioritizes not only formal legality but also responds to technological changes and public expectations (Putra et al., 2024; Tan et al., 2024).

The literature reveals that cyber notary services play a crucial role in enhancing technology-based public services. The experiences of the United States, the Netherlands, and Australia demonstrate that integrating technology into notarial services improves efficiency and security. Indonesia can learn from these countries by pursuing progressive regulatory reforms that enable notarial services to adapt to technological changes while maintaining legal certainty and due diligence principles (Sari et al., 2023; Tan et al., 2024).

Method

This study applies the Systematic Literature Review (SLR) method to explore the relevance of policies, regulations, and practices related to the role of notaries in the information technology ecosystem (Lyra et al., 2022). SLR is chosen because it allows for systematic identification, evaluation, and synthesis of literature, offering a comprehensive understanding of the subject (Langbroek et al., 2017). The process begins with the collection of secondary data from journals, books, and relevant regulations (Andriani, 2022), including Law No. 30 of 2004 on the Office of Notary, Law No. 2 of 2014 on Amendments to the Office of Notary, and Law No. 11 of 2008, Law No. 19 of 2016, and Law No. 1 of 2024 on Electronic Information and Transactions (EIT Law).

The analysis compares relevant policies across institutions, such as the Directorate General of Legal Administration (Ditjen AHU) Online, and recent regulations from the Ministry of Home Affairs regarding citizen data access. It also conducts comparative studies between Indonesia, the United States, the Netherlands, and Australia regarding the implementation of e-notary services (Adhi et al., 2022).

The findings from the literature are synthesized to identify regulatory gaps and offer recommendations to strengthen the legal protection for notaries (Setiadewi & Hendra Wijaya, 2020; Uyun & Zulkhainen, 2022). Through this process, the research aims to provide actionable insights for policy reform and better integration of digital technologies into the notarial framework.

Result and Discussion

Notary Regulations and Document Validation in Indonesia

Law No. 2 of 2014 Does Not Fully Accommodated Electronic Signatures and Remote Notarization

Law No. 2 of 2014 on the Office of Notary has yet to fully support the use of electronic signatures and remote notarization in Indonesia. One of the primary challenges is the requirement for face-to-face

interaction between the notary and the parties involved in drafting the deed. Article 16, Paragraph 1, mandates that the notary must witness the signing of the deed in person (Manuaba et al., 2022; Tan et al., 2024). While the ITE Law of 2008 legally recognizes electronic signatures, its application in notarial practices is still limited by conventional regulations that prioritize physical meetings (Sari et al., 2023).

Countries such as the United States and the Netherlands have revised their regulations to accommodate electronic signatures and enable remote notarial services via e-notary platforms (Tan et al., 2024). In Indonesia, the challenge extends beyond regulation to inter-agency interoperability. Notaries lack direct access to vital government data, such as civil records (Disdukcapil) for identity verification and land registries (BPN) for property document validation, leading to delays and administrative errors (Manuaba et al., 2022).

Challenges in Implementing Electronic Signatures and Deeds: The Face-to-Face Requirement

The requirement for face-to-face interactions under current regulations presents a significant obstacle to the adoption of cyber notary services. This conventional practice conflicts with the demands of modern society, which seeks fast and convenient legal services. Moreover, some notaries are reluctant to embrace technological change due to a lack of understanding and training on digital signatures and data security (Ikasari, 2023; Sari et al., 2023).

In Australia, these challenges have been addressed through intensive training and outreach programs on the use of technology in legal services. Australia's Digital Identity Program facilitates online identity verification, accelerating the deed-making process (Tan et al., 2024). Additionally, flexible legislation has been introduced to minimize bureaucratic barriers to electronic notary services (Sari et al., 2023).

Similarly, the Netherlands provides an example of how notaries can access digital cross-agency data and perform document verification without requiring physical meetings. This system enhances the efficiency and security of notary services while reducing the potential for legal disputes (I. Lubis et al., 2023).

Comparative Analysis of Electronic Notary Services: Indonesia, the U.S., the Netherlands, and Australia

United States: E-Notary and Blockchain Support for Data Integrity

Several U.S. states, including Virginia and Florida, have adopted e-notary services, allowing notaries to validate documents online. Remote Online Notarization (RON) enables document and identity verification without in-person meetings (Tan et al., 2024). Blockchain technology enhances data integrity and prevents tampering by creating immutable audit trails (Prayatna et al., 2024).

Blockchain also expedites cross-border transactions and reduces fraud in notarial services. In the U.S., regulatory flexibility allows for frequent revisions to adapt to technological developments. Organizations like the National Notary Association (NNA) provide training to help notaries transition to electronic systems, minimizing resistance to change (Tan et al., 2024).

Netherlands: Integrated Systems for Secure Remote Validation

The Netherlands has developed integrated electronic notary services with the government's central systems and public registers. This system enables real-time access to data for identity and asset verification, eliminating the need for face-to-face meetings. Data security is ensured through encryption and two-factor authentication (I. Lubis et al., 2023).

The Netherlands' flexible regulations support the use of electronic signatures and remote deeds, improving efficiency and providing robust legal protection to all parties involved. Cross-agency interoperability allows notaries to access data from government institutions and financial sectors, streamlining legal transactions and minimizing risks (Sari et al., 2023).

Australia: Digital Identity Program for Efficient Online Authentication

Australia's Digital Identity Program allows for secure online authentication and document verification (Tan et al., 2024). The system integrates with government services and private sectors, including banking and property services, to facilitate faster deed creation and certification.

Australia has introduced flexible legislation recognizing electronic documents nationwide. Comprehensive training programs for notaries on digital signatures and data privacy have minimized the risk of data breaches and enhanced public trust in digital transactions (Humam Alkatiri et al., 2023). Australia's strict data privacy standards ensure the security of users' information across all electronic processes, offering a model for Indonesia to follow.

The experiences of the United States, the Netherlands, and Australia demonstrate that the success of cyber notary services depends on several factors: First, adaptive regulations that evolve with technological developments, as seen in the U.S. and Australia. Second, cross-agency data integration for faster document validation, exemplified by the Netherlands. Third, blockchain and digital identity systems to ensure data integrity and prevent fraud, as used in the U.S. and Australia.

Indonesia must reform its regulations and develop digital infrastructure to enable notaries to meet the demands of a modern, tech-savvy society (I. Lubis et al., 2023; Sari et al., 2023; Tan et al., 2024). The integration of cross-agency data platforms and training programs for notaries will be essential steps in building a robust, technology-based public service system in Indonesia.

Notary Access Limitations in Indonesia

One of the primary challenges faced by notaries in Indonesia is the limited access to government data systems, such as Dukcapil (Directorate General of Population and Civil Registration) and BPN (National Land Agency). Access to these systems is crucial for validating identities and property documents required for creating authentic deeds. However, the lack of adequate interoperability between notary systems and government agencies often results in difficulties for notaries to verify data quickly and accurately (Manuaba et al., 2022).

Without integrated platforms, notaries are forced to perform manual validations or rely on physical documents, which extends the process and increases the risk of administrative errors and data inconsistencies (Ikrasari, 2023). Countries like Singapore offer solutions through services such as MyInfo, which allows real-time access to personal data with user consent, demonstrating how interoperability can enhance efficiency and security (Tan et al., 2024).

Legal Risks and Implications for Notaries

This limited access to data heightens the risk of errors in deed creation and increases the likelihood of legal disputes. For example, without direct access to civil records, notaries may fail to verify the legitimacy of the parties involved, leaving them vulnerable to document forgery. Some notaries in Indonesia have been unintentionally involved in cases of forged documents, which can damage their reputation and legal standing (Ikrasari, 2023; Manuaba et al., 2022). In extreme cases, notaries may be held legally accountable if the deeds they authenticate contain false or legally invalid information (Deriya Fajar Rizki Asril Putra et al., 2022; Marjon, 2016; Yuliska, 2023).

In contrast, Australia has implemented regulations that ensure notaries have access to national identification systems, which helps prevent fraud and enhances the legal protection available to notaries (Tan et al., 2024). This example highlights the importance of collaboration between government agencies and notaries to build integrated systems that minimize legal risks and improve service delivery.

The inability of Indonesian notaries to access data directly also increases operational costs, as they must seek verification through alternative means or wait for manual data submissions. This not only delays service

delivery but also lowers public satisfaction, as users expect faster and more secure processes (I. Lubis et al., 2023).

Policy Recommendations for Notary Legal Protection

Developing Special Regulations for Secure and Limited Data Access

The Indonesian government should introduce regulations that grant secure and limited access to population and property data for notaries. This access will facilitate the validation of identities and property documents, essential for authentic deed creation. Integrating notary services with Dukcapil and BPN systems would reduce administrative errors and prevent document forgery, thereby strengthening legal protection for notaries (I. Lubis et al., 2023; Manuaba et al., 2022). These new regulations should also establish access limits and security protocols to ensure that personal data is protected and used only for legitimate purposes.

Building an Integrated Platform with Strict Security Protocols

The Ministry of Home Affairs and the Ministry of Agrarian Affairs/BPN must collaborate to develop an integrated platform that allows real-time and secure access to population and property data for notaries. Singapore's MyInfo service can serve as a model, where data access is granted with user consent and protected by robust security systems (Tan et al., 2024). Implementing such a system would improve notarial efficiency and reduce reliance on manual processes. Additionally, the platform should adhere to the Personal Data Protection Law (UU PDP) to ensure the privacy rights of citizens are safeguarded (Ikarsari, 2023).

Introducing Specific Regulations for Cyber Notary and Electronic Document Validation

The development of cyber notary services in Indonesia must be governed by new regulations that explicitly recognize electronic signatures and remote deeds as legally valid. These regulations must ensure the legal validity of electronic documents, provide legal certainty to all parties, and protect notaries from disputes involving forgery or document manipulation (I. Lubis et al., 2023). Additionally, the new regulations should include technical guidelines for the use of digital technologies, including data security procedures and risk mitigation strategies. The experiences of the Netherlands and Australia demonstrate that flexible and well-designed regulations can support the adoption of technology while maintaining high standards of caution (Tan et al., 2024).

Conclusion

Based on the analysis, the implementation of cyber notary services in Indonesia faces multiple challenges, both in terms of regulations and infrastructure. Law No. 2 of 2014 does not yet fully accommodate the use of electronic signatures and remote notarization, which limits notaries to traditional in-person meetings. Additionally, restricted access to key government systems, such as Dukcapil and BPN, slows down document validation processes and increases the risk of administrative errors and legal disputes. The experiences of the United States, the Netherlands, and Australia demonstrate that the success of electronic notary services depends on adaptive regulations, integrated digital infrastructure, and comprehensive training for notaries. These countries have adopted technologies such as blockchain and digital identity systems to ensure the security and efficiency of technology-based public services. To address these challenges in Indonesia, the following steps are recommended: First, revise Law No. 2 of 2014 and the ITE Law of 2008 to accommodate electronic signatures and remote notarization. Second, develop an integrated platform for real-time data access by building a system that allows notaries to access essential information seamlessly. Third, conduct training and outreach programs for notaries to enhance their skills in using digital technology and ensuring data security. Fourth, establish technical guidelines for the use of technology in notarial services, focusing on risk mitigation and secure document validation. These recommendations aim to enable safe and efficient electronic document validation in Indonesia, ensuring that cyber notary services align with technological advancements and meet the growing demand for modern legal services.

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