

## Article

# Implementation of Electronic Signatures and E-Notarization within the Indonesian Notarial Legal Framework

Markus Gunawan<sup>1\*</sup>, Erniyanti<sup>2</sup><sup>1-2</sup> Universitas Batam, Indonesia; e-mail : [markusgunawan@univbatam.ac.id](mailto:markusgunawan@univbatam.ac.id)

\* Corresponding Author : Markus Gunawan

**Abstract:** This research examines the implementation of electronic signatures and e-notarization within Indonesia's notarial legal framework, analyzing the tensions between technological innovation and traditional notarial principles. Indonesia has established basic legal recognition for electronic signatures through Law No. 11/2008 on Electronic Information and Transactions (as amended by Law No. 19/2016) and conceptually acknowledged cyber notary in the explanation of Article 15(3) of Law No. 2/2014 on Notary Positions which mentions "the authority to certify transactions conducted electronically". However, significant regulatory and practical challenges persist due to contradictions between digital concepts and traditional notarial requirements such as physical presence during the notarial process. The research reveals Indonesia lags behind many jurisdictions with similar civil law traditions in e-notarization implementation where the integration of digital elements into notarial systems has enhanced efficiency while maintaining security standards. This study proposes a balanced implementation approach that preserves essential notarial functions of authentication and legal certainty while leveraging technology to enhance accessibility and efficiency, requiring legislative reforms, technical standardization, institutional development, and professional training to create a comprehensive e-notarization framework suited to Indonesia's legal context.

**Keywords:** Cyber Notary, Digital Authentication, Electronic Signatures, E-Notarization, Indonesian Legal Framework.

## 1. Introduction

The development of information technology in the 21st century has fundamentally transformed how individuals and institutions conduct their daily activities. This digital era has brought significant changes across various aspects of life, including notarial practices that have traditionally relied heavily on physical documents and the direct presence of parties. Indonesia, as a civil law country that inherited its notarial tradition from the continental European system, faces challenges in adapting to these changes.

Notarial practices in Indonesia have long operated under principles established in the Notary Position Law and the Civil Code, most of which were formulated in the pre-digital era. Traditional principles such as the requirement for physical presence of parties, the reading of deeds before parties, and conventional document signing remain central

Received: 11 March, 2025

Revised: 18 April, 2025

Accepted: 05 May, 2025

Published : 08 May, 2025

Curr. Ver.: 08 May, 2025



Copyright: © 2025 by the authors.  
Submitted for possible open access  
publication under the terms and  
conditions of the Creative  
Commons Attribution (CC BY SA)  
license

(<https://creativecommons.org/licenses/by-sa/4.0/>)

pillars of notarial practice. However, in an increasingly digitally connected society, efficiency and accessibility of services have become demands that cannot be ignored.

The concepts of electronic signatures and e-notarization have emerged as responses to the need for modernization of notarial practices. Although Indonesia has established some legal foundations to support electronic transactions and digital signatures, primarily regulated in Law Number 11 of 2008 concerning Electronic Information and Transactions (as amended by Law No. 19 of 2016) and Government Regulation Number 71 of 2019 concerning the Implementation of Electronic Systems and Transactions, the practical implementation of these concepts in notarial practice still faces various obstacles.

The explanation of Article 15 paragraph (3) of Law Number 2 of 2014 concerning Amendments to Law Number 30 of 2004 concerning Notary Positions has explicitly mentioned "cyber notary" as one of the notary's authorities in "certifying transactions conducted electronically." Nevertheless, this provision has not been followed by comprehensive and systematic implementing regulations, creating legal uncertainty in its implementation.

The COVID-19 pandemic that has affected the world since early 2020 has catalyzed an accelerated need for digitalization of notarial services. Restrictions on physical meetings and demands to minimize direct contact have driven greater urgency to adopt digital solutions in notarial practice. This situation further highlights the gap between the existing legal framework and the practical needs of society.

Amid these modernization demands, there are concerns about how to maintain fundamental notarial principles such as legal certainty, document authenticity, and reliable identity verification. A critical question that arises is: how can Indonesia adopt electronic signatures and e-notarization without sacrificing the integrity and legal strength of notarial deeds?

This research aims to analyze the implementation of electronic signatures and e-notarization within the Indonesian notarial legal framework, identify existing regulatory gaps, and formulate recommendations for developing a comprehensive legal framework. By examining international practices and considering Indonesia's legal context, this research is expected to make a significant contribution to the modernization of notarial practices in Indonesia that continue to uphold the principles of legal certainty and protection.

## Problem Analysis

The implementation of electronic signatures and e-notarization in Indonesia faces significant challenges due to discrepancies in the legal framework. While Law No. 11/2008 on Electronic Information and Transactions (as amended by Law No. 19/2016) recognizes electronic signatures, and the explanation of Article 15(3) of Law No. 2/2014 on Notary Positions mentions "cyber notary," there exists a fundamental conflict with traditional notarial requirements which still mandate physical presence during the notarial process (Rizqi dan Sari, 2021). This creates a regulatory conflict that impedes full implementation of digital notarial services.

Indonesian notarial law still adheres to traditional principles derived from its civil law heritage. The requirements for physical presence (Article 16(1)(m) of Law No. 2/2014), in-person reading of deeds, and conventional signatures directly conflict with the concept of e-notarization. Despite the mention of cyber notary in legal provisions, implementation remains challenging due to these contradictory requirements. This fundamental tension creates a significant barrier to modernization.

The implementation of electronic signatures and e-notarization requires robust technological infrastructure and security protocols. Indonesia faces challenges in ensuring consistent access to reliable technology across its diverse geography, potentially creating a digital divide in access to notarial services. Additionally, concerns regarding security, authentication, and fraud prevention in digital transactions remain significant obstacles as the country progresses through various stages of technological adoption including e-signatures, e-notarization, and blockchain implementation.

The notarial profession in Indonesia is at varying levels of preparedness for digital transformation. While some notaries advocate for transition to cyber notary practices, others express reservations due to regulatory uncertainty and traditional interpretations of notarial requirements. This split in professional readiness creates inconsistency in service delivery and hampers widespread adoption of digital notarial practices.

A critical concern involves the evidentiary value of electronically notarized documents. Article 5(4) of Law No. 11/2008 excludes certain electronic documents from being admissible as evidence, creating uncertainty about the legal standing of e-notarized documents in court proceedings. This uncertainty undermines confidence in digital notarial services and discourages their adoption by both notaries and clients seeking legal certainty.

Indonesia lacks comprehensive standards and regulatory oversight mechanisms for e-notarization. While cyber notary is mentioned in legal documents, there is insufficient regulatory guidance on implementation specifics, technological requirements, and certification processes. This regulatory gap creates inconsistency in practice and raises concerns about quality control and authentication in digital notarial services.

The slower pace of adopting e-notarization places Indonesia at a competitive disadvantage in the global business environment. Many countries, including those in the EU and others with civil law traditions, have made significant progress in integrating digital elements into their notarial systems (Koos, 2023). As international business increasingly relies on efficient digital processes, Indonesia's adherence to traditional notarial practices may impact its economic competitiveness.

Perhaps the most fundamental challenge is balancing technological innovation with the core principles of notarial practice – ensuring document authenticity, providing legal certainty, and verifying party identity. The transition to digital practices must preserve these essential functions while adapting to new technological realities. Finding this balance requires careful regulatory design and technological implementation that addresses security concerns while maintaining notarial integrity.

The implementation challenges of electronic signatures and e-notarization in Indonesia stem from a complex interplay of legal, technological, and professional factors. Addressing these challenges requires a comprehensive approach that harmonizes existing regulations, develops clear implementation standards, builds technological capacity, and prepares the notarial profession for digital transformation. Without addressing these interconnected issues, the full potential of digital notarial services in Indonesia will remain unrealized.

## 2. Literature Review

Electronic signatures in Indonesia are defined as signatures comprising electronic information attached to or associated with other electronic information for verification and authentication purposes as stipulated in the Information and Electronic Transactions Law (UU ITE). Indonesian law recognizes two types: certified electronic signatures using certificates from registered providers, and non-certified electronic signatures created without such services as outlined in UU ITE and Government Regulation No. 71/2019.

The cyber notary concept in Indonesia is explicitly mentioned in the explanation of Article 15(3) of Law No. 2/2014, referring to the authority to certify electronic transactions though its implementation remains limited by other provisions requiring physical presence.

This concept represents a significant shift in how notarial functions might adapt to digital environments.

Electronic signatures function to verify identity, connect signers to documents, and ensure document integrity utilizing public key infrastructure and cryptographic methods that provide security assurances beyond traditional signatures. This technical foundation supports the legal validity of electronically signed documents within proper implementation parameters.

The progressive legal theory advocated by Satjipto Rahardjo supports legal innovations that overcome rigid formalistic approaches when traditional frameworks cannot effectively address technological challenges emphasizing the importance of legal breakthroughs that serve substantive justice (Nola, 2011). This theoretical perspective provides justification for adapting notarial practices to digital realities.

Indonesian evidence law has evolved to recognize electronic information and documents as legally valid evidence as stated in Article 5(1) of Law No. 11/2008, though exceptions regarding electronically notarized documents create theoretical tensions in their full legal recognition. The implementation of e-notarization must balance technological advances with legal certainty where technology serves as a tool rather than dictating legal development

### 3. Methods

This research employs a normative juridical approach that examines legal norms, principles, and doctrines related to electronic signatures and e-notarization in Indonesia through analysis of primary legal materials (including Law No. 11/2008 on Electronic Information and Transactions, Law No. 2/2014 on Notary Positions, and Government Regulation No. 71/2019), secondary materials (scholarly publications and legal commentaries), and tertiary legal sources, utilizing statutory, comparative, and conceptual approaches to develop a comprehensive understanding of the subject through qualitative legal analysis and legal hermeneutics that interprets provisions concerning electronic signatures and notarial practice with particular attention to the implementation challenges posed by conflicting requirements in Indonesian notarial law (Rizqi dan Sari, 2021), ultimately aiming to develop reform recommendations that provide a practical framework for implementing electronic signatures and e-notarization while maintaining legal certainty and document authenticity within Indonesia's civil law tradition.

## 4. Results And Discussion

### Current Legal Framework for Electronic Signatures in Indonesia

The legal framework for electronic signatures in Indonesia is primarily established through Law No. 11/2008 on Electronic Information and Transactions (UU ITE) as amended by Law No. 19/2016, and Government Regulation No. 71/2019 on Electronic Systems and Transactions. This framework officially recognizes electronic signatures as legally valid provided they meet specific requirements including unique association with the signer, signer control over signature creation data, and detectability of any post-signing alterations. Indonesian regulations distinguish between certified electronic signatures that use certificates from Indonesian electronic certification service providers and non-certified electronic signatures, with different legal implications for each category.

### The Evolving Concept of Cyber Notary in Indonesian Regulations

The concept of cyber notary first gained formal recognition in Indonesian law through the explanation of Article 15(3) of Law No. 2/2014 on Notary Positions, which mentions among "other authorities regulated by laws," the "authority to certify transactions conducted electronically (cyber notary)". However, this recognition remains limited in scope and has not been fully operationalized through implementing regulations. The introduction of this concept represents an acknowledgment of technological changes affecting notarial practice, yet falls short of establishing a comprehensive framework for e-notarization.

### Implementation Challenges: Traditional Notarial Principles vs. Digital Innovation

The implementation of electronic signatures and e-notarization in Indonesia faces significant challenges arising from conflicts between technological innovation and traditional notarial principles. Current regulations still maintain requirements that are fundamentally incompatible with fully digital notarial practices, including physical presence requirements, in-person reading of documents, and traditional signature procedures. These contradictions create legal uncertainty and impede the full implementation of cyber notary concepts.

Article 16(1)(m) of Law No. 2/2014 requires notaries to physically face the parties appearing before them, which directly conflicts with the concept of remote electronic transactions. Similarly, the authenticity requirements for notarial deeds under Civil Code Article 1868 have been traditionally interpreted as requiring physical documents, creating barriers to fully electronic notarial acts. These tensions between established notarial principles and digital innovation represent the central challenge in implementing e-notarization in Indonesia.

## Security and Authentication in Electronic Notarial Practices

The research findings indicate that security and authentication remain critical concerns in the implementation of electronic signatures and e-notarization. Electronic signatures in Indonesia utilize technological measures including hash functions and asymmetric encryption to ensure document integrity and signer authenticity. However, questions remain about whether these technological solutions provide equivalent or superior security compared to traditional notarial practices.

The security framework for electronic signatures in Indonesia requires several protective measures, including systems inaccessible to unauthorized persons, signer implementation of precautionary principles, and immediate notification procedures when signature creation data has been compromised. These requirements aim to establish trust in electronic signatures, though implementation standards remain inconsistent across notarial practices.

## Professional Readiness and Institutional Support

The Indonesian notarial profession demonstrates varying levels of readiness for digital transformation. Professional discourse reveals a division within the notarial community, with some notaries advocating for transition to cyber notary practices while others express reservations due to regulatory uncertainty and traditional interpretations of notarial requirements. This split in professional readiness creates inconsistency in service delivery and hampers widespread adoption.

Institutional support for the digital transformation of notarial practices has begun to emerge, with professional organizations like the Indonesian Notary Association (INI) conducting discussions on cyber notary implementation during plenary meetings. However, these efforts have not yet resulted in comprehensive standardization or training programs to prepare notaries for digital practice transformation.

## Comparative Analysis: International Approaches to E-Notarization

A comparative analysis of international approaches to e-notarization reveals instructive models for Indonesia's implementation. Many jurisdictions with civil law traditions similar to Indonesia have made significant progress in adapting notarial practices to digital environments. The European Union and its member states, for instance, have developed frameworks integrating digital elements into notarial systems to enhance efficiency and accessibility while maintaining security.

The United States has implemented Remote Online Notarization (RON) in numerous states, with specific requirements for identity verification, record-keeping, and technology standards. While the U.S. notarial system differs significantly from Indonesia's civil law

approach, its technological implementation strategies offer valuable insights for secure remote authentication procedures.

### **Future Development Trajectory: Toward Comprehensive Implementation**

The research identifies a potential implementation pathway for electronic signatures and e-notarization in Indonesia that balances innovation with legal certainty. This implementation trajectory involves a phased approach, beginning with adoption of digital signatures and electronic documents, followed by more complex applications including full e-notarization and eventually blockchain-based authentication systems. This incremental approach allows for adaptation of both regulatory frameworks and professional practices.

The full implementation of cyber notary in Indonesia will require significant regulatory reforms, including amendments to the Notary Position Law to accommodate remote authentication procedures while maintaining essential notarial functions. Technology standards and certification processes must be established to ensure consistency and security in electronic notarial acts. Educational initiatives for notaries and public awareness campaigns will be essential to build trust in digital notarial services.

### **Reconciling Tradition with Innovation: Toward a Balanced Framework**

The research concludes that successful implementation of electronic signatures and e-notarization in Indonesia requires a balanced approach that preserves essential notarial principles while embracing technological innovation. Rather than entirely replacing traditional notarial practices, electronic tools should supplement and enhance these practices while maintaining their core legal functions and security assurances.

This balanced framework would maintain the notary's central role in providing legal certainty, verification, and authentication, while utilizing technology to enhance efficiency, accessibility, and security. The legal framework should be updated to explicitly accommodate digital processes while establishing clear boundaries and safeguards to ensure that technological tools serve, rather than undermine, the fundamental purposes of notarial acts in providing legal certainty and authentic documentation.

## **5. Conclusion**

The implementation of electronic signatures and e-notarization within Indonesia's notarial legal framework represents a necessary evolution that balances technological advancement with foundational legal principles. This research demonstrates that while Indonesia has established basic legal recognition for electronic signatures and conceptually acknowledged cyber notary through the explanation of Article 15(3) of Law No. 2/2014, significant regulatory and practical challenges remain due to contradictions between digital



concepts and traditional notarial requirements such as physical presence and in-person verification.

Indonesia's current approach to electronic signatures has created a two-tier system of certified and non-certified signatures with different legal implications, providing a foundation for digital authentication. However, the development of a comprehensive e-notarization framework requires systematic regulatory reform that addresses conflicts with traditional notarial principles while maintaining essential authentication functions. Successful implementation will depend on balancing technological innovation with core legal principles of document authenticity, party identification, and legal certainty where technology serves as a tool rather than dictating the development of legal practices.

The research reveals that Indonesia lags behind many jurisdictions in e-notarization implementation, including those with similar civil law traditions which have successfully integrated digital elements into their notarial systems to enhance efficiency while maintaining security standards. A phased implementation approach beginning with secure electronic signatures and progressively incorporating more advanced technologies like blockchain offers a viable pathway forward that allows adaptation of both regulatory frameworks and professional practices.

For Indonesia to successfully implement electronic signatures and e-notarization, several critical steps are necessary: amending the Notary Position Law to accommodate remote authentication while preserving essential safeguards; developing comprehensive technological standards and certification processes; investing in education and training for notaries; and creating specialized regulatory oversight mechanisms. These reforms must maintain the essential role of notaries as guardians of legal certainty and authentic documentation while leveraging technology to enhance accessibility, efficiency, and security of notarial services.

This balanced approach will allow Indonesia to modernize its notarial practices in response to digital transformation while preserving the core legal functions that notaries have traditionally provided in ensuring document authenticity and legal certainty. By carefully navigating this transition, Indonesia can develop a notarial system that remains relevant and effective in an increasingly digital society while continuing to fulfill its essential role in providing legal security for transactions and agreements.

## Recommendation

Based on the comprehensive research on electronic signatures and e-notarization in Indonesia, several recommendations are proposed to facilitate successful implementation. Legislative reform is urgently needed, including amendments to the Notary Position Law to accommodate electronic notarial acts while addressing current contradictions between cyber notary recognition and physical presence requirements, revision of Article 5(4) of the Electronic Information and Transactions Law to ensure electronically notarized documents maintain full evidentiary value, and creation of a specific Government Regulation dedicated to cyber notary implementation. Robust technical standards must be established for electronic signature platforms, national certification frameworks for e-notarization technologies, and secure repositories for electronically notarized documents. Institutional development should include a specialized regulatory body within the Ministry of Law and Human Rights, standardized electronic identity verification protocols, and a technology sandbox program for testing new solutions. Professional development initiatives are essential to address the current divide in professional readiness where some notaries advocate for digital transition while others express reservations, through comprehensive training programs, incorporating digital concepts into licensing examinations, and creating certification for digitally proficient notaries. A phased implementation approach is recommended, beginning with basic electronic signatures before incorporating more advanced features like remote notarization and blockchain-based authentication, initially limiting e-notarization to lower-risk document types, and establishing regional pilot programs. Finally, international cooperation should be pursued to identify best practices from civil law countries that have successfully integrated digital elements into their notarial systems, develop cross-border recognition agreements, and align Indonesian standards with international frameworks where appropriate.

## References

- [1] Adjie, H., “Mengikuti Arus Kenotariatan Era 4.0, Kemenkumham Buka Seminar Nasional UPH,” 4 July 2019. [Online]. Available: <https://www.uph.edu/id/2019/07/04/following-the-4-0-era-notary-trend-kemenkumham-opens-national-seminar-uph/>
- [2] Apan, H., et al., “The Legal Review of the Mechanism for Determining Injury in the Imposition of Antidumping Duties on Uncoated Writing and Printing Paper in Indonesia,” *Journal of Namibian Studies: History Politics Culture*, vol. 34, pp. 1273–1288, 2023. doi: 10.59670/jns.v34i.1273
- [3] Aspan, H., Erniyanti, & Wahyuni, E. S., “Perjanjian Nominee dalam Praktik Jual Beli Tanah,” *Syntax Literate*, vol. 8, no. 6, pp. 40–41, 2023. doi: 10.36418/syntax-literate.v8i6.12507
- [4] Aspan, H., Rosli, R., Fadlan, F., & Irawati, I., “Legal Mechanisms for Business Accountability: A Comparison of Soft and Hard Law in Indonesia,” *LAW REFORM*, vol. 20, no. 2, pp. 353–382, 2024. doi: 10.14710/lr.v20i2.59273

- 
- [5] Aspan, H., Rosli, R., Prabowo, A., & Wahyuni, E. S., "Assessment of Lecturer Work Effectiveness: Mediating Organizational Citizen Behavior Based on Organizational Commitment and Work Motivation," *Journal of Ecohumanism*, vol. 4, no. 1, pp. 1089–, 2025. doi: 10.62754/joe.v4i1.5915
- [6] Aspan, H., Rozaini, Wahyuni, E. S., & Prabowo, A., "Personal Resources and Job Crafting: Implications Work Engagement for Modern Coffee Shops Employee in Medan City," *Multidisciplinary Output Research for Actual and International Issue (MORFAI)*, vol. 4, no. 2, pp. 556–567, 2024. doi: 10.54443/morfai.v4i2.1859
- [7] Aspan, H., Setiawan, A., Irawan, Wahyuni, E. S., Prabowo, A., & Zahara, A. N., "Cyber Notary Issues Authority Certificate to Provide Legal Protection in Online Selling," *Journal of Law and Sustainable Development*, vol. 11, no. 10, p. e1801, 2023. doi: 10.55908/sdgs.v11i10.1801
- [8] Coresy, G., & Saleh, M., "Liability for Breach of Confidentiality Principles in Electronic Action If Connected to Law of Notary Service and Law of Electronic Information and Transaction," *Research, Society and Development*, vol. 9, no. 7, pp. 1–12, 2020. doi: 10.33448/rsd-v9i7.3591
- [9] Jeep, J., "Notary Disrupted – Legal Tech Und Der Rechtsstaat," *Anwaltsblatt Online*, 2019, pp. 823–837.
- [10] Koos, S., "The Digitization of Notarial Tasks – A Comparative Overview and Outlook of 'Cyber Notary' in Indonesia and Germany," *The Indonesian Journal of Socio-Legal Studies*, vol. 2, no. 2, 2023. doi: 10.54828/ijsls.2023v2n2.1
- [11] Nola, L. F., "Peluang Penerapan Cyber Notary Dalam Peraturan Perundang-Undangan di Indonesia," *Jurnal DPR*, vol. 2, no. 1, 2011. doi: 10.22212/jnh.v2i1.187
- [12] Rizqi, F., & Sari, S. N. I., "Implementasi Cyber Notary di Indonesia Ditinjau Dalam Upaya Reformasi Birokrasi Era 4.0," *Jurnal Hukum dan Kenotariatan*, vol. 5, no. 1, 2021. doi: 10.33474/hukeno.v5i1.9391
- [13] Setiadewi, K., "Legalitas Akta Notaris Berbasis Cyber Notary Sebagai Akta Otentik," *Jurnal Komunikasi Hukum (JKH) Universitas Pendidikan Ganesha*, vol. 6, no. 1, pp. 127, 2020.
- [14] Setyawan, A. A. R., "Implementasi Pendirian Perseroan Terbatas oleh Notaris Menurut Peraturan Menteri Hukum dan Hak Asasi Manusia Nomor 1 Tahun 2016," *Jurnal Privat Law*, vol. 5, no. 1, pp. 44, 2017.
- [15] Wahyuni, E. S., & Rosli, R. B., "Retirement Planning for the Worker: A Financial Behavior Management Model Moderated by Social Influence," *Green Inflation: International Journal of Management and Strategic Business Leadership*, vol. 1, no. 3, pp. 57–66, 2024. doi: 10.61132/greeninflation.v1i3.41