



LEGAL RESPONSIBILITIES OF NOTARIES IN THE ERA OF ARTIFICIAL INTELLIGENCE IN PREVENTING FRAUDULENT PROPERTY TRANSACTIONS

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ABSTRACT

The development of Artificial Intelligence (AI) technology has had a significant impact on various sectors, including notarial services, particularly in preventing fraud in property transactions. However, the emergence of this technology raises questions about the changing paradigm of notaries' legal responsibilities as public officials. This study aims to analyze the impact of AI implementation on the role and legal responsibilities of notaries, identify regulatory challenges, and formulate policy recommendations to maintain legal protection and the integrity of the notarial system in the digital era. The research approach is normative, using secondary literature analysis in the form of laws and regulations, court decisions, and other relevant literature. Qualitative methods using prescriptive, comparative, and evaluative approaches were used to examine legal norms and their application. The findings indicate that while AI supports efficiency and fraud detection, legal interpretation and responsibility remain with notaries. Regulations need to be revised to ensure the use of AI is strictly and ethically regulated. The integration of AI does not diminish the responsibilities of notaries, and regulatory updates and increased human resource capacity are needed to address technological challenges while maintaining legal certainty and justice.

A. INTRODUCTION

The development of Artificial Intelligence (AI) technology has had a significant impact on various sectors, including the legal field. One of its increasingly relevant applications is in notary services, particularly in detecting potential fraud in property transactions.¹ AI has the ability to process data quickly and accurately, making it a useful tool for document verification,

¹ Jajang Nurzaman and Dwi Fidhayanti, "Keabsahan Kontrak Yang Dibuat Oleh Artificial Intelligence Menurut Hukum Positif Di Indonesia," *Al'Adl* 16, no. 1 (2024): 145.

identifying irregularities in deeds, and analysing property ownership history.² The use of this technology opens up great opportunities for notaries to improve efficiency and reduce human error. However, on the other hand, the introduction of AI also raises fundamental questions about changes in the legal responsibility paradigm of notaries as public officials. In the context of Indonesian law, Law Number 2 of 2014 concerning Amendments to Law Number 30 of 2004 concerning the Notary Position (*Undang-Undang Jabatan Notaris/UUJN*) explains that notaries are public officials who are authorised to draw up authentic deeds and are responsible for ensuring the validity and accuracy of the contents of these deeds.³ With the use of AI, the question arises as to whether this responsibility can be transferred or reduced with the presence of an automated system. Although AI is capable of verifying data more quickly, it lacks the moral capacity or subjective legal considerations that humans possess. This is an important issue because while AI can identify data inconsistencies, the interpretation of legal implications must still be carried out by the notary as the party acting on behalf of the state.⁴

The study examines the paradigm shift in notaries' legal responsibilities with the use of AI in document verification, questioning whether such duties can be reduced or transferred to automated systems, while notaries remain bound by UUJN to ensure the deed's validity both morally and legally. In addition, issues include the challenges of personal data protection and the reliability of technological systems in facing increasingly sophisticated fraud modes, as well as the irreplaceable role of notaries in providing legal guarantees even though technology is used as an assistive tool.⁵

In practice, notaries have begun to adopt digital technology in the document verification process, such as the use of blockchain to store property ownership records transparently and facial recognition to verify the identities of the parties.⁶ The use of these systems is considered to reduce the risk of document manipulation and minimise the chances of fraud. However, the implementation of this technology also poses new challenges, particularly in terms of personal data protection and system reliability in anticipating evolving

² F. L. Amboro and Khusuf Komarhana, "Prospek kecerdasan buatan sebagai subjek hukum perdata di Indonesia," *Law Review* 21, no. 2 (2021): 152.

³ Rossel Ezra Johannes Tuwaidan, "Kewenangan notaris menurut undang-undang nomor 2 tahun 2014 tentang perubahan atas undang-undang nomor 30 tahun 2004 tentang jabatan notaris," *Lex Privatum* 6, no. 6 (2018): 56.

⁴ Aditya Kurniawijaya, Alya Yudityastri, and Ayuta Puspa Citra Zuama, "Pendayagunaan artificial intelligence dalam perancangan kontrak serta dampaknya bagi sektor hukum di Indonesia," *Khatulistiwa Law Review* 2, no. 1 (2021): 269.

⁵ Muhammad Fahri, "Penggunaan Sistem Artificial Intelligence Sebagai Perwujudan Prinsip Kehati-Hatian Notaris Dalam Pembuatan Akta," (PhD diss., Malang: Universitas Brawijaya, 2019).

⁶ Mutia Qori Dewi Masithoh, Hary Abdul Hakim, Chrisna Bagus Edhita Praja, and Bambang Tjatur Iswanto, "AI in Law: How Artificial Intelligence Is Transforming the Legal Profession in Indonesia," *Justitia Jurnal Hukum* 7, no. 2 (2023): 324.

fraud modus operandi.⁷ Djumialdji⁸ states that although technology can serve as a supporting tool, the primary function of notaries as providers of legal guarantees cannot be replaced by machines.

Existing regulations have not fully responded to these technological developments in an adequate manner. The laws governing the notary profession are still dominated by conventional principles that do not explicitly accommodate the use of AI. This creates normative confusion, particularly regarding the scope of liability in the event of errors resulting from automated systems. Idris⁹ emphasises that the integration of technology in notary services must be accompanied by regulatory revisions to avoid overlapping legal interpretations that could lead to legal uncertainty. Additionally, strong control mechanisms are needed to ensure that AI is used ethically and in accordance with the principles of due diligence that form the foundation of the notary profession.¹⁰

The integration of AI in notary services is reshaping public perception, as technology appears capable of providing legal certainty without human intervention.¹¹ However, under the Indonesian legal system, notarial deeds still require validation by authorized officials, and Supreme Court rulings affirm notaries' legal responsibility even when using technological tools. While AI can enhance efficiency and detect property fraud, it cannot interpret abstract legal values such as bona fide or mala fide intentions.¹² Moreover, concerns over privacy, data security, and algorithmic transparency remain critical.¹³ Thus, notaries remain central actors, requiring regulatory adjustments and comprehensive legal frameworks to balance innovation with justice and accountability.¹⁴

The rise of property fraud cases involving fake deeds or fictitious identities in the development of the property sector in Indonesia has had a

⁷ Angelina Regita Kerin Setyawan, Moh Ali, and Nuzulia Kumala Sari, "Penerapan Artificial Intelligence (AI) Dalam Perkembangan Cyber Notary di Era Transformasi Digital," *Acten Journal Law Review* 2, no. 2 (2025): 159.

⁸ Djumialdji, *Tanggung jawab hukum notaris dalam pembuatan akta otentik terkait transaksi properti di era digital*, Jakarta: CV Lintas Hukum (2019): 34.

⁹ Muhammad Idris, *Integrasi teknologi dalam jabatan notaris: Tantangan regulasi dan perlindungan hukum*, Yogyakarta: Genta Hukum Press (2021): 23.

¹⁰ Jajang Nurzaman and Dwi Fidhayanti, "Keabsahan Kontrak Yang Dibuat Oleh Artificial Intelligence Menurut Hukum Positif Di Indonesia," *Al'Adl* 16, no. 1 (2024): 148.

¹¹ Eduard Awang Maha Putra, Lalu Aria Nata Kusuma, and Muhammad Khairi Muslimin, "Posibilitas Kehadiran Artificial Intelligence (AI) Sebagai Pengganti Profesi Notaris di Era Digital," *Jurnal Rechts Vinding: Media Pembinaan Hukum Nasional* 13, no. 2 (2024): 435.

¹² A. Velez, "Artificial intelligence and human judgment in legal decision-making: A normative critique," *Legal Futures Journal*, 11, no. 3 (2020): 211.

¹³ R. Berring & Cho, J., "Artificial intelligence and the legal profession: Balancing efficiency with ethics," *Journal of Legal Technology Studies* 8, no. 2 (2020): 114.

¹⁴ Ratih Mega Puspa Sari, and Sivani Ardi Apritania, "The form of resolution of juvenile delinquency in Indonesia," *Jurnal Hukum* 40, no. 1: 120.

significant impact on national economic growth.¹⁵ However, behind this positive dynamic, there has also been a rise in fraud cases involving increasingly sophisticated modus operandi. One of the most common forms of crime is the use of fake deeds and fictitious identities in land and building sales transactions.¹⁶ However, the rise in fraud cases using increasingly sophisticated methods, such as the use of fake deeds and fictitious identities in land and building transactions, poses a significant risk to consumers and public trust in Indonesia's land ownership legal system.¹⁷ This situation threatens the stability of the property market and demands strengthened regulations and an effective oversight system to protect public rights and maintain the credibility of national property law. With the rise in fraudulent methods such as fake documents, fraudulent developers, and fake identities, the public must be more vigilant, and the legal system must adapt to meet these challenges to maintain social and economic order.

This phenomenon not only harms buyers as consumers but also threatens the credibility of the legal system for land ownership in Indonesia. The Law Number 5 of 1960 on the Basic Principles of Agrarian Law (*Undang-Undang Pokok Agraria/UUPA*) provides a strong legal framework for the protection of land rights, however, its implementation remains vulnerable to exploitation by irresponsible individuals.¹⁸ Property fraud cases typically involve perpetrators who manipulate legal documents such as land certificates, power of attorney documents, and illegally created sales and purchase agreements. In many cases, perpetrators use fake identity data or impersonate the original landowners by forging signatures and other supporting documents. According to Djumialdji,¹⁹ notaries are obliged to conduct thorough examinations, but advanced document forgery makes irregularities difficult to detect, especially when perpetrators act in groups with technology. Forged deeds in property transactions create legal ambiguity since

¹⁵ Ahmad Rizki Nurfadillah, "Sanksi Tindak Pidana Pemalsuan Akta Otentik Perspektif Hukum Pidana Islam," *Jurnal Al-Jina'i Al-Islami* 2, no. 1 (2024): 88.

¹⁶ Dimas Aldriansyah Sukandar, Edy Tarsono, and Zulpadli Barus, "Perlindungan dan Pertanggungjawaban Hukum Bagi Notaris dan Pejabat Pembuat Akta Tanah Terhadap Keterangan Palsu Para Pihak Dalam Akta (466/PID. B/2023/PN. JKT. SEL)," *Jurnal Ilmiah Global Education* 6, no. 2 (2025): 879.

¹⁷ Moh Rifki, Septiano Anggun Pratama, Mohammad Yazdi Pusadan, Syahrullah Syahrullah, and Chairunnisa Ar Lamasitudju, "Perancangan Architecture Enterprise Dengan Artificial Intelligence Dalam Pelayanan Penerbitan Tanda Tangan Elektronik Diskominfo Kota Palu Menggunakan Togaf ADM," *Jurnal Ilmiah Penelitian dan Pembelajaran Informatika* 10, no. 2 (2025): 997.

¹⁸ Muhammad Abdussalam Rafie and Willson Chandra Happier, "Sejarah Perkembangan Hukum Agraria di Indonesia Sebelum Dibentuknya Undang-Undang No. 5 Tahun 1960 Tentang Peraturan Dasar Pokok-Pokok Agraria (UUPA) Dan Dampaknya Bagi Keadilan di Masyarakat," *Journal Sains Student Research* 2, no. 5 (2024): 345.

¹⁹ Djumialdji, *Tanggung jawab hukum notaris dalam pembuatan akta otentik terkait transaksi properti di era digital*, Jakarta: CV Lintas Hukum (2019): 36.

they appear valid and carry full probative value under Article 1870 of the Civil Code (*KUHPerdata*).

However, once proven forged, such deeds become misleading evidence and may harm innocent parties. The Supreme Court of the Republic of Indonesia's ruling in Case Number 347 K/Pdt/2018 provides an illustration that, although notarial deeds have a presumption of validity, they can still be invalidated if proven to contain elements of forgery or unlawful acts.²⁰ This demonstrates that the legal validity of notarial deeds is not absolute and must still be examined within its material context.²¹ Idris²² highlights that weak biometric controls and data integration between government agencies create loopholes for criminals to manipulate identity data. Although the government has developed a single identity number system and electronic registration, challenges in data validation and coordination between agencies remain obstacles in preventing this type of crime. Velez²³ emphasises that digital crime requires the legal system to evolve quickly in order to anticipate new threats that are not only physical but also virtual. Law Number 11 of 2008 on Electronic Information and Transactions (*Informasi dan Transaksi Elektronik/ITE*) has provided a legal basis for prosecuting perpetrators of digital document forgery, but its implementation remains limited to the criminal realm without addressing civil aspects or comprehensive victim protection.²⁴ Notaries must conduct a *prima facie* examination to verify the identity of parties and the legality of the transaction object.²⁵

However, in practice, examinations often rely solely on submitted documents, exposing notaries to civil litigation if documents are falsified. Berring and Cho²⁶ stress that while notaries aren't responsible for third-party crimes, they must exercise due diligence to prevent fraud. The legalisation function of notaries includes verifying party identities, examining documents, and administering oaths as part of ensuring civil and criminal legal security.

²⁰ Adela Destaliya and Mohamad Fajri Mekka Putra, "Tinjauan Yuridis Atas Kewajiban Notaris Dalam Membacakan Akta Notaris Dan Implikasi Hukumnya (Studi Putusan Mahkamah Agung No. 351 Pk/Pdt/2018)," *The Juris* 6, no. 1 (2022): 72.

²¹ Asbudi Dwi Saputra and M. Kn SH, *Praktik Kenotariatan Notaris dan AI*, Bandung: CV Rey Media Grafika, 2025, 23.

²² Muhammad Idris, *Integrasi teknologi dalam jabatan notaris: Tantangan regulasi dan perlindungan hukum*, Yogyakarta: Genta Hukum Press, 2021, 26.

²³ A. Velez, "Artificial intelligence and human judgment in legal decision-making: A normative critique," *Legal Futures Journal*, 11, no. 3 (2020): 214.

²⁴ Hery Sulistyono and Lindu Ardjayeng, "Tinjauan yuridis tentang perjudian online ditinjau dari undang-undang no 11 tahun 2008 tentang informasi dan transaksi elektronik," *Dinamika Hukum & Masyarakat* 1, no. 2 (2020): 24.

²⁵ Eduard Awang Maha Putra, Lalu Aria Nata Kusuma, and Muhammad Khairi Muslimin, "Posibilitas Kehadiran Artificial Intelligence (AI) Sebagai Pengganti Profesi Notaris di Era Digital," *Jurnal Rechts Vinding: Media Pembinaan Hukum Nasional* 13, no. 2 (2024): 437.

²⁶ R. Berring & Cho, J., "Artificial intelligence and the legal profession: Balancing efficiency with ethics," *Journal of Legal Technology Studies* 8, no. 2 (2020): 117.

According to Djumialdji,²⁷ this serves as the first defence against document misuse and fraud in property transactions, making strict verification essential. Notaries must also guarantee that deeds comply with the law, uphold good faith (*bona fide*), and do not harm any party. In property cases, they must review land certificates, ownership status, and disputes. Idris notes that negligence in due diligence has caused notaries to become partly responsible for fraudulent deeds.²⁸ Notaries, though not law enforcers, must exercise due diligence to prevent legal violations.²⁹

The Indonesian Supreme Court Decision Number 173 K/Pdt/2017 establishes their civil liability when fraud or forgery goes undetected. Their duty extends beyond administrative functions to ensuring material truth, which is crucial amid advanced crimes involving forged documents and digital identity manipulation. While technology supports verification, Berring and Cho³⁰ stress professionalism remains vital since AI cannot capture abstract legal values. Despite growing literature on digital notarial services, little research addresses AI's impact on notaries' responsibilities in Indonesia. Idris³¹ highlights the need for regulatory reforms to prevent legal uncertainty, data risks, and human rights violations.

Thus, the role of notaries as public officials with legalisation and legal security functions cannot be reduced to mere administrative aspects.³² Notaries have broad legal responsibilities to ensure that every transaction recorded in an authentic deed is not only formally valid but also materially valid. The UUJN provides a clear normative framework, but its implementation still depends on the competence, independence, and integrity of individual notaries in performing their duties as public officials.³³ Without self-monitoring and commitment to the principle of prudence, the notary's function as the frontline defender of legal protection for property transactions will be difficult to achieve. This study aims to analyze how the application of AI affects the role and legal responsibilities of notaries in property transactions, particularly in the context of fraud prevention and document validation. Furthermore, the

²⁷ Djumialdji, *Tanggung jawab hukum notaris dalam pembuatan akta otentik terkait transaksi properti di era digital*, Jakarta: CV Lintas Hukum, 2019, 38.

²⁸ Muhammad Idris, *Integrasi teknologi dalam jabatan notaris: Tantangan regulasi dan perlindungan hukum*, Yogyakarta: Genta Hukum Press, 2021, 28.

²⁹ Salim, HS, H. and MS SH, *Uji Kompetensi Profesi Notaris: Soal jawab Ujian Pengangkatan Notaris & Uji kode Etik Notaris*, Jakarta: Sinar Grafika, 2022, 57.

³⁰ Asbudi Dwi Saputra and M. Kn SH, *Praktik Kenotariatan Notaris dan AI*, Bandung: CV Rey Media Grafika, 2025, 26.

³¹ Muhammad Idris, *Integrasi teknologi dalam jabatan notaris: Tantangan regulasi dan perlindungan hukum*, Yogyakarta: Genta Hukum Press, 2021, 29.

³² Dista Vennesya Mirna Talita, and Edith Ratna, "Peran Notaris Sebagai Pejabat Umum Dalam Era Revolusi Industri 4.0," *Notarius* 16, no. 2 (2023): 878.

³³ Novi Raihani and Nuri Hidayati, "Tanggung Jawab Notaris Dalam Akta Otentik Yang Cacat Hukum," *Jurnal Lawnesia (Jurnal Hukum Negara Indonesia)* 3, no. 2 (2024): 524.

study seeks to identify existing regulatory challenges and formulate policy recommendations that can guarantee legal protection while maintaining the integrity of the notarial system in the digital era. Therefore, it is hoped that this research will make a significant contribution to anticipating technological developments while supporting legal certainty and justice for all parties.

B. RESEARCH METHODS

This study uses a normative approach, better known as doctrinal law, which focuses primarily on the study of applicable legal rules, principles, and structures. This approach is highly relevant in examining legal issues related to the role and responsibilities of notaries amid the development of Artificial Intelligence (AI) technology and the rise of property fraud cases. In this context, the researcher does not collect primary data through interviews or surveys but relies on secondary sources that provide the theoretical and normative foundation for building legal arguments.

The type of data used in this study is secondary, covering various written sources such as legislation, court decisions, scientific journal articles, law books, and other literature relevant to the research object. As the main normative framework, the UUJN is the primary reference in analysing the duties, powers, and responsibilities of notaries as public officials. In addition, implementing regulations such as Government Regulations and Circular Letters related to the notary profession are also examined to provide a comprehensive understanding of the applicable legal system. Decisions of the Supreme Court of the Republic of Indonesia in cases related to property fraud are also important material for analysis to determine how legal considerations are applied in practice.

Data collection techniques were carried out through library research methods based on an in-depth review of written legal sources. This process included identifying relevant regulations, analysing the content of laws, and evaluating court decisions directly related to the research topic. In addition, a review of property fraud cases that have been published or reported by the media or legal institutions was also conducted to provide an empirical picture of the challenges faced by notaries in carrying out their roles. This study is designed to produce a holistic understanding of the normative aspects of positive law and the social realities that occur in the field.

In the analysis process, this research uses qualitative methods with prescriptive, comparative, and evaluative approaches. The prescriptive approach is used to identify how legal norms should be applied in the context of AI utilisation in notary services. The comparative approach is carried out by comparing existing legal provisions with legal principles from other countries or with current technological developments. Meanwhile, the evaluative approach is used to assess the effectiveness of existing norms in responding

to the dynamics of the notary profession in the digital era. In addition, a legal-conceptual approach is applied to examine abstract legal concepts such as *bona fide*, *due diligence*, and legal responsibility in the context of interactions between humans and technology.

According to Djumialdji³⁴ this approach is highly appropriate for establishing a legal framework that is not only responsive to technological developments but also protective of public rights in property transactions. By combining these methods and approaches, this study is designed to produce conclusions that are normatively valid and relevant in the context of current legal and technological developments. The use of a rigorous legal approach, coupled with an examination of current legal sources, is expected to make a significant contribution to the understanding and development of the notary profession in Indonesia, particularly in addressing the challenges of the era of artificial intelligence.

C. DISCUSSION

1. Legal Foundations of Notarial Accountability in Digital Property Transactions

As public officials with the authority to draw up authentic deeds, notaries play a crucial role in property transactions. Within the Indonesian legal framework, the Notary Law (UUJN) stipulates that notaries are responsible for recording the intentions of the parties in the form of authentic deeds while maintaining the principles of due diligence, objectivity, and legal certainty. In the context of property transactions, the main duties of a notary include verifying the identity of the parties, researching the legality of the object of the transaction, and testing the validity of the contents of the deed.³⁵ This process is not only administrative but also substantive, as notaries are required to ensure that the transaction is legally valid and does not give rise to potential disputes in the future. Djumialdji³⁶ states that in every deed of agreement relating to land, a notary must verify the history of the certificate, ownership status, and the existence of any encumbrances or unresolved disputes. In performing their functions, notaries do not merely act as officials who record the agreements of the parties but also as institutions responsible for the legal

³⁴ Djumialdji, *Tanggung jawab hukum notaris dalam pembuatan akta otentik terkait transaksi properti di era digital*, Jakarta: CV Lintas Hukum, 2019, 37.

³⁵ Justitia Ferryanto, Winsherly Tan, and Lu Sudirman, "Potensi dan Tantangan Hukum Digitalisasi Layanan Kenotariatan: Analisis Komparatif Indonesia dan Amerika Serikat," *Jurnal Mediasas: Media Ilmu Syari'ah dan Ahwal Al-Syakhsiyyah* 7, no. 2 (2024): 310.

³⁶ Djumialdji, *Tanggung jawab hukum notaris dalam pembuatan akta otentik terkait transaksi properti di era digital*, Jakarta: CV Lintas Hukum, 2019, 39.

validation of the transaction.³⁷ Article 16(1)(b) of the Notary Law mandates that a notary must refuse to draw up a deed if it is known that there are elements of forgery, fraud, or legal violations in the transaction. Idris³⁸ emphasises that although notaries are not investigative bodies, they still have a duty to ensure that the deeds they draw up are not used as tools for illegal activities, including property fraud, which has been rampant in recent years.

The advent of digital technology has transformed the dynamics of document verification in notary services. However, the notary's obligation to ensure the authenticity of the parties' identities remains unchanged. In many property fraud cases, perpetrators use forged documents, fake e-ID cards, or manipulated power of attorney documents to deceive the verification system.³⁹ In such situations, notaries are required not only to rely on physical documents but also to conduct cross-checks with biometric systems or official government databases. The Supreme Court of the Republic of Indonesia's ruling in Case Number 173 K/Pdt/2017 illustrates that notaries may face civil lawsuits if found negligent in verifying documents that turn out to be forged. Velez⁴⁰ highlights that although AI can be used as a supporting tool in detecting document irregularities, normative interpretation must still be carried out by humans, as machines do not have the capacity to understand abstract legal values such as good faith (*bona fide*) or bad faith (*mala fide*).

The development of artificial intelligence (AI) technology has had a significant impact on various sectors, including the property industry.⁴¹ In several developed countries, such as the United States and Singapore, there have been reports that unscrupulous property agents have begun to use AI to carry out sophisticated fraud. One *modus operandi* that has been discovered is the use of deepfake video calls, automated chatbots, and digital document manipulation to convince prospective buyers to make transactions without

³⁷ Wahyu Satya Wibowo, Johni Najwan, and Firdaus Abu Bakar, "Integritas Notaris Sebagai Pejabat Pembuat Akta Autentik dalam Undang-Undang Jabatan Notaris," *Recital Review* 4, no. 2 (2022): 336.

³⁸ Nindi Wulandari, "Tanggung Jawab Hukum Notaris Dalam Pembuatan Akta," *PUTAT: Jurnal Pelita Pendidikan, Hukum, Ekonomi dan Teknologi* 1, no. 1 (2025): 24. See too, Muhammad Idris, *Integrasi teknologi dalam jabatan notaris: Tantangan regulasi dan perlindungan hukum*, Yogyakarta: Genta Hukum Press, 2021, 31.

³⁹ Indrika Dwi Rahma Suryani, Elia Kurniawati, Gracia Angelina Nawang Wulan, and Hikmah Cahya Dinniah, "Konseptualisasi Peran Teknologi Informasi dalam Praktik Audit untuk Membantu Pengungkapan Fraud di Indonesia," *El MUHASABA: Jurnal Akuntansi (e-Journal)* 12, no. 2 (2021): 145.

⁴⁰ Chahinez Cheref, "The delicate balance between artificial intelligence efficiency and legal principles in administrative decision-making," *Revue Algérienne des Sciences Juridiques et Politiques* 61, no. 2 (2024): 342. See too, A. Velez, "Artificial intelligence and human judgment in legal decision-making: A normative critique," *Legal Futures Journal*, 11, no. 3 (2020): 215.

⁴¹ Irawati Nastasia, "Analisis Yuridis atas Kedudukan Hukum dan Peran Artificial Intelligence (AI) dalam Sistem Hukum Acara Perdata Indonesia," (PhD diss, Universitas Kristen Indonesia, 2024).

ever meeting in person⁴². Although there have been no similar cases in Indonesia, this threat is real and has the potential to occur if there is no adequate legal protection.

The use of AI in criminal activities poses new challenges for the legal system, particularly in terms of identifying perpetrators and proving their guilt. In the context of property transactions. This phenomenon becomes even more complex when notaries, as public officials, are required to verify the identities of the parties in accordance with Article 15 of the UUJN. Without digital detection tools, notaries may unknowingly become part of the process of legitimising illegal transactions. The main challenge that arises is the inability of existing regulations to respond quickly to technological developments. The UUJN still refers to conventional principles of physical document verification and the direct presence of the parties. However, in the digital age, property transactions can be conducted remotely through virtual platforms, aided by AI algorithms that appear visually valid but are substantively false. Idris⁴³ states that revisions to the legal framework governing the notary profession are urgently needed to address the dynamics of modern transactions, including regulations on digital identity validation and the notary's responsibilities in using assistive technology.

Although the Electronic Information and Transactions Law (*Undang-Undang Informasi dan Transaksi Elektronik/UUITE*) provides a framework for electronic documents, it does not specifically regulate AI-based fraud in property transactions, creating a normative loophole exploitable by digital criminals.⁴⁴ The absence of integrated digital identity verification between the Ministry of Home Affairs, the National Land Agency, and notary institutions increases risks. Djumialdji⁴⁵ suggests the government establish operational guidelines for notaries, including sanctions for negligence in verifying manipulated digital data. Notaries' legal responsibilities become complex when deeds enable fraud, as they may face civil liability through compensation claims or criminal liability if involved in forgery. Under Article 1870 of the Civil Code, authentic deeds are perfect evidence but lose validity if forgery or unlawful acts are proven.⁴⁶

⁴² Merdeka.com, "Awat, penipuan properti makin canggih, sudah pakai teknologi, *Merdeka.com* October 20, 2023," Retrieved in July 20, 2025 from <https://www.merdeka.com/teknologi/awat-penipuan-properti-makin-canggih-sudah-pakai-teknologi-223464-mvk.html?page=2>

⁴³ Muhammad Idris, *Integrasi teknologi dalam jabatan notaris: Tantangan regulasi dan perlindungan hukum*, Yogyakarta: Genta Hukum Press, 2021, 34.

⁴⁴ Triana Dewi Seroja, "Technological Advancement in the Society 5.0 Era for Notary in Indonesia: Glory or Obsolete?," *Legal Brief* 11, no. 3 (2022): 1589.

⁴⁵ Djumialdji, *Tanggung jawab hukum notaris dalam pembuatan akta otentik terkait transaksi properti di era digital*, Jakarta: CV Lintas Hukum, 2019, 47.

⁴⁶ Candella Angela Anatea Taliwongso, "Kedudukan Akta Otentik Sebagai Alat Bukti Dalam Persidangan Perdata Di Tinjau Dari Pasal 1870 KUH Perdata (Studi Kasus Putusan Nomor 347/Pdt. G/2012/PN. Mdn)," *Lex Administratum* 10, no. 2 (2022): 42.

Berring and Cho⁴⁷ emphasise that although notaries are not responsible for the criminal acts of third parties, they still have an obligation to exercise due diligence to prevent potential fraud in property transactions. The impact of a notary's negligence in performing their duties is not only legal but also significant economic and social.

Economically, property fraud victims suffer significant material losses, from the disappearance of assets to financial setbacks caused by cancelled transactions. Socially, such cases undermine public trust in notaries, who are expected to safeguard legal certainty in property dealings. Confidence in notarial deeds is a foundation of Indonesia's land ownership system, and failures in this regard could affect national policy by questioning regulatory effectiveness. According to Djumialdji⁴⁸, revisions to document verification mechanisms and notarial standard operating procedures are essential to maintain public trust. Notaries face the challenge of balancing administrative efficiency with legal caution. Idris⁴⁹ emphasizes that technology can assist, but not replace, the notary's primary role in ensuring legal certainty, making regulatory adjustments necessary. Finally, notaries bear substantive legal responsibility to ensure transactions are both formally and materially valid. While the UUJN provides a normative framework, its effectiveness depends on notaries' integrity and prudence. Therefore, collaboration among legal experts, policymakers, and notarial institutions is crucial to build a comprehensive framework addressing technological challenges and evolving fraud schemes.

2. Potential and Limitations of AI Technology in Supporting the Function of Notaries

The development of artificial intelligence (AI) technology has had a significant impact on various sectors, including the legal services sector.⁵⁰ In the context of notarial services, AI is beginning to be used as a tool to verify the identity of parties, validate property ownership documents, and detect potential fraud that often occurs in land or building sales transactions.⁵¹ The UUJN requires notaries to carefully examine the identity of the parties and the legality of the object of the transaction.

The application of technologies such as facial recognition, e-KTP verification systems, and the use of blockchain to record ownership history can

⁴⁷ R. Berring & Cho, J., "Artificial intelligence and the legal profession: Balancing efficiency with ethics," *Journal of Legal Technology Studies* 8, no. 2 (2020): 119.

⁴⁸ Djumialdji, *Tanggung jawab hukum notaris dalam pembuatan akta otentik terkait transaksi properti di era digital*, Jakarta: CV Lintas Huku, 2019, 50.

⁴⁹ Muhammad Idris, *Integrasi teknologi dalam jabatan notaris: Tantangan regulasi dan perlindungan hukum*, Yogyakarta: Genta Hukum Press, 2021, 37.

⁵⁰ Anugrah Yustica, Ngadino Ngadino, and Novira Maharani Sukma, "Peran etika profesi notaris sebagai upaya penegakan hukum," *Notarius* 13, no. 1 (2020): 63.

⁵¹ Prasetyawati, Betty Ivana, and Paramita Prananingtyas, "Peran kode etik notaris dalam membangun integritas notaris di era 4.0," *Notarius* 15, no. 1 (2022): 315.

be a solution to speed up the examination process while increasing the accuracy of the information obtained. Djumialdji⁵² assesses that although AI does not replace the role of notaries as public officials, it can be an effective means of carrying out the function of legal security, which is an integral part of the duties of notaries.

In practice, AI can make a significant contribution to detecting irregularities in legal documents used in property transactions. One example is the use of data analysis software designed to compare land certificate histories with the official database of the National Land Agency (*Badan Pertanahan Nasional*/BPN). This system can provide warnings if it detects duplicate certificates, dispute status, or third-party claims to land rights. In addition, blockchain technology is also beginning to be adopted for the transparent and tamper-proof storage of property transaction records, providing legal certainty for the parties involved. Idris⁵³ states that the use of this technology can be a stronger preventive mechanism than manual methods, due to AI's ability to process data quickly and objectively.

However, normative interpretation must still be carried out by humans, as AI does not have the capacity to understand abstract legal values such as *good faith (bona fide)* or *bad faith (mala fide)*. The integration of AI in notary services poses technical and ethical challenges, notably the risk of biased outcomes due to inaccurate or unverified training data. Such flaws may mislead transactions and disadvantage parties. Excessive reliance on technology could also weaken notaries' duty to conduct substantive checks and reject deeds involving forgery or legal violations. Velez⁵⁴ stresses that while AI can detect anomalies, only notaries, as state-appointed public officials, may interpret legal implications. Without strong human oversight, AI risks introducing new vulnerabilities into property ownership law.

Ethical aspects are also an important issue in the application of AI in notary services.⁵⁵ One fundamental question that often arises is whether the use of this technology can reduce the legal responsibility inherent in notaries. Within the framework of Indonesian positive law, notaries remain public officials who are legally responsible for every deed they make, even if they use a support system in the document verification process. The Indonesian Supreme Court's decision in case Number 347 K/Pdt/2018 states that although

⁵² Djumialdji, *Tanggung jawab hukum notaris dalam pembuatan akta otentik terkait transaksi properti di era digital*, Jakarta: CV Lintas Hukum, 2019, 37.

⁵³ Muhammad Idris, *Integrasi teknologi dalam jabatan notaris: Tantangan regulasi dan perlindungan hukum*, Yogyakarta: Genta Hukum Press, 2021, 37.

⁵⁴ A. Velez, "Artificial intelligence and human judgment in legal decision-making: A normative critique," *Legal Futures Journal*, 11, no. 3 (2020): 218.

⁵⁵ Putri Melati, "Pengembangan Aplikasi Digital Berbasis Artificial Intelligence Guna Efisiensi Pembuatan Akta Notaris," *Jurnal Hukum Caraka Justitia* 5, no. 1 (2025): 140.

notarial deeds have a presumption of validity, they can still be invalidated if there is evidence of forgery or unlawful acts. This indicates that the existence of AI does not eliminate the notary's obligation to conduct adequate due diligence.

Berring and Cho⁵⁶ emphasise that the application of AI in the legal field must always be based on the principles of justice and accountability, and must not sacrifice individual rights for technological efficiency. Therefore, although AI can be an effective tool, notaries remain necessary as central actors who provide normative validation of transactions. The use of AI in notary services also raises dilemmas between technological innovation and legal principles. On the one hand, AI can be a solution in preventing illegal transactions and fraud that are rampant in the property sector. On the other hand, its use can create vulnerabilities to human rights violations if not properly regulated. Issues of privacy, data security, and algorithm transparency are important issues that should not be ignored.⁵⁷

In addition, the lack of human touch in legal analysis can cause the system to fail in understanding the normative context of a transaction. For example, AI may be able to detect inconsistencies in identity data, but it is unable to evaluate whether a transaction was conducted in good faith or otherwise. Djumialdji⁵⁸ emphasises that although AI can improve administrative efficiency, it does not have the moral capacity or subjective legal considerations that humans have. Therefore, the use of this technology must always be guided by the principles of professionalism that form the basis of the notary profession.⁵⁹

Idris⁶⁰ suggests that revisions to existing regulations are urgently needed to anticipate rapid technological developments. Additionally, strong control mechanisms are required to ensure that AI is used ethically and in accordance with the principles of due diligence that form the foundation of the notary profession. Without clear regulations and strict controls, the use of AI could instead give rise to new and more complex legal issues.⁶¹

⁵⁶ R. Berring & Cho, J., "Artificial intelligence and the legal profession: Balancing efficiency with ethics," *Journal of Legal Technology Studies* 8, no. 2 (2020): 115.

⁵⁷ Triamy Rostarum, "Prinsip Kehati-Hatian Notaris di Era Digital: Implementasi dalam mewujudkan Akta yang Sempurna," *Jurnal Ilmiah Universitas Batanghari Jambi* 24, no. 3 (2024): 2304.

⁵⁸ Djumialdji, *Tanggung jawab hukum notaris dalam pembuatan akta otentik terkait transaksi properti di era digital*, Jakarta: CV Lintas Hukum, 2019, 58.

⁵⁹ Eduard Awang Maha Putra, Lalu Aria Nata Kusuma, and Muhammad Khairi Muslimin, "Posibilitas Kehadiran Artificial Intelligence (AI) Sebagai Pengganti Profesi Notaris di Era Digital," *Jurnal Rechts Vinding: Media Pembinaan Hukum Nasional* 13, no. 2 (2024): 440.

⁶⁰ Muhammad Idris, *Integrasi teknologi dalam jabatan notaris: Tantangan regulasi dan perlindungan hukum*, Yogyakarta: Genta Hukum Press, 2021, 35.

⁶¹ Faizal Kurniawan, Prawitra Thalib, M. Hadi Subhan, Bart Jansen, and Zuhairah Ariff Binti Abd Ghadas, "Justice as a Meta Value of Corrective Justice in Providing Restitution for Unjust

The use of AI in notary services boosts efficiency and early fraud detection but raises challenges around defining notaries' legal responsibility and adjusting current laws.⁶² Notaries' accountability remains unchanged despite technological assistance. Without clear regulations and strict oversight, AI use could create complex legal issues. Technical and ethical concerns include data bias risks and overdependence on technology, which might reduce substantive document scrutiny. Notaries must refuse deeds involving forgery or legal breaches.⁶³ Velez⁶⁴ stresses that AI aids anomaly detection, but legal interpretation must be done by notaries. The Supreme Court ruling Number 347 K/Pdt/2018 confirms AI doesn't remove notaries' due diligence obligations.

3. Urgency of Regulatory Reform for AI Integration in Notary Services

The integration of AI into notary services requires clear regulations to avoid normative confusion. Currently, there are no explicit provisions in the Notary Law or its implementing regulations that detail the use of technology in the process of drafting deeds.⁶⁵ This creates a situation where the application of AI in practice may lead to inconsistent legal interpretations, particularly regarding liability limits in the event of errors caused by automated systems.

Idris⁶⁶ suggests that revisions to existing regulations are urgently needed to anticipate rapid technological developments. Additionally, strong control mechanisms are required to ensure that AI is used ethically and in accordance with the principles of due diligence that form the foundation of the notary profession. Beyond regulatory clarity and control, the integration of AI in notary services also raises broader questions about professional ethics and public trust. The notarial profession in Indonesia is built on the principle of prudence and the guarantee of legal certainty, values that may be difficult to

Enrichment: A Study on Rules, Norms, Principles, and Foundation," *Jurnal Hukum* 39, no. 2 (2023): 197.

⁶² Putri Melati, "Pengembangan Aplikasi Digital Berbasis Artificial Intelligence Guna Efisiensi Pembuatan Akta Notaris," *Jurnal Hukum Caraka Justitia* 5, no. 1 (2025): 144.

⁶³ Muhammad Afdal Zikri, Muhammad Indra Gazali, and Riski Dwi Nugraha, "Tantangan Dan Peluang Profesi Notaris Diera Digital," *Indonesian Journal of Islamic Jurisprudence, Economic and Legal Theory* 3, no. 2 (2025): 2043.

⁶⁴ A. Velez, "Artificial intelligence and human judgment in legal decision-making: A normative critique," *Legal Futures Journal*, 11, no. 3 (2020): 219.

⁶⁵ Moh Rifki, Septiano Anggun Pratama, Mohammad Yazdi Pusadan, Syahrullah Syahrullah, and Chairunnisa Ar Lamasitudju, "Perancangan Architecture Enterprise Dengan Artificial Intelligence Dalam Pelayanan Penerbitan Tanda Tangan Elektronik Diskominfo Kota Palu Menggunakan Togaf ADM," *Jurnal Ilmiah Penelitian dan Pembelajaran Informatika* 10, no. 2 (2025): 999.

⁶⁶ Muhammad Idris, *Integrasi teknologi dalam jabatan notaris: Tantangan regulasi dan perlindungan hukum*, Yogyakarta: Genta Hukum Press, 2021, 36.

translate fully into algorithmic processes.⁶⁷ For example, AI systems may detect inconsistencies or fraudulent elements in documents, but they cannot replace the human judgment required to assess intent, good faith, or the socio-legal context of a transaction. This limitation highlights the importance of positioning AI as a complementary tool rather than a substitute for notaries' decision-making authority.⁶⁸ Moreover, public perception plays a critical role: if the public doubts the reliability of AI-based verification, it could undermine confidence in the legal system as a whole. Thus, the adoption of AI must not only focus on efficiency gains but also carefully consider its impact on the ethical foundations and legitimacy of notarial institutions. Without clear regulations and strict controls, the use of AI could instead give rise to new and more complex legal issues.⁶⁹

The use of AI in notary services has positive impacts in terms of efficiency and early detection of potential property fraud.⁷⁰ However, it also creates new challenges related to the limits of notaries' legal responsibility and the need to adjust existing regulations. The responsibility of notaries as public officials remains unchanged even though technology is used as a tool.⁷¹ Without clear regulations and strict controls, the use of AI could actually give rise to new and more complex legal issues. Therefore, it is important for legal experts, policymakers, and notary institutions to formulate a comprehensive legal framework to anticipate future technological developments while maintaining the integrity of Indonesia's land ownership system.

D. CONCLUSION

This study concludes that the integration of artificial intelligence (AI) into notarial services does not diminish the legal responsibilities of notaries as public officials. While AI demonstrates substantial potential in enhancing the efficiency of document verification, forgery detection, and property record management, the normative interpretation and legal judgment remain inherently human functions. In accordance with the Indonesian Notary Law

⁶⁷ Triamy Rostarum, "Prinsip Kehati-Hatian Notaris di Era Digital: Implementasi dalam mewujudkan Akta yang Sempurna," *Jurnal Ilmiah Universitas Batanghari Jambi* 24, no. 3 (2024): 2306.

⁶⁸ Eduard Awang Maha Putra, Lalu Aria Nata Kusuma, and Muhammad Khairi Muslimin, "Posibilitas Kehadiran Artificial Intelligence (AI) Sebagai Pengganti Profesi Notaris di Era Digital," *Jurnal Rechts Vinding: Media Pembinaan Hukum Nasional* 13, no. 2 (2024): 444.

⁶⁹ Muhammad Idris, *Integrasi teknologi dalam jabatan notaris: Tantangan regulasi dan perlindungan hukum*, Yogyakarta: Genta Hukum Press, 2021, 38.

⁷⁰ Feny Ulfina Murdayantin, Amelia Agustin, and Dita Pebrianti, "Moral dan Etika Notaris di Era Society 5.0: Kajian Fungsi Artificial Intelligence Terhadap Profesi Notaris," *Das Sollen: Jurnal Kajian Kontemporer Hukum Dan Masyarakat* 1, no. 02 (2023): 45.

⁷¹ Justitia Ferryanto, Winsherry Tan, and Lu Sudirman, "Potensi dan Tantangan Hukum Digitalisasi Layanan Kenotariatan: Analisis Komparatif Indonesia dan Amerika Serikat," *Jurnal Mediasas: Media Ilmu Syari'ah dan Ahwal Al-Syakhsiyyah* 7, no. 2 (2024): 314.

(UUJN), notaries are still required to exercise due diligence to ensure the legitimacy of every transaction. Although AI may serve as an effective tool, it lacks the capacity to interpret abstract legal values such as bona fide or mala fide intent. The need for regulatory reform to address technological advancements adequately. Revising the UUJN is thus necessary to define the permissible use of AI in document authentication and to establish operational standards that uphold the integrity of the notarial profession. Human resource development, particularly in digital literacy and cyber law, must also be prioritised.

This study is limited by its normative approach, which focuses on theoretical and regulatory analysis without incorporating empirical data. Future research should explore how AI is practically applied within notarial practices in Indonesia, examining notaries' perceptions of legal risks and assessing the effectiveness of AI-based systems in fraud prevention. Empirical studies are essential to understanding real-world challenges and informing progressive policy-making. Such efforts will ensure that technological adoption in notarial services remains aligned with legal principles and the protection of public trust.

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