

Juridical Analysis of Electronic Land Certificates Evidentiary Strength as Basis for PPAT Deed Making

Arief Rahman Hakim

Postgraduate Program, Master of Notarial Law Studi Program, Universitas Muhammadiyah Sumatera Utara, Medan, Indonesia

Jl. Denai No. 217, Medan, Sumatera Utara, 20226, Indonesia

Email: ariefrh598@gmail.com

Correspondence Author Email: ariefrh598@gmail.com

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Abstract—The transformation of land registration in Indonesia from a paper-based system to a digital-based system through the implementation of electronic certificates (Sertifikat-el) presents a significant legal anomaly. While this modernization aims to increase efficiency, it creates a norm conflict with the Indonesian Civil Code, which prioritizes physical written evidence. This study aims to analyze the evidentiary strength of electronic land certificates in civil procedural law and the validity of deeds made by Land Deed Making Officials (PPAT) based on electronic data. The research method employed is normative juridical with statute and conceptual approaches, analyzing the synchronization between the Basic Agrarian Law, the Civil Code, and the Electronic Information and Transactions Law. The results indicate that while electronic certificates are formally valid as evidence, their material strength is vulnerable within Indonesia's negative publication system. Consequently, if a PPAT creates a deed based on invalid electronic data due to system errors or cyber-attacks, the deed fails to meet the objective requirement of "a certain subject matter" in Article 1320 of the Civil Code, rendering it null and void by law (*nietig van rechtswege*). This study concludes that the current regulation places disproportionate liability on PPATs and recommends a reconstruction of legal protection based on state strict liability and Maqashid Sharia principles (*Hifz al-Mal*) to ensure justice and security in digital land assets.

Keywords: Electronic Land Certificate; Evidentiary Strength; PPAT Deed Validity; Legal Certainty; Maqashid Sharia

1. INTRODUCTION

Land occupies a crucial and essential role in human existence, functioning not merely as an economic resource but also as a refuge imbued with profound sociological and religious significance. In Indonesia's constitutional framework, land regulation is anchored in Article 33, paragraph (3) of the 1945 Constitution, which stipulates that the earth, water, and natural resources therein are under state control and utilised for the maximum benefit of the populace. This constitutional requirement is operationally detailed in Law Number 5 of 1960 regarding Basic Regulations on Agrarian Principles (hence referred to as UUPA). The principal aim of the UUPA is to ensure legal certainty concerning land rights for all Indonesian citizens (Arba, 2021), achieved by the execution of land registration across the Republic of Indonesia, as outlined in Article 19 of the UUPA. Historically, the ultimate outcome of such registration was a tangible certificate, which functioned as a robust evidence instrument. This tangible document afforded psychological assurance to rights holders for decades.

In response to the swift progression of information and communication technology during the Industrial Revolution 4.0, the Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (ATR/BPN) commenced a significant legal transformation by promulgating Regulation of the Minister of ATR/BPN Number 1 of 2021 regarding Electronic Certificates (Permen ATR/BPN 1/2021). This rule transitions the land registration framework from a paper-based system to a digital-based system. Certificates are no longer issued as physical books but as Electronic Documents validated with an Electronic Signature (TTE). While this modernization aims to increase efficiency and transparency, the change in the formal form of certificates raises serious juridical issues regarding the law of evidence, particularly within the realm of Civil Law. Article 1866 of the Indonesian Civil Code (Kitab Undang-Undang Hukum Perdata) limitatively regulates valid evidence, where written evidence occupies the primary position. Conventional legal doctrine interprets an "authentic deed" as a tangible physical document. Consequently, when certificates transform into electronic data, a juridical doubt arises regarding whether such electronic data possesses evidentiary strength equivalent to physical certificates before a civil judge.

This legal ambiguity considerably affects the responsibilities of the Land Deed Making Official (Pejabat Pembuat Akta Tanah or PPAT). As public authorities empowered to execute authentic documents pertaining to land rights transactions, including sales, purchases, or grants, PPATs are legally mandated to verify that the land in question is legitimate and free from conflicts. Article 1320 of the Civil Code stipulates that a fundamental requirement of an agreement is "a certain subject matter." In land transactions, this denotes a land parcel with an unequivocal legal standing (Salim, 2019). If a PPAT creates a deed based on electronic checking results that are invalid due to system errors or cyber-attacks, the deed may contain a legal defect in its objective element. Consequently, the deed could potentially be voidable (*vernietigbaar*) or null and void (*nietig van rechtswege*), exposing the PPAT to significant legal risks, including civil lawsuits (Wajdi & Yusrizal, 2024).

Several previous studies have examined the implementation of electronic certificates, yet specific gaps remain that this research aims to address. First, research by Nur Hidayani Alimuddin (2021) found that the current legal framework is not fully prepared to protect land owners if electronic data in the BPN data center is lost or manipulated. Alimuddin's study focused heavily on the general protection of land rights holders but did not specifically address the

liability of PPATs who rely on such data. Second, a study by Candra (2025) highlighted that in Indonesia's negative publication system, the state does not guarantee absolute data truth, leaving the burden of proof on the community. Candra's research emphasized third-party protection but did not elaborate on the validity of the transitional deeds themselves. Third, Supartini & Nugroho (2025) warned that without cyber security infrastructure equivalent to banking standards, electronic certificates could degrade legal certainty. Fourth, Sukmana & Baidhowi (2025) discussed the social aspects and general legal certainty in specific regencies.

The aforementioned studies mostly examine the validity of electronic certificates from the standpoint of landowners or public administration at large. There is a dearth of research that expressly examines the ramifications of this digital change on the legality of PPAT deeds from the standpoint of the "requirements for a valid agreement" (Article 1320 of the Civil Code) and the perspective of Islamic Law (Maqashid Sharia). This research addresses the gap by evaluating the evidentiary robustness of electronic certificates as a foundation for deed creation by PPATs. This study incorporates the perspective of Maqashid Sharia, particularly the safeguarding of property (Hifz al-Mal), within an academic context that adheres to Islamic norms. Islam underscores the significance of certainty and security in transactions, as seen by the directive for documentation (kitabah) in the Qur'an Surah Al-Baqarah, verse 282. If the electronic system remains vulnerable (gharar), the objective of Sharia to protect the Ummah's property is compromised.

Therefore, this study aims to analyze the position of electronic land certificates in the hierarchy of civil evidence and the legal consequences for PPAT deeds created based on invalid electronic data. The urgency of this research lies in the need to formulate a legal protection construction that is just and provides certainty for both the community and PPATs as state partners in land administration. The novelty of this research is the integration of the Civil Code's validity requirements with the Maqashid Sharia perspective in assessing digital evidence, providing a comprehensive theoretical basis for future policy evaluation.

2. RESEARCH METHODS

2.1 Type of Research

This work employs normative legal research, commonly referred to as doctrinal legal research. This research is selected due to the central issue being examined, which involves the uncertainty and conflict of norms (Bhaghamma, 2023) about the evidential validity of electronic documents within Indonesia's civil procedural law framework. Normative legal studies views law as a comprehensive and autonomous system of norms, distinct from non-legal social influences. This study does not engage in field research or surveys of respondents; instead, it concentrates on analysing library materials and secondary data. The necessity of employing this method stems from the imperative to reconcile the notion of traditional evidence delineated in the Civil Code (Kitab Undang-Undang Hukum Perdata) with the contemporary legal frameworks established by the Electronic Information and Transactions Law (UU ITE) and the Regulation of the Minister of Agrarian Affairs. This doctrinal approach seeks to provide a coherent legal explanation for the validity of electronic certificates while upholding the core foundations of agricultural law established over decades.

2.2 Research Approaches

This study utilises two primary methodologies to thoroughly analyse the legal issues: the statutory approach and the conceptual approach (Efendi et al., 2019). The statutory approach involves evaluating all laws and regulations pertinent to the legal matter at hand. The authors analyse the vertical and horizontal synchronisation among the 1945 Constitution, the Civil Code (Burgerlijk Wetboek), Law Number 5 of 1960 regarding Basic Agrarian Principles (UUPA), Law Number 19 of 2016 on Electronic Information and Transactions, and Regulation of the Minister of Agrarian Affairs/Head of BPN Number 1 of 2021 on Electronic Certificates. This assessment is essential to identify any discrepancies or legal gaps that may undermine the validity of electronic certificates as evidence.

The conceptual approach is employed to comprehend the perspectives and concepts produced in legal science. This approach is necessary because the positive law regarding electronic land deeds is still relatively new and has not yet established a strong jurisprudence. The authors refer to the doctrines of legal experts regarding the concepts of "authenticity," "legal certainty," and "justice" to interpret how these traditional values can be transformed into the digital realm. The views of scholars such as Arba (2021) regarding agrarian law principles and doctrines on the validity of contracts are used as analytical knives to dissect the problem. This conceptual framework helps in building a legal argument when the statutory regulations do not provide a clear or explicit answer to the problem of digital evidence validity.

2.3 Data Sources and Collection Technique

This study utilises exclusively secondary data, comprising primary, secondary, and tertiary legal materials. Primary legal texts are the principal binding authority, comprising the hierarchy of previously referenced official legislative rules. Secondary legal materials serve to elucidate primary legal materials, which encompass textbooks authored by legal scholars, scientific journals published from 2021 to 2025, and pertinent legal procedures. The authors employ contemporary literature on cyber law and land administration to guarantee the study is current. Tertiary legal publications, such legal dictionaries and the Large Indonesian Dictionary (KBBI), serve to elucidate the definitions of essential legal terminology. The data gathering method involves library research, which includes discovering,

cataloguing, and classifying legal materials pertinent to the research variables. The materials are subsequently organised to enhance the analytical procedure.

2.4 Data Analysis

The gathered legal materials are subjected to qualitative processing and analysis by deductive reasoning. The deductive method commences with a major premise, encompassing general legal theories and principles specifically the Theory of Legal Certainty (*Rechtszekerheid*) and the Theory of Justice and correlates them with a minor premise, which pertains to the specific legal facts concerning the implementation of electronic certificates and the creation of deeds by the Land Deed Making Official (PPAT). Through this syllogism, the research draws a prescriptive conclusion, which is a statement about what arguably should be the law (*ius constituendum*) regarding this matter. The analysis does not merely describe the regulations but evaluates them to provide a solution whether the current regulations provide sufficient protection or require revision. Furthermore, the analysis also integrates the perspective of *Maqashid Sharia* (protection of property or *Hifz al-Mal*) as an ethical-moral consideration in assessing the fairness of the digital transformation policy.

3. RESULTS AND DISCUSSION

3.1 The Juridical Construction of Electronic Certificates in the Hierarchy of Civil Evidence

The issuance of Regulation Number 1 of 2021 by the Minister of Agrarian Affairs and Spatial Planning/Head of the National Land Agency has fundamentally transformed the Indonesian agrarian law system, establishing a new juridical landscape in civil procedural law. Prior to this digital change, the legal framework for land ownership proof was firmly anchored in the materiality of the document. Article 19 of the Basic Agrarian Law (UUPA) requires the government to provide a certificate as a document of rights, serving as a robust evidential instrument. For decades, legal professionals and the public have construed this "strong evidence" as a tangible land book and measuring letter printed on specialised paper. This physical existence offered a palpable sense of psychological comfort and legal assurance. The transition to electronic certificates (*Sertifikat-el*) transforms physical evidence into digital data, thereby altering the traditional conception of evidence in civil court.

The principal legal conflict emerges when analysing the evidentiary hierarchy established in the Indonesian Civil Code (*Kitab Undang-Undang Hukum Perdata*). Article 1866 of the Civil Code specifically designates written evidence as the foremost and most significant kind of evidence in civil cases, succeeded by witness testimony, presumptions, admissions, and oaths. In the conventional dogmatic perspective, "written evidence" denotes a paper medium that encompasses text. Additionally, Article 1868 of the Civil Code characterises an authentic deed as one executed in the legally prescribed format by or in the presence of a public authority. The expression "form determined by law" has always been linked to physical protocols. Upon the transformation of the certificate into an Electronic Document authenticated by an Electronic Signature (TTE), as stipulated in Article 1 number 4 of *Permen ATR/BPN No. 1 of 2021*, an issue of validity emerges: does this intangible data fulfil the criteria outlined in Articles 1866 and 1868 of the Civil Code?

To address this normative disagreement, one must employ a systematic legal interpretation by including the Law on Electronic Information and Transactions (UU ITE 2016). The legal foundation for the validity of electronic certificates is not exclusively derived from the Minister's Regulation but is reinforced by Article 5 paragraph (1) of the UU ITE, which asserts that Electronic Information and/or Electronic Documents and/or their prints constitute valid legal evidence. This clause broadens the concept of "written evidence" in Article 1866 of the Civil Code to encompass digital formats. Consequently, legally, the electronic land certificate holds equivalent evidentiary value to the physical certificate (Haspada, 2025). The digital data in the BPN database constitutes the "original" authentic deed, but the printout retained by the owner functions as a legally recognised copy.

The robustness of this evidence is significantly affected by the land registration system implemented in Indonesia. Indonesia follows a "negative publication system with a positive inclination," as elucidated in the theoretical framework. This system does not ensure the perfect veracity of the physical and legal information contained in the certificate. The certificate serves as "strong evidence," indicating its validity unless disproven by another party. In a paper-based system, verifying the authenticity of a certificate necessitates forensic examination of the paper, ink, and signatures, which is very challenging to replicate flawlessly. In the electronic system, the challenge shifts to the integrity of the system itself. If the electronic system of the Ministry of ATR/BPN is compromised or if there is a system failure, the evidentiary value of the electronic certificate can be easily degraded.

This creates a paradox in legal certainty. On one hand, the electronic system promises data integration and prevents double issuance of certificates (overlapping). On the other hand, the intangible nature of electronic certificates makes them vulnerable to cyber threats, which can weaken their position as *sterk bewijs* in court. If a civil dispute arises, the judge cannot merely rely on the printout of the electronic certificate brought by the plaintiff. The judge requires digital forensic verification to ensure the metadata and electronic signature are valid and have not been tampered with. This adds a layer of complexity to the civil procedural law that was previously non-existent. Therefore, while formally (*de jure*) the electronic certificate is valid evidence equal to a physical deed, materially (*de facto*), its evidentiary strength is highly dependent on the security infrastructure governing the data. Without a guarantee of data

integrity that is equivalent to banking security standards, the electronic certificate risks losing its "authentic" quality and being reduced to mere ordinary electronic information that is easily challenged in court.

3.2 Validity of the Deed of Transfer of Rights and the Fulfillment of "A Certain Subject Matter" Requirement

The primary role of the Land Deed Making Official (PPAT) is to enable land registration by producing legitimate deeds pertaining to lawful transactions involving property rights. The Sale and Purchase Deed (AJB) functions as the principal instrument for the conveyance of ownership rights. The PPAT, as a public officer, holds significant obligation to ensure that every act performed complies with the legal formal and material criteria. A crucial facet of this job is confirming the legitimacy of the transaction's object. Under the system of physical certifications, PPATs might conduct a physical examination of the "land book" and "measuring letter" provided by the seller and verify them against the physical records at the Land Office (verification procedure). Nonetheless, the introduction of the electronic certificate system has completely transitioned the verification process to a digital platform administered by the Ministry of ATR/BPN. This transition profoundly modifies the risk profile of the deed-making process, especially regarding the agreement's legitimacy.

Article 1320 of the Indonesian Civil Code stipulates that for an agreement to be valid, four elements must be met: (1) mutual consent of the parties involved; (2) legal competence to undertake an obligation; (3) a definite subject matter; and (4) a lawful cause. The initial two needs are subjective, whereas the subsequent two are objective. The adoption of electronic certificates particularly jeopardises the satisfaction of the third criterion: "a specific subject matter" (een bepaald onderwerp). In the context of a land transaction, "a certain subject matter" refers to the land parcel being traded, which must be clear in terms of its location, boundaries, area, and legal status. The validity of the deed depends entirely on the accuracy of this data.

A significant legal problem arises when the electronic system (BPN database) experiences an error, glitch, or a cyber-attack that manipulates the data. For instance, a hacker might alter the status of a land parcel from "blocked" (due to a dispute) to "clean" in the electronic system. Relying on this corrupted data, the PPAT conducts an electronic check, receives a "clean" result, and proceeds to draft the Sale and Purchase Deed. In this scenario, the deed is formally correct because the PPAT followed the procedure. However, materially, the object of the agreement is flawed. The "certain subject matter" described in the deed does not match the actual legal reality.

Legal theory distinguishes between two types of invalidity: *vernietigbaar* (voidable) and *nietig van rechtswege* (null and void). If the defect lies in the subjective requirements (consensus or capacity), the deed is merely voidable. However, if the defect lies in the objective requirements ("a certain subject matter" or lawful cause), the deed is null and void by law. This distinction is crucial. If an electronic certificate error causes the object of the transaction to be unclear or legally non-existent (e.g., the land actually belongs to someone else but the system shows otherwise), then the deed violates the objective requirement of Article 1320. Consequently, the deed is considered never to have existed from the beginning, and no legal rights can be transferred based on it.

This exposes the PPAT to immense legal liability. In a conventional system, the PPAT could argue that they had performed due diligence by physically checking the records. In the electronic system, where the PPAT has no control over the backend data managed by BPN, they are in a vulnerable position. If a dispute arises because the electronic data was incorrect, the injured party (the buyer) will likely sue the PPAT for negligence or tort (*onrechtmatige daad*) (Kusmara & Saly, 2023). The PPAT becomes the primary target because they are the official who issued the deed. The negative publication system exacerbates this risk, as the state (BPN) generally refuses to be held liable for data inaccuracies, often shifting the burden back to the parties to prove their rights in court.

Wajdi & Yusrizal (2024) emphasize that the clarity of the object is non-negotiable in contract law. Therefore, the reliance on a centralized electronic system that is not immune to errors creates a "latent defect" in the deed-making process. The PPAT is forced to trust a system that does not provide a guarantee of absolute truth. This situation creates a legal anomaly where an authentic deed—which is supposed to provide perfect proof—is built upon a foundation of data that is legally fragile. To mitigate this, the legal construction must be re-evaluated to provide an indemnity clause or a safe harbor provision for PPATs who act in good faith based on the electronic data provided by the state system. Without such protection, the profession of PPAT carries a disproportionate risk in the era of digital transformation.

3.3 Construction of Legal Protection and Maqashid Sharia Perspective on Digital Land Assets

The shift to an electronic land administration system requires a fundamental change in the establishment of legal safeguards for land rights holders. In legal philosophy, legal protection is categorised into two forms: preventative and repressive. Preventive protection seeks to avert problems, whereas repressive protection focusses on resolving existing disputes. The current regulation concerning electronic certificates in Indonesia seems to prioritise technical efficiency over substantive protection. The compliance with a negative publication system indicates that the state does not assure the veracity of the information contained in the electronic certificate. This creates a significant gap in preventive protection. When the state mandates the public to convert their physical certificates—which they physically control—into digital data controlled solely by the state's server, the state should logically assume a higher degree of responsibility. It is legally inequitable if the state holds full control over the data management but disclaims liability when errors or data breaches occur. Therefore, a reconstruction of legal protection is required where the state adopts a principle of "strict liability" regarding the security of the electronic land register. If a loss occurs due to a system failure, the state must be held accountable without placing the burden of proof on the citizen or the PPAT.

This urgency for protection is further illuminated when viewed through the lens of Maqashid Sharia, specifically the principle of Hifz al-Mal (Protection of Property). In Islamic jurisprudence, property (mal) is one of the five essential values (al-dharuriyyat al-khamsah) that must be protected to ensure human welfare. Land, as a high-value asset, requires a protection mechanism that ensures certainty and safety. The digitization of land certificates must be interpreted as a modern effort to fulfill the command of Kitabah (recording) as prescribed in the Qur'an, Surah Al-Baqarah verse 282. The verse explicitly commands the recording of transactions, especially those involving debt or future obligations, to ensure justice and prevent forgetfulness or denial. In the modern context, the electronic database serves as the ultimate recorder. However, Islam places a fundamental condition on this recording process: it must be free from Gharar (uncertainty/ambiguity) and must be upheld with Amanah (trustworthiness).

The potential for system errors, hacking, or data manipulation in the electronic certificate system introduces an element of Gharar into land transactions. If a buyer cannot be 100% certain that the digital certificate shown on the screen is valid and not a result of a cyber-intrusion, then the transaction contains hidden risks that are prohibited in Sharia. A transaction based on false or uncertain data is invalid. Therefore, from a Maqashid Sharia perspective, the government's obligation is not merely to create a digital system but to ensure that the system is Mutqin (precise/perfect) and secure. Neglecting cyber security in the implementation of electronic certificates is not just a technical oversight; it is a violation of the religious duty to protect the Ummah's property. If the system is vulnerable, it opens the door to Mafasid (harm/damage), such as the loss of land rights for the poor due to data manipulation by the powerful "land mafia."

Consequently, to align the national law with Islamic principles of justice (Shebaita, 2025), the electronic land system must incorporate a guarantee mechanism. This could take the form of an integrated insurance scheme or a state-backed compensation fund. In Islamic economic law, this is akin to Kafalah (guarantee). The state acts as the Kafil (guarantor) for the validity of the data it administers. Without this guarantee, the electronic certificate system remains morally and legally flawed. For PPATs, who act as witnesses and scribes in these transactions, the existence of a secure system is a prerequisite to fulfilling their Amanah. A PPAT cannot justly facilitate a transaction if the underlying evidence is doubtful. Thus, the integration of Hifz al-Mal principles into the electronic land regulation serves as a moral compass to ensure that technological advancement does not compromise the fundamental rights of property ownership.

4. CONCLUSION

The thorough analysis indicates that electronic land certificates possess formal validity within the Indonesian civil procedural law framework, serving as an extension of written evidence as outlined in Article 1866 of the Civil Code, and supported by Article 5 of the ITE Law. Nonetheless, its evidentiary robustness is significantly weakened by reliance on the negative publication mechanism, which fails to ensure absolute data veracity, rendering it susceptible to challenge in court if the system's integrity is undermined. This study reveals that dependence on a centralised electronic system presents a considerable legal risk concerning the validity of deeds executed by Land Deed Making Officials (PPAT). If the electronic data pertaining to the land object is rendered invalid owing to system malfunctions or cyberattacks, the "certain subject matter" criterion in Article 1320 of the Civil Code is not satisfied. As a result, the deed executed by the PPAT is rendered null and invalid by law, rather than merely voidable. This exposes PPATs to disproportionate liability for errors that are beyond their control. Therefore, from the perspective of legal protection and Maqashid Sharia, specifically Hifz al-Mal (protection of property), the current regulation is insufficient. The state must assume strict liability for the security of the digital land register to eliminate elements of Gharar (uncertainty) and ensure Amanah (trustworthiness). Ideally, the government should establish a guarantee fund or insurance mechanism to indemnify losses caused by electronic system failures, ensuring that the digital transformation serves justice and protects the property rights of the Ummah rather than merely pursuing administrative efficiency.

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