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Review of Legal Certainty of Electronic Land Certificates in the Land Registration System in Indonesia: Jurisprudence Analysis and Challenges of Evidence in Court

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Abstract

Although Indonesia's land registration system theoretically adopts a negative publication system with positive elements, in practice it still creates vulnerabilities that lead to legal uncertainty for land rights holders. This is reflected in recurring cases of double certificates, overlapping ownership claims, and weak integration of national land data, which often trigger prolonged disputes and affect economic stability. This empirical study examines the gap between administrative recognition issued by the government and its evidentiary strength before judges who apply the principle of judicial freedom in evaluating evidence. The research aims to assess the effectiveness of electronic land certificates in achieving substantive legal certainty. The study was conducted through field research methods, including in-depth

interviews with civil judges, analysis of Supreme Court Decision Number 170 K/Pdt/2017, and examination of jurisprudence related to electronic documents. The findings indicate that electronic certificates provide technical advantages such as data encryption, audit trails, and national data synchronization. This innovation still operates within the framework of the negative publication system, which was not designed to accommodate a shift toward digital proof mechanisms. Furthermore, there has not yet been any court ruling that specifically regulates the evidentiary status of electronic certificates in land disputes, creating a potential legal vacuum. Although Supreme Court Decision Number 170 K/Pdt/2017 concerns a conventional certificate dispute, it establishes a precedent that courts prioritize material truth and the principle of *prior tempore potior iure* over administrative legitimacy.

Keywords

Electronic land certificate, legal certainty, jurisprudence, evidence in court, Supreme Court Decision No. 170 K/Pdt/2017.

A. Introduction

Land is a fundamental resource that plays a vital role in national life, both as the main pillar of the economy, the living space of the community, and as the subject of complex and sensitive civil law relationships. In the context of a state based on law, guarantees of justice, security, and certainty regarding land rights must be clearly and firmly regulated to prevent arbitrariness by any party, including the state. Because land often becomes the object of disputes that are complex, prolonged, and have a broad impact on social stability as well as the investment climate, legal certainty in the field of land affairs becomes an inevitability that cannot be compromised for the continuity of national development. The Basic Agrarian Law (UUPA) plays a central role in regulating the types of land rights and establishing the social function of land in order to ensure fair and responsible land use for all layers of society without distinguishing social

status. However, the reality on the ground shows that structural problems in the land registration system still pose a major obstacle to realizing legal certainty, a condition that has persisted for decades. This is particularly reflected in the prevalence of double certificates, overlapping land rights, and weak integration of land data between regions, which often only becomes apparent when disputes arise. Cases of double certificates often occur due to uncoordinated manual recording at the national level, the limitations of unified databases, and the lack of thorough verification of ownership history and rights transfers, which often involve unrecorded customary documents. Technical factors such as inaccurate measurements, differences in base maps between regions, and ineffective use of geospatial systems also contribute to exacerbating land parcel overlaps, triggering horizontal conflicts within the community. Land information that is spread across various standalone systems and not synchronized in real time complicates data integration between agencies and regions, creating opportunities for irresponsible parties to exploit system weaknesses. As a result, certificates recognized administratively by the National Land Agency (BPN) may conflict with other claims that have stronger legal grounds in the eyes of the public or the courts, creating a dualism of legal truth. This situation not only increases the potential for disputes but also undermines the function of certificates as a tool for legal certainty and decreases public credibility in the state's land administration.

In response to these systemic weaknesses, the government, through the Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (ATR/BPN), launched a strategic policy in the form of electronic land certificates based on the Minister of ATR/BPN Regulation Number 1 of 2021 concerning Electronic Certificates. This policy promises a fundamental transformation: from physical documents that are prone to damage, loss, or forgery, to an integrated digital system with layered security, audit trails, and national data synchronization that is expected to close loopholes for fraud. Administratively, electronic certificates are recognized as having legal force equivalent to conventional certificates as

proof of land rights, a recognition clearly stipulated in technical land regulations.

However, the promise of technology does not automatically address substantive legal issues that are deeply rooted in the judicial system. The critical question that arises and needs to be answered in depth is: how strong is the evidentiary power of electronic certificates when tested in court? To what extent will the court recognize the legitimacy of digital documents in land disputes involving significant interests? Will judges treat electronic certificates the same as conventional certificates, or will new, more complex standards of proof emerge due to procedural law unpreparedness and the limited technical understanding of judicial officers?

Previous studies have extensively discussed land certificates as a tool for legal certainty within Indonesia's land registration system. Research by Silviana highlights classic issues such as duplicate certificates, overlapping rights, administrative weaknesses, and the dominance of material evidence in dispute resolution, which often neglects formal aspects. Andari and Mujiburohman show that the negative publication system with positive elements cannot provide absolute legal protection for rights holders, so there is always a risk of annulment. Suharyono, in normative-regulatory research, focuses on the administrative validity of electronic certificates but has not examined in depth how courts assess and create legal precedents regarding electronic certificates in actual litigation practice. In other words, there is still a significant research gap: no study has specifically evaluated the strength of electronic certificate jurisprudence and the readiness of the evidentiary framework in court within the context of Indonesian law, which is transitioning from manual to digital.

The novelty of this research lies in the effort to fill this gap with three comprehensive strategic approaches: First, this study not only analyzes the administrative and technological aspects of electronic certificates, but

This ruling has strong relevance to electronic certificates. It teaches that the root of legal uncertainty does not lie in the form of the certificate (physical or digital), but in the lack of synchronization between the administrative system and the standards of judicial evidence. Digitization without accompanying procedural law reform and the formation of jurisprudence will only reproduce old disputes in a new format. Based on the identification of these issues, this study aims to:

1. Evaluate the potential and weaknesses of electronic land certificates based on ATR/BPN Regulation No. 1 of 2021 in realizing legal certainty.
2. Analyze the gap between the administrative recognition of electronic certificates and the legal framework of evidence in court.
3. Trace and analyze jurisprudence (or the lack of jurisprudence) related to the evidentiary power of electronic documents in land disputes.
4. Formulating the juridical prerequisites required for electronic certificates to truly become instruments of substantive legal certainty, by taking lessons from Supreme Court Decision No. 170 K/Pdt/2017.

This research uses an empirical method with a case study approach, data was obtained through:

1. In-depth interview with Her Excellency Mrs. Dian Kurniawati, S.H., M.H., Civil Judge of the Semarang District Court on February 13, 2026, to explore the judicial perspective on the evidentiary power of electronic certificates and practices in resolving land disputes.
2. Analysis of Supreme Court Decision Number 170 K/Pdt/2017 as an important precedent regarding the relationship between certificates and material truth. Tracing jurisprudence through the Supreme Court's Decision Directory to identify decisions related to

electronic documents as evidence in land disputes.

3. Documentation study on legislation, particularly the UUPA, Government Regulation No. 24/1997, Minister of ATR/BPN Regulation No. 1/2021, the ITE Law, as well as HIR/RBg regarding evidence.
4. Literature study on land law literature, legal certainty theory, and previous research.

This empirical approach not only looks at the relevant legal norms, but also uncovers the gaps between regulation and its implementation in the practice of land dispute resolution, as well as formulates evidence-based recommendations that can be accounted for both academically and practically..

B. Electronic Land Certificates: Technological Potential and Administrative Recognition

1. Legal Basis and Implementation of Electronic Certificates

Minister of Agrarian Affairs/National Land Agency Regulation Number 1 of 2021 marks a milestone in the transformation of land certificates from physical documents to an integrated digital system that changes the landscape of national land administration. This policy stipulates that electronic certificates issued through the electronic system have the same legal force as analog certificates as evidence of land rights, a breakthrough expected to reduce bureaucracy. This step not only follows the trend of global digitalization but also aims to create a more accurate and transparent land database, as well as to narrow the space for land mafia through a tighter security system that is difficult to penetrate by manual manipulation. This implementation is part of the state's effort to fulfill citizens' constitutional rights to legal certainty in asset ownership while simultaneously improving public service efficiency in the agrarian sector.

Technically, electronic certificates are produced through a

system that is nationally integrated, covering¹:

- a. Digital mapping based on precise geographic coordinates to minimize boundary errors of land parcels, which often become sources of disputes;
- b. A centralized database that connects all land offices in Indonesia to prevent cross-region duplication that has been difficult to detect until now;
- c. Automatic verification mechanism to prevent duplication and overlap before certificates are issued, reducing reliance on human verification which is prone to errors;
- d. Certified electronic signature that guarantees the validity and authenticity of documents as well as the identity of authorized officials according to cyber security standards.

2. **Potential Benefits: Accuracy, Transparency, and Fraud Prevention.**

Digital-based land systems offer significant improvements in data accuracy, service transparency, and fraud prevention compared to manual systems that have been in place for decades. Three main instruments form the foundation of this advantage, which drastically distinguishes it from the conventional era and provides added value for legal certainty:

First, Audit Trail. A digital footprint that records every activity, change, and data access chronologically and identifiable becomes a key instrument for improving accuracy and accountability. Every time data is accessed, modified, or a certificate is issued, the system records the identity of the accessor, the time, the type of change, and the reason for the change permanently. This minimizes administrative errors and narrows the space for unauthorized data manipulation by internal or external parties. In conventional systems, data manipulation is difficult to trace because it relies on physical documents and manual records that are easily manipulated, lost, or damaged due to natural disasters. An audit trail

¹ Peraturan Pemerintah Republik Indonesia Nomor 18 Tahun 2021 tentang Hak Pengelolaan, Hak Atas Tanah, Satuan Rumah Susun, dan Pendaftaran Tanah (Lembaran Negara Tahun 2021 Nomor 34), Pasal 86.

functions as a digital 'silent witness' that can be accountable in court as evidence of the history of data changes that cannot be disputed.

Second, Data Encryption. Physical and legal land data is encrypted using high security standards so that only authorized parties with certain access keys can access, read, or modify it. Encryption protects data from hacking attempts, forgery, or eavesdropping by unauthorized parties with certain interests. This protection is crucial to prevent document forgery, replacement of ownership data, and misuse of information that often occurs in manual systems where physical documents can be accessed by anyone who possesses them. Mrs. Dian Kurniawati emphasized in an interview that data encryption increases public trust in the electronic land registration system as a tool to protect land rights, although technical challenges still exist and require ongoing maintenance..²

Third, National Data Synchronization. Land data from all regency/city land offices are integrated into a single centralized database that can be accessed in a controlled manner. This synchronization allows ³:

- a. Verify land status across regions in real time without the need for time-consuming inter-agency correspondence;
- b. Early detection of potential overlap or duplication before the certificate is issued, preventing disputes from the outset;
- c. Centralized supervision by the ATR/BPN authority to ensure compliance with standard operational procedures;
- d. Ease of access to information for the public and stakeholders through the provided application increases public transparency.

² Arif, Poesoko, dan Munir, "Mitigasi Risiko Keamanan Data," hlm. 79.

³ Wawancara dengan Ibu Dian Kurniawati, S.H., M.H., Hakim Perdata Pengadilan Negeri Semarang, 13 Februari 2026.

With these three instruments, electronic certificates are theoretically able to overcome the systemic weaknesses of conventional systems: document forgery, duplicate certificates, overlapping land plots, and data fragmentation between regions that have so far been sources of legal uncertainty.

3. Administrative Recognition vs Legal Reality

Although technologically promising and administratively recognized, electronic land certificates remain within the same legal framework as their predecessors: a negative publication system with positive elements. Ms. Dian Kurniawati, in an interview, reminded that the transition from physical to digital certificates does not automatically change the fundamental character of Indonesia's land registration system, which still allows room for contrary proof. Electronic certificates still function as strong evidence, but not absolute. If there are legal defects in the registration process, such as invalid rights, falsified applicant data, or verification processes not following procedures, electronic certificates can still be challenged and annulled through court mechanisms.⁴

Digitalization does not automatically eliminate the potential for land disputes because the root of the problem often lies in substantive legal aspects, not just administrative ones. Disputes can arise from various sources of problems that cannot be resolved by technology alone.⁵:

- a. Legal defects in initial data input: If the data entered into the electronic system is already problematic from the start, then the issued certificate will also be problematic. Technology cannot correct material legal errors upstream, such as unresolved inheritance disputes.

⁴ Kementerian Agraria dan Tata Ruang/Badan Pertanahan Nasional, Laporan Tahunan 2025: Transformasi Digital Pelayanan Pertanahan (Jakarta: ATR/BPN, 2026), hlm. 45.

⁵ Wawancara dengan Ibu Dian Kurniawati, 13 Februari 2026.

- b. Cyber attacks and data breaches: Although the system has encryption, the risk of hacking still exists and can disrupt data integrity, potentially causing ownership disputes in the future if the data is manipulated in a sophisticated manner.
- c. Conflict between digital data and physical evidence: As long as there are still old physical documents in circulation (such as girik, petok, or conventional certificates that have not been converted), the potential for conflict between digital data and claims based on physical documents remains open and is often won by evidence of physical possession.
- d. Differences in legal interpretation: Judges may have different views on the evidentiary power of electronic documents compared to physical documents, depending on their understanding of the ITE Law and the still-developing property law.

In other words, electronic certificates should be understood as part of institutional and land law reform, not merely a technological solution. Their success depends not only on the reliability of the digital system, but also on:

- a. Data security and system resilience against increasingly sophisticated cyber threats;
- b. Consistency of regulations and harmonization with the civil procedural law applicable in court;
- c. Increasing the capacity of human resources (judges, land officials, legal practitioners) in understanding technology and its legal implications;
- d. Strengthening the oversight and accountability mechanisms of system operators to prevent abuse of authority;
- e. Public trust in land registration organizers that must be built gradually.

Without these elements, electronic certificates risk becoming merely a symbol of administrative modernization, rather than a legal tool that truly strengthens certainty and protection of land rights for the community.

C. Procedural Law Gap: Unpreparedness of the

Evidentiary Framework

1. Conventional Certificate as Strong Evidence

In the Indonesian civil procedural law system regulated in HIR (Herziene Inlandsch Reglement) and RBg (Rechtsreglement Buitengewesten), the recognized means of evidence include: written/documentary evidence, witness testimony, presumptions, confessions, and oaths. Conventional land certificates fall under the category of written/documentary evidence, which have formal and material evidentiary power that has stood the test of time. According to the Basic Agrarian Law (UUPA) and Government Regulation No. 24 of 1997, conventional land certificates are recognized as strong evidence regarding the physical and juridical data contained within them, as long as the data corresponds with the land book and measurement letters. This status is obtained through years of accumulated judicial practice, where the physical certificate is regarded as strong *prima facie* evidence until proven otherwise by the opposing party with stronger evidence.⁶ In practice, judges give high weight to certificates, but still leave room for opposing evidence that shows there are legal defects in their issuance, so the authority of the certificate is never truly absolute in land disputes.

2. The Status of Electronic Documents in Procedural Law

Law Number 11 of 2008 concerning Electronic Information and Transactions (EIT Law) as amended by Law No. 19 of 2016 provides normative recognition to electronic documents as a legal breakthrough in the digital era. Article 5 of the EIT Law states that electronic information and/or electronic documents are legitimate legal evidence and an expansion of legitimate evidence according to the applicable Procedural Law in Indonesia. Article 6 affirms that electronic documents are considered valid as long as the information

⁶ Nofa Isnani Hadi, "The Legal Certainty of Electronic Land Certificates in Land Law in Indonesia," *Jurnal Hukum* 1, no. 2 (2022): 482.

contained in them can be accessed, displayed, guaranteed for integrity, and accounted for in accordance with the laws and regulations..

This normative recognition still leaves issues when applied in the specific context of complex land disputes involving high asset values. Some crucial issues that have not been fully addressed include: First, Test authenticity. How does a court verify that an electronic certificate was genuinely issued by an authorized official and has not been tampered with? In physical documents, authenticity can be tested through wet signatures, wet stamps, and special paper. In digital documents, technical infrastructure and special expertise are required to verify electronic signatures, metadata, and audit trails. Not all courts have these means.

Second, the burden of proof. Does an electronic certificate have the same evidentiary power as a conventional certificate? Does it still hold the status of "strong evidence" that can be rebutted with counter-evidence, or does it have greater power because it is generated through a verified system? HIR/RBg have not explicitly regulated this matter, creating a gray area for judges in assessing the weight of evidence.⁷

Third, the hierarchy of evidence. If there is a conflict between electronic certificates and older physical documents (for example, girik, petok, or conventional certificates that are still in circulation), which one is given priority? Will judges still prioritize evidence of physical possession (material truth) as in Supreme Court Decision No. 170 K/Pdt/2017, or will they start giving more weight to verified digital data?.

3. Absence of Jurisprudence and Court Guidelines

The most critical finding from this research is that, until now, there has been no jurisprudence or court ruling that

⁷ Dadi Arja Kusuma, Rodliyah, dan Sahnan, "Sertipikat Hak Milik Atas Tanah Sebagai Alat Bukti Hak Yang Kuat," Jurnal IuS 5, no. 24 (2017): 315.

explicitly tests and establishes the legitimacy of electronic certificates as evidence in land disputes. Ms. Dian Kurniawati confirmed this in an interview. She stated that the courts have not yet had experience handling disputes specifically involving electronic certificates as the main object of dispute, so judges still rely on the analogy of conventional certificates.⁸

Searches through the Supreme Court's Decision Directory have also not found any rulings that specifically discuss the evidential power of electronic certificates in land disputes. Some of the decisions found are more related to electronic documents in the context of electronic contracts, commercial transactions, or cybercrime, rather than in the context of in rem land rights.

As a result, judges still have a broad scope of discretion in interpreting the validity, authenticity, and burden of proof of electronic certificates. Several possible interpretations may arise in practice:

- a. Restrictive interpretation: Judges may view electronic certificates as ordinary electronic documents that must be verified more strictly, thus giving the opposing party an opportunity to question their authenticity on technical grounds.
- b. Extensive interpretation: Judges can equate electronic certificates with conventional certificates based on the principle of *lex specialis* (Permen ATR/BPN as a special regulation) and recognition under the ITE Law.
- c. Moderate interpretation: The judge may request a combination of digital evidence and other supporting evidence (such as electronic measurement documents, transaction history in the system) to strengthen the proof.

This uncertainty of interpretation creates legal risks for holders of electronic certificates. On one hand,

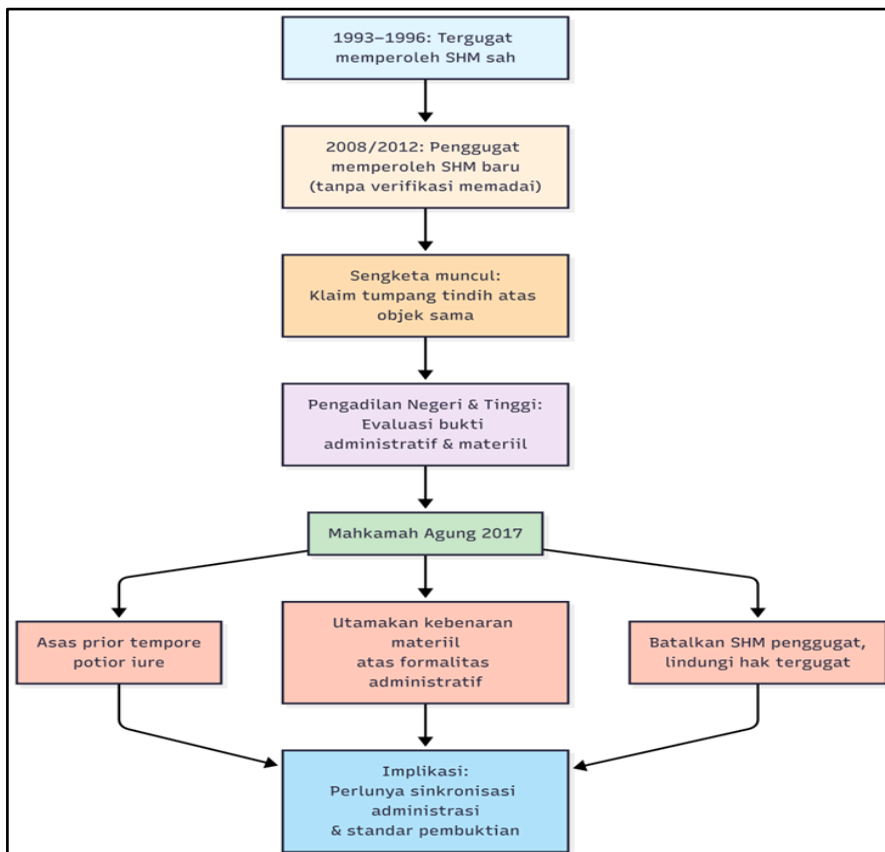
⁸ Michelle Priscilla, Dini Laelatul Nova, dan Septi Naelina Fajriah, "Keabsahan Hukum Penerbitan Sertipikat Tanah Elektronik Sebagai Alat Bukti Kepemilikan Hak Atas Tanah Di Persidangan," *Prosiding Seminar Nasional Hukum* (2023): 125.

administratively they have fulfilled registration obligations and hold valid proof. On the other hand, when a dispute arises, they face uncertainty about how the court will assess the evidence they possess.

3. Lessons from Supreme Court Decision No. 170 K/Pdt/2017

The Supreme Court Decision Number 170 K/Pdt/2017 provides a valuable lesson that is relevant to the context of electronic certificates. This case originated from a land dispute in Gembor Udik Village, Cikande District, Serang Regency. The plaintiff (Hamzah) claimed ownership based on SHM Number 326/Gembor Udik issued in 2012. The defendants (Harjanto Jasin et al.) successfully proved earlier ownership through SHM from 1993–1996 over the same land.

Figure 1 Supreme Court Decision No. 170 K/Pdt/2017



Source: Researcher's Analysis Results, 2026

The Supreme Court in its decision affirmed several fundamental principles that must be given serious attention in the digital era: First, a Certificate is not a source of rights, but rather evidence. A certificate only proves that land rights have been registered, but it does not create new rights. Land rights arise from legitimate acquisition (sale, inheritance, grant, etc.), not from the issuance of a certificate. This principle applies equally to both physical and electronic certificates.

Second, the principle of *prior tempore potior iure*. Rights that are born earlier and are legitimate must be prioritized over rights that arise later. Dian Kurniawati's mother explained that this principle is often used by judges in land disputes, especially when there are duplicate certificates or conflicting claims of rights. In the electronic context, timestamps in the system can serve as evidence of time, but the authenticity of the data input must be proven.

Third, material truth takes precedence over administrative truth. Even though the plaintiff's certificate was issued by an authorized official and is administratively valid, the Supreme Court annulled it because it was proven to conflict with the defendant's prior rights and continuous physical possession.

Fourth, administrative defects do not eliminate civil rights. Administrative errors in the issuance of certificates, such as official negligence, procedural errors, or data discrepancies, do not automatically erase the civil rights of the original owner obtained legally.⁹

⁹ "Penerapan Asas Kepastian Hukum Dalam Penyelesaian Sengketa Tumpang Tindih Sertipikat Hak Milik Atas Tanah (Studi Kasus Putusan Nomor 2/G/2023/Ptun.Plk)," *Jurnal Hukum* 6, no. 24 (2025): 196.

- a. The form of the certificate is not a guarantee. An electronic certificate, although more technologically advanced, will still face the same test in court: whether the rights underlying its issuance are materially valid?
- b. Digitalization does not change the essence. As long as the registration system still adheres to negative publication, electronic certificates can still be contested and set aside if they contradict material truth.
- c. Digital data must be historically accountable. The court will trace the history of rights acquisition, not just look at the final output of the system. If the initial data input is problematic, the digital output will still be problematic.
- d. A paradigm shift is needed. For electronic certificates to have stronger authority, there needs to be a change in how the courts view administrative truth. If a digital system has been designed with layered verification, encryption, and an audit trail, the truth it produces should carry more weight compared to undocumented claims of possession.

D. Gap Analysis and Prerequisites for Strengthening

1. Three Levels of Inequality

Based on research findings, there are three levels of gaps that cause electronic certificates to not yet be able to provide legal certainty optimally:

- a. Normative Gap: Between Administrative Regulations and Procedural Law

At the normative level, there is disharmony between various regulations that should support each other but instead create uncertainty:

- a) ATR/BPN Regulation No. 1/2021 which recognizes electronic certificates as legally valid evidence of rights administratively;
- b) ITE Law that recognizes electronic documents as valid evidence;
- c) HIR/RBg as civil procedural law that regulates documentary evidence, but has not explicitly

b. Jurisprudence Gap: No Court Precedent Yet

The absence of jurisprudence creates a double uncertainty for the disputing parties:

- a) For rights holders: They have no idea how the court will treat electronic certificates in the event of a dispute, making it difficult to predict legal risks
- b) For judges: They do not have guidelines or precedents that can be used as a reference in deciding similar cases, thus risking creating inconsistent rulings across courts.
- c) For policymakers: They do not have feedback from judicial practice to improve existing regulations.

In civil law traditions such as in Indonesia, jurisprudence is indeed not binding hierarchically as in common law countries. However, in practice, Supreme Court decisions have strong persuasive power and are often followed by lower court judges. The absence of jurisprudence on electronic certificates means that there is no judicial guidance on how these documents should be treated.

c. Paradigm Gap: Material Truth vs Digital Administrative Truth

The most fundamental gap is at the level of paradigm. Indonesian courts consistently, as reflected in Supreme Court Decision No. 170 K/Pdt/2017, prioritize material truth over formal administrative truth. This approach is rooted in the philosophy that law exists to achieve substantive justice, not merely formalities..

Meanwhile, the electronic certificate system is built on the assumption that the administrative truth produced through a verified digital process can be relied upon. If the system is designed with:

2. Legal Prerequisites for Strengthening Legal Certainty of Electronic Certificates

Based on the gap analysis above, this study formulates three juridical prerequisites that must be met for electronic certificates to truly become instruments of substantive legal certainty:

a. Harmonization of Procedural Law

The first and most urgent step is to harmonize land administration law with civil procedure law. This harmonization can be carried out in several ways:

- a) Revision of HIR/RBg: Ideally, Indonesian civil procedural law should be updated to accommodate technological developments, including explicit recognition of electronic documents as documentary evidence with certain evidentiary strength.
- b) Issuance of Supreme Court Regulations (PERMA): In the short term, the Supreme Court can issue PERMA on Guidelines for the Assessment of Electronic Evidence in Civil Cases, particularly those related to land disputes. This PERMA can regulate: Criteria for electronic documents that can be accepted as evidence; Procedures for verifying the authenticity of electronic documents; The evidentiary strength of electronic documents; and The relationship between electronic evidence and non-electronic evidence.
- c) Cooperation between the Supreme Court and ATR/BPN: There needs to be a joint protocol between the Supreme Court and the Ministry of ATR/BPN regarding the procedures for submission, verification, and assessment of electronic certificates as evidence in court.

Mrs. Dian Kurniawati, in an interview, emphasized the importance of clear guidelines so that judges have a reference in assessing electronic evidence, thereby creating

consistency in rulings.¹¹

b. Formation of Jurisprudence

Jurisprudence is formed through the accumulation of consistent court decisions. For that reason, a strategy is needed to encourage the emergence of jurisprudence on electronic certificates:

- a) Encouraging test case matters: Academics, practitioners, or legal aid institutions can encourage cases that specifically test the strength of electronic certificates to be processed up to the cassation level, so that the Supreme Court has the opportunity to issue a principled decision.
- b) Documentation and publication of decisions: Decisions of first-instance and appellate courts related to electronic certificates need to be documented and widely published, so that they can serve as a study material and reference for other judges.
- c) Strengthening the civil chamber function of the Supreme Court: The Supreme Court through the civil chamber can issue technical guidelines or jurisprudence papers summarizing important decisions related to electronic documents.
- d) Judge training: Judges need to be equipped with technical understanding of the electronic certificate system, including verification mechanisms, audit trails, and encryption, so that they are able to assess electronic evidence accurately.

c. Reformation of the Judicial Paradigm

The most fundamental yet also the most difficult prerequisite is to change the judicial paradigm concerning the relationship between material truth and digital administrative truth. This paradigm reform includes:

¹¹ Wawancara dengan Ibu Dian Kurniawati, 13 Februari 2026.

- a) The acknowledgment that a verified digital system produces trustworthy truth. If an electronic certificate system is designed with layered verification, encryption, and an audit trail, then its output, the electronic certificate, should be given higher evidential weight compared to undocumented claims of mastery or physical documents that are prone to manipulation.
- b) Shift of the burden of proof. In the conventional system, the certificate holder must prove that the acquisition of their rights is valid if challenged by another party. In the digital system, once the system proves its reliability, the burden of proof should shift to the party who is suing to prove the existence of defects in the digital process.
- c) Recognition of the audit trail as a reliable silent witness. An audit trail that records every data change chronologically and can be identified should be recognized as strong evidence equivalent to a witness who directly observes the process. If the system records that a piece of land has undergone a complete verification process and there is no overlap, this record should be trusted unless there is evidence to the contrary.

Building trust in the system. Courts need to build trust in the digital land administration system. This requires transparency from ATR/BPN about the system design, security mechanisms, and verification procedures. The more transparent and accountable the system is, the greater the trust it can provide.

Table 3 Prerequisites for Strengthening Legal Certainty of Electronic Certificates

Prerequisite	Description	Expect Impact
Procedural Law Harmonization	Integration of electronic certificates into HIR/RBg	Clarity of probative status in courts

Jurisprudence Developments	Consistent Supreme Court on electronic certificates	Uniform standards of evidence assessment
Judicial Paradigm Reform	Recognition of administrative truth and digitally verified data	Alignment of administrative and judicial standards
Data Security Infrastructure	Encryption, audit trail, controlled access	Prevention of manipulation and data breaches
Capacity Building	Training for judges, practitioners, and the public	Optimal understanding of digital mechanisms

Source: Researcher's Analysis Results, 2026

The theory of legal certainty provides an analytical basis for understanding the importance of the three prerequisites mentioned above. According to Hans Kelsen in the Pure Theory of Law, law is viewed as a system of hierarchical norms (*Stufenbau des Rechts*). Legal certainty is achieved when norms are arranged hierarchically, have clear legitimacy, and are applied consistently according to procedure. From this perspective, the gap between administrative norms (Permen ATR/BPN) and procedural law norms (HIR) creates a disharmony that disrupts legal certainty. Administrative products that are valid hierarchically can be easily annulled due to different standards of evidence.¹²

According to Gustav Radbruch, law emphasizes three basic values: justice, utility, and legal certainty. Legal certainty requires law that is clear, stable, and predictable. Legal subjects must be able to anticipate the legal consequences of their actions. In the context of electronic certificates, the

¹² Hans Kelsen, *Pure Theory of Law*, diterjemahkan oleh Max Knight (Berkeley: University of California Press, 1967), hlm. 221-223.

rights holder must be able to predict that the certificate they hold will be recognized and protected by the court in the event of a dispute. The absence of jurisprudence and judicial guidelines weakens this aspect of predictability..¹³

And according to Lon Fuller in *The Morality of Law*, he formulated eight principles of legality, including that the law must be promulgated, not retroactive, clear, free from contradictions, and consistent in its application. The absence of guidelines regarding the evidentiary power of electronic certificates violates the principles of clarity and consistency.¹⁴

With this theoretical framework, it is clear that problem-solving is not enough with just technological improvements. Systemic legal reform is needed to create substantive legal certainty in the land registration process in Indonesia.

E. Conclusion

This study concludes that although electronic land certificates offer significant technological potential through audit trails, data encryption, and national synchronization to address the weaknesses of conventional systems such as forgery and double certificates, and have a strong administrative foundation in Ministerial Regulation ATR/BPN No. 1 of 2021, there is a serious gap between that administrative recognition and the evidentiary framework in courts because civil procedural law (HIR/RBg) has not explicitly accommodated electronic documents with their specific characteristics, exacerbated by the absence of jurisprudence or court decisions that specifically test and establish the legitimacy of electronic certificates in land disputes, which creates uncertainty for rights holders and broad discretion for judges; This is reinforced by the lesson from the Supreme Court Decision Number 170 K/Pdt/2017 which emphasizes that the court will always prioritize material truth and the principle of *prior tempore potior iure*

¹³ Gustav Radbruch, *Legal Philosophy*, dalam *The Legal Philosophies of Lask, Radbruch, and Dabin*, diterjemahkan oleh Kurt Wilk (Cambridge: Harvard University Press, 1950), hlm. 107-110.

¹⁴ Lon L. Fuller, *The Morality of Law* (New Haven: Yale University Press, 1969), hlm. 33-94.

over the administrative legitimacy of certificates, proving that both conventional and electronic certificates are not sources of rights but evidentiary tools that can be set aside if they conflict with earlier and legitimate possession, so that digitization without accompanying procedural law reform and a change in judicial paradigm will only reproduce old disputes in a new digital format and make electronic certificates currently still technological promises that have not fully become legal reality without three juridical prerequisites, namely procedural law harmonization, jurisprudence formation, and judicial paradigm reform.

Based on these conclusions, this study recommends integrated strategic steps for policymakers (ATR/BPN and DPR) to encourage the revision of HIR/RBg or the establishment of civil procedural law that explicitly recognizes electronic documents as documentary evidence with certain evidentiary power, to formulate cooperation protocols with the Supreme Court regarding the procedures for the submission and assessment of electronic certificates, to increase system transparency, and to strengthen cybersecurity; for the Supreme Court and the Judiciary to issue Supreme Court Regulations (PERMA) on Guidelines for the Assessment of Electronic Evidence, to conduct continuous training for judges, to encourage the formation of jurisprudence through high-quality rulings, and to document related decisions; for Academics and Researchers to conduct further research by reviewing court decisions, encouraging public discussion, conducting comparative studies, and developing harmonization models; as well as for the Community and Rights Holders to understand that electronic certificates are not absolute guarantees, to keep evidence of rights acquisition, ensure the accuracy of the data provided, and proactively monitor the status of land, so that all stakeholders move synergistically to realize substantive legal certainty through the harmonization of technology and law.

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