



Crypto Assets in Indonesian Inheritance Law: Balancing Ownership Rights and Access Challenges

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Abstract

The emergence of crypto assets as a form of digital wealth has generated new legal challenges within the Indonesian inheritance law framework, particularly concerning assets stored in unmanaged wallets. This study examines the legal status of crypto assets as inheritable property and explores the legal and technical barriers associated with their transfer to heirs. Employing a normative legal research method, the study applies statutory, conceptual, analytical, and comparative approaches. The findings demonstrate that crypto assets may be classified as inheritable property because they possess economic value, are transferable, and constitute intangible movable assets within the meaning of Article 499 of the Indonesian Civil Code. Nevertheless, the inheritance of crypto assets presents significant challenges, including the loss of access to private keys, difficulties in establishing ownership due to the pseudonymous nature of blockchain technology, and jurisdictional complexities arising from cross-border transactions. These issues may hinder the effective transfer of digital wealth and potentially undermine the rights of heirs. Accordingly, the study highlights the need for a specific legal framework governing the inheritance of crypto assets in order to ensure legal certainty, facilitate asset accessibility, and protect heirs' rights in the evolving digital economy.

Keywords: *Crypto Assets, Inheritance Law, Blockchain, Private Keys, Digital Assets*

Abstrak

Perkembangan aset kripto sebagai bentuk kekayaan digital menimbulkan tantangan baru dalam sistem hukum waris Indonesia, khususnya terkait pewarisan aset yang disimpan dalam wallet pribadi (unmanaged wallet). Penelitian ini bertujuan menganalisis kedudukan hukum aset kripto sebagai objek warisan serta mengidentifikasi kendala hukum dan teknis dalam proses pewarisannya. Metode yang digunakan adalah penelitian hukum normatif dengan pendekatan perundang-undangan, konseptual, analitis, dan komparatif. Hasil penelitian menunjukkan bahwa aset kripto memenuhi syarat sebagai objek warisan karena memiliki nilai ekonomi, dapat dialihkan, dan termasuk benda bergerak tidak berwujud sebagaimana dimaksud dalam Pasal 499 KUHPerdara. Namun, pewarisannya menghadapi berbagai kendala, terutama hilangnya akses terhadap private key, kesulitan pembuktian kepemilikan akibat sifat pseudonim blockchain, serta persoalan yurisdiksi lintas negara. Oleh karena itu, diperlukan regulasi khusus untuk menjamin kepastian hukum, aksesibilitas aset, dan perlindungan hak ahli waris dalam era ekonomi digital.

Kata kunci: *Aset Kripto, Hukum Waris, Blockchain, Private Key, Aset Digital*

1. INTRODUCTION

The advancement of digital technology has fundamentally transformed traditional concepts of ownership and wealth in contemporary society.¹ In addition to conventional assets such as land, buildings, and vehicles, various forms of digital wealth with significant economic value have emerged. Among the most prominent are crypto assets, which are developed and operated through blockchain technology.² Beyond serving as investment instruments, crypto assets have become integral components of individual wealth portfolios and can be traded globally without geographical limitations. Consequently, crypto assets have become increasingly relevant in legal scholarship, particularly in the fields of property law and inheritance law.

In Indonesia, the crypto asset industry has experienced substantial growth in recent years. According to data from the Commodity Futures Trading Regulatory Agency (Bappebti), the total value of crypto asset transactions in 2024 reached IDR 650.61 trillion, involving approximately 22.91 million investors.³ This rapid growth indicates that crypto assets have gained widespread recognition as both a store of value and an investment vehicle, particularly among the productive-age population who are likely to participate in intergenerational wealth transfers in the future.

The increasing ownership of crypto assets has generated new legal implications, especially in the context of inheritance. In principle, crypto assets possess economic value and therefore may form part of a deceased person's estate and be transferred to heirs. However, the characteristics of crypto assets differ significantly from those of conventional assets that have traditionally been the subject of inheritance. Indonesian inheritance law, primarily regulated under Articles 830–875 of the Indonesian Civil Code, does not specifically address blockchain-based digital assets. As a result, legal uncertainty arises regarding their status, ownership verification, accessibility, and transfer mechanisms upon the death of the owner.

Crypto assets may be categorized as intangible movable property with economic value and are therefore capable of being inherited.⁴ Nevertheless, the principal challenge lies not in their legal recognition as inheritable assets but in the practical ability of heirs to access them after the owner's death. This issue becomes particularly significant when

¹ Juan Matheus dan Wulan Chorry Shafira, "Legal Protection of Crypto Art Copyright As a Digital Asset Intellectual Property," *Lex Journalica* 20, no. 1 (2023): 27–36, <https://doi.org/https://doi.org/10.47007/lj.v20i1.6162>.

² Taufiqurokhman Taufiqurokhman et al., "Rekonseptualisasi Harta Bersama Aset Digital Dalam Hukum Perkawinan Islam," *Islamitsch Familierecht Journal* 6, no. 2 (2025): 208–33, <https://doi.org/10.32923/tehd097>.

³ Badan Pengawas Perdagangan Berjangka Komoditi, *Laporan Kinerja 2025: Badan Pengawas Perdagangan Berjangka Komoditi* (Badan Pengawas Perdagangan Berjangka Komoditi, 2026), https://bappebti.go.id/resources/docs/LAK_BAPPEBTI_2025_FINAL.pdf.

⁴ Putri Purbasari Raharningtyas Marditia and Rafi Radithya Nazhif Kuncoro, "Pengembangan Model Regulasi Untuk Pewarisan Digital Aset Kripto: Perspektif Hukum Indonesia: Developing a Regulatory Model for Digital Inheritance of Cryptocurrency Assets: The Indonesian Legal Perspective," *Perspektif Hukum* 25, no. 2 (2025): 1–32, <https://doi.org/10.30649/ph.v25i2.437>.

crypto assets are stored in private or unmanaged wallets, where access depends entirely on possession of the private key. In such circumstances, no governmental authority, financial institution, or third party can recover access if the private key is lost or unavailable to the heirs.

This condition creates a legal paradox. On the one hand, inheritance law recognizes the automatic transfer of a decedent's assets to heirs upon death. On the other hand, blockchain technology requires possession of the private key as the sole means of accessing and controlling crypto assets. Consequently, inheritance rights may exist as a matter of law but remain unenforceable in practice due to technical barriers. This issue highlights the need for legal analysis regarding the status of crypto assets as inheritable property and the legal and technical obstacles associated with transferring crypto assets stored in unmanaged wallets. Such analysis is essential for developing an inheritance law framework that is responsive to the realities of the digital economy.

The continued expansion of blockchain technology and the growing adoption of crypto assets in Indonesia have introduced new challenges to inheritance law, particularly concerning the transfer of digital assets following the death of their owners. Unlike conventional assets, crypto assets operate within a decentralized system in which possession of the private key constitutes the exclusive means of access and control. As a result, legal problems arise when inheritance rights have been transferred to heirs under applicable legal principles, yet the assets remain technically inaccessible due to the absence of the required private key.

Several previous studies have examined the legal status of crypto assets as inheritable property. Ramadhany argued that crypto assets constitute intangible movable property under the Indonesian Civil Code and, therefore, may be transferred through inheritance. The study further identified several inheritance mechanisms, including the inclusion of private keys in testamentary instruments and the use of specialized storage arrangements.⁵ Similarly, Luthfi et al. emphasized the absence of explicit regulations governing digital assets in both national and Islamic legal frameworks, highlighting the need for regulatory harmonization to ensure legal certainty for heirs.⁶

Qurrotaaini et al. found that Bitcoin satisfies the legal criteria of an intangible asset with economic value and is therefore capable of being inherited. However, the study identified significant challenges related to ownership verification, access to digital

⁵ Wira Dhoga Ramadhany, "Kedudukan Aset Kripto Sebagai Harta Warisan Dalam Perspektif Hukum Perdata," *Lex Positivis* 2, no. 8 (2024): 960–73.

⁶ Fuad Luthfi et al., "Tantangan Dan Regulasi Dalam Pewarisan Aset Digital: Studi Perbandingan Hukum Positif Dan Hukum Islam," *Indonesian Journal of Islamic Jurisprudence, Economic and Legal Theory* 2, no. 4 (2024): 2212–25, <https://doi.org/10.62976/ijijel.v2i4.823>.

wallets, and the volatility of asset values.⁷ Comparable findings were reported by Soraya, who concluded that although crypto assets may legally form part of an estate, the implementation of inheritance rights remains problematic due to the absence of specific legal regulations and the limited accessibility of private keys. In this regard, testamentary arrangements were identified as the most practical mechanism for facilitating the transfer of rights to heirs.

Further research by I Made Dwipa Anggara Putra Duwalang and Dewa Gede Pradnya Yustiawan confirmed that possession of a private key is the primary determinant of control over digital assets, rendering the inheritance of crypto assets considerably more complex than conventional inheritance.⁸ Likewise, Rajib, Alif, et al. demonstrated that issues surrounding digital asset inheritance extend beyond legal considerations and encompass technological challenges, jurisdictional complexities, and personal data protection concerns.⁹ From the perspective of Islamic law, Novi Riyana Putri et al. also identified normative gaps that undermine legal certainty in the inheritance of digital assets.¹⁰

Despite the growing body of literature addressing the legal status of crypto assets as inheritable property and the necessity of regulatory reform, no previous study has specifically examined the inheritance of crypto assets stored in unmanaged wallets with particular emphasis on the legal implications arising from the loss of private keys. This study seeks to fill that gap by analyzing the interaction between inheritance principles under the Indonesian Civil Code and the technical characteristics of blockchain technology, which may result in inheritance rights being legally recognized yet practically unenforceable. Accordingly, this study aims to examine the legal status of crypto assets as objects of inheritance and to analyze the legal and technical barriers associated with the transfer of crypto assets stored in unmanaged wallets. Ultimately, the study seeks to formulate a legal framework capable of ensuring legal certainty, facilitating asset accessibility, and protecting the rights of heirs in the digital economy era.

2. RESEARCH METHODOLOGY

This study employs a normative legal research method with a prescriptive-analytical orientation to examine the legal status of crypto assets as inheritable property

⁷ Qonita Syamila Qurrotaaini et al., “Kedudukan Bitcoin Sebagai Harta Waris Dalam Perspektif Hukum Perdata,” *Juridisch Research: Jurnal Ilmu Hukum* 1, no. 1 (2025): 1–6, <https://doi.org/Juridisch%20Research:%20Jurnal%20Ilmu%20Hukum>.

⁸ I. Made Dwipa Anggara Putra Duwalang and Dewa Gede Pradnya Yustiawan, “Pengaturan Hak Waris Atas Aset Digital Dalam Perspektif Asas Kepastian Hukum,” *Jurnal Media Akademik* 3, no. 10 (2025): 1–19, <https://doi.org/10.62281/eyppgj41>.

⁹ Rayi Kharisma Rajib et al., “Problematika Pewarisan Aset Digital Di Indonesia Dalam Perspektif Hukum Perdata,” *Jurnal Kajian Hukum Dan Kebijakan Publik* 4, no. 5 (2026): 1–30, <https://doi.org/10.62281/c41rn359>.

¹⁰ Novi Riyana Putri et al., “Kepastian Hukum Waris Aset Digital Dalam Perspektif Hukum Islam Dan Nasional,” *Al-Zayn: Jurnal Ilmu Sosial & Hukum* 4, no. 1 (2026): 5379–89, <https://doi.org/10.61104/alz.v4i1.4032>.

and the obstacles to the inheritance of crypto assets stored in unmanaged wallets within the Indonesian legal system. The analysis focuses on legal norms, principles, doctrines, and conceptual frameworks relevant to inheritance law, property law, and the regulation of crypto assets in the context of blockchain technology.

The study applies statutory, conceptual, and analytical approaches. The statutory approach involves an examination of relevant legal instruments, including the Indonesian Civil Code, the Law on Electronic Information and Transactions, Law Number 4 of 2023 concerning the Development and Strengthening of the Financial Sector, as well as regulations issued by the Commodity Futures Trading Regulatory Agency (Bappebti) and the Financial Services Authority (OJK) concerning crypto assets. The conceptual approach is used to analyze key legal concepts such as intangible property, property rights, inheritance, digital assets, blockchain, cryptocurrency, digital wallets, and private keys. The analytical approach is employed to assess the adequacy of existing positive law in addressing issues related to crypto asset inheritance.

The legal materials consist of primary, secondary, and tertiary sources obtained through library-based research. These materials are analyzed qualitatively and normatively using legal interpretation and legal argumentation techniques. The analysis is directed at determining the legal status of crypto assets as inheritable objects and identifying legal and technical constraints arising from the characteristics of blockchain technology, particularly issues related to private key ownership and heirs' access to inherited crypto assets.

3. RESEARCH RESULT AND DISCUSSION

3.1. Legal Status of Crypto Assets as Objects of Inheritance in the Indonesian Legal System

Crypto assets may be legally classified as inheritable property under the Indonesian legal system. The principal normative basis for this classification is Article 499 of the Indonesian Civil Code, which provides that property encompasses all objects that may be the subject of ownership rights. This provision reflects that Indonesian property law is not limited to tangible objects but also extends to intangible assets, provided that such assets possess economic value and are capable of being subject to proprietary rights. In contemporary civil law doctrine, the concept of property has evolved from a classical, physically oriented understanding toward the recognition of diverse forms of intangible wealth that carry economic value.

Crypto assets satisfy the characteristics of intangible property, as their existence is not physical but is instead represented in the form of digital data recorded and validated within a blockchain network. Although they do not have a material form comparable to land, vehicles, or currency, crypto assets possess measurable economic value, are subject to exclusive control, and are capable of being transferred to other parties. These

characteristics indicate that crypto assets fulfill the essential elements of property within the framework of civil law.

In determining whether an asset may form part of an inheritance, four cumulative criteria must generally be satisfied: the asset must have economic value, be transferable, be legally recognized, and be personal or attached to the decedent.¹¹ Based on these criteria, crypto assets meet all requirements.

First, crypto assets possess clear and quantifiable economic value. Transaction data in Indonesia, which reached IDR 650.6 trillion in 2024, demonstrates that crypto assets have become significant investment instruments with substantial market value. This economic value is not only determined by global market mechanisms but is also acknowledged within the Indonesian regulatory framework. Bappebti Regulation Number 8 of 2021 recognizes crypto assets as tradable digital commodities in Indonesia. Such regulatory recognition constitutes an important indicator that crypto assets meet the criteria of inheritable property.

Second, crypto assets are transferable. A defining feature of blockchain technology is its capacity to facilitate the transfer of ownership through digitally verified transactions recorded on a distributed ledger.¹² Once validated, each transaction is permanently recorded on the blockchain, thereby ensuring finality of ownership transfer. Transferability is a fundamental requirement in inheritance law, as inheritable assets must be capable of passing from a decedent to heirs. From this perspective, there is no conceptual barrier to including crypto assets within an estate.

Third, crypto assets are legally recognized. Although crypto assets are not acknowledged as legal tender under Law Number 7 of 2011 concerning Currency and related Bank Indonesia regulations, such non-recognition as currency does not render their ownership unlawful. On the contrary, regulatory authorities, particularly Bappebti and subsequently the financial sector supervisory framework, recognize crypto assets as digital commodities that may be lawfully owned, traded, and protected under applicable regulations. Accordingly, ownership of crypto assets constitutes a valid legal relationship and may form part of a decedent's estate.

Fourth, crypto assets are personal in nature, as control is determined by possession of the private key. Within blockchain systems, the private key functions as an authentication mechanism that grants exclusive authority to access and manage assets stored in a digital wallet. Although blockchain technology operates on a pseudonymous basis that does not directly identify the owner, a legally relevant relationship between the individual and the asset is established through control of the private key.

¹¹ Oemar Moechthar et al., "A Juridical Study of Granting Wills to Heirs in the Perspective of Islamic Inheritance Law," *Yuridika* 37, no. 3 (2022): 739–58, <https://doi.org/10.20473/ydk.v37i3.41161>; Nabila Tasya Ramadintya and Siti Malikhathun Badriyah, "Preparation of Authentic Deed of Distribution of Land Rights by Notary," *Literacy: International Scientific Journals of Social, Education, Humanities* 4, no. 1 (2025): 400–412, <https://doi.org/10.56910/literacy.v4i1.2866>.

¹² Moechthar et al., "A Juridical Study of Granting Wills to Heirs in the Perspective of Islamic Inheritance Law."

Consequently, crypto assets maintain a clear personal linkage to the owner and satisfy the requirement of being part of inheritable personal property.

The findings of this study are consistent with those of Soraya, et al, and Ramadhany, who conclude that crypto assets constitute intangible movable property that may be inherited.¹³ However, this study extends the existing literature by demonstrating that the legal basis for recognizing crypto assets as inheritable property derives not only from the interpretation of Article 499 of the Indonesian Civil Code but also from the development of crypto asset regulation and constitutional interpretations of ownership rights over digital assets.

A significant development in this regard is Constitutional Court Decision No. 51/PUU-XXIII/2025, which represents a milestone in the constitutional recognition of digital assets. In its reasoning, the Court affirmed that digital representations of value that qualify as property may, in principle, be subject to inheritance. The Court further emphasized that digital assets, including crypto assets, constitute property rights protected under Article 28H paragraph (4) of the 1945 Constitution of the Republic of Indonesia.

This constitutional interpretation is particularly important because it shifts the legal discourse on crypto assets from merely tradable digital commodities to constitutionally protected property rights. Accordingly, heirs' rights to crypto assets are not solely civil in nature but are also linked to constitutionally guaranteed property rights. This implies that the state bears an obligation to establish a legal framework that ensures legal certainty and effective protection for the transfer of such assets to heirs.

Nevertheless, the legal recognition of crypto assets as inheritable property does not fully resolve the practical challenges of digital asset succession. The characteristics of unmanaged wallets introduce complexities that are not present in conventional inheritance systems. The fully decentralized structure, absence of intermediaries, pseudonymous ownership, irreversibility of transactions, and lack of access recovery mechanisms collectively render private key ownership the decisive factor in determining the effectiveness of inheritance. In practice, an individual may be legally recognized as an heir but remain unable to access inherited crypto assets if the private key is unknown or unavailable.

This condition highlights a fundamental distinction between the legal transfer of rights and the technical transfer of control over assets. In conventional inheritance systems, legal entitlement and effective control are generally transferred simultaneously through established legal mechanisms. By contrast, in blockchain-based systems, legal ownership does not necessarily correspond to the ability to exercise control over the

¹³ Elldiliza Aulya Soraya, "Pewarisan Aset Digital Kripto Menurut Kuhperdata Indonesia" (Universitas Jambi, 2025), <https://repository.unja.ac.id/79252/>; Duwalang and Yustiawan, "Pengaturan Hak Waris Atas Aset Digital Dalam Perspektif Asas Kepastian Hukum"; Ramadhany, "Kedudukan Aset Kripto Sebagai Harta Warisan Dalam Perspektif Hukum Perdata."

asset. This divergence creates a legal paradox in which heirs possess enforceable rights to crypto assets but are unable to realize their economic value.

In conclusion, crypto assets are legally recognized as inheritable property within the Indonesian legal system based on Article 499 of the Civil Code, regulatory acknowledgment of crypto assets as digital commodities, and constitutional affirmation through Constitutional Court Decision No. 51/PUU-XXIII/2025. However, such normative recognition has not been accompanied by adequate operational mechanisms to ensure effective inheritance, particularly in relation to assets stored in unmanaged wallets. Therefore, the central challenge in contemporary inheritance law is no longer the recognition of crypto assets as inheritable property, but rather the establishment of a legal framework capable of ensuring secure, effective, and legally certain access and control of such assets by heirs.

3.2. Legal and Technical Obstacles in the Inheritance of Crypto Assets Stored in Personal (Unmanaged) Wallets

The primary obstacles to the inheritance of crypto assets stored in personal or unmanaged wallets may be classified into three interrelated dimensions: access to the assets, proof of ownership, and jurisdictional limitations. These challenges collectively reflect a structural gap between conventional inheritance law and the ownership architecture embedded in blockchain technology.

The first obstacle concerns access to inherited crypto assets. Within blockchain-based systems, ownership is determined exclusively by possession of a private key or seed phrase, which functions as the sole authentication mechanism for accessing digital wallets. Unlike traditional banking systems or centralized digital platforms that provide account recovery procedures, blockchain technology is designed on a self-custodial principle, whereby full responsibility for asset security rests with the user. Consequently, if the private key is lost, forgotten, or unknown to the heirs, the assets contained in the wallet become permanently inaccessible.

This condition generates a fundamental legal paradox. From the perspective of inheritance law, all rights and obligations of the deceased are transferred to the heirs upon death. However, in the case of crypto assets stored in unmanaged wallets, the legal transfer of rights is not accompanied by the technical ability to exercise control over the assets. In other words, heirs may acquire legal ownership but lack effective access to the inherited property.

In blockchain systems, control over a private key carries a stronger legal and functional significance than ownership documentation in conventional legal frameworks. Whereas lost land certificates may be reissued through administrative procedures, and bank accounts may be accessed by heirs through judicial authorization, a lost private key cannot be restored through any legal or institutional mechanism.

Neither regulators, courts, service providers, nor state institutions possess the technical capacity to recover access to such assets.

The implications of this system were prominently illustrated in the QuadrigaCX case in 2018, in which the death of Gerald Cotten, the sole individual with knowledge of the cold wallet credentials, resulted in the loss of access for more than 115,000 users to crypto assets valued at billions of dollars. This incident reflects not merely a failure of corporate governance but demonstrates how the loss of a private key can lead to the irreversible loss of access to digital assets. In the context of inheritance, similar risks arise when crypto asset holders fail to implement effective digital estate planning prior to death.

The second obstacle relates to the evidentiary challenge of proving ownership of crypto assets. Unlike conventional property, which is supported by formal documentation issued by authorized institutions, crypto assets do not have standardized ownership certificates. Ownership is instead demonstrated through control of the private key, blockchain transaction records, or verifiable on-chain data.¹⁴ This difficulty is exacerbated by the pseudonymous nature of blockchain systems, which record wallet addresses without directly linking them to identifiable individuals.

The pseudonymity inherent in blockchain technology creates significant evidentiary challenges in judicial proceedings. Heirs are required not only to demonstrate that the decedent owned crypto assets, but also to establish that a specific wallet address was controlled by the decedent. In practice, this burden of proof becomes highly complex when no supporting documentation, transaction history, or identifiable information regarding wallet ownership has been left by the deceased.

Article 5 paragraph (1) of the Indonesian Electronic Information and Transactions Law provides a legal foundation for the admissibility of electronic evidence in judicial proceedings. Accordingly, blockchain transaction records, screenshots, digital communication logs, and other electronic documents may be presented as valid evidence in court. Nevertheless, the effectiveness of this provision remains limited in practice due to the distinctive characteristics of blockchain technology, which differ fundamentally from conventional forms of electronic documentation.

This finding extends the work of Qurrotaaini et al., who identified the absence of a clear legal mechanism for proving ownership of crypto assets under Indonesian law.¹⁵ The challenge is not limited to regulatory gaps but also involves the limited capacity of legal institutions to properly understand and evaluate the probative value of blockchain-based evidence. Therefore, the development of specialized evidentiary standards that accommodate the technological characteristics of blockchain in inheritance disputes is necessary.

¹⁴ Yulkarnaini Siregar, "Legal Review of the Application of Conventional Inheritance Law Provisions to Cryptocurrency Assets," *Fox Justi: Jurnal Ilmu Hukum* 10, no. 2 (2025): 549–55.

¹⁵ Qurrotaaini et al., "Kedudukan Bitcoin Sebagai Harta Waris Dalam Perspektif Hukum Perdata."

The third major obstacle concerns jurisdictional issues. The borderless architecture of blockchain technology generates complex challenges within private international law. Unlike conventional assets that are tied to a specific geographical location, crypto assets exist within a decentralized global network distributed across multiple jurisdictions without a central authority.¹⁶ This condition creates significant legal uncertainty regarding the applicable law in inheritance matters involving digital assets.

Jurisdictional issues in this context arise in three main forms. First, there is uncertainty regarding the determination of applicable law in cross-border crypto asset ownership. Second, differences in national legal recognition of crypto assets may result in conflicts of law. Third, the enforcement of domestic court judgments becomes problematic when the assets are located on decentralized networks beyond the effective control of any single jurisdiction.

These findings are consistent with Rajib et al., who identified jurisdictional complexity as one of the primary challenges in digital asset inheritance.¹⁷ In cases involving unmanaged wallets, jurisdictional issues become even more pronounced due to the absence of intermediaries or institutions capable of executing court orders. Consequently, even when a court has determined the lawful heir, the judgment may remain ineffective if the heir does not possess the corresponding private key.

Ultimately, the central obstacle to crypto asset inheritance lies not in the absence of legal recognition but in the structural mismatch between civil law inheritance principles and blockchain system architecture. Inheritance law is traditionally premised on the assumption that inheritable property can be identified, evidenced, and transferred through established legal mechanisms.¹⁸ By contrast, blockchain systems assign decisive control to technical access mechanisms, meaning that the effectiveness of inheritance depends not only on legal entitlement but also on the ability to access private keys.

Accordingly, the principal challenges in inheriting crypto assets stored in personal wallets are not confined to legal recognition but are primarily related to access, evidentiary standards, and jurisdictional enforcement—issues that remain insufficiently addressed by conventional inheritance law. These findings underscore the necessity of developing a digital inheritance framework in Indonesian law that reconciles legal certainty with the technical realities of blockchain technology. Without clear mechanisms governing private key management, evidentiary standards for digital ownership, and cross-jurisdictional coordination, inheritance rights over crypto assets risk remaining legally recognized yet practically unenforceable.

¹⁶ Pambudi Pambudi and Zudan Arief Fakrulloh, “Criminal Liability of Perpetrators in Crypto Ecosystem, the Regulatory Challenges, and Legal Voids in the Criminal Law System in Indonesia,” *Majelis: Jurnal Hukum Indonesia* 2, no. 3 (2025): 105–25, <https://doi.org/10.62383/majelis.v2i3.1042>.

¹⁷ Rayi Kharisma Rajib et al., “Problematika Indivisibility Digital Assets Pewarisan: Tantangan Hukum Dan Mekanisme Pembagian Dalam Hukum Perdata Indonesia,” *Jurnal Kajian Hukum Dan Kebijakan Publik* 3, no. 2 (2026): 811–19.

¹⁸ Marditia and Kuncoro, “Pengembangan Model Regulasi Untuk Pewarisan Digital Aset Kripto.”

4. CONCLUSION

Crypto assets may be legally classified as inheritable property because they possess economic value, are transferable, are legally recognized, and are under individual control. Based on Article 499 of the Indonesian Civil Code, the doctrinal development of intangible property, the recognition of crypto assets as digital commodities under Commodity Futures Trading Regulatory Agency (CoFTRA/Bappebti) regulations, and the constitutional reinforcement provided by Constitutional Court Decision No. 51/PUU-XXIII/2025, crypto assets may be categorized as part of the estate that can be inherited by heirs.

However, such legal recognition has not been accompanied by an effective inheritance mechanism. The principal obstacles include restricted access to private keys, difficulties in proving ownership due to the pseudonymous nature of blockchain technology, and jurisdictional complexities arising from the borderless architecture of blockchain networks. These findings demonstrate a significant gap between traditional inheritance law frameworks and the technological realities of digital assets.

This study contributes theoretically to the development of digital inheritance law and provides a conceptual foundation for more adaptive regulatory reforms. A limitation of this research is its reliance on a normative legal approach without empirical examination of inheritance practices involving crypto assets. Therefore, it is recommended that legislators formulate specific regulations governing digital asset succession, particularly in relation to private key management and evidentiary standards for proving ownership of crypto assets. Future research should adopt empirical and comparative approaches to examine inheritance models for crypto assets in different jurisdictions in order to support the development of a more comprehensive legal framework in Indonesia.

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