PERSPEKTIF HUKUM

Volume 25 Issue 2 November 2025

DEVELOPING A REGULATORY MODEL FOR DIGITAL INHERITANCE OF CRYPTOCURRENCY ASSETS: THE INDONESIAN LEGAL PERSPECTIVE

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Article

Keywords:
Cryptocurrency; Inheritance Law; Inheritance Assets; Civil Law; Digital Executors

Article History
Received: Sep 06, 2025;
Reviewed: Oct 14, 2025;
Accepted: Oct 31, 2025;
Published: Nov 11, 2025;

Abstract

The rapid development of digital technology has introduced new forms of wealth, with cryptocurrencies being a prominent example. In Indonesia, these assets have gained significant popularity as investment instruments, but their intangible nature and reliance on private keys for ownership pose serious legal challenges in the realm of inheritance. The research aims to analyze the legal position of cryptocurrencies as inheritable objects and to formulate a viable inheritance mechanism that ensures legal certainty for heirs. This research uses normative legal methods by analyzing relevant statutory law, legal doctrine, and comparative perspectives of the legal system in the Netherlands and the United States. The findings show that cryptocurrencies meet the criteria to be classified as movable and intangible objects, in accordance with Articles 503 and 504 of the Civil Code. Nevertheless, a significant gap was identified between the legal rights of heirs (de jure) and their practical

ability to access assets (de facto), due to the lack of uniform technical regulations. Therefore, the research concludes that two strategic steps are needed: the issuance of national technical guidelines to standardize inheritance claims procedures and the development of a "Digital Executor" mechanism, which is officially empowered to manage the digital assets of the deceased.

https://doi.org/10.30649/ph.v25i2.437

Introduction

The global financial and investment landscape is undergoing a fundamental transformation in line with the rapid development of digital technology[1]. One of the most disruptive innovations is the emergence of crypto assets, which in Indonesia have been legally recognized as a popular investment instrument[2]. However, the legal framework that oversees it has now entered a crucial new chapter. The enactment of Law Number 4 of 2023 concerning the Development and Strengthening of the Financial Sector (P2SK Law) is a milestone, which expressly transfers the task of regulating and supervising crypto assets from Bappebti to the Financial Services Authority (OJK).[3] This transition, which is further regulated in Government Regulation Number 49 of 2024 and OJK Regulation (POJK) Number 27 of 2024, is not just an administrative change[4]. This is a paradigm shift that

[1] Budau, Victor. 2024. "ASAP: A Conceptual Model for Digital Asset Platforms." *IMF Working Paper* 2024 (19): 1. https://doi.org/10.5089/9798400266157.001.

[2] Tajriani, Dini Tiara, and Burhanudin Rabani. 2024. "An Analysis of the Impact of Cryptocurrency Investment as a Digital Transaction for a Sustainable World Economy." JOURNAL of APPLIED BUSINESS and BANKING (JABB) 5 (2): 1. https://doi.org/10.31764/jabb.v5i2.27109.

[3] Gandasari, Nur Mutiara, Rendy Riansyah Hidayat, and Farahdinny Siswajanthy. 2025. "The Role of the Financial Services Authority (OJK) in Overseeing Fintech Lending as a Digital Economy Instrument." Indonesian Journal of Islamic Jurisprudence, Economic and Legal Theory. 3 (1): 399. https://doi.org/10.62976/ijijel.v3i1.941.

[4] Mulyana, Septira Putri, I Gusti Bagus Sakah Sumaragatha, and Beverly Evangelista. 2025. "THE URGENCY OF INTEGRATING THE AUTHORITY OF OJK AND BAPPEBTI IN REGULATING CRYPTO ASSET INVESTMENT IN

reclassifies crypto assets from "commodities" traded on the futures market to "Digital Financial Assets".[5] The placement of Digital Financial Assets under the jurisdiction of the OJK—the main regulator of the banking, capital markets, and other financial services sectors—implicitly reinforces the status of these assets as part of legitimate and inheritable personal wealth, on par with conventional financial instruments such as stocks, bonds, or mutual funds.

This transition created unprecedented momentum for comprehensive legal reform. This shift of authority is a key catalyst that makes the regulatory model proposed in this study not only relevant, but also urgent and implementable. Bappebti's previous mandate was more focused on the commodity trading aspect, while the OJK has a broader mandate covering consumer protection, financial system stability, and, most importantly, professional regulation in the financial services sector[6]. OJK's well-established institutional capacity in licensing and supervising various financial professions provides a solid foundation for the proposed formation of new fiduciary roles such as "Digital Executors". By accepting jurisdiction over Digital Financial Assets, the OJK also inherently has a mandate to resolve all legal and consumer protection issues inherent in such assets, including inheritance, which is a fundamental aspect of asset ownership.

The practice of inheriting crypto digital assets faces unique challenges. Juridically, based on the progressive interpretation of the Civil Code (KUHPerdata), especially Articles 499, 503, and 504, Digital Financial Assets meet the criteria as intangible movable objects (onlichamelijk) that have economic value and can be transferred, so that they are valid as part of the inheritance (boedel)[7]. However, this (de jure) legal recognition often becomes futile in the face of technical reality. The diversity of forms and properties of digital assets makes

INDONESIA." Journal of Notary Treatises 6 (1): 238. https://doi.org/10.29303/risalahkenotariatan.v6i1.356.

[5] Ibid

[6] Kardinata, Henes, and Jonker Sihombing. 2024. "Reconstruction of Arrangements on the Role of the Financial Services Authority in Bank Health Supervision Post-Law on Development and Strengthening of the Financial Sector." *International Journal of Religion* 5 (12): 259. https://doi.org/10.61707/ydkgwc22.

[7] Rilda, Rilda Murniati, and Muhamad Dafa Razwa Ramadhan. 2025. "A Normative Legal Analysis of Crypto Assets as Collateral for Debt in Indonesia." *Fiat Justisia Journal of Law* 19 (1): 21. https://doi.org/10.25041/fiatjustisia.v19no1.3586.

conventional inheritance provisions not easy to implement[8]. For example, access to a digital wallet or crypto exchange account belonging to the deceased requires special credentials (private key, password) that may not be known to the heirs. Unlike traditional assets, digital assets are often protected by an encrypted security system and regulated by the terms of service providers that cross countries[9]. As a result, heirs can have a hard time claiming crypto assets without a clear legal arrangement.

Indonesia does not yet have a special regulation that regulates the execution or procedures for the transfer of digital assets to heirs. The applicable inheritance law – both based on the Civil Code and the Compilation of Islamic Law – does stipulate that all forms of inheritance are transferred to the heirs[10]. However, the absence of technical rules for digital assets creates a norm vacuum. The petitioners in a recent case of material review at the Constitutional Court highlighted this by stating that the absence of special provisions on digital inheritance creates legal uncertainty and makes it difficult for heirs and legal practitioners to manage the deceased's digital assets[11]. The Constitutional Court in its decision (Case 51/PUU-XXIII/2025) acknowledged that the complexity of heritage in the digital era needs to be accommodated, even though the application was rejected because it was considered not a direct constitutional issue[12].

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[8] Yang, Qi Xiang. 2025. "Principles for the Standardized Handling of Digital Property Inheritance." *Humanities and Social Science Research* 8 (3). https://doi.org/10.30560/hssr.v8n3p29.

[9] Akramov, Akmaljon A., Nilufar Kh. Rakhmonkulova, Odilbek Khazratkulov, Elnora E. Inamdjanova, Diyora I. Imamalieva, Shakhzoda R. Tuychieva, Sayidkomil B. Ibodullaev, Azamat E. Ergashev, Shokhrukh Khamidov, and Nodira R. Rustamova. 2024. "The Impact of Digitalization in Inheritance Law." *Qubahan Academic Journal* 4 (3): 100. https://doi.org/10.48161/qaj.v4n3a863.

[10] Maru'atun, Dika Ratu, Dwi Juniyanto, Wahyu Rivaldi, and Asep Sunarya. 2024. "Analysis of the Distribution of Inheritance to Heirs According to Civil Law (BW)." *Amendment* 1 (3): 350. https://doi.org/10.62383/amandemen.v1i3.449.

[11] Agarwal, Shalabh, and Asoke Nath. 2025. "Digital Inheritance: Scope and Challenges." In , 15. https://doi.org/10.9734/bpi/mcsru/v3/4190.

[12] Constitutional Court of the Republic of Indonesia, "Inheritance of Digital Assets Difficult to Implement," *Constitutional Court of the Republic of Indonesia*, June 7, 2024, https://www.mkri.id/berita/pewarisan-aset-digital-sulit-diterapkan-23428.

This phenomenon, known as dead wallets, creates a sharp "execution gap": the heirs have legal rights to the asset, but do not have the technical (de facto) ability to claim or access it[13]. This is not just a technical challenge, but a legal-procedural failure that causes permanent losses to the rightful heirs. The absence of uniform technical regulation from regulators exacerbates this situation, where inheritance claim procedures are left entirely to the internal policies of each Digital Financial Asset broker, creating uncertainty and potential unfair treatment.

Based on this background, this research focuses on two main legal issues. First, how can the Indonesian legal system bridge the execution gap in the inheritance of Digital Financial Assets after the transition of authority to the OJK? Second, what kind of regulatory model can provide legal certainty for heirs while also being institutionally implemented within the existing OJK framework? 1 To answer this question, this study not only analyzes the existing legal vacuum, but also proposes a novelty in the form of a comprehensive conceptual solution. The novel is the formulation of the "Two-Pillar Digital Executor Model", a regulatory framework designed specifically for the Indonesian context.1 The purpose of this paper is to formulate a structured, secure, and enforceable Digital Financial Asset inheritance mechanism, thereby engineering legal certainty in the digital age and ensuring that the civil rights of heirs are not eroded by technological developments.

Method

This research uses a research method with a juridical-normative approach. This approach was chosen because the problems studied are normative and directly related to the emptiness or ambiguity of the law in dealing with new phenomena. This method focuses on a systematic analysis of applicable laws and regulations and relevant legal doctrines, as well as examining their relationship to legal principles and practices in other countries. The data sources used are divided into two main categories:

Primary Data is in the form of primary legal materials that are authentic and binding, such as the Civil Code (Civil Code), the

[13] Hernando-Corrochano, Jesús, Rafael Vargas, and Roberto Hernández-Berlinches. 2025. "Trusted Wills for Digital Assets Using Blockchain: A Practical Case." *Blockchain Research and Applications*, April, 100289. https://doi.org/10.1016/j.bcra.2025.100289.

Commercial Law Code, Law Number 10 of 2011 concerning Commodity Futures Trading, as well as a series of Bappebti Regulations that specifically regulate cryptocurrency assets. Data related to inheritance claim procedures on digital asset platforms such as Indodax and Reku, the data was obtained from the company's public policy documentation, not through direct interviews. Thus, this research is entirely based on a literature study. Secondary Data consists of secondary legal materials used to complement and support the analysis, such as law books, scientific articles, journals, and official research from relevant institutions (such as Bappebti and OJK). This research also refers to the practice and court decisions in the Netherlands that have a similar legal system to enrich comparative studies.

The analytical approach used is qualitative. The collected data is analyzed to identify the interconnectedness, patterns, and gaps between legal norms and practical reality. This research not only presents the findings, but also analyzes the legal implications of each data, outlines the cause-and-effect relationship, and provides in-depth insights into how the existing legal framework can be interpreted progressively to address the challenges of the digital age. Comparative studies with the Netherlands and the United States are an important instrument to show the model of solutions that have been applied in countries with the same legal tradition, which can then be adapted to the Indonesian context.

Result and Discussion

A. Conditions of Cryptocurrency Regulation as Objects of Inheritance in Indonesia

1. *Cryptocurrency* as an Inherited Object in Civil Property Law

In the Indonesian civil law system, the concept of "property" (zaak) is not limited to physical entities. Article 499 of the Civil Code defines an object as "every property and every right, which can be the object of property".[14] This definition suggests that the main emphasis of material law lies in an entity's ability to have and have value, not in its physical form alone. *Cryptocurrency* is a tangible manifestation of the concept of intangible things (onlichamelijk). This classification is in line with Articles 503 and 504 of the Civil Code which states that

[14] Nofriza, N. "The Application of Cessie in Debt Settlement in Islamic Banking," *Responsive Law*, V. 13, No. 1, 2022, p. 142.

"rights to movable objects" and "receivables and bills" are also considered movable objects[15].

In this case, *cryptocurrencies* can be analogized to other intangible property rights such as copyrights, patents, or receivables that are legally recognized as legal and transferable objects[16]. This flexibility of civil law interpretation allows *cryptocurrencies* to qualify as intangible movable objects. Civil inheritance law, an asset can be an object of inheritance if it has an economic value that can be valued with money[17]. Most *cryptocurrency* assets, such as Bitcoin, have an algorithmically limited amount of supply, which creates a digital scarcity[18]. This phenomenon of scarcity mimics the properties of physical commodities such as gold or oil, which are the fundamental basis of their value[19]. Market price analysis shows that assets such as Bitcoin, Ethereum, and Shiba Inu have real and substantial economic value, which can be quantitatively measured and converted into conventional currencies[20].

Table 1: Market Value of Popular *Cryptocurrency* Assets (As of June 2025)

Parameters	Bitcoin (BTC)	Ethereum (ETH)	Shiba Inu (SHIB)
Price per unit (USD)	USD 103,700–105,900	USD 2,640–2,650	USD 0.00001226

[15] Widianti, I. A., and Iskandar, H. "Legal Protection for Investors in Cryptocurrency Transactions on Binance Application in Indonesia," Jurisprudence Journal of Sharia Science of Islamic Economic Legislation, V. 15, No. 1, 2023, p. 41.

[16] Hariri, M. R., Ramli, A. M., and Ramli, T. S. "Legal Review of the Practice of Commercialization of Songs and/or Music Through Non-Fungible Tokens (NFTs) by Musicians in Indonesia," *COMSERVA Journal of Research and Community Service*, V. 2, No. 11, 2023, p. 2645.

[17] Ramadhany, Hero of Dhoga. The position of crypto assets as inherited property in the perspective of civil law. *Lex Positivis*, 2024, 2.8: 960-973.

[18] Rilda, R. M., and Ramadhan, M. D. R. "A Normative Legal Analysis of Crypto Assets as Collateral for Debt in Indonesia," *Fiat Justisia Journal of Legal Sciences*, V. 19, No. 1, 2025, p. 21.

[19] Zhou, Y., Xie, C., Wang, G., et al. "Forecasting cryptocurrency volatility: a novel framework based on the evolving multiscale graph neural network," Financial Innovation, V. 11, No. 1, 2025.

[20] Qurani, E. F. "The impact of earnings per share, debt to equity ratio, and return on equity on company stock prices: An empirical study," *Management & Entrepreneurship Implementation*, V. 2, No. 1, 2022, p. 38.

Parameters	Bitcoin (BTC)	Ethereum (ETH)	Shiba Inu (SHIB)
Conversion Value (IDR)	IDR 1.68–1.72 billion	IDR 42.8–42.9 million	IDR 0,19
Global Market Capitalization	> USD 2 trillion	> USD 300 billion	> USD 6.8 billion

Note: Exchange rate: IDR 16,200/USD

This data shows that *cryptocurrencies* are not just digital entities with no value, but assets that have real value, can be cashed, and are widely traded. The fact that these assets can be converted into Rupiah through Bappebti-supervised brokers is strong evidence that they are eligible to be counted as part of a person's inheritable estate[21]. The relevance of Article 1977 of the Civil Code is that Article 1977 paragraph (1) of the Civil Code establishes the principle of bezit, namely "legal possession of movable objects is proof of perfect ownership".[22] This principle provides a legal basis that can be applied to cryptocurrency inheritance. In the digital context, control over assets can be analogous to the control of private keys or access to digital wallets (crypto wallets) that store these assets[23].

2. Analysis of Legal Gaps and Practical Challenges of Crypto Asset Inheritance in Indonesia

Juridical *cryptocurrencies* qualify as an object of inheritance, the process of inheritance in Indonesia still faces significant legal gaps and practical challenges[24]. This challenge stems from fundamental differences including:

a. Technical Challenges: Reliance on Private Keys and Network Anonymity

[21] Tejawati, D. N., Salviana, F. M., and Wulandari, S. "Conceptual formulation of establishing A bullion bank within the Indonesian legal system," 2024.

[22] Омельчук, О. С., Іліопол, І. М., and Alina, S. "Features of Inheritance of Cryptocurrency Assets," *Ius Humani Law Journal*, V. 10, No. 1, 2021, p. 103.

[23] Aldweesh, A. "Blockchain-Based Secure Firmware Updates for Electric Vehicle Charging Stations in Web of Things Environments," *World Electric Vehicle Journal*, V. 16, No. 4, 2025, p. 226.

[24] Siregar, G. H. P., and Handoko, W. "A Case Study of the Law of the Inheritance of the Supreme Court Decision Number 784 K/Pdt/2014 Against the Legal Provisions of the West Inheritance," *NOTARIUS*, V. 15, No. 2, 2022, p. 607.

Cryptocurrency ownership is not recorded with a central authority such as a bank, but rather within a distributed blockchain network. Access and control of assets is entirely dependent on the ownership of private keys that are unique and confidential[25]. These keys cannot be recovered or reset by a third party. Consequently, if the heir dies without leaving a private key or instructions to access it, the asset will be locked forever within the network and inaccessible to anyone, including legal heirs[26]. This is a crucial point that shows the inability of traditional inheritance systems to address the structural problems caused by the decentralized nature of *cryptocurrencies*[27]. Additionally, blockchain systems are designed to be anonymous or pseudonymous, which means that the identity of the owner is not directly linked to the digital wallet address[28]. This makes it difficult for the heirs to identify the existence of *the heir*'s cryptocurrency assets without specific information from the heirs themselves. Without clues such as the broker's name or wallet address, the heirs have to do manual search, which is very inefficient and even impossible given the sheer number of platforms available.

b. Juridical Challenge: Absence of Special Regulations

A special regulation from Bappebti or OJK that uniformly regulates the procedure for *claiming the inheritance of cryptocurrency* assets in Indonesia. The current procedures are Ad hoc and depend on the internal policies of each digital asset broker.[29] Communication with Indodax and Reku shows that although they have an inheritance claim procedure, the conditions can vary and there are no nationally binding standards[30]. As a result, the heirs will experience unnecessary uncertainty and administrative

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[25] Salikhov, M. "Model of a Distributed Storage System for Crypto Wallet Private Keys," *Automatic Control and Computer Sciences*, V. 58, No. 8, 2024, p. 1289.

[26] Nur, F., and Mujib, A. "Mutual Funds: Sengeketa Settlement at the Indonesian Capital Market Arbitration Board (BAPMI)," *Sharia Economic Law Journal*, V. 7, No. 1, 2023, p. 44.

[27] Pucci, F. "An Alternative Juridical Take on Cryptoassets," 2025.

[28] Lee, L. "Examining the Legal Status of Digital Assets as Property: A Comparative Analysis of Jurisdictional Approaches," SSRN Electronic Journal, 2024.

[29] Op.cit. Rilda, R. M., and Ramadhan, M. D. R, 2025, p. 21.

[30] Op.cit. Nur, F., and Mujib, A, 2023, p. 44

complexity, which can hinder the process of equitable distribution of the estate.

B. Comparative Studies and Models of Crypto Asset Inheritance Mechanisms

1. Digital Asset Inheritance Mechanism in the Netherlands

The inheritance *of cryptocurrency assets* in the Netherlands basically follows the traditional legal framework of inheritance set out in the Burgerlijk Wetboek (BW), specifically Book 4 on inheritance (erfrecht). However, since *cryptocurrencies* are an intangible form of digital wealth and rely on special encryption technology and private access, this asset inheritance mechanism requires adjustments in practice. In the Dutch legal system, all vermogen (property), both tangible and intangible, can be inherited if it meets the element of ownership and can be legally proven. *Cryptocurrencies* in this case, although not explicitly regulated in the law, are legally recognized in the Netherlands as property because they have economic value, can be individually owned, and are transferable. Therefore, *cryptocurrency* assets are considered part of the estate if the heirs legally own them and the heirs can prove their existence as well as ownership[31].

The heirs must first obtain a Verklaring van Erfrecht, which is a certificate of heirs issued by a notary. This document is the legal basis for accessing and managing heritage assets. The main challenge in cryptocurrency inheritance lies in the technical aspect of access, namely the existence of private keys, digital wallets (wallets), or accounts on exchanges. If this information is not passed on or cannot be accessed by the heirs, then *the cryptocurrency* asset is at risk of being unclaimed and lost forever, even if it is legally recognized as part of the heir's object[32]. As digital asset ownership increases among the public, the practice of notarization in the Netherlands is beginning to show adaptation to modern forms of wealth such as *cryptocurrencies*. One of the concrete steps that is now starting to be accepted in inheritance practices is the inclusion of information related to digital assets in

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[31] European e-Justice Portal, *"Succession – Netherlands", European Commission"*, https://e-justice.europa.eu/topics/family-matters-inheritance/inheritance/succession/nl_en?NETHERLANDS=&member=1, accessed 12 June 2025.

[32] BERLEE, Anna. Digital inheritance in the Netherlands. *J. Eur. Consumer & Mkt. L.*, 2017, 6: 256.

electronic wills (digital wills).[33] Although juridically the will must still meet the form and procedures prescribed by Dutch law, some notary offices have begun to accept digital attachments in the form of lists and technical instructions related to the heir's *cryptocurrency* assets . The contents of the electronic will generally include:

- A list of cryptocurrency wallets owned by the heirs along with their public addresses.
- Information about the location of the private key storage (such as cold storage) is required to access the asset.
- Specific instructions on how to withdraw or transfer blockchain-based assets

Just like in Indonesia, the Dutch civil law system, which adheres to the civil law tradition and is codifiable in nature, provides a legal basis for heirs to draft a valid written will before a notary. The provisions in the Burgerlijk Wetboek (BW) allow the heirs to explicitly include in the will document ownership of digital assets, including *cryptocurrencies*, as well as designate certain parties as heirs or beneficiaries of those assets[34].

In the Netherlands, the development of cryptocurrency digital asset ownership has led to the birth of several actual practices involving third parties to facilitate the inheritance process in a secure and structured manner. These third parties include notaries, law firms, and specialized digital service providers, which offer various solutions to bridge the limitations of formal law in the face of the technical challenges of inheriting *cryptocurrency assets*. Various inheritance mechanisms that are now beginning to be implemented in the Netherlands include:

a. Entrust private key information to a notary

One of the most formal and secure mechanisms in the context of the inheritance *of cryptocurrency* assets in the Netherlands is through the custody of digital access information (such as seed

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[33] KUPI, Marcell; KUNDI, Victoria; SZABÓ, Tamás. Deciphering the cryptocurrency impact on tourism dynamics: Legal insights from Spain, France, Croatia, and the Netherlands. *Geojournal of Tourism and Geosites*, 2025, 58.1: 422-432.

[34] Gulyamov Said Saidakhrarovich, Akramov Akmaljon Anvarjon Ugli, and Eshbayev Gayrat Bolibek Ugli, *"Digitalization in Inheritance Law"*, World Bulletin of Management and Law (WBML), Vol. 10, May 2022, p. 24, accessed June 12, 2025.

phrases) to a notary in the form of a deed of depot (deed of custody). In this scheme, the owner of a digital asset can draft a statement or will before a notary be stating the location and access instructions to *his cryptocurrency* wallet . The data is then entered into a confidential notarial document and stored officially. Further, such information can be registered in the Central Testamentenregister (CTR). With this system, the heirs will know which notary keeps the key information, and the notary can only hand over access to the legal heirs, after the heir dies and accompanied by the necessary legal evidence.

This custody mechanism is considered by researchers to be a formal mechanism and has a strong legal basis, because it is directly integrated into the inheritance legal process that applies in the Netherlands, namely through a notary deed and official registration procedure. In addition to providing legal certainty, this approach also ensures information security and avoids the risk of losing access to digital assets due to the absence of clear technical documentation[35].

b. By listing a private key in the will

Notaries and law offices in the Netherlands generally recommend that cryptocurrency asset owners include access arrangements for their digital assets through a will document or Levens testament. However, including the private key directly in the contents of the will document is not recommended, because after the heir dies, the document becomes accessible to the heirs, so it cannot guarantee the confidentiality of the access information because it raises new opportunities for unilateral claims (if there is more than one heir) which is not allowed and against the law[36].

c. The role of notaries as digital executors

Several notaries in the Netherlands have begun to accommodate the arrangement of digital assets in inheritance planning services,

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[35] KNB (Royal Notarial Professional Organisation), *"Notary and Society: Who Gets Your Data After Your Death?"*, Notariaat Magazine, May 2023 edition, https://www.knb.nl/notariaat-magazine/2023-05/notaris-en-maatschappij-wie-krijgt-je-data-na-je-dood, accessed June 12, 2025.

[36] Siregar, Yulkarnaini. Legal Review of the Application of Conventional Inheritance Law Provisions to Cryptocurrency Assets. *Fox Justi: Journal of Legal Sciences*, 2025, 15.02: 549-555.

including through the appointment of a "digitale executor" or special executor responsible for the management of *cryptocurrency assets*. The heirs can appoint specific individuals, e.g. close friends who have a technical understanding of *cryptocurrencies*, to carry out these executor functions as set out in the contents of the official will. This step aims to ensure that there are trusted parties who have the legal authority to help heirs access digital wallets and transfer *cryptocurrency assets* in accordance with the contents of the heir's will. Juridically, the appointment of a digital executor in a will has legal force, as it is carried out in a document that is subject to the provisions of Dutch inheritance law.

d. Digital vault (Brankas Digital)

The notary profession in the Netherlands, the Koninklijke Notariële Beroepsorganisatie (KNB), once initiated an initiative called "Digitale Kluis" or digital vault, which aims to help people store important personal information securely as part of digital inheritance planning. Through this service, individuals can store various digital access data, including cryptocurrency wallet credentials, which can later be accessed by legal heirs after the heir's death. This existence can later be recorded by the notary in the national will register, so that the notary has information that the heir has entrusted certain digital access through the mechanism. When the heir dies, the heirs who have legal rights can apply for opening access through the notary concerned[37].

This initiative can be seen as something semi-formal because although it has not been explicitly regulated in the legislation, this program has the support of notary professional institutions where the organization is directly connected to the formal legal process through registration in the will register. This practice can be seen as an institutional effort to bridge the regulatory gap in digital heritage management amid the increasing ownership of digital assets by the public.

Beyond the scope of notaries, there are also currently commercial digital vault services designed to store a variety of important personal data, such as passwords, private keys, digital will documents, and other

[37] Ribola, Henrique Alves Guia. *The Emergence of Safeguarding the Inheritance Process Within the Unstable Context of Cryptoassets*. 2022. Master's Thesis. Universidade NOVA de Lisboa (Portugal).

sensitive information. These services generally aim to facilitate the handing over of such information to the heirs after the account owner has passed away. One example of such a service is the Momentio platform which provides a digital vault facility for users to upload various types of data, including wills, legal contracts, social media account passwords, to private messages or video recordings addressed to family members. This data will remain securely stored and only accessible to designated parties, such as family members or beneficiaries, after the death of the verified account owner. Although not run under notary authority, services such as these reflect the growing public need for practical digital inheritance mechanisms, and show how the private sector has contributed to bridging the limitations of the formal legal system in the face of the challenges of digital asset and information inheritance.

2. Digital Asset Inheritance Mechanism in the United States

In contrast to the civil law system in Indonesia and the Netherlands, the United States adopts a common law system in which law is developed through court decisions (case law) and laws and regulations. In the United States, the issue of digital asset inheritance is addressed through various state legislations, one of which is the Revised Uniform Fiduciary Access to Digital Assets Act (RUFADAA). RUFADAA is a model law that authorizes fiduciaries (such as executors or guardians) to access and manage the deceased's digital assets[38]. This law has been adopted by many states in the United States and aims to treat digital assets like any other conventional property in the context of estate planning. Under RUFADAA, access to digital assets is regulated in a clear hierarchy[39] :

a. Online Tools

If the service provider (e.g. Google or Facebook) has a built-in tool that allows users to designate trusted contacts, then these

[38] Mccorvey, Asha E. The Hack of the Racial Wealth Gap: How the "American Families Plan" Will Jeopardize the Anonymity of Cryptocurrency Transactions and Potentially Harm Investors of Color. *NC Bank. Inst.*, 2022, 26: 165.

[39] Scaniffe, Nathanael. A New Gold Rush: How Trust Law Can Incentivize Prudent Cryptocurrency Estate Planning and Increase State Revenue. *Quinnipiac Prob. LJ*, 2022, 36: 171.

instructions have the highest priority. Examples include Google's Inactive Account Manager or Facebook's Legacy Contact[40].

b. Wills or Other Legal Documents

If no online tools are used, the instructions given in the will or other estate planning document (such as a power of attorney) will be followed. Digital assets such as *cryptocurrencies* can be specifically mentioned in a will or *trust*.

c. Terms of Service Agreements (TOSA)

If there are no written instructions, access will be governed by the user-approved TOSA when creating the account.

However, the RUFADAA also contains important limitations. Executors of the will are not permitted to access the content of electronic communications such as emails, chats, or private messages unless the decedent explicitly consents[41]. In the case of *cryptocurrencies*, the US tax authorities (IRS) classify these assets as property, not currency. Therefore, *cryptocurrencies* are subject to the probate process like other conventional assets. Just like in Indonesia and the Netherlands, if the heir dies without leaving a private key or clear instructions, the heir risks not being able to access the asset, leading to the permanent loss of the asset.

3. Comparison of Crypto Asset Inheritance Mechanisms in Indonesia, the Netherlands, and the United States

Analysis of both models shows that neither is perfect for Indonesia to adopt directly. The Dutch model is in line with Indonesian legal tradition but lacks certainty, while the US model offers certainty but can be too rigid and adversarial.[1] The following table presents a comparative synthesis and its relevance for model development in Indonesia.

[40] Lestari, Anisa Ayu Dwi. Digital Assets in the Perspective of Indonesian Inheritance Law: The Need for Norm Reformulation in the Cyber Era. *Indonesian Cyber Law Review*, 2025, 2.1: 10-18.

[41] Sheridan, Patricia. Inheriting digital assets: does the revised uniform fiduciary access to digital assets act fall short?. *Ohio St. Tech. LJ*, 2020, 16: 363.

Table 2: Comparison of Settings in Indonesia, the Netherlands and the United States

Variable	Arrangements in Indonesia (Existing)	Setup in the Netherlands	Setting up in the United States	Analysis of Advantages & Adaptability for the Indonesian Model
Legal Basis	Relying on the interpretation of the Civil Code; absence of specific regulations.	Relying on the interpretation of *the Burgerlijk Wetboek*; there is no specific legislation.	Specific legislation (*Revised Uniform Fiduciary Access to Digital Assets Act* - RUFADAA) per state.	The US approach is superior. Indonesia needs a special regulation (OJK Regulation) to provide absolute legal certainty and avoid ambiguity of interpretation.
Key Actors	Heirs and service	Notary (as custodian of	Fiduciaries (executors), custodians/s	The synthesis of both is

	providers (without standards).	informati on) and the initiative of the asset owner.	ervice providers, and courts.	ideal. Indonesi a can create the role of a licensed fiduciary ("Digital Executor") supervise d by the OJK, as a trusted intermed iary between the heirs and the service provider.
Access Mechanism	It depends on the service provider's internal policy (*ad hoc*).	Relying on proactive document ation by the asset owner (will, custody deed).	A clear three-level hierarchy of authority (*online tools*, legal documents, terms of service).	The US hierarchy is very relevant. Adopting this hierarchy will create clear *default* rules, reducing reliance on asset owner

				proactivity.
Privacy Protection	Undefined.	Implicitly, it depends on the ethics of the notary profession.	Explicit, separation of access between "catalog" (metadata) and "content" of communication.	The separation of access of the US model is a crucial feature. Indonesia should adopt this separation to navigate sensitive privacy issues.
Main Disadvantages	Absolute legal uncertainty: The procedure is not uniform.	The lack of uniformity depends heavily on individual awareness.	Fragmentation of laws between states, the potential for costly and costly processes.	Indonesia can overcome the weaknesses of both. With one national regulation under

				the OJK, the problem of fragmentation can be avoided. A supervised executor model can reduce the potential for conflict.

Therefore, a hybrid approach that synthesizes the advantages of both is the best way for Indonesia. Indonesia needs legislative certainty as in the RUFADAA model, combined with the role of trusted and supervised institutional fiduciaries as in the Dutch model.

4. Model Theoretical Foundation: Law as a Tool of Social Engineering (Roscoe Pound)

The proposed model is based on the theory **of "Law *as a Tool of Social Engineering*"** popularized by Roscoe Pound. The [42] application of this theory transforms the proposed model from a mere technical improvement to a forward-looking act of legal modernization, giving the OJK a strong justification for proactive intervention. The emergence of Digital Financial Assets has created a new social reality—

[42] Purnama, Hamdan, and Iskandar Iskandar. 2024. "A Critical Analysis of Social Engineering Theory in the Context of Legal Development in Indonesia." *ULIL ALBAB Multidisciplinary Scientific Journal* 3 (12): 54. https://doi.org/10.56799/jim.v3i12.5812.

a form of wealth and ownership that was never anticipated by conventional legal frameworks[43]

The existing legal system, while normatively providing a basis for inheritance, fails to bridge the gap between the juridical (*de jure*) rights and the technical (*de facto*) capabilities of the heirs[44]. In the social engineering analogy, a legislator or regulator acts as a "social engineer" who must design new legal mechanisms to balance conflicting interests: the right of heirs to access inheritance, and the security principle of the digital ecosystem[45]. Waiting for the court to resolve disputes in a caustic manner is an inefficient approach and creates uncertainty. Therefore, a conscious effort is needed to "engineer" legal solutions. This model is deliberately designed to prevent asset losses and broader social conflicts, fulfilling the legal function of advancing the welfare of society.

5. Design of a Digital Asset Inheritance Arrangement Model for Indonesia Architecture "Two-Pillar Digital Executor Model"

Based on comparative analysis and Indonesia's unique needs, this study formulates a comprehensive regulatory model, namely the Two-Pillar Digital Executor Model. The model stands on two mutually reinforcing pillars: binding regulatory standardization and institutional adaptation through certified executors.

a. **Pillar I: Regulatory Standardization (National Technical Guidelines)**

The first pillar was inspired by RUFADAA's success in creating clear rules of the game.[1] This pillar is realized through the issuance of a new OJK Regulation (POJK) or amendments to POJK Number 27 of 2024, which will bind all licensed Digital Financial

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[43] Anggraeni, Silvia Dian, Imran Bukhari, and Andi Dahmayanti. 2025. "Navigating Sharia Compliance in the Digital Age: An Examination of Bank Indonesia's Hedging Swap Regulation (PBI 24/7/2022)." *Indonesian Journal of Islamic Economic Law* 2 (1): 58. https://doi.org/10.23917/ijoel.v2i1.5257.

[44] Lee, Luke. 2024. "Examining the Legal Status of Digital Assets as Property: A Comparative Analysis of Jurisdictional Approaches." *SSRN Electronic Journal*, January. https://doi.org/10.2139/ssrn.4807135.

[45] Waagstein, Astrid. 2024. "Exploring the Multiplicity of Digital Remains." *Research Portal Denmark*, January, 248. https://local.forskningsportal.dk/local/dki-cgi/ws/cris-link?src=ku&id=ku-943f1630-f4a2-411e-a723-d72e3c7abb18&ti=Exploring%20the%20multiplicity%20of%20digital%20remains.

Asset Trading Operators in Indonesia.[1] The key provisions of this regulation include:

- Mandatory and Standard Inheritance Claim Procedures: All Digital Financial Assets providers are required to establish and publish a transparent, uniform, and non-burdensome inheritance claim procedure. This will eliminate *the ad hoc practices* that are currently in effect.
- Authority Hierarchy: Adopts a three-level hierarchy of authority in the style of RUFADAA (Online Tools > Wills/Legal Documents > POJK Default Rules) to provide legal certainty in determining which instructions must be followed by service providers.
- Defined Scope of Access: Explicitly adopts separation between "catalog" and "content" access to protect privacy. Access to the content of communications may only be granted with the explicit consent of the deceased or based on a specific court order.
- Legal Safeharbor for Service Providers: Service providers that comply with POJK and follow a lawful request from the heirs or designated Digital Executors will be granted immunity from lawsuits. This clause is crucial to encourage cooperation and reduce the reluctance of service providers to get involved.

b. **Pillar II: Institutional Adaptation (Digital Executors)**

The second pillar takes inspiration from the role of the trusted notary in the Dutch model but formalizes it within a strict regulatory framework of modern regulations.[1] This pillar centers on the establishment of a new fiduciary role. The main features of this pillar are:

- New Licensed Profession: "Digital Executor": Creates a new profession that is certified and licensed. This license can be an additional certification to existing professions such as notaries and advocates, or a new specialty for financial planners who meet the qualifications.
- Licensing and Supervision by the OJK: OJK will be the authorized institution to set certification requirements (including blockchain technical knowledge, inheritance legal expertise, and ethical standards), issue licenses, and conduct active supervision of Digital Executioners.
- Authority and Responsibilities: A Digital Executor, when

appointed in a will or by a court, will have the legal authority to formally interact with the Digital Financial Asset provider, conduct the identification and marshalling of all Digital Financial Assets, manage the valuation and safeguarding of assets, and ensure the distribution of proceeds to the rightful heirs.

The synergy between these two pillars creates an efficient system. Pillar I provides clear rules, while Pillar II provides legitimized professional actors to enforce those rules. Access requests from an OJK-licensed Digital Executor will carry much greater weight and are less likely to be hampered by service providers, as both are under the same regulatory oversight.

c. Timeline of Model Implementation in Indonesia

This model can be implemented effectively, with a strategic and gradual implementation roadmap. This roadmap transforms conceptual proposals into actionable plans for policymakers.

Table 3: Timeline of Model Implementation in Indonesia

Phase	Duration	Main Activities	Key Institutions
Phase 1: Formation of Working Groups and Preparation of Draft Regulations	1st year	OJK formed a task force consisting of legal experts, representatives of the Digital Financial Assets industry, notary associations, and academics to prepare a preliminary draft of the POJK on the inheritance of Digital	OJK, Digital Financial Asset Industry, Indonesian Notary Association (INI)

		Financial Assets.	
Phase 2: Public Consultation and Regulatory Finalization	2nd Year	The draft POJK is open for public consultation. In parallel, OJK develops a curriculum, competency standards, and licensing framework for Digital Executor certification.	OJK, Public, Stakeholders
Phase 3: Initial Implementation and Pilot Program	3rd year	POJK came into effect. OJK launched the first batch of Digital Executor certification program. A *pilot program* was initiated with several major Digital Financial Asset providers.	OJK, Digital Financial Asset Provider, First Batch of Digital Executors
Phase 4: Full Implementation, Public Education, and Evaluation	Year 4th and 5th	Full implementation across the Digital Financial Assets industry. OJK launched a	OJK, the Entire Digital Financial Asset

		massive public education campaign to increase public awareness. OJK conducts periodic evaluations of the effectiveness of the framework.	Industry, the Community

This process began in the 1st Year with the Phase of Working Group Formation and Preparation of Draft Regulations. This initiative is led by the Financial Services Authority (OJK), which formed a special task force. The task force will involve collaboration from a range of key institutions, including legal experts, representatives of the Digital Financial Assets industry, academics, and the Indonesian Notary Association (INI). Their focus is to prepare an initial draft of the OJK Regulation (POJK) which will be the legal basis for the inheritance of Digital Financial Assets.Entering the 2nd year, the process continues to the Public Consultation Phase and Regulatory Finalization. The completed draft POJK will be opened for public consultation, in order to gather input and responses from the public and related stakeholders. In parallel, OJK will also start building its supporting ecosystem by developing curriculum, setting competency standards, and developing a licensing framework for a crucial new profession, namely "Digital Executors".

Year 3 marks the start of the Initial Implementation Phase and Pilot Program. At this stage, POJK officially comes into effect. OJK will launch the first batch of certification programs for Digital Executors. To test the effectiveness of regulations in the field, a pilot program will be initiated, involving cooperation between the OJK, several major Digital Financial Asset providers, and the first batch of Digital Executors. Finally, in Years 4 and 5, this framework will enter the Full Implementation, Public Education, and Evaluation Phase. This regulation will be applied comprehensively throughout the Digital Financial Assets

industry. Realizing the importance of public understanding, OJK will launch a massive public education campaign. During this period, the OJK will also conduct periodic evaluations to monitor the effectiveness and impact of this new framework, as well as adjust if necessary.

Conclusion

This research proposes a novelty (novelty) in the form of a comprehensive regulatory solution, namely the "Two-Pillar Digital Executor Model". This model is designed as an application of the theory of "Law as a Tool of Social Engineering" (Roscoe Pound) which allows the OJK to make proactive interventions to create legal certainty. The model consists of two pillars that reinforce each other:

a. Pillar I: Regulatory Standardization. This pillar is realized through the issuance of a new OJK Regulation (POJK) that binds all Digital Financial Asset operators. The POJK will standardize inheritance claim procedures, establish a clear hierarchy of authority (inspired by RUFADAA in the US), define the scope of access to protect privacy, and provide legal protection (safe harbor) for compliant organizers.
b. Pillar II: Institutional Adaptation. This pillar proposes the establishment of a new certified and licensed fiduciary profession, namely the "Digital Executor", which is under the supervision of the OJK. This profession (which can be an additional certification for notaries or advocates) will have the legitimized legal authority to interact with the organizers, carry out the identification, safeguarding, and distribution of the deceased's Digital Financial Assets to the rightful heirs.

Suggestion

The synergy between these two pillars is designed to bridge the gap between juridical rights and technical capabilities, provide a secure and structured mechanism, and ensure that the civil rights of heirs over digital assets can be effectively executed within the framework of OJK supervision. It is recommended that the Financial Services Authority (OJK) adopt a five-year strategic roadmap to regulate the inheritance of Digital Financial Assets, with the following steps:

a. Year 1: Preparation of the Draft OJK Regulation establishes a task force (involving legal experts, industry, academics, and INI) to prepare an initial draft of the OJK Regulation (POJK).

b. Year 2: Public Consultation & Professional Development Conduct public consultation on the draft POJK. In parallel, OJK developed a curriculum, competency standards, and licensing framework for the new profession "Digital Executor".
c. Year 3: Initial Implementation & Pilot Program Validating and enforcing POJK. OJK launched the first batch of Digital Executor certification and initiated a pilot program with several major digital asset providers.
d. Years 4-5: Full Implementation & Evaluation Implement full regulations across industries, supported by a massive public education campaign. OJK conducts periodic evaluations to monitor effectiveness and adjust if necessary.

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