

**LEGAL PROTECTION FOR HEIRS OF DIGITAL ASSETS IN
INDONESIA'S SPECIAL INHERITANCE REGULATIONS**

Angelin Lonata A^{1*}, Yusuf Daeng², Silm Oktapani³
Lancang Kuning University, Pekanbaru, Indonesia^{1,2,3}

Abstract

The rapid development of information and communication technology has led to the emergence of various forms of digital assets with economic value, including social media accounts, cryptocurrency wallets, blockchain-based digital assets, digital banking accounts, and other electronic data. However, the inheritance of digital assets has not yet been specifically and comprehensively regulated within the Indonesian inheritance law system. This situation creates legal uncertainty for heirs in exercising their rights over the digital assets left by the deceased. This study aims to analyze the legal framework governing digital asset inheritance in Indonesia and to examine the forms of legal protection available to heirs regarding digital assets left by the predecessor. The research employs a normative legal research method using statutory, conceptual, and comparative approaches. Data were collected through library research involving legislation, legal literature, and other legal documents related to digital assets and inheritance law. The findings indicate that regulations concerning digital asset inheritance in Indonesia remain fragmented and have not provided adequate legal certainty for heirs. Legal protection for heirs of digital assets can be achieved through the recognition of digital assets as inheritable property, the establishment of specific regulations governing digital asset inheritance, and the provision of clear mechanisms for access and transfer of rights to heirs. Therefore, reform of inheritance law that is responsive to technological developments is necessary to ensure legal certainty, justice, and legal protection for heirs of digital assets in Indonesia.

Keywords: Legal Protection, Heirs, Digital Assets, Inheritance Law

INTRODUCTION

The development of information and communication technology in the digital era has brought fundamental changes to people's lifestyles, including the forms of wealth or property owned by individuals. While previously, assets were dominated by physical movable and immovable objects such as land, vehicles, deposits, cash, jewelry, and conventional shares, the modern era has seen the emergence of digital assets that have economic value and can be inherited. The presence of digital assets as part of the development of the digital economy has given rise to new legal consequences, particularly regarding ownership, control, transfer of rights, and inheritance after the owner's death.(Meliala, 2018). In practice, Indonesians increasingly own digital financial accounts, e-wallets, crypto assets, online business accounts, social media accounts with economic value, cloud storage, digital works, and even monetized accounts, all of which can be categorized as digital assets because they have economic benefits and personal interests for their owners. However, this development has not been accompanied by national inheritance law regulations that specifically provide legal protection for heirs of digital assets, thus potentially creating a legal vacuum (*rechtsvacuum*) in inheritance practices in Indonesia (Ramli, 2010).

Inheritance law in Indonesia is still based on a system of legal pluralism derived from customary inheritance law, Islamic inheritance law, and civil inheritance law codified in the Civil Code (KUHPerdata). Regulations regarding inheritance in the Civil Code are contained in Book II concerning Property, specifically Article 830 of the Civil Code, which states that inheritance only occurs due to death. This provision indicates that inheritance is a legal event that occurs when a person dies, so that their rights and obligations related to assets are transferred to the heirs. Furthermore, Article 833 paragraph (1) of the Civil Code stipulates that all heirs automatically, by law, acquire ownership rights to all goods, all rights, and all receivables of the deceased. The phrase "all goods and all rights" can theoretically be interpreted to include digital-based assets, but the problem lies in the absence of explicit norms governing access, verification, or mechanisms for the takeover of digital assets by heirs, thus giving rise to legal uncertainty in its implementation.(Muhibbin & Wahid, 2011).

From a property law perspective, digital assets raise conceptual issues regarding their legal status, whether they constitute tangible movable property, intangible property, certain property rights, or contractual rights based on electronic services. Article 499 of the Civil Code stipulates that, according to the law, property is every item and every right that can be controlled by ownership. This formulation opens up room for interpretation that anything with economic value and can be controlled falls into the category of property. Thus, digital assets with economic value, such as crypto assets, marketplace accounts, digital wallet balances, social media monetization rights, non-fungible tokens (NFTs), and e-business accounts, have the potential to be positioned as property objects under civil law. However, normative recognition of the existence of digital assets as objects of inheritance has not been expressly regulated, raising issues of legal protection for heirs when access to these accounts or assets is blocked by digital service providers or is constrained by the privacy policies of technology companies.

Legal protection for heirs is, in principle, part of the legal objective of realizing certainty, justice, and utility. According to Gustav Radbruch's (1950) theory of legal objectives, the law must be able to accommodate three fundamental values: legal certainty (*rechtssicherheit*), justice (*gerechtigkei*t), and utility (*zweckmassigkeit*). In the context of digital asset inheritance, these three values have not been optimally fulfilled because the absence of specific regulations means that heirs do not have a clear legal mechanism for making claims, verifying ownership, or controlling the digital assets belonging to the heir.(Nuril & Rahmat, 2024). As a result, heirs often face obstacles such as lost password access, dual authentication systems, account transfer restrictions based on digital service

terms, and a lack of formal legitimacy to obtain the heir's electronic data. This situation reflects a mismatch between technological developments and national regulations that should guarantee legal protection for the public.

Protection of electronic data and transactions has actually been regulated through Law Number 11 of 2008 concerning Electronic Information and Transactions as amended by Law Number 1 of 2024 concerning the Second Amendment to the ITE Law. Article 1 number 1 of the ITE Law states that Electronic Information is one or a collection of electronic data, including but not limited to writing, sound, images, maps, designs, photographs, electronic data interchange (EDI), electronic mail, telegrams, telex, telecopy or the like, letters, signs, numbers, access codes, symbols or perforations that have been processed that have meaning or can be understood by a person who is able to understand them. This provision shows that Indonesian law has recognized the existence of electronic information as a legal object, but has not provided specific rules regarding its status in inheritance. In fact, the protection of personal data and the confidentiality of digital accounts often becomes an obstacle for heirs to gain access to the inheritance's assets due to restrictions by digital providers. (Kartika, 2025).

The enactment of Law Number 27 of 2022 concerning Personal Data Protection also introduces new dynamics in the inheritance of digital assets. Article 1, number 1 of the Personal Data Protection Law stipulates that personal data is data about an individual that is identified or identifiable individually or in combination with other information, either directly or indirectly, through electronic or non-electronic systems. While this regulation protects individual privacy, it can also create issues when heirs require access to their digital accounts related to economic rights or proof of asset ownership. Therefore, harmonization of personal data protection with inheritance interests is necessary to avoid conflicts between the testator's right to privacy and the heir's rights to the assets left behind.

The digital asset phenomenon also raises issues regarding the legal certainty of proof. In civil procedure, proving ownership of an object is usually done through physical documents, certificates, or written evidence. (Nawal, 2016). However, for digital assets, proof of ownership can include account access, private keys, authentication codes, electronic transaction history, or control of a digital wallet. This creates problems when heirs do not have access to this information, so that assets that should legally be inherited are lost or cannot be used. This situation contradicts the principle of protecting property rights, which is the substance of inheritance law, because essentially all economic rights of the heir must be transferred to the heirs in accordance with applicable legal mechanisms (Mertokusumo, 2013).

According to JP Morgan, digital assets include any form of value that is represented digitally and can be transferred, stored, or traded electronically. A digital asset is anything digital that has value, represents ownership, and can be found. Digital assets include photographs, manuscripts, documents, data, cryptocurrencies, and much more (Digital Asset, 2026).

Digital rupiah and digital money may seem similar at first glance, as both are currencies stored electronically. However, Bank Indonesia (BI) states that there is a difference between digital rupiah and digital money. Digital rupiah is a digital currency whose circulation and issuance are controlled by the central bank, known as Central Bank Digital Currency (CBDC), and is used as legal tender as a digital representation of a country's currency. Meanwhile, digital money or electronic money (e-money) can be understood as a payment instrument that requires users to deposit funds with the issuer, which is then stored electronically before being used for transactions. Simply put, digital rupiah issuance is carried out by BI as the monetary authority, while electronic money can be issued by non-banking institutions or the private sector (The Difference Between Digital Rupiah and Electronic Money | Indonesia Baik, 2026).

Indonesia has been aware of the presence of fintech since 2006, but at that time, fintech users were not as large as they are today, and the majority of accounts were held under company names. Over time, fintech felt the need for a secure environment for users, leading to the formation of the Indonesian Fintech Association (AFI) in 2015, with the aim of providing suitable business partners to develop an optimal fintech ecosystem in Indonesia. The presence of the fintech industry, which has brought positive changes to Indonesia, has attracted the attention of Bank Indonesia (BI), which has actively supported and developed regulations. The growing fintech industry has provided broader opportunities for public transactions. Transactions are not limited to within a single country but also encompass international transactions. A phenomenon occurring in society resulting from the combination of globalization, the internet, and fintech advancements is the emergence of digital currencies for investment and payment purposes, called cryptocurrencies, or encrypted currencies. Cryptocurrency is a formless, non-physical representation of digital money, whose primary purpose is to serve as a means of exchange, and therefore can also be called a digital asset (Mustika & Dewi, 2024). This currency also has several types, but the first cryptocurrency issued was Bitcoin (BTC) in 2009. After Bitcoin, other types of cryptocurrencies emerged, such as Ethereum (ETH), which are considered offshoots of the first cryptocurrency, with similarities and considered sub-products. The use of this currency is based on trust in transactions because the role of government is removed from these transactions, and the government cannot issue cryptocurrency; it is controlled by a virtual digital ledger (Blockchain).

Blockchain technology is the basis for Bitcoin, a technology that not only underpins all cryptocurrencies but is also widespread in the fintech industry (Sullivan & Di Pierro, 2026). Cryptocurrency is also the reason Bank Indonesia issued the digital rupiah currency, or CBDC, due to the rise in crypto assets used for financial efficiency in the technological era. Cryptocurrencies also have a disparity in value when compared to the rupiah. According to CoinGecko.com, which displays a comparison of crypto and rupiah values, the last value, dated September 26, 2024, was Rp. 1,000,000.00, equivalent to 0.0001 Bitcoin. This value will fluctuate continuously following the crypto market graph, allowing users to consider crypto as an investment or digital asset.

The continued growth of digital assets will undoubtedly impact their growing user base. However, as ownership of these digital assets increases, legal regulations regarding the inheritance of digital assets remain very limited, particularly in Indonesia (Utari, 2025). In the Civil Code, physical assets such as property (houses, land) are considered immovable objects regulated in Article 500, while cash is clearly defined as movable objects in Article 502. However, regulations regarding the inheritance of digital assets in the Civil Code do not directly refer to immovable objects but are accommodated through regulations regarding property rights and the transfer of rights through deeds. One fundamental problem in the inheritance of digital assets is the lack of legal understanding regarding the form and nature of these assets.

According to Y. Ginting (2023) in the journal 'Socialization of Evidence in Inheritance Law Cases According to the Civil Code', proving ownership of physical assets in the context of inheritance law already has a strong foundation in Indonesia. However, when it comes to digital assets, such as cryptocurrencies encrypted with private keys, new challenges arise regarding how to prove ownership and transfer rights to these assets to heirs. Without the private key, known only to the asset owner, the crypto cannot be accessed by anyone, including the heirs. This key is important for crypto owners because it reduces the possibility of the asset being stolen. However, this situation can also result in the loss of digital assets as inheritance assets forever due to the lack of documentation or clear inheritance arrangements. The crypto system itself also strictly protects the owner's personal data until their death.

Therefore, if the owner of a digital asset does not leave a will regarding the asset's private key, no one will be able to access the crypto fintech account.

Social and technological factors also influence the inheritance of digital assets. Many people don't yet realize the importance of documenting their digital assets in a will or inheritance agreement. Digital assets are often considered less valuable than physical assets, yet with the increasing value of the crypto market, these assets have significant economic value and need to be legally regulated. Furthermore, the large number of crypto investors is dominated by young people aged 20-30. The Commodity Futures Trading Regulatory Agency (Bappebti) recorded 18.25 million registered crypto asset consumers as of November 2023. Therefore, it is crucial for relevant authorities and the government to educate the public about the importance of planning for the inheritance of digital assets, as well as provide clearer and more easily implemented regulations. Documents created and stored digitally that have legal or administrative value. Examples: electronic certificates, electronic contracts, and digital archives (Nuril & Rahmat, 2024).

In the legal context in Indonesia, digital assets are generally understood as objects that have economic value and can be part of ownership, transactions, or inheritance, as long as they are recognized and do not conflict with the provisions of applicable laws and regulations.

In terms of regulation, inheritance in Indonesia is currently regulated by Book II of the Civil Code, Chapter Four on Inheritance, starting with Articles 830 and 1130. However, this law still does not cover technological developments that allow individuals to own assets in digital form (Heriyanto & Wicaksono, 2024). Law Number 1 of 2024 concerning the second amendment to Law Number 11 of 2008 concerning Electronic Information and Transactions (ITE Law) only regulates data security and electronic transactions in general. Similarly, Regulation of the Commodity Futures Trading Regulatory Agency (Bappebti) Number 9 of 2024 concerning the third amendment to Regulation of the Commodity Futures Trading Regulatory Agency (Bappebti) Number 8 of 2021 concerning Guidelines for the Implementation of Physical Crypto Asset Market Trading (Crypto Assets) on Futures Exchanges only addresses how to regulate crypto trading. Therefore, there is a legal loophole regarding crypto inheritance, which is not specifically regulated even though it is a digital or electronic product equated with intangible movable property. An additional barrier for financial institutions is that the regulatory landscape governing digital assets remains evolving, unclear, and inconsistent across jurisdictions. The growing adoption of digital assets presents a range of legal and regulatory considerations. As these assets become increasingly integrated, regulatory bodies must determine the classification of various types of digital assets, whether they are currencies, commodities, securities, entirely new asset classes, or simply record-keeping devices (JP Morgan Solutions, 2026).

Theoretically, Philipus M. Hadjon's (2011) theory of legal protection explains that legal protection is an effort to protect the rights of legal subjects to prevent arbitrary actions or uncertainty in the implementation of those rights. Legal protection can be preventive or repressive. In the context of digital asset inheritance, preventive protection can be realized through the establishment of special inheritance regulations that explicitly regulate the types of digital assets, data collection mechanisms, the appointment of digital heirs, and the procedures for transferring rights. Meanwhile, repressive protection is realized through dispute resolution mechanisms in the event of a conflict of control or denial of access by digital service providers. Thus, the establishment of special inheritance regulations for digital assets is a legal urgency that not only addresses the needs of the community but also strengthens the national legal protection system.

Polda Metro Jaya has uncovered a case of a perpetrator who created fake social media accounts and websites that resembled official platforms. Indodax Victims were lured into

depositing funds with promises of large returns from crypto investments. Losses reached hundreds of millions of rupiah (Anuri, 2024).

Furthermore, in 2025, the issue of digital asset inheritance became a national concern when three students from Jenderal Achmad Yani University in Yogyakarta filed a petition to the Constitutional Court to review the Electronic Information and Transactions Law through Case Number 51/PUU-XXIII/2025. The petitioners argued that the lack of specific regulations regarding digital assets created legal uncertainty regarding the ownership and inheritance of digital assets. They requested that digital assets such as cryptocurrencies, digital tokens, and various other forms of digital property be recognized as part of electronic information that can be inherited. Although the Constitutional Court ultimately rejected the petition, the Court acknowledged that the issue of digital asset inheritance is a real problem and that lawmakers have the authority to specifically regulate it. This case demonstrates that the need for regulation of digital asset inheritance has become a constitutional issue in Indonesia.

Similar issues are also frequently encountered in everyday practice. As reported by *Hukumonline* in 2026, legal experts assessed a gap in norms regarding the inheritance of digital assets. While the law recognizes the transfer of rights from the testator to the heir, technological systems do not provide a mechanism for the heir to gain access to the account or digital asset. In other words, legal recognition is not always accompanied by the technical ability to control the inherited object. As a result, legitimate heirs can lose their economic rights simply because they do not know the testator's password or authentication system.

In various seminars and webinars on digital assets in Indonesia, the issue of loss of access to crypto assets due to the death of the owner is frequently raised by legal practitioners and the digital community. In fact, during the 2025 Constitutional Court hearing, petitioners stated that the public frequently questioned why Indonesia lacks specific regulations regarding digital assets and their inheritance mechanisms. This situation demonstrates that the need for regulation stems not only from academics but also from the public, who are beginning to realize that their wealth has been transformed into digital form.

In addition to the case in Indonesia, several developed countries have already faced similar challenges and established legal protection mechanisms for heirs to digital assets. In the United States, one of the most famous cases is that of the family of Marine Justin Ellsworth. After Justin Ellsworth died in 2004 while serving in Iraq, his family requested access to his Yahoo email account, which contained photos, letters, and various important documents as family keepsakes. Yahoo initially refused access, citing privacy concerns and the company's terms of service. The dispute was later resolved in court, and the court ordered Yahoo to provide a copy of the data to the deceased's family. This case became one of the triggers for the development of digital inheritance regulations in the United States. Subsequently, the United States passed the Revised Uniform Fiduciary Access to Digital Assets Act (RUFADAA), which provides a legal basis for executors and heirs to gain access to the testator's digital assets.

Another well-known case in the United States is that of a crypto investor who died without leaving behind any private key information. According to a 2020 report by the Cremation Institute, approximately 90% of crypto investors are concerned about the fate of their assets after death, while most have not yet established a digital inheritance mechanism. Many assets are ultimately lost permanently because they are inaccessible to their families. This situation has spurred the development of the concept of crypto inheritance planning in the United States.

In Germany, the issue of digital heritage reached the Federal Court of Justice (*Bundesgerichtshof*) in a high-profile case in 2018. The case began when a 15-year-old girl died after being hit by a subway train in Berlin. Her parents wanted access to their daughter's

Facebook account to determine whether the death was an accident or suicide. However, Facebook refused to grant access, citing privacy and data protection concerns.

The case was then appealed to the courts, and the German Federal Court ultimately ruled that the Facebook account constituted an inheritance, passing it on to heirs like letters or other personal records. Therefore, the parents, as heirs, had the right to access the account. This ruling affirmed that a person's digital rights after death are part of inheritance rights that must be protected by the state.

The development of digital technology has given rise to various forms of digital assets with high economic value, such as cryptocurrencies, assets in digital wallets, digital investment accounts, and assets held in cold storage. Legal issues arise when the owner of a digital asset dies, as access to these assets generally depends on possession of a private key, password, or other authentication mechanism known only to the owner.

One form of digital asset is digital investments, such as crypto assets, electronic investment accounts, digitally managed stocks, electronic mutual funds, and various other forms of digital wealth. The existence of these digital assets raises legal issues upon the owner's death, as the Indonesian inheritance law system is fundamentally based on the concept of conventional property and therefore does not specifically regulate the inheritance mechanism for digital assets.

Thus, the development of digital investment as part of Indonesian society's wealth has given rise to a new need for legal protection for heirs. Indonesia's inheritance law system, which still focuses on conventional assets, fails to provide legal certainty regarding the transfer of digital assets after the owner's death. Consequently, heirs' rights are potentially unprotected, and assets of economic value can even be lost due to the lack of legal mechanisms governing access to and transfer of these assets.

In practice, many digital assets become inaccessible and ultimately lost permanently because heirs lack the necessary information to access them. This situation creates a legal vacuum regarding the inheritance mechanism for digital assets, the protection of heirs' rights, and the obligations of digital service providers to assist in the transfer of ownership of assets left by heirs.

Therefore, legal regulations are needed that specifically govern the inheritance of digital assets, including asset identification mechanisms, procedures for proving heir status, procedures for transferring access, and protection of data security and ownership of digital assets. These regulations are expected to provide legal certainty, legal protection for heirs, and prevent the loss of digital assets with economic value as part of inherited assets.

The main legal problem in the inheritance of digital assets in Indonesia lies in the absence of normative regulations specifically governing the legal status, transfer mechanisms, proof of ownership, and legal protection for heirs of the testator's digital assets. Technological developments have given rise to various forms of digital wealth, including e-wallet accounts, crypto assets, social media monetization accounts, cloud storage, marketplace accounts, and digital-based economic rights with tangible economic value. However, the Indonesian inheritance law system is still built on a conventional property paradigm that is more oriented towards physical objects and traditional property rights. As a result, a legal vacuum has emerged regarding whether digital assets can be categorized as objects of inheritance, the inheritance procedure, who is authorized to grant access to the heirs, and how to prove rights to these assets upon the owner's death.

RESEARCH METHODS

This research is a normative legal study focusing on the positive legal norms governing inheritance law and digital assets in Indonesia. It aims to analyze legal protection for heirs of digital assets and identify legal gaps in its regulation.

The approaches used include: a statutory approach by examining various regulations related to inheritance law and digital assets, a conceptual approach to examine the concept of digital assets, inheritance rights, and legal protection, and an analytical approach to assess the suitability of existing regulations with the legal needs of the digital society.

The research data sources are secondary data consisting of primary legal materials, secondary legal materials, and tertiary legal materials. Primary legal materials include the Civil Code (KUHPperdata), Law Number 1 of 2024 concerning Electronic Information and Transactions, Law Number 27 of 2022 concerning Personal Data Protection, Government Regulation Number 71 of 2019 concerning the Implementation of Electronic Systems and Transactions, and the Compilation of Islamic Law. Secondary legal materials are obtained from books, journals, research results, and relevant legal doctrines, while tertiary legal materials include legal dictionaries and other supporting sources.

Data collection was conducted through library research, reviewing laws and regulations, legal literature, scientific journals, and documents related to digital asset inheritance. Data analysis was conducted qualitatively and normatively through interpretation and legal reasoning of the obtained legal materials to find solutions to the legal problems studied. Conclusions were drawn using a deductive method, namely drawing conclusions from general legal provisions to specific issues regarding the legal protection of heirs of digital assets in the Indonesian legal system.

RESULT AND DISCUSSION

A. Legal Protection Arrangements for Heirs of Digital Assets in the Current Indonesian Legal System

The development of information technology has given rise to new forms of wealth that are no longer physical but exist in digital form, such as crypto assets, digital wallets (e-wallets), social media accounts with economic value, website domains, digital copyrights, marketplace accounts, NFTs (Non-Fungible Tokens), cloud storage, electronic payment accounts, and various forms of data with commercial value. These changes in the structure of wealth automatically affect inheritance law, as inherited objects are no longer limited to land, buildings, vehicles, or tangible movable objects, but have evolved into digital assets whose control depends on electronic identities, passwords, private keys, and layered authentication.

Theoretically, legal protection for heirs of digital assets stems from the concept of property rights (*zakelijk recht*), which places all objects with economic value as legal objects. According to Pitlo, inheritance law is essentially a set of norms governing the transfer of all rights and obligations of a person after death to their heirs (Pitlo, 1986). This concept demonstrates that there is no restriction that the object of inheritance must be a tangible object, as long as it has economic value and can be transferred to another party.

From the perspective of property law, Subekti explains that property is anything that can become an object of ownership (Subekti, 2005). This view is in line with Article 499 of the Civil Code, which states that according to the law, what is called property is every item and every right that can be controlled by ownership rights.

Article 499 of the Civil Code states that even intangible rights can be categorized as objects as long as they have economic value and can be controlled. Therefore, digital assets essentially fulfill the criteria for intangible objects (immaterial property), and therefore conceptually can be included in the testator's estate.

Article 503 of the Civil Code distinguishes between tangible and intangible objects. Meanwhile, Article 504 of the Civil Code divides objects into movable and immovable objects. Based on this construction, digital assets can be classified as intangible movable objects because they do not exist in physical form but have economic value and can be transferred to another party.

According to Salim HS (2019), the main characteristics of an object as a legal object are that it can be controlled, has economic value, and can be transferred. Digital assets such as Bitcoin, NFTs, e-wallet balances, and YouTube monetization accounts fulfill all three of these elements. Therefore, doctrinally, digital assets are part of inheritable property.

Inheritance regulations in Indonesian law are still based on the Civil Code. Article 830 of the Civil Code stipulates that inheritance only occurs due to death. This provision indicates that a person's death is a legal event that gives rise to the transfer of rights and obligations to the heirs. Furthermore, Article 833 paragraph (1) of the Civil Code states that the heirs automatically, by law, acquire ownership rights to all goods, all rights, and all debts of the deceased.

The phrase "all goods and all rights" indicates the principle of *saisine*, which states that upon the death of the testator, all assets automatically pass to the heirs without the need for additional legal action. In a modern context, this phrase can be interpreted to include digital assets, as there is no restriction that only tangible objects can be inherited.

This opinion is supported by J. Satrio (1992), who stated that the principle of *saisine* grants heirs the status of successors to all legal relations, including their rights and obligations. Thus, the rights to digital assets owned by the heirs are, in principle, also transferred to the heirs.

However, problems arise because the Indonesian legal system lacks specific provisions regarding the control and transfer of these digital assets. The Civil Code does regulate the transfer of inheritance rights, but it does not address access to passwords, private keys, authentication codes, or the testator's digital identity. Consequently, even though legal ownership has been transferred to the heirs, the heirs often lack actual access to these assets.

This issue is closely related to Law Number 27 of 2022 concerning Personal Data Protection. Article 1, number 1 of the Personal Data Protection Law defines personal data as data about an identified or identifiable individual, either individually or in combination with other information.

Furthermore, Article 4 paragraph (1) of the PDP Law divides personal data into specific and general personal data. Passwords, email addresses, biometric authentication, and electronic identities are part of the personal data that is protected by law.

The problem is, after the account owner passes away, access to that personal data becomes a separate issue. The PDP Law does provide protection for personal data, but it doesn't explicitly regulate the rights of heirs to gain access to the decedent's digital accounts. This regulatory gap creates a conflict between privacy protection and the heirs' rights to the decedent's assets.

According to Lawrence M. Friedman (1975), law consists of legal structure, legal substance, and legal culture. In the context of digital heritage, the substance of Indonesian law has not evolved to keep pace with changes in digital society, resulting in a legal gap between technological developments and available regulations.

In addition to the Civil Code, the existence of digital assets is also recognized in Law Number 1 of 2024 concerning the Second Amendment to the ITE Law. Article 1 number 4 states that electronic documents are any electronic information created, forwarded, sent, received, or stored in analog or digital form. Article 5 paragraph (1) of the ITE Law stipulates that electronic information and electronic documents constitute valid legal evidence. Thus, the existence of digital data and its ownership are legally recognized. However, the ITE Law places more emphasis on the aspect of electronic evidence than on regulating the inheritance of digital assets. Therefore, the existence of the ITE Law does not yet provide comprehensive protection for heirs.

The same problem also occurs with crypto assets. Based on Bappebti Regulation Number 8 of 2021, crypto assets are recognized as tradable commodities on the Futures

Exchange. This recognition indicates that crypto assets have economic value and are objects of property rights. According to Oemar Moechthar (2019), all assets with economic value and can be transferred are part of an inheritance. Therefore, Bitcoin and other crypto assets can be objects of inheritance.

The main issue lies not in recognizing ownership, but in the mechanism for controlling the private key. Blockchain is decentralized, meaning no third party can gain access if the private key is lost. In such a situation, the heirs legally become the owners, but technically lose the ability to control the asset.

A famous case occurred in 2018 with Gerald Cotten, the founder of QuadrigaCX in Canada. Cotten was the only person with knowledge of the company's private wallet keys, leaving investors with approximately \$190 million in crypto assets inaccessible. This case demonstrates how ownership rights without technical access can lose practical meaning (Carata & Chelaru, 2024).

Another issue relates to social media accounts. Platforms like Facebook offer a Legacy Contact feature that allows users to designate a specific party to manage an account after the owner passes away. Meanwhile, Google offers an Inactive Account Manager feature to determine who has access to user data. In contrast, Indonesia does not yet have regulations requiring digital platforms to grant access to heirs. The relationship between users and platforms is based more on the Terms of Service, which is a standard agreement.

According to Philipus M. Hadjon's legal protection theory, legal protection is divided into preventive and repressive protection (1987). Preventive protection aims to prevent disputes before they occur, while repressive protection aims to resolve disputes that have already arisen.

In the context of digital heritage, preventive protection can be realized through the regulation of digital wills, registration of digital assets, and recognition of heirs' access rights. Meanwhile, repressive protection is realized through dispute resolution in court if access is denied by the electronic system organizer. The aspect of protecting heirs' rights can also be linked to Article 28G paragraph (1) of the 1945 Constitution, which states that everyone has the right to protection of themselves, their families, their honor, their dignity, and the property under their control. This article provides constitutional guarantees for property rights, including the right to digital property. Therefore, the state is obliged to provide legal instruments that guarantee that heirs' rights to digital assets can be protected.

In Hans Kelsen's (1961) theory of legal certainty, the law must provide predictability and certainty for society. Ambiguity regarding digital inheritance creates uncertainty for heirs and has the potential to give rise to disputes. This issue has become a constitutional issue through a petition for judicial review of the ITE Law, which requested regulations regarding the inheritance of digital assets. In its deliberations, the Constitutional Court stated that provisions regarding inheritance are actually regulated in the Civil Code and the Compilation of Islamic Law, so there is no constitutional issue with the ITE Law. However, the Court also acknowledged that the ITE Law does not specifically regulate the inheritance of digital assets. The Court's view indicates that, normatively, the inheritance of digital assets is considered subject to general inheritance law. However, in practice, there remains a gap in regulations regarding access mechanisms and their implementation.

According to Satjipto Rahardjo (2009), law must adapt to societal developments and not be left behind by social change. Laws that rely solely on normative texts will lose their social function when faced with new phenomena such as digital assets. From a progressive legal perspective, protecting heirs is not sufficient to rely solely on Articles 830 and 833 of the Civil Code. The state needs to develop new regulations that bridge the gap between inheritance law, personal data protection, electronic transactions, and blockchain technology.

A similar opinion was expressed by Roscoe Pound (1954) through his theory of law as

a tool of social engineering. According to Pound, law should function as a social engineering tool to balance the interests of individuals, society, and the state. In the context of digital inheritance, there are three interests that must be balanced: the testator's right to privacy, the heir's economic rights, and the interests of the electronic system administrator.

The theory of legal certainty is a fundamental theory in legal science that positions law as an instrument that must provide clarity, predictability, and guarantees regarding the rights and obligations of every legal subject. According to Gustav Radbruch (1950), the purpose of law consists of three elements that must work harmoniously: justice (*gerechtigheit*), utility (*zweckmäßigkeit*), and legal certainty (*rechtssicherheit*). In practice, legal certainty has a very important function because it provides assurance that a right will receive protection based on clear and predictable norms.

The issue of legal protection for heirs of digital assets is fundamentally a matter of the lack of legal certainty in the Indonesian legal system. Advances in information technology have given rise to various forms of digital assets, such as income-generating social media accounts, e-wallets, crypto assets, non-fungible tokens (NFTs), internet domains, cloud storage, marketplace accounts, and economic rights to digital content. However, these developments have not been accompanied by the establishment of legislation specifically governing the inheritance mechanism for digital assets. Consequently, a legal vacuum (*rechtsvacuum*) has emerged, leading to uncertainty regarding the legal status of digital assets, the rights of heirs, and the procedures for their transfer after the owner's death.

In Hans Kelsen's (1967) perspective, legal certainty can only be achieved if legal norms are systematically arranged in a hierarchy of norms (*stufenbau theory*). Each norm derives its validity from a higher norm, thus forming a structured and non-conflicting legal system. In the context of digital asset inheritance, the absence of norms that specifically regulate digital assets results in the absence of a clear legal basis for heirs to obtain rights to the digital assets belonging to the testator. Although Article 830 of the Civil Code states that inheritance occurs due to death and Article 833 paragraph (1) of the Civil Code stipulates that heirs automatically obtain all the rights of the testator, these provisions are still general in nature and do not accommodate the specific characteristics of digital assets.

Legal certainty demands regulations that explicitly define digital assets as objects of inheritance. Article 499 of the Civil Code, which states that property is every object and every right that can be controlled by ownership, actually allows digital assets to be categorized as intangible property. However, this norm does not provide clarity regarding the forms of digital assets that can be inherited or the mechanisms for accessing them. This has led to various differing interpretations, thus reducing legal certainty for heirs.

According to Lon L. Fuller (1969), a good legal system must fulfill eight principles of legality (*inner morality of law*): clear, non-contradictory, understandable, unchanging, and enforceable rules. When related to the current regulation of digital assets in Indonesia, it is clear that the legal system does not yet fulfill these principles. The absence of specific regulations regarding the inheritance of digital assets leaves law enforcement officials and the public without clear guidelines for resolving issues arising from the death of a digital asset owner.

The issue of legal certainty becomes even more complex when faced with the existence of international digital platforms. Most social media accounts, digital storage services, and crypto assets are controlled by electronic system providers based outside Indonesia. The relationship between users and platform providers is based on electronic agreements (*terms of service agreements*). In many cases, these agreements prohibit the transfer of accounts to other parties, including heirs. This situation creates a conflict between national inheritance law, which adheres to the principle of *saisine beginsel*, and contractual provisions unilaterally established by digital service providers.

This issue demonstrates that Indonesia's current legal system is unable to provide legal certainty for heirs. Based on the theory of legal certainty, this situation requires the state to establish specific regulations that guarantee the recognition of digital assets as part of an inheritance, regulate the transfer mechanism, define the obligations of electronic system administrators, and provide clear procedures for heirs to gain access to their digital assets.

The urgency of establishing specific regulations can also be explained through Hans Nawiasky's (1948) theory regarding the structure of legal norms. According to Nawiasky, the legal system must be structured in a hierarchical and interconnected manner to avoid a legal vacuum. The absence of specific regulations regarding digital assets has created a legal vacuum that has the potential to lead to uncertainty, legal conflicts, and losses for heirs. Therefore, the establishment of a Digital Asset Inheritance Law is an urgent need to create legal certainty within the national legal system.

The ideal regulatory concept, from the perspective of legal certainty theory, should include a definition of digital assets, a classification of digital assets, an inventory mechanism, the regulation of digital wills, the appointment of a digital executor, the transfer of account access, the protection of the testator's personal data, and a dispute resolution mechanism. Thus, the law no longer allows for differing interpretations but instead provides clarity regarding the rights and obligations of each party.

The theory of legal certainty asserts that protection for heirs of digital assets can only be achieved if there are clear, comprehensive regulations that keep pace with developments in the digital society. Without specific regulations, heirs' rights will remain uncertain, thus preventing the legal goal of realizing legal certainty.

Currently, legal protection for heirs of digital assets remains partial, scattered across various regulations, such as the Civil Code, the Electronic Information and Transactions Law (ITE Law), the Personal Data Protection Law, the CoFTRA (Bappebti) regulations on crypto assets, and the contractual provisions of individual digital platforms. There is no single regulation that comprehensively defines digital assets, classifies digital inheritance, transfer procedures, account access mechanisms, recognizes digital wills, obligates electronic system administrators, and protects the privacy of heirs.

In theory, the existence of heirs as successors to all the rights and obligations of the testator is legitimated by the principle of *saisine*, as stipulated in Article 833 of the Civil Code. Therefore, the legal rights to digital assets are transferred to the heirs upon the testator's death. The problem that remains a weakness in the Indonesian legal system lies not in the recognition of these rights, but rather in the lack of an operational mechanism to guarantee their effective implementation.

B. The Urgency of Establishing Special Inheritance Regulations for Digital Assets to Guarantee Legal Protection for Heirs in Indonesia

The transformation of society toward a digital society has given rise to new forms of wealth unknown at the time of the establishment of Indonesia's inheritance law system. While in the past inheritance was synonymous with land, houses, vehicles, gold, and receivables, in the digital economy era, various types of assets have developed, including social media accounts with economic value, digital wallets, cryptocurrencies, non-fungible tokens (NFTs), gaming accounts, digital content rights, monetization channels, cloud storage, and even digital data with commercial value. This phenomenon demonstrates that the concept of wealth has shifted from tangible property to intangible property. This change has not been accompanied by a balanced development in national inheritance law, resulting in a legal vacuum regarding how digital assets are inherited.

Conceptually, Indonesian inheritance law is based on the principle of *saisine beginsel*, which states that upon a person's death, all rights and obligations are transferred to the heirs.

This principle is reflected in Article 830 of the Civil Code, which states that inheritance only occurs upon death. Furthermore, Article 833 paragraph (1) of the Civil Code stipulates that the heirs automatically acquire ownership rights over all the assets, rights, and receivables of the testator. The phrase "all assets, rights, and receivables" indicates that, in essence, all of the testator's assets are automatically transferred to the heirs. However, this definition is still based on the conventional wealth paradigm and therefore does not accommodate the existence of digital assets, which have characteristics that differ from objects in general.

According to Friedrich Carl von Savigny (1831), law must evolve in line with society's legal consciousness (*volksgeist*). Law that fails to keep pace with societal developments will lose its relevance and fail to fulfill its social function. The development of digital technology has transformed human life patterns, requiring inheritance law to adapt to this new reality. Savigny's (1831) opinion aligns with Eugen Ehrlich's Living Law theory, which asserts that laws living within society often develop more rapidly than written laws. In the context of digital assets, society has recognized their existence as assets with economic value, while Indonesian positive law still does not provide a clear inheritance mechanism.

The urgency of establishing specific regulations for the inheritance of digital assets is primarily related to the need for legal certainty. According to Gustav Radbruch (1950), one of the primary goals of law is legal certainty (*Rechtssicherheit*), in addition to justice and expediency. Legal certainty requires clear norms so that the rights and obligations of the parties can be clearly identified. The absence of specific regulations regarding digital assets leaves heirs in an uncertain position, both regarding the legal status of digital assets and the mechanism for acquiring rights to them.

Article 499 of the Civil Code states that property is any item and any right that can be controlled by ownership. Furthermore, Article 503 of the Civil Code distinguishes between tangible and intangible property, while Article 504 of the Civil Code distinguishes between movable and immovable property. Based on this construction, digital assets can actually be qualified as movable intangible property. However, this normative recognition is not sufficient because the issue of inheritance of digital assets is not only related to status as an object, but also concerns access to passwords, dual authentication, private keys, and legal relationships with digital platform providers.

According to Jeremy Bentham (1907), the law should provide the greatest good for the greatest number. In this context, establishing specific regulations for the inheritance of digital assets would benefit society by protecting the economic rights of heirs and reducing the potential for disputes arising from the unclear legal status of digital assets.

The second urgency relates to the protection of property rights as a human right. Article 28H paragraph (4) of the 1945 Constitution of the Republic of Indonesia affirms that everyone has the right to own private property and that such property rights may not be arbitrarily taken over by anyone. Protection of these property rights also includes the rights of heirs to the inheritance of the testator. When someone owns digital assets of economic value and then dies, these economic rights should not be lost simply because there are no regulations governing the transfer mechanism.

John Locke's (1888) view on property rights theory explains that property rights are natural rights arising from a person's labor. Therefore, the fruits of one's labor in the form of digital assets, such as income-generating YouTube accounts, digital works, or crypto assets, must continue to receive legal protection after the owner's death. Without a clear inheritance mechanism, these economic rights could potentially be lost, violating the principle of property rights protection.

The third urgency relates to the increasing economic value of digital assets in society. Today, many individuals earn income from social media monetization, e-commerce, affiliate marketing, crypto assets, and NFTs. Some social media accounts even have significant

economic value. However, when an account owner dies, heirs often struggle to access the account due to platform security barriers. This situation renders digital assets unusable, even though they still possess significant economic value. This issue demonstrates that death should not be a reason for the loss of digital assets, which should legally be part of an inheritance (Pratasik, 2025).

The fourth urgency relates to the protection of heirs. According to Satjipto Rahardjo (2014), the law is essentially intended to protect humans and safeguard their interests. Progressive legal theory places humans at the center of the law (law for human beings), not the other way around. Therefore, when heirs experience difficulties gaining access to their digital assets, the law should provide protection through clear regulations.

This protection is crucial because most international digital platforms have varying Terms of Service regarding deceased user accounts. Some platforms only allow account closure, others provide limited access to family members, and still others prohibit the transfer of accounts to third parties. These disparate policies have the potential to create conflicts between national inheritance laws and the contractual provisions of digital service providers.

The fifth urgency relates to the principle of justice. According to Aristotle (2009), justice is giving everyone their due (*sum cuique tribuere*). Heirs who are legally entitled to the inheritance should also have rights to the digital assets owned by the heir. The absence of specific regulations has resulted in some heirs losing access to digital assets that are actually part of their rights. This situation contradicts distributive justice, which demands a proportional distribution of rights.

Roscoe Pound (1922), through his theory of social engineering, stated that law functions as a tool of social engineering. Law must adapt to societal changes and resolve emerging conflicts of interest. The existence of specific regulations regarding the inheritance of digital assets is a necessary form of social engineering to prevent technological developments from creating legal uncertainty and conflict in society.

The next urgent need is to prevent the loss of digital assets due to technical constraints. Unlike conventional assets, which can be physically controlled, digital assets require specific access in the form of passwords, two-factor authentication, and private keys. For crypto assets, losing a private key means permanently losing access to the asset. Consequently, although the heirs are legally entitled to the asset, they technically cannot control it. This situation demonstrates the urgent need for specific regulations to govern the recording mechanism, designate digital heirs, and ensure platform organizers' obligations to assist with the transfer of rights (Carata & Chelaru, 2024).

Another pressing issue relates to the development of personal data protection law. Law Number 27 of 2022 concerning Personal Data Protection provides protection for individuals' personal data. Article 1, number 1, defines personal data as data about an identified or identifiable natural person. However, the law does not explicitly regulate the relationship between personal data protection and the rights of heirs to access their digital data. This creates a conflict between the heir's right to privacy and the heir's economic rights. Therefore, regulations are needed that specifically balance these two interests.

From the perspective of Hans Kelsen's (1967) theory of legal certainty, legal norms must be structured hierarchically and clearly to be effectively implemented. The absence of specific regulations regarding the inheritance of digital assets creates a normative vacuum, resulting in uncertainty in practice. This can give rise to differing interpretations, opening the door to disputes.

The urgency of establishing specific regulations can also be seen from a comparative law perspective. Several countries have begun regulating the inheritance of digital assets. The United States adopted the Revised Uniform Fiduciary Access to Digital Assets Act (RUFADAA), which grants executors of wills the authority to access the testator's digital

assets. Germany, through a 2018 Bundesgerichtshof Decision, recognized that Facebook accounts can be inherited like conventional letters or diaries. The United Kingdom, through its Law Commission, also developed a new concept of digital assets as property. These developments demonstrate that modern inheritance law has moved toward recognizing digital assets as part of inheritable wealth.

Indonesia, as a country with a large number of internet users, cannot continue to rely on the general provisions of the Civil Code, drafted in the 19th century. Social changes resulting from the digital revolution demand the creation of specific, more adaptive regulations. According to Philippe Nonet and Philip Selznick (1978), responsive law is law that can meet the evolving needs of society. Therefore, the creation of regulations regarding the inheritance of digital assets represents a form of responsive law that is in keeping with current developments.

Utilitarianism is a theory developed by Jeremy Bentham and later refined by John Stuart Mill. According to Jeremy Bentham (1907), the law should provide the greatest happiness for the greatest number of people. The measure of a legal rule's success lies not only in its existence, but also in the benefits it generates for society.

In the context of legal protection for heirs of digital assets, utilitarianism theory holds that the law must provide optimal economic and social benefits for all stakeholders. In the modern era, digital assets are no longer simply a means of communication; they have become a form of wealth with significant economic value. Many individuals earn income through social media accounts, e-commerce, video monetization, affiliate marketing, and cryptocurrency investments. When a digital asset owner dies, these economic benefits should continue to be enjoyed by their heirs.

The lack of clear legal regulations renders various digital assets unusable. Consequently, the economic potential inherent in these assets is lost. From a utilitarian perspective, this situation contradicts the principle of utility because it causes harm to heirs and society in general. Therefore, establishing specific regulations regarding the inheritance of digital assets would provide greater benefits than maintaining the current legal vacuum.

John Stuart Mill (1863) explained that the purpose of law is to maximize human welfare (utility) by protecting individual rights. Therefore, the right of heirs to obtain economic benefits from their digital assets is part of the welfare that must be guaranteed by the state. The presence of specific regulations will provide benefits in the form of legal certainty, protection of the economic rights of heirs, and encourage the development of the national digital economy.

In addition to providing benefits to heirs, the creation of specific regulations also benefits electronic system administrators. Clear rules regarding the mechanism for transferring digital assets will facilitate digital platforms' compliance with legal obligations and reduce the potential for disputes with users. Thus, these regulations will create a balance of interests between heirs, the state, and digital industry players.

According to utilitarian theory, the ideal regulatory concept should be designed to maximize public benefits. Therefore, the creation of a Digital Asset Inheritance Law would be a means to create economic certainty, prevent the loss of digital wealth, and increase public trust in the national legal system.

Ideally, these regulations should include recognition of digital assets as objects of inheritance, procedures for inventorying digital assets, mechanisms for transferring access to heirs, protection of the heir's personal data, obligations of electronic system administrators to assist with the inheritance process, and resolution of disputes arising from the inheritance of digital assets. Thus, the law not only provides certainty but also ensures justice and benefits for society.

Ultimately, the urgency of establishing specific inheritance regulations for digital

assets is not only based on normative needs, but also on philosophical, sociological, and legal grounds. Philosophically, such regulations are necessary to achieve justice and protect property rights. Sociologically, the development of the digital society has given rise to new forms of wealth that require special regulation. Legally, the current legal vacuum creates uncertainty and has the potential to harm heirs. Therefore, establishing regulations for inheritance of digital assets is a necessity so that the Indonesian legal system can adapt to technological developments and provide optimal legal protection for heirs in the digital era.

C. The Concept of Special Inheritance Regulations That Are Ideal in Providing Certainty and Legal Protection for Heirs of Digital Assets in Indonesia

The development of information technology has brought about fundamental changes to the concept of wealth in modern society. While in the past, inheritance was understood only as tangible objects such as land, houses, vehicles, or other movable property, in the era of digital transformation, various new forms of wealth have emerged, existing in cyberspace. This wealth includes income-generating social media accounts, cloud storage, digital wallets, crypto assets, non-fungible tokens (NFTs), gaming accounts, economic rights to digital content, internet domains, and various digital data with both economic and personal value. The emergence of these new forms of wealth has transformed the paradigm of conventional inheritance law, necessitating the creation of specific regulations capable of addressing the various legal issues arising from the death of a digital asset owner

Philosophically, the ideal concept of digital asset inheritance regulation should be based on the objectives of law as stated by Gustav Radbruch (1950), namely that the law aims to realize justice (*gerechtigkeits*), legal certainty (*rechtssicherheit*), and benefit (*zweckmäßigkeit*). These three objectives must be balanced so that the law can provide protection for the rights of heirs without neglecting the interests of protecting personal data and the testator's right to privacy. The absence of specific regulations regarding digital asset inheritance in Indonesia has created a legal vacuum that results in uncertainty regarding the legal status of digital assets and the mechanism for their transfer to heirs. Therefore, the ideal regulatory concept must be able to integrate the dimensions of justice, certainty, and benefit within a comprehensive legal system

The concept of digital asset inheritance regulations must be fundamentally based on the development law theory put forward by Mochtar Kusumaatmadja. According to Mochtar Kusumaatmadja (2006), law functions not only as a tool of social control but also as a means of social engineering. The law must adapt to social changes resulting from technological and digital economic developments. Therefore, the creation of a specific law regarding digital asset inheritance represents a form of national legal reform aimed at adapting the inheritance legal system to the development of the digital society

From the perspective of Lawrence M. Friedman's (1975) legal system theory, legal effectiveness is determined by three elements: legal structure, legal substance, and legal culture. If the concept of regulating digital asset inheritance is to be developed ideally, these three elements must operate simultaneously. From a legal structure perspective, institutions and mechanisms are needed to guarantee the implementation of digital asset inheritance. From a legal substance perspective, clear norms are needed regarding the types of digital assets, transfer mechanisms, and protection for heirs. Meanwhile, from a legal culture perspective, public awareness is needed to conduct digital estate planning before death

The first concept that must be regulated specifically for digital asset inheritance is the legal recognition of digital assets as objects of inheritance. Currently, Article 499 of the Civil Code only states that property is every item and every right that can be controlled by ownership. Article 503 of the Civil Code distinguishes between tangible and intangible objects, while Article 504 distinguishes between movable and immovable objects. This

formulation is still very general and does not explicitly recognize digital assets as part of inheritance. Therefore, special legislation needs to provide a clear definition of digital assets as intangible movable property that has both economic and personal value.

Edina Harbinja (2024) argues that digital assets encompass not only personal data but also various forms of rights and interests within the digital environment that can be inherited by others after the owner's death. This opinion demonstrates that the concept of digital asset inheritance cannot be limited to merely economic aspects but also encompasses personal interests and inherent digital rights.

The second concept that needs to be regulated is the classification of digital assets. Ideal regulations should differentiate digital assets into economic digital assets and personal digital assets. Economic digital assets include crypto wallets, NFTs, social media monetization accounts, e-business accounts, domain names, and economic rights to digital content. Meanwhile, personal digital assets include emails, digital photos, personal video recordings, and documents stored in cloud storage. This classification is necessary because the mechanisms for transferring rights to these two types of assets have different characteristics (Terletska, 2022).

The next concept that must be regulated is the appointment of a digital executor. In modern legal practice, there is a specific person designated to manage and distribute the testator's digital assets. The concept of a digital executor developed in the United States through the Revised Uniform Fiduciary Access to Digital Assets Act (RUFADAA). The existence of a digital executor allows for professional management of digital inheritance in accordance with the testator's wishes. This concept can be adopted in national law by authorizing an executor or notary to act as the administrator of the digital inheritance based on a court order or the testator's will. (Beyer & Cahn, 2017).

Furthermore, ideal regulations should address the obligation to inventory digital assets. Inventory is the process of recording all digital assets owned by a person before death. In digital estate planning, inventory is conducted by recording account types, digital addresses, economic value, and access mechanisms to these assets. According to Naomi Cahn (2024), inventorying digital assets is a crucial step to prevent the loss of digital wealth due to the unknown whereabouts of accounts or access keys held by heirs.

Regulations regarding digital wills are also an important part of the ideal regulatory concept. Until now, Indonesian inheritance law only recognized wills as stipulated in Article 875 of the Civil Code, which defines a will as a deed containing a person's statement of their wishes after death. However, technological developments have given rise to the concept of electronic wills, or digital wills, created electronically. Therefore, regulations regarding digital asset inheritance need to recognize the existence of digital wills as a tool for determining who has the right to access and control certain digital assets.

In this context, the concept of testamentary freedom, as proposed by John H. Langbein (2009), places the will of the testator as a central principle in modern inheritance law. The testator's will must be legally protected as long as it does not conflict with public order and the absolute rights of the heirs. Therefore, regulations regarding digital asset inheritance must provide space for individuals to determine the management of their digital assets through a digital will.

The next crucial concept is the regulation of heirs' access rights to the digital accounts of the deceased. One of the biggest problems in practice is that many digital platforms implement terms of service that restrict third-party access to the accounts of deceased users. However, according to the principle of *saisine beginsel* in Article 833 of the Civil Code, all rights and obligations of the heir automatically transfer to the heirs upon death. Therefore, specific regulations must emphasize that the rights of heirs to digital assets have a higher status than unilateral agreements made by digital platform operators.

The European Law Institute, through its Model Rules on Succession of Digital Assets, Data and Other Digital Remains project, emphasizes the importance of establishing rules that can override contractual clauses that are detrimental to heirs and provide certainty regarding the right of access to the heir's digital assets. (European Law Institute, 2026). This concept can serve as a model for Indonesia in developing regulations for digital asset inheritance.

In addition to access rights, ideal regulations should also address the obligations of electronic system operators. Law No. 11 of 2008, as amended by Law No. 1 of 2024 concerning Electronic Information and Transactions, only regulates electronic system operators in general and does not provide specific obligations regarding the inheritance of digital assets. Therefore, new regulations should require digital platforms to provide mechanisms for account recovery and transfer of access to legal heirs based on court decisions or inheritance documents.

Another crucial concept is the protection of the heir's personal data. The issue of inheriting digital assets concerns not only economic rights but also a person's right to privacy after death. According to Lilian Edwards (2013), death does not necessarily erase the interest in privacy and human dignity (post-mortem privacy). Therefore, ideal regulations must balance the economic interests of heirs with respect for their privacy.

Law Number 27 of 2022 concerning Personal Data Protection needs to be aligned with regulations regarding digital asset inheritance. Heirs must have access to data with economic value, but certain restrictions must be placed on personal and confidential data. This ensures the principle of protecting human dignity is maintained.

An ideal regulatory concept should also address the private key storage mechanism for crypto assets. One of the biggest issues with cryptocurrency inheritance is the loss of access due to the lack of private keys. According to Primavera De Filippi (2018), blockchain systems are decentralized, so losing a private key means the permanent loss of assets. Therefore, national regulations need to introduce a mechanism for private key storage through a notary or state-licensed custodian institution.

The theory of legal protection was developed by Philipus M. Hadjon (1987), who stated that legal protection is the protection of human dignity and the recognition of the human rights of every legal subject. Legal protection can be implemented preventively or repressively. Preventive protection aims to prevent disputes from occurring, while repressive protection aims to resolve disputes that have already occurred.

In the context of protecting heirs over digital assets, legal protection theory views heirs as legal subjects entitled to protection for the rights inherited by the testator. These rights extend not only to tangible objects but also to various forms of digital property with both economic and personal value.

Satjipto Rahardjo (2014) explains that law exists to protect human interests, not the other way around. Law must provide protection to communities facing social change due to technological developments. In the digital era, protection for heirs has become increasingly important as various assets have transformed into digital assets that require different protection mechanisms than conventional objects.

Current Indonesian legal regulations do not provide optimal protection for heirs. The lack of specific regulations regarding the inheritance of digital assets often makes it difficult for heirs to gain access to their accounts, digital wallets, and crypto assets. In many cases, these assets are permanently lost due to the lack of passwords or private keys.

According to Fitzgerald (1966), the primary purpose of law is to integrate and coordinate various interests in society by protecting the rights of each individual. Therefore, the state has an obligation to protect the interests of heirs so that they do not lose the economic rights that legally belong to them.

Preventive legal protection can be realized through the establishment of a Digital Asset Inheritance Law that clearly regulates heirs' rights, digital asset inventory mechanisms, electronic system administrators' obligations, and rights transfer procedures. Meanwhile, repressive protection can be implemented through dispute resolution mechanisms, both through the courts and alternative dispute resolution mechanisms.

From the perspective of legal protection theory, the ideal regulatory concept should position heirs as the parties with legal guarantees regarding access, control, and use of their digital assets. The state must be present by establishing norms capable of protecting these rights so that technological developments do not become a source of injustice for society.

Thus, these three theories are interrelated in explaining the protection of heirs over digital assets. The theory of legal certainty emphasizes the importance of clear norms, the theory of utilitarianism emphasizes the benefits to society, while the theory of legal protection focuses on the recognition and protection of heirs' rights. All three demonstrate that the creation of specific regulations regarding the inheritance of digital assets is an urgent need to ensure legal certainty, benefits, and protection for heirs in Indonesia.

From the perspective of Philippe Nonet and Philip Selznick's (1978) responsive legal theory, law must be able to respond to the ever-changing needs of society. The presence of specific regulations regarding digital asset inheritance represents a form of responsive law oriented toward protecting the interests of the digital community. These regulations should not simply adopt conventional inheritance law concepts but must also anticipate future technological developments.

Another important concept is the establishment of a national digital asset registry. This registration system could be managed by the government in collaboration with the Financial Services Authority, the Ministry of Communication and Digital, and the National Cyber and Crypto Agency. This registration serves to document the existence of certain digital assets, facilitating the inventory process upon the owner's death.

In addition, a specific dispute resolution mechanism regarding digital assets needs to be established. Disputes arising from the inheritance of digital assets can be resolved through the courts or alternative dispute resolution mechanisms such as mediation and arbitration. Given that most digital platform operators are located overseas, national regulations also need to address aspects of international civil law related to jurisdiction and choice of law.

From Lon L. Fuller's perspective (1969), a good legal system must fulfill eight principles of legality (inner morality of law): clear, understandable, non-conflicting, and enforceable rules. Therefore, regulations regarding the inheritance of digital assets must be formulated systematically so they can be effectively implemented by both the public and law enforcement.

Ideally, Indonesia should establish a stand-alone Digital Asset Inheritance Law (*lex specialis*). This law would at least regulate the definition of digital assets, their classification, the rights of heirs, digital wills, digital executors, digital asset inventory, the obligations of electronic system administrators, personal data protection, dispute resolution mechanisms, and state oversight. The existence of this special law would provide legal certainty and guarantee the protection of heirs' rights.

Thus, the ideal concept of a specific inheritance regulation for digital assets not only aims to fill a legal gap but also represents an effort to adapt the national legal system to the development of the digital society. Such regulation must be based on the principles of legal certainty, justice, utility, protection of property rights, respect for privacy, and responsive legal principles. By establishing a specific law regarding the inheritance of digital assets, the state can guarantee more comprehensive legal protection for heirs while creating a legal system that is adaptive to future technological developments.

CONCLUSIONS

Legal Protection for Heirs of Digital Assets in the Current Indonesian Legal System: Indonesia's current positive legal regulations do not provide adequate legal protection for heirs of digital assets. Although conceptually, Article 830 and Article 833 of the Civil Code affirm that inheritance occurs upon death and all rights and obligations of the heir are transferred to the heirs, these provisions are still structured based on the conventional wealth paradigm and do not specifically accommodate the existence of digital assets as objects of inheritance. Several laws and regulations, such as Law Number 1 of 2024 concerning the Second Amendment to Law Number 11 of 2008 concerning Electronic Information and Transactions, Law Number 27 of 2022 concerning Personal Data Protection, and various provisions regarding crypto assets and electronic system administrators, only regulate aspects of use, security, and data protection in general, but do not regulate the mechanism for inheritance of digital assets or the heirs' access rights to these assets. This condition creates a legal vacuum (*rechtsvacuum*) that results in a lack of legal certainty regarding the status, control, and transfer of rights to the digital assets belonging to the heir.

The urgency of establishing specific inheritance regulations for digital assets to ensure legal protection for heirs in Indonesia is fundamentally based on philosophical, sociological, and legal considerations. Philosophically, the state is obliged to protect property rights and ensure justice for heirs as parties legally entitled to the inheritance of the testator. Sociologically, the development of information technology and the digital economy has given rise to various new forms of wealth, such as social media accounts with economic value, digital wallets, crypto assets, non-fungible tokens (NFTs), economic rights to digital content, domain names, and various other forms of digital wealth that continue to develop and become part of people's lives. Meanwhile, from a legal perspective, the absence of specific regulations regarding the inheritance of digital assets has created legal uncertainty and has the potential to eliminate the rights of heirs to the digital assets owned by the testator. This situation indicates that the Indonesian inheritance law system has not been able to keep pace with the development of the digital society, thus necessitating the establishment of regulations that are responsive and adaptive to technological developments.

The concept of an ideal special inheritance regulation to provide certainty and legal protection for heirs of digital assets in Indonesia can be realized through the establishment of a special law regarding the inheritance of digital assets that is *lex specialis*. This regulation needs to include legal recognition of digital assets as objects of inheritance, classification of types of digital assets, regulations regarding digital wills, appointment of digital executors, inventory and registration of digital assets, regulations regarding heirs' access rights, obligations of electronic system organizers in assisting the process of transferring digital assets, protection of the personal data of heirs, dispute resolution mechanisms, and regulations regarding cross-jurisdictional cooperation in dealing with the transnational character of digital assets. Thus, the existence of this special regulation not only provides legal certainty for heirs, but also realizes comprehensive legal protection and ensures the sustainability of civil rights of the community amidst the increasingly rapid development of digital technology.

REFERENCES

- Afkari, M. N. (2016). Inheritance regulations where the inheritance object is in digital form. *Mizan: Jurnal Ilmu Syariah*, 4(1).
- Ajaib Kripto. (2026, May 31). Private key and public key: Definition, function, and differences.
- Aristotle. (2009). *Nicomachean ethics*. Oxford University Press.
- BAPPEBTI. (2024). Annual report on crypto asset trading 2023. Ministry of Trade of the Republic of Indonesia.

- Bentham, J. (1907). *An introduction to the principles of morals and legislation*. Clarendon Press.
- Beyer, G. W., & Cahn, N. (2017). Digital planning and administration of estates. *Estate Planning Journal*, 44(2).
- Cahn, N. (2024). *Inheritance in America: From colonial times to the present*. Princeton University Press.
- Carata, C., & Chelaru, A.-L. (2024). The evolution of the digital inheritance: Legal, technical and practical dimensions of cryptocurrency transfer through succession in french-inspired legal systems. arXiv. <https://doi.org/xxxx> [atau masukkan URL jika ada]
- CNBC Indonesia. (2026, June 1). This is why there are more crypto investors than stock investors.
- Darus Badruzaman, M. (2015). *Civil code book II law of property*. Alumni.
- De Filippi, P., & Wright, A. (2018). *Blockchain and the law: The rule of code*. Harvard University Press.
- Digital asset. (2026, May 31). *Pluang Akademi*.
- Dominikus, R., & Rita, D. R. (2025). Comparison of Indonesian-German inheritance law regarding inheritance containing foreign elements. *Jurnal Pendidikan*, 2(4).
- Edwards, L., & Harbinja, E. (2013). Protecting post-mortem privacy: Reconsidering the privacy interests of the deceased. *Cardozo Arts & Entertainment Law Journal*, 32(1).
- Ehrlich, E. (1936). *Fundamental principles of the sociology of law*. Harvard University Press.
- European Law Institute. (2026). *Model rules on succession of digital assets, data and other digital remains*. ELI.
- Fitzgerald, P. J. (1966). *Salmond on jurisprudence*. Sweet and Maxwell.
- Friedman, L. M. (1975). *The legal system: A social science perspective*. Russell Sage Foundation.
- Fuller, L. L. (1969). *The morality of law*. Yale University Press.
- Ginting, Y. P., et al. (2023). Socialization of evidence in inheritance law cases according to the civil code. *West Science Community Service Journal*, 2.
- Gregorius Pratasik, H. E. (2025). *Digital asset inheritance based on inheritance law in Indonesia* [Bachelor's thesis, De La Salle Catholic University Manado].
- Hadjon, P. M. (1987). *Legal protection for the Indonesian people*. Bina Ilmu.
- Hadjon, P. M. (2011). *Legal protection for the people in Indonesia*. Bina Ilmu.
- Harbinja, E. (2024). *Digital assets and digital remains: Current and future issues*. Edward Elgar Publishing.
- Heriyanto, Y. E., & Wicaksono, T. (2024). Protection of heirs' rights to digital assets in Indonesia. *Susilo: Scientific Journal*, 6(1).
- Indonesia Baik. (2026, May 31). The difference between digital rupiah and electronic money. *JP Morgan Solutions*. (2026). *The evolution of digital assets*.
- Kelsen, H. (1961). *General theory of law and state*. Russell and Russell.
- Kelsen, H. (1967). *Pure theory of law*. University of California Press.
- Kusmayadi, D., & Nurhayati, I. (2026). *What is cryptocurrency*.
- Kusumaatmadja, M. (2006). *Legal concepts in development*. Alumni.
- Langbein, J. H. (2019). *The nonprobate revolution and the future of the law of succession*. Harvard University Press.
- Lee, L. (2024). Examining the legal status of digital assets as property: A comparative analysis of jurisdictional approaches. arXiv.
- Locke, J. (1988). *Two treatises of government*. Cambridge University Press.
- Kartika, M. (2025). *Regulatory updates that accommodate digital asset inheritance*. MKRI Public Relations.
- Mertokusumo, S. (2013). *Indonesian civil procedure law*. Liberty.

- Mill, J. S. (1863). *Utilitarianism*. Parker Son and Bourn.
- Moechthar, O. (2019). *Basic techniques for making deeds*. Airlangga University Press.
- Muhibbin, M., & Wahid, A. (2011). *Islamic inheritance law*. Sinar Grafika Offset.
- Nawiasky, H. (1948). *Allgemeine rechtslehre*. Benziger.
- Nonet, P., & Selznick, P. (1978). *Law and society in transition: Toward responsive law*. Harper and Row.
- Nuril, M., & Rahmat, Z. T. (2024). *Inheritance law for digital property from an Islamic law perspective in Indonesia*. Integrated Books.
- Nuril, M., & Zubandi, T. R. (2024). *Inheritance law for digital assets from an Islamic legal perspective in Indonesia*. *Scientific Research Journal*, 3(1).
- Pitlo. (1986). *Inheritance law according to the Dutch civil code* (M. I. Arief, Trans.). Intermasa.
- Pound, R. (1922). *An introduction to the philosophy of law*. Yale University Press.
- Pound, R. (1954). *An introduction to the philosophy of law* (2nd ed.). Yale University Press.
- Pratama, D. A. (2024). *Islamic legal regulations regarding virtual assets in the cryptocurrency bitcoin as inheritance (A study on bitcoin in indonesia)*. Kiswah Media.
- Radbruch, Gustav. (1950). *Legal philosophy*. Harvard University Press.
- Rahardjo, S. (2009). *Progressive law: A synthesis of Indonesian law*. Genta Publishing.
- Rahardjo, S. (2014). *Legal science*. Citra Aditya Bakti.
- Ramli, A. M. (2010). *Cyber law and intellectual property rights in the Indonesian legal system*. Refika Aditama.
- Satrio, J. (1992). *Inheritance law*. Alumni.
- Savigny, F. C. von. (1831). *Of the vocation of our age for legislation and jurisprudence*. Littlewood & Co.
- Subekti, R. (2005). *Principles of civil law*. Intermasa.
- Sullivan, F., & Di Pierro, M. (2026). *What is the blockchain?*
- Terletska, M. (2022). *The succession of digital assets in the European Union* [Master's thesis, Tallinn University of Technology].
- Utari, A. (2025). *Legal position of parties in inheritance according to the Indonesian civil law system*. *Scientific Journal*, 3(1).