Digital Assets in Indonesian Islamic Family Law: The Legal Status of Non-Fungible Tokens (NFTs) and Metaverse Virtual Land as Inheritable Property

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Abstract *: The rapid development of blockchain technology has introduced new forms of digital assets, including Non-Fungible Tokens (NFTs) and metaverse virtual land, creating legal uncertainty regarding their status as inheritable property under Indonesian Islamic Family Law. This study examines the legal status of these digital assets as inheritance objects, analyzes their distribution based on fiqh al-mawārīth and Indonesian positive law, and proposes a legal framework to strengthen legal certainty in digital inheritance. This research employs a normative legal method using statutory, conceptual, and Islamic jurisprudential approaches. Legal materials were analyzed through descriptive and deductive legal reasoning. The findings demonstrate that NFTs and metaverse virtual land satisfy the Islamic legal characteristics of māl because they possess lawful ownership, measurable economic value, legal control, and transferability, thereby qualifying as al-tirkah (inheritance estate). Their distribution should follow the principles of fiqh al-mawārīth while accommodating the technical characteristics of blockchain-based assets, particularly digital wallets and private-key access. The study also identifies a regulatory gap in Indonesian positive law concerning digital asset inheritance. Unlike previous studies that primarily discuss digital assets from commercial or general legal perspectives, this research develops an integrated framework combining Islamic inheritance law, Indonesian positive law, and digital estate planning to strengthen legal certainty, protect heirs' rights, and contribute to the development of Islamic Family Law in the digital era.*

Keywords : *Non-Fungible Tokens (NFTs), Metaverse Virtual Land, Islamic Inheritance Law, Digital Estate Planning, Digital Assets, Indonesian Islamic Family Law*

Abstrak *: Perkembangan pesat teknologi blockchain telah memperkenalkan bentuk aset digital baru, termasuk Non-Fungible Tokens (NFT) dan metaverse virtual land, menciptakan ketidakpastian hukum mengenai statusnya sebagai properti warisan menurut Hukum Keluarga Islam Indonesia. Studi ini meneliti status hukum aset digital tersebut sebagai objek warisan, menganalisis distribusinya berdasarkan fiqh al-mawārīth dan hukum positif Indonesia, serta mengusulkan kerangka hukum untuk memperkuat kepastian hukum dalam pewarisan digital. Penelitian ini menggunakan metode hukum normatif yang menggunakan pendekatan statutori, konseptual, dan yurisprudensi Islam. Materi hukum dianalisis melalui penalaran hukum deskriptif dan deduktif. Temuan ini menunjukkan bahwa NFT dan tanah virtual metaverse memenuhi karakteristik hukum Islam dari māl karena mereka memiliki kepemilikan yang sah, nilai ekonomi yang terukur, kontrol hukum, dan transferabilitas, sehingga memenuhi syarat sebagai al-tirkah (warisan warisan). Distribusinya harus mengikuti prinsip fiqh al-mawārīth sambil mengakomodasi karakteristik teknis aset berbasis blockchain, khususnya dompet digital dan akses kunci privat. Studi ini juga mengidentifikasi adanya celah regulasi dalam hukum positif Indonesia terkait pewarisan aset digital. Berbeda dengan studi sebelumnya yang terutama membahas aset digital dari perspektif komersial atau hukum umum, penelitian ini mengembangkan kerangka kerja terpadu yang menggabungkan hukum warisan Islam, hukum positif Indonesia, dan* *perencanaan warisan digital untuk memperkuat kepastian hukum, melindungi hak ahli waris, dan berkontribusi pada perkembangan Hukum Keluarga Islam di era digital.*

Kata kunci : *Non-Fungible Tokens (NFT), Metaverse Virtual Land, Hukum Warisan Islam, Perencanaan Warisan Digital, Aset Digital, Hukum Keluarga Islam Indonesia*

INTRODUCTION

The rapid advancement of digital technology over the past two decades has fundamentally transformed the ways in which individuals acquire, own, exchange, and preserve wealth.[1] The emergence of blockchain technology has introduced new categories of digital assets that no longer depend on physical existence but are represented through cryptographically secured digital records with measurable economic value.[2] Among the most significant innovations are Non-Fungible Tokens (NFTs) and metaverse virtual land, both of which represent unique digital property rights that can be owned, transferred, traded, and commercially exploited through decentralized blockchain networks.[3] Unlike conventional digital files, these assets are supported by immutable ownership records and smart contracts, enabling scarcity, authenticity, and exclusive ownership to be verified without centralized intermediaries.[4] Their rapid commercialization demonstrates that wealth in the digital economy is no longer confined to tangible objects but increasingly encompasses intangible digital assets capable of generating substantial economic value.[5]

The emergence of blockchain-based assets has generated significant legal implications for property and inheritance law. Whereas traditional legal systems historically distinguished property according to tangible movable and immovable objects, technological innovation has expanded the concept of property to include intangible digital assets possessing transferable economic rights. Contemporary legal scholarship increasingly recognizes that the digital economy requires a broader legal understanding of ownership capable of accommodating blockchain-based property within existing legal frameworks.[6] This transformation is particularly relevant within Islamic inheritance law because inheritance (*al-tirkah*) presupposes the existence of legally recognized property (*māl*) that may be transferred to heirs after the owner's death. Consequently, the emergence of NFTs and metaverse virtual land raises a fundamental juridical question regarding whether these digitally represented assets satisfy the Islamic legal characteristics of inheritable property and how they should be accommodated within the framework of Indonesian Islamic Family Law.[7]

The expansion of the digital economy has significantly transformed patterns of wealth ownership in Indonesia. Alongside conventional assets such as land, buildings, vehicles, and financial savings, individuals increasingly possess blockchain-based digital assets, including cryptocurrencies, Non-Fungible Tokens (NFTs), and virtual land within metaverse ecosystems. These assets are digitally authenticated through blockchain technology, may be lawfully owned and transferred, and possess measurable economic value that has generated growing legal attention in

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[1] Tiina Koskelainen, Panu Kalmi, Eusebio Scornavacca, and Tero Vartiainen, "Financial Literacy in the Digital Age A Research Agenda," *Journal of Consumer Affairs* 57, no. 1 (2023): 507–528, https://doi.org/10.1111/joca.12510.

[2] Melanie Swan, *Blockchain: Blueprint for a New Economy* (Sebastopol, CA: O'Reilly Media, 2015), 1–18.

[3] Matthew Ball, *The Metaverse: And How It Will Revolutionize Everything* (New York: Liveright Publishing, 2022), 29–67.

[4] World Intellectual Property Organization (WIPO), *Intellectual Property and Non-Fungible Tokens* (Geneva: WIPO, 2022), 3–18.

[5] Luke Lee, "Examining the Legal Status of Digital Assets as Property: A Comparative Analysis of Jurisdictional Approaches" (SSRN Electronic Journal, April 25, 2024), https://doi.org/10.2139/ssrn.4807135.

[6] Luke Lee, "Examining the Legal Status of Digital Assets as Property: A Comparative Analysis of Jurisdictional Approaches" (SSRN Electronic Journal, April 25, 2024), https://doi.org/10.2139/ssrn.4807135.

[7] Wahbah al-Zuḥaylī, *Al-Fiqh al-Islāmī wa Adillatuh*, vol. 10 (Damascus: Dār al-Fikr, 1985), 7523–7545.

both commercial practice and legal scholarship.[8] As the ownership of digital assets continues to increase, legal issues have expanded beyond commercial transactions to encompass property law, intellectual property, contract law, and inheritance law. A more complex problem emerges when the owner of digital assets dies, while Indonesian law has yet to expressly regulate the inheritance of NFTs and metaverse virtual land. Consequently, uncertainty remains regarding their legal status as inheritable property and the legal mechanism through which ownership may be transferred to lawful heirs.[9]

From the perspective of Islamic Family Law, this development raises a fundamental jurisprudential question concerning whether blockchain-based digital assets satisfy the legal concept of *māl* (property) and therefore qualify as *al-tirkah* (inheritance estate). Islamic inheritance law is fundamentally governed by the concepts of *māl*, *al-milk* (ownership), and *al-tirkah*, which determine whether a particular object may lawfully become part of a deceased person's estate. Although classical jurists did not encounter NFTs or virtual property in the metaverse, Islamic jurisprudence has long recognized that property is not restricted to tangible objects but also encompasses valuable proprietary rights (*al-ḥuqūq al-māliyyah*) and legally recognized economic benefits (*manfaʿah*) possessing lawful ownership and measurable value.[10] Building upon these classical principles, recent studies increasingly argue that blockchain-based digital assets satisfy the legal characteristics of *māl mutaqawwam* and may therefore constitute inheritable property, provided that their ownership, economic value, and transferability can be legally established in accordance with Sharīʿah principles and Indonesian positive law.[11]

Recent scholarship demonstrates that legal studies on blockchain-based digital assets have expanded considerably during the past few years. Nevertheless, the existing literature remains concentrated within four principal areas: the regulation of digital asset transactions, the legal validity of cryptocurrencies and NFTs, legal protection for digital asset owners, and the adaptation of legal institutions to blockchain technology. Studies, for example, primarily examine the legal consequences of NFT transactions, cryptocurrency investment, and Sharīʿah compliance from the perspective of Islamic commercial law (*fiqh al-muʿāmalāt*).[12] These studies significantly advance the understanding of blockchain-based economic activities but remain largely concerned with the acquisition and commercial utilization of digital assets rather than their legal consequences following the owner's death.[13]

More recent studies have begun to address digital inheritance within both Islamic law and Indonesian positive law. Recent scholarship argues that blockchain-based assets may satisfy the legal characteristics of *māl* and therefore constitute inheritable property, while emphasizing the

[8] Bryan Fayyadh Haq Wahyudi and Kholis Roisah, "The Legal Status of Cryptocurrency Assets as Inherited Property from the Perspective of Positive Law and Islamic Law in Indonesia," *Journal Research of Social Science, Economics, and Management* 5, no. 7 (2025), https://doi.org/10.59141/jrssem.v5i7.1331.

[9] Nur Ali, Adang Djumhur Salikin, and Kosim Kosim, "The Urgency of Harmonizing Civil Inheritance Law with Digital Assets in the Indonesian Legal System," *JURNAL AKTA* 12, no. 4 (2025): 612–626, https://doi.org/10.30659/akta.v12i4.47286

[10] Muṣṭafā Aḥmad al-Zarqā, *Al-Madkhal al-Fiqhī al-'Ām*, vol. 1 (Damascus: Dār al-Qalam, 1998), 222–236.

[11] Rehana Anjum, Arun Barkat, and Asif Ali Jatoi, "Succession of Digital Assets under Islamic Inheritance Law: A Fiqh-Grounded Framework for Crypto, Cloud Accounts, and NFTs," *ACADEMIA International Journal for Social Sciences* 5, no. 3 (2026), https://doi.org/10.63056/academia.5.3.2026.1628

[12] Istianah Zainal Asyiqin, M. Fabian Akbar, and Manuel Beltrán Genovés, "Cryptocurrency as a Medium of Rupiah Exchange: Perspective Sharia Islamic Law and Jurisprudential Analysis," *Volksgeist: Jurnal Ilmu Hukum dan Konstitusi* 7, no. 2 (2024), https://doi.org/10.24090/volksgeist.v7i2.10975.

[13] Rehana Anjum, Arun Barkat, and Asif Ali Jatoi, "Succession of Digital Assets under Islamic Inheritance Law: A Fiqh-Grounded Framework for Crypto, Cloud Accounts, and NFTs," *ACADEMIA International Journal for Social Sciences* 5, no. 3 (2026), https://doi.org/10.63056/academia.5.3.2026.1628

importance of digital estate planning and legal harmonization.[14] However, these studies generally discuss digital assets as a broad legal category including cryptocurrencies, digital accounts, and electronic wallets without undertaking a systematic juridical analysis of the distinctive legal characteristics of Non-Fungible Tokens (NFTs) and metaverse virtual land as specific inheritance objects under Indonesian Islamic Family Law. Consequently, the interaction between the classical concepts of *māl*, *al-milk*, and *al-tirkah*, Indonesian inheritance law, and the technological characteristics of blockchain ownership remains insufficiently examined.

Existing scholarship on metaverse virtual land demonstrates a similar tendency. Current studies primarily examine virtual land as a digital investment asset, an emerging form of digital property, or a component of the metaverse economy, with particular attention to ownership rights, commercial transactions, and legal protection.[15] However, these studies rarely extend their analysis to Islamic inheritance law. Consequently, the relationship between metaverse virtual land, the doctrine of *al-tirkah*, and the rules of *fiqh al-mawārīth* within the Indonesian legal framework remains insufficiently explored.

A critical review of the existing literature reveals several important research gaps. First, although recent scholarship increasingly recognizes digital assets as inheritable property, few studies integrate the classical Islamic concepts of *māl*, *al-milk*, *al-ḥuqūq al-māliyyah*, *al-tirkah*, and *maqāṣid al-sharīʿah* into a unified analytical framework for assessing the inheritance status of NFTs and metaverse virtual land. Second, existing studies generally discuss digital assets as a broad legal category without examining how blockchain-based ownership characteristics interact with the doctrinal principles of *fiqh al-mawārīth*. Third, the literature has yet to formulate a comprehensive legal framework that simultaneously incorporates Islamic inheritance principles, Indonesian positive law, and the technological requirements of blockchain-based inheritance mechanisms. These limitations demonstrate the continuing need for a comprehensive normative analysis capable of providing greater legal certainty for digital asset inheritance within Indonesia's Islamic legal system.

Accordingly, this study makes three principal contributions to the development of contemporary Islamic Family Law scholarship. First, it provides the first systematic juridical analysis of Non-Fungible Tokens (NFTs) and metaverse virtual land as specific inheritance objects under Indonesian Islamic Family Law, rather than treating digital assets merely as objects of commercial transactions. Second, it develops an integrated analytical framework combining the classical doctrines of *māl*, *al-milk*, *al-tirkah*, and *maqāṣid al-sharīʿah* with Indonesian positive law to evaluate the inheritance status of blockchain-based digital assets. Third, it proposes a normative legal framework for digital asset inheritance that integrates *fiqh al-mawārīth*, the Compilation of Islamic Law, the Indonesian Civil Code, and electronic transaction regulations while accommodating the technological characteristics of blockchain ownership and digital estate planning. Through this integrated approach, the study contributes to the development of Islamic Family Law scholarship and offers conceptual recommendations for future legal reform concerning digital inheritance in Indonesia.[16]

RESEARCH METHOD

This study employed normative legal research with a prescriptive character, aiming to examine legal norms, legal doctrines, and legal principles in order to formulate legal arguments and recommendations concerning the inheritance status of blockchain-based digital assets under

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[14] Rehana Anjum, Arun Barkat, and Asif Ali Jatoi, "Succession of Digital Assets under Islamic Inheritance Law: A Fiqh-Grounded Framework for Crypto, Cloud Accounts, and NFTs," *ACADEMIA International Journal for Social Sciences* 5, no. 3 (2026), https://doi.org/10.63056/academia.5.3.2026.1628

[15] B. Khalil, "Digital Ownership in the Metaverse: A Jurisprudential Study," *Stardom Scientific Journals of Islamic and Sharia Studies* (2025), https://doi.org/10.70170/sjoiandsha342.

[16] Nur Ali, A. D. Salikin, and Kosim, "The Urgency of Harmonizing Civil Inheritance Law with Digital Assets in the Indonesian Legal System," *JURNAL AKTA* 12, no. 4 (2025): 612–626, https://doi.org/10.30659/akta.v12i4.47286.

Indonesian Islamic Family Law.[17] A normative approach was adopted because the study focuses on resolving legal issues through doctrinal analysis rather than examining empirical social behaviour. Accordingly, this research analyzes the legal status of Non-Fungible Tokens (NFTs) and metaverse virtual land as inheritable property (*al-tirkah*) within the framework of Islamic inheritance law and Indonesian positive law.

The research employed three complementary approaches. First, the statutory approach examined legislation governing inheritance, ownership, electronic transactions, and digital assets, including the Compilation of Islamic Law (*Kompilasi Hukum Islam*), the Indonesian Civil Code (*Burgerlijk Wetboek*), Law Number 11 of 2008 concerning Electronic Information and Transactions as lastly amended by Law Number 1 of 2024, together with other regulations relating to digital assets and crypto-asset trading. This approach was intended to evaluate the extent to which Indonesian positive law provides a normative basis for recognizing and transferring rights over blockchain-based digital assets.[18]

Second, the conceptual approach examined both Islamic legal doctrines and contemporary legal concepts relating to *māl*, *al-milk*, *al-ḥuqūq al-māliyyah*, *al-tirkah*, digital ownership, property rights, and *maqāṣid al-sharīʿah*, particularly the principle of *ḥifẓ al-māl*. These concepts were employed to assess whether NFTs and metaverse virtual land possess the legal characteristics of inheritable property by having lawful ownership, measurable economic value, transferability, and legal control.[19]

Third, the study adopted an Islamic jurisprudential (*fiqh*) approach by examining the opinions of classical and contemporary Muslim jurists concerning property, ownership, proprietary rights, transferable wealth, and inheritance. The analysis relied on classical works of *fiqh al-muʿāmalāt* and *fiqh al-mawārīth*, contemporary Islamic legal scholarship, and relevant institutional fatwas to determine whether blockchain-based digital assets may be classified as *māl mutaqawwam* and consequently become part of *al-tirkah* in accordance with the objectives of Sharīʿah.[20]

The legal materials consisted of primary, secondary, and tertiary legal sources. Primary legal materials included the Qur'an, Hadith, the *Compilation of Islamic Law* (*Kompilasi Hukum Islam*), the *Indonesian Civil Code* (*Burgerlijk Wetboek*), Law Number 11 of 2008 concerning Electronic Information and Transactions as amended by Law Number 1 of 2024, together with other legislation relating to digital assets. Secondary legal materials comprised books, peer-reviewed national and international journal articles, master's theses, dissertations, institutional fatwas, and other scholarly publications concerning Islamic inheritance law, digital assets, blockchain technology, and digital property rights. Tertiary legal materials consisted of legal dictionaries, encyclopedias, and other reference materials used to support legal interpretation.[21]

Legal materials were collected through library research by identifying, classifying, and systematically reviewing legal sources relevant to the research questions.[22] The collected materials were subsequently analyzed qualitatively using descriptive-analytical methods combined with deductive legal reasoning.[23] Thereafter, systematic, conceptual, and teleological methods of legal interpretation were employed to examine the interaction between Islamic inheritance principles, Indonesian positive law, and blockchain technology. This interpretative process enabled the formulation of legal arguments regarding the inheritance status of Non-Fungible Tokens (NFTs)

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[17] Johnny Ibrahim, *Teori dan Metodologi Penelitian Hukum Normatif* (Malang: Bayumedia Publishing, 2006), 57–65.

[18] Peter Mahmud Marzuki, *Penelitian Hukum*, rev. ed. (Jakarta: Kencana, 2017), 133–142.

[19] Jasser Auda, *Maqasid al-Shariah as Philosophy of Islamic Law: A Systems Approach* (London: The International Institute of Islamic Thought, 2008), 21–45.

[20] Wahbah al-Zuḥaylī, *Al-Fiqh al-Islāmī wa Adillatuh*, vols. 4 and 10 (Damascus: Dār al-Fikr, 1985), vol. 4, 57–85.

[21] Peter Mahmud Marzuki, *Penelitian Hukum*, rev. ed. (Jakarta: Kencana, 2017), 181–96.

[22] Soerjono Soekanto and Sri Mamudji, *Penelitian Hukum Normatif: Suatu Tinjauan Singkat*, 17th ed. (Jakarta: Rajawali Pers, 2015), 13–15.

[23] Burhan Ashshofa, *Metode Penelitian Hukum* (Jakarta: Rineka Cipta, 2013), 59–67.

and metaverse virtual land while proposing an integrated normative framework to strengthen legal certainty for digital asset inheritance within Indonesia's Islamic legal system.[24]

RESULTS AND DISCUSSION

The Legal Status Of Nfts And Metaverse Virtual Land As Māl Under Islamic

The legal determination of whether Non-Fungible Tokens (NFTs) and metaverse virtual land may constitute inheritable property under Indonesian Islamic Family Law must begin with the classical Islamic concept of *māl*, because only property recognized as *māl* can subsequently form part of *al-tirkah* (the inheritance estate). Classical Islamic jurists consistently maintain that inheritance cannot arise from objects that lack legally recognized proprietary value or lawful ownership. Al-Zarqā defines *māl* as everything possessing recognized economic value that may lawfully be possessed and utilized, irrespective of whether its existence is tangible or intangible.[25] Building upon this conception, Al-Zuḥaylī explains that the legal status of *māl* depends primarily upon four essential characteristics: lawful ownership (*al-milk*), measurable economic value (*qīmah māliyyah*), lawful benefit (*manfa'ah*), and the legal capacity for control and transfer.[26] These criteria demonstrate that Islamic jurisprudence has never restricted the concept of property exclusively to physical objects; instead, legal recognition depends upon the existence of proprietary rights protected by Sharīʿah. Consequently, the emergence of blockchain technology does not automatically exclude NFTs and metaverse virtual land from the scope of *māl*, because their legal status should be assessed according to these substantive juridical characteristics rather than their digital form.[27] This doctrinal approach is increasingly reflected in contemporary Islamic legal scholarship, which argues that blockchain-based assets may satisfy the requirements of *māl mutaqawwam* whenever they possess lawful ownership, identifiable economic value, exclusive control through cryptographic authentication, and legal transferability that does not contradict Sharīʿah principles.[28]

Unlike ordinary digital files, Non-Fungible Tokens (NFTs) represent exclusive proprietary rights that are cryptographically authenticated and permanently recorded on blockchain networks. Antonopoulos and Wood explain that blockchain technology enables digital assets to be uniquely identified through decentralized verification mechanisms, thereby ensuring authenticity, ownership, and resistance to unauthorized alteration.[29] From a legal perspective, these technological characteristics distinguish NFTs from conventional electronic data because ownership is attached not merely to the digital content itself but to a verifiable blockchain record that can be transferred, controlled, and legally recognized as an independent property interest. Lee argues that this technological transformation has significantly expanded the contemporary legal concept of property by recognizing blockchain-based assets as objects capable of ownership, transfer, and legal protection.[30] The economic significance of NFTs is further reinforced by their ability to represent valuable intellectual property rights, digital artworks, virtual collectibles,

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[24] Johnny Ibrahim, *Teori dan Metodologi Penelitian Hukum Normatif* (Malang: Bayumedia Publishing, 2006), 295–310.

[25] Muṣṭafā Aḥmad al-Zarqā, *Al-Madkhal al-Fiqhī al-'Ām*, vol. 1 (Damascus: Dār al-Qalam, 1998), 222–25.

[26] Wahbah al-Zuḥaylī, *Al-Fiqh al-Islāmī wa Adillatuh*, vols. 4 and 10 (Damascus: Dār al-Fikr, 1985), 2859–67.

[27] Bunga Desyana Pratami, Yos Johan Utama, Ana Silviana, Imaro Sidqi, and Iqbal Kamalludin, "Digital Assets and Islamic Inheritance Law: Reinterpreting the Concept of Māl through Maqāṣid Sharīʿah," *Ulul Albab: Jurnal Studi dan Penelitian Hukum Islam* 9, no. 2 (2026): 152–166, https://doi.org/10.30659/jua.v9i2.51899.

[28] Rehana Anjum, Arun Barkat, and Asif Ali Jatoi, "Succession of Digital Assets under Islamic Inheritance Law: A Fiqh-Grounded Framework for Crypto, Cloud Accounts, and NFTs," *ACADEMIA International Journal for Social Sciences* 5, no. 3 (2026), https://doi.org/10.63056/academia.5.3.2026.1628

[29] Andreas M. Antonopoulos and Gavin Wood, *Mastering Ethereum: Building Smart Contracts and DApps* (Sebastopol, CA: O'Reilly Media, 2018), 3–24.

[30] Luke Lee, "Examining the Legal Status of Digital Assets as Property: A Comparative Analysis of Jurisdictional Approaches" (SSRN Electronic Journal, April 25, 2024), https://doi.org/10.2139/ssrn.4807135.

licenses, and other commercially tradable assets within decentralized digital markets. The World Intellectual Property Organization emphasizes that NFTs function not only as technological certificates of authenticity but also as legal instruments capable of evidencing ownership over valuable digital assets.[31] Consequently, the combination of exclusive ownership, identifiable economic value, legal control, and transferability demonstrates that NFTs satisfy the substantive characteristics traditionally required for recognition as *māl* under Islamic jurisprudence. Pratami et al. similarly conclude that blockchain-based assets may be classified as *māl mutaqawwam* because they fulfill the legal requirements of lawful ownership and measurable economic value.[32] This conclusion is further strengthened by recent scholarship on Islamic digital inheritance, which recognizes NFTs as transferable proprietary rights capable of forming part of a deceased person's estate, provided that ownership and digital access can be legally established.[33]

Virtual land within metaverse ecosystems presents a more complex legal issue than NFTs because it represents ownership over digitally created spaces rather than ownership of a single digital object. Nevertheless, contemporary digital property theory increasingly recognizes virtual land as an independent proprietary asset capable of exclusive ownership, commercial exploitation, transfer, and inheritance. Ball explains that the metaverse functions as a persistent digital environment in which users may acquire, develop, lease, and transfer virtual land through blockchain-based ownership systems, thereby creating legally identifiable economic interests comparable to proprietary rights over conventional assets.[34] From a technological perspective, ownership of metaverse land is authenticated through blockchain infrastructure and smart contracts that permanently record transactions and identify the lawful owner without requiring centralized verification. Antonopoulos and Wood emphasize that blockchain architecture guarantees the integrity, transparency, and traceability of ownership records, enabling digital property rights to be transferred with legal certainty.[35] These technological characteristics distinguish blockchain-based virtual land from ordinary digital platforms because ownership exists independently of the platform's internal database and is supported by decentralized verification mechanisms. Lee argues that such characteristics have encouraged many legal systems to reconsider traditional concepts of property by recognizing blockchain-based virtual assets as transferable proprietary interests deserving legal protection.[36]

From the perspective of Islamic jurisprudence, the decisive issue is not whether virtual land possesses physical substance but whether it fulfills the substantive legal characteristics of *māl*. Classical jurists consistently emphasize that legal recognition depends upon lawful ownership, measurable economic value, exclusive control, and lawful benefit rather than physical form alone. Al-Zarqā explains that proprietary rights (*al-ḥuqūq al-māliyyah*) may themselves constitute legally recognized wealth whenever they produce legitimate economic value and may lawfully be transferred.[37] Similarly, Al-Zuḥaylī maintains that Sharīʿah recognizes both tangible and intangible

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[31] World Intellectual Property Organization, *Intellectual Property and Non-Fungible Tokens* (Geneva: WIPO, 2022), 5–18.

[32] Bunga Desyana Pratami, Yos Johan Utama, Ana Silviana, Imaro Sidqi, and Iqbal Kamalludin, "Digital Assets and Islamic Inheritance Law: Reinterpreting the Concept of Māl through Maqāṣid Sharīʿah," *Ulul Albab: Jurnal Studi dan Penelitian Hukum Islam* 9, no. 2 (2026): 152–166, https://doi.org/10.30659/jua.v9i2.51899.

[33] Rehana Anjum, Arun Barkat, and Asif Ali Jatoi, "Succession of Digital Assets under Islamic Inheritance Law: A Fiqh-Grounded Framework for Crypto, Cloud Accounts, and NFTs," *ACADEMIA International Journal for Social Sciences* 5, no. 3 (2026), https://doi.org/10.63056/academia.5.3.2026.1628

[34] Matthew Ball, *The Metaverse: And How It Will Revolutionize Everything* (New York: Liveright Publishing, 2022), 29–54.

[35] Andreas M. Antonopoulos and Gavin Wood, *Mastering Ethereum: Building Smart Contracts and DApps* (Sebastopol, CA: O'Reilly Media, 2018), 3–24.

[36] Luke Lee, "Examining the Legal Status of Digital Assets as Property: A Comparative Analysis of Jurisdictional Approaches," *SSRN Electronic Journal* (April 25, 2024), https://doi.org/10.2139/ssrn.4807135.

[37] Muṣṭafā Aḥmad al-Zarqā, *Al-Madkhal al-Fiqhī al-ʿĀm*, vol. 1 (Damascus: Dār al-Qalam, 1998), 222–225.

property provided that ownership and economic utility are legally established.[38] Applying these principles, contemporary Islamic legal scholarship increasingly concludes that blockchain-based virtual land satisfies the characteristics of *māl mutaqawwam* because it possesses exclusive ownership, measurable market value, transferability through lawful transactions, and the capacity to generate legitimate financial benefits. Khalil reaches this conclusion in his jurisprudential analysis of metaverse ownership,[39] while Pratami et al. further argue that digital property authenticated through blockchain technology may legitimately become part of Islamic property rights when its ownership and economic value can be objectively verified.[40]

Recognition of NFTs and metaverse virtual land as *māl* does not automatically render them inheritable property under Islamic law. Within the doctrine of *fiqh al-mawārīth*, an asset becomes part of *al-tirkah* only when it remains under the lawful ownership (*al-milk al-tāmm*) of the deceased at the time of death, possesses transferable proprietary rights, and is free from legal impediments that prevent its transmission to heirs. Al-Sabuni explains that *al-tirkah* encompasses every proprietary right and lawful asset left by the deceased that may be transferred to heirs after the fulfillment of funeral expenses, outstanding debts, and valid testamentary obligations.[41] Likewise, Al-Zuḥaylī emphasizes that the decisive criterion is not the physical nature of the property but the existence of legally recognized ownership capable of lawful succession.[42] Accordingly, intangible assets possessing enforceable proprietary rights may constitute part of the inheritance estate whenever they remain legally owned by the deceased.

Applying these principles to blockchain-based assets demonstrates that NFTs and metaverse virtual land fulfill the essential legal requirements of *al-tirkah*. Ownership of these assets is individually identifiable through blockchain records, remains under the exclusive control of the owner by means of cryptographic credentials, and may be transferred to another party without extinguishing the underlying proprietary right. Anjum, Barkat, and Jatoi argue that blockchain assets satisfy the requirements of inheritable property because ownership can be objectively verified and legally transferred to heirs through appropriate succession mechanisms.[43] Similarly, Abdel-Nabi, Al-Rasbi, and Bendari conclude that digital assets authenticated through blockchain technology should be treated as part of the deceased's estate where ownership and transferability are legally established.[44] From the Indonesian perspective, Pratama and Saipudin further contend that digital assets should be incorporated into inheritance administration because excluding economically valuable blockchain property would undermine the fundamental objective of inheritance law to preserve and distribute the deceased's wealth fairly among lawful heirs.[45]

The recognition of NFTs and metaverse virtual land as *al-tirkah* has significant implications for the future development of Indonesian Islamic Family Law. Although the *Compilation of Islamic Law* (Kompilasi Hukum Islam) and the *Indonesian Civil Code* (*Burgerlijk Wetboek*) do not expressly regulate blockchain-based assets, neither legal instrument limits the scope of inheritance

[38] Wahbah al-Zuḥaylī, *Al-Fiqh al-Islāmī wa Adillatuh*, vols. 4 and 10 (Damascus: Dār al-Fikr, 1985), 2859–2867.

[39] B. Khalil, "Digital Ownership in the Metaverse: A Jurisprudential Study," *Stardom Scientific Journals of Islamic and Sharia Studies* (2025), https://doi.org/10.70170/sjoiandsha342.

[40] Bunga Desyana Pratami, Yos Johan Utama, Ana Silviana, Imaro Sidqi, and Iqbal Kamalludin, "Digital Assets and Islamic Inheritance Law: Reinterpreting the Concept of Māl through Maqāṣid Sharīʿah," *Ulul Albab: Jurnal Studi dan Penelitian Hukum Islam* 9, no. 2 (2026): 152–166, https://doi.org/10.30659/jua.v9i2.51899.

[41] Muḥammad ʻAlī al-Ṣābūnī, *Al-Mawārīth fī al-Sharī'ah al-Islāmiyyah* (Beirut: Dār al-Qalam, 1989), 31–48.

[42] Wahbah al-Zuḥaylī, *Al-Fiqh al-Islāmī wa Adillatuh*, vols. 4 and 10 (Damascus: Dār al-Fikr, 1985), 2990–3008.

[43] Rehana Anjum, Arun Barkat, and Asif Ali Jatoi, "Succession of Digital Assets under Islamic Inheritance Law: A Fiqh-Grounded Framework for Crypto, Cloud Accounts, and NFTs," *ACADEMIA International Journal for Social Sciences* 5, no. 3 (2026), https://doi.org/10.63056/academia.5.3.2026.1628

[44] Ahmed El-Tohami Abdel-Nabi, Talal Al-Rasbi, and Mohamed Ibrahim Bendari, "Digital Inheritance from the Perspective of Omani Law and Islamic Jurisprudence," *Journal of Cultural Analysis and Social Change* 10, no. 2 (2025): 1136–1143, https://doi.org/10.64753/jcasc.v10i2.1745.

[45] Dody Pratama and Saipudin, "Study of Digital Asset Inheritance: A Review of Contemporary Islamic Law in Indonesia," *Istinbath: Jurnal Hukum* 22, no. 2 (2025), https://doi.org/10.32332/istinbath.v22i02.art03

exclusively to tangible property.[46] This normative openness allows contemporary legal interpretation to accommodate new forms of wealth that satisfy the essential requirements of lawful ownership and transferable economic value. Ali, Salikin, and Kosim argue that harmonization between Indonesian inheritance law and digital asset regulation has become increasingly urgent because the absence of explicit legal provisions creates uncertainty regarding succession, ownership verification, and the protection of heirs' rights.[47] Likewise, Nurjana, Bakung, and Amrain emphasize that comprehensive legal regulation of digital inheritance is necessary to ensure legal certainty and prevent disputes concerning blockchain-based assets.[48] From the perspective of Islamic jurisprudence, recognizing NFTs and metaverse virtual land as inheritable property is consistent with the objectives of *maqāṣid al-sharīʿah*, particularly the protection of wealth (*ḥifẓ al-māl*), because it safeguards legitimate proprietary rights and prevents economically valuable assets from becoming legally inaccessible following the owner's death. Auda explains that the application of *maqāṣid al-sharīʿah* enables Islamic law to respond to social and technological developments while preserving its fundamental legal objectives.[49] Accordingly, NFTs and metaverse virtual land should be regarded as legitimate components of *al-tirkah* whenever their ownership, economic value, and transferability can be objectively established, thereby providing a coherent doctrinal foundation for the distribution of blockchain-based assets under Indonesian Islamic inheritance law.

Distribution Of Nfts And Metaverse Virtual Land Under Fiqh Al-Mawārīth And Indonesian Positive Law

Once NFTs and metaverse virtual land are recognized as part of *al-tirkah*, the subsequent legal issue concerns the mechanism through which ownership is transferred to lawful heirs. Under Islamic inheritance law, the death of the owner does not automatically confer unrestricted ownership upon the heirs. Rather, the deceased's estate must first undergo the established sequence prescribed by *fiqh al-mawārīth*, namely the payment of funeral expenses (*tajhīz al-mayyit*), settlement of outstanding debts, execution of any valid testamentary dispositions within the permissible limit, and only thereafter distribution of the remaining estate among the lawful heirs according to their prescribed shares. Al-Sabuni explains that this sequence is mandatory because inheritance rights arise only after prior financial obligations attached to the estate have been fulfilled.[50] Likewise, Al-Zuḥaylī emphasizes that every transferable asset belonging to the deceased, whether tangible or intangible, remains subject to these procedural requirements before ownership legally passes to the heirs.[51] Consequently, NFTs and metaverse virtual land should not be distributed immediately upon the owner's death but must first be incorporated into the administration of the inheritance estate together with other assets, thereby ensuring compliance with both the substantive and procedural principles of Islamic inheritance law.

Unlike conventional property, the transfer of blockchain-based assets requires not only legal recognition of inheritance rights but also effective control over the technological instruments through which ownership is exercised. NFTs and metaverse virtual land are generally stored in blockchain wallets secured by private cryptographic keys, meaning that legal ownership cannot be practically transferred unless the heirs obtain lawful access to these authentication credentials. Antonopoulos and Wood explain that blockchain ownership is inseparable from possession of the

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46 *Kompilasi Hukum Islam*, Instruksi Presiden Republik Indonesia Nomor 1 Tahun 1991 tentang Penyebarluasan Kompilasi Hukum Islam (Jakarta: Sekretariat Negara, 1991), Buku II, Pasal 171–214.

47 Nur Ali, A. D. Salikin, and Kosim, "The Urgency of Harmonizing Civil Inheritance Law with Digital Assets in the Indonesian Legal System," *JURNAL AKTA* 12, no. 4 (2025): 612–626, https://doi.org/10.30659/akta.v12i4.47286.

48 Nurjana Nurjana, Dolot Alhasni Bakung, and Fitran Amrain, "The Urgency of Regulating Digital Inheritance to Protect the Distribution of Successive Rights in Indonesia," *Journal of Law, Human Rights, Immigration, and Corrections* 1, no. 3 (2026): 205–220, https://doi.org/10.65101/lawric.v1i3.223.

49 Jasser Auda, *Maqasid al-Shariah as Philosophy of Islamic Law: A Systems Approach* (London: The International Institute of Islamic Thought, 2008), 21–45.

50 Muḥammad ʻAlī al-Ṣābūnī, *Al-Mawārīth fī al-Sharīʻah al-Islāmiyyah* (Beirut: Dār al-Qalam, 1989), 105–112.

51 Wahbah al-Zuḥaylī, *Al-Fiqh al-Islāmī wa Adillatuh*, vol. 10 (Damascus: Dār al-Fikr, 1985), 7695–7710.

corresponding private key because the blockchain network recognizes only cryptographic authorization rather than external legal claims.[52] Consequently, heirs who possess a valid inheritance right under *fiqh al-mawārīth* may nevertheless be unable to exercise ownership where the private key has been lost, destroyed, or withheld by another person. Addressing this issue, Anjum, Barkat, and Jatoi argue that digital inheritance requires a succession mechanism that combines Islamic inheritance principles with secure digital asset management to ensure that heirs can lawfully obtain effective control over blockchain-based property.[53] Similarly, Haryadi and Shabah emphasize that digital estate planning constitutes an essential complement to *farā'iḍ* because the preparation of secure access mechanisms for digital wallets prevents blockchain assets from becoming permanently inaccessible after the owner's death.[54] From the perspective of Indonesian legal development, Sendrawan et al. further argue that legal institutions, including notaries and estate administrators, should be equipped with appropriate legal authority to facilitate the transfer and verification of digital property, thereby ensuring that blockchain-based assets can be effectively administered within the inheritance process.[55] Therefore, the practical implementation of Islamic inheritance law in relation to NFTs and metaverse virtual land requires not only doctrinal recognition of inheritance rights but also reliable technological and legal mechanisms capable of transferring effective control over blockchain assets to the rightful heirs.

Once lawful access to blockchain-based assets has been secured, their distribution should follow the substantive principles of *fiqh al-mawārīth* in the same manner as other components of the deceased's estate. Islamic inheritance law does not distinguish between tangible and intangible property when determining the respective shares of lawful heirs; rather, the decisive criterion is whether the property forms part of the deceased's transferable estate (*al-tirkah*). Al-Zuḥaylī explains that every asset lawfully owned by the deceased and possessing transferable economic value becomes subject to the rules of *farā'iḍ* after the settlement of prior obligations.[56] Likewise, Al-Sabuni emphasizes that the prescribed inheritance shares established by the Qur'an and Sunnah apply to the entire inheritance estate without differentiating between categories of property.[57] Consequently, NFTs and metaverse virtual land should be valued according to their fair market value at the time of estate administration before being allocated among the heirs in accordance with their respective legal portions. This valuation is particularly important because blockchain-based assets frequently experience substantial price fluctuations and may not be easily divisible into proportional ownership interests. In circumstances where direct partition is impracticable, Islamic jurisprudence permits the liquidation of inheritance assets or other equitable settlement mechanisms (*qismah*) to preserve proportional justice among the heirs. Pratami et al. argue that the application of classical inheritance principles to digital assets requires flexible methods of valuation and distribution while maintaining full compliance with the doctrinal rules of *fiqh al-mawārīth*.[58] Similarly, Abdel-Nabi, Al-Rasbi, and Bendari conclude that contemporary Islamic

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[52] Andreas M. Antonopoulos and Gavin Wood, *Mastering Ethereum: Building Smart Contracts and DApps* (Sebastopol, CA: O'Reilly Media, 2018), 3–24.

[53] Rehana Anjum, Arun Barkat, and Asif Ali Jatoi, "Succession of Digital Assets under Islamic Inheritance Law: A Fiqh-Grounded Framework for Crypto, Cloud Accounts, and NFTs," *ACADEMIA International Journal for Social Sciences* 5, no. 3 (2026): 166–175, https://doi.org/10.63056/academia.5.3.2026.1628

[54] Deva Fahreza Haryadi and Musyaffa Amin Ash Shabah, "Digital Estate Planning for Crypto Assets: A Synergetic Analysis of Indonesian Fatwas and Farā'iḍ Principles," *Sakina: Journal of Family Studies* 10, no. 1 (2026): 42–54, https://doi.org/10.18860/jfs.v10i1.25106.

[55] Tjhong Sendrawan, Rosa Agustina, Edmon Makarim, Arman Nefi, and Josephine Rus Indra Sapti Ipfelkofer, "Optimizing the Role of Notaries in Digital Property Inheritance: A Comparative Legal Analysis," *Indonesia Law Review* 15, no. 2 (2025): 218–233, https://doi.org/10.15742/ilrev.v15n2.3

[56] Wahbah al-Zuḥaylī, *Al-Fiqh al-Islāmī wa Adillatuh*, vol. 10 (Damascus: Dār al-Fikr, 1985), 7698–7715.

[57] Muḥammad ʻAlī al-Ṣābūnī, *Al-Mawārīth fī al-Sharīʻah al-Islāmiyyah* (Beirut: Dār al-Qalam, 1989), 113–124.

[58] Bunga Desyana Pratami, Yos Johan Utama, Ana Silviana, Imaro Sidqi, and Iqbal Kamalludin, "Digital Assets and Islamic Inheritance Law: Reinterpreting the Concept of Māl through Maqāṣid Sharīʿah," *Ulul Albab: Jurnal Studi dan Penelitian Hukum Islam* 9, no. 2 (2026): 152–166, https://doi.org/10.30659/jua.v9i2.51899.

inheritance law can accommodate digital assets provided that transparent procedures for ownership verification, valuation, and succession are established.[59] Therefore, the distribution of NFTs and metaverse virtual land should remain governed by the established principles of *farāʾiḍ*, while the methods of valuation and technical transfer may be adapted to reflect the distinctive characteristics of blockchain technology.

Although the substantive principles of *fiqh al-mawārīth* provide a sufficient doctrinal basis for distributing blockchain-based assets, Indonesian positive law has not yet established a comprehensive legal framework specifically governing the inheritance of NFTs and metaverse virtual land. The Compilation of Islamic Law (*Kompilasi Hukum Islam*) regulates the distribution of inheritance among Muslim heirs but does not expressly address digital assets as objects of inheritance.[60] Likewise, the Indonesian Civil Code (*Burgerlijk Wetboek*) recognizes inheritable property in general terms without providing specific rules concerning blockchain-based ownership or digital succession.[61] In addition, Law Number 1 of 2024 concerning the Amendment to the Electronic Information and Transactions Law acknowledges electronic information, electronic systems, and digital transactions but does not regulate the transfer of blockchain-based digital property following the owner's death.[62] This normative fragmentation creates legal uncertainty regarding ownership verification, access to digital wallets, succession procedures, and the protection of heirs' rights over blockchain-based assets. Ali, Salikin, and Kosim argue that the absence of harmonized inheritance regulations may hinder the effective transfer of digital assets despite the existence of valid inheritance rights under Indonesian law.[63] Similarly, Nurjana, Bakung, and Amrain emphasize that Indonesia urgently requires a comprehensive regulatory framework capable of integrating inheritance law with technological developments to ensure legal certainty and effective protection for successors of digital assets.[64] From a comparative perspective, Ugli et al. likewise conclude that Islamic inheritance principles remain fully applicable to digital assets, provided that national legislation establishes clear procedures for ownership verification, digital succession, and legal enforcement.[65] Accordingly, the future development of Indonesian Islamic Family Law should not alter the substantive rules of *farāʾiḍ* but rather formulate procedural regulations capable of accommodating blockchain technology while preserving the certainty, justice, and legal protection guaranteed by both Islamic law and the national legal system.

The foregoing analysis demonstrates that the principal challenge in digital inheritance does not lie in the substantive rules of Islamic inheritance law but rather in the absence of an integrated legal mechanism capable of implementing those rules within blockchain-based environments. Accordingly, the development of digital estate planning should be regarded as an essential component of contemporary Islamic Family Law because it enables the preservation, documentation, and lawful transfer of digital assets without altering the established principles of

[59] Ahmed El-Tohami Abdel-Nabi, Talal Salim Alrasbi, and Mohamed Ibrahim Bendari, "Digital Inheritance from the Perspective of Omani Law and Islamic Jurisprudence," *Journal of Cultural Analysis and Social Change* 10, no. 2 (2025): 1136–1143, https://doi.org/10.64753/jcasc.v10i2.1745

[60] Kompilasi Hukum Islam, Instruksi Presiden Republik Indonesia Nomor 1 Tahun 1991 tentang Penyebarluasan Kompilasi Hukum Islam (Jakarta: Sekretariat Negara, 1991), Buku II, Pasal 171–214.

[61] Kitab Undang-Undang Hukum Perdata (Burgerlijk Wetboek) (Staatsblad Tahun 1847 Nomor 23), Pasal 830–1130.

[62] Undang-Undang Republik Indonesia Nomor 1 Tahun 2024 tentang Perubahan Kedua atas Undang-Undang Nomor 11 Tahun 2008 tentang Informasi dan Transaksi Elektronik (Jakarta: Sekretariat Negara, 2024), Pasal 1, Pasal 5, dan Pasal 16.

[63] Nur Ali, A. D. Salikin, and Kosim, "The Urgency of Harmonizing Civil Inheritance Law with Digital Assets in the Indonesian Legal System," *JURNAL AKTA* 12, no. 4 (2025): 612–626, https://doi.org/10.30659/akta.v12i4.47286

[64] N. Nurjana Nurjana, Dolot Alhasni Bakung, and Fitran Amrain, "The Urgency of Regulating Digital Inheritance to Protect the Distribution of Successive Rights in Indonesia," *Journal of Law, Human Rights, Immigration, and Corrections* 1, no. 3 (2026): 205–220, https://doi.org/10.65101/lawric.v1i3.223.

[65] Akramov Akmaljon Anvarjon ugli, Abdikhakimov Islombek Bahodir ugli, Sharipova Xilola Rustamovna, Yakubova Madinabonu Abdumalikovna, and Gulommamatova Parvina Akbarali kizi, "Legal Issues of Digital Asset Inheritance from an Islamic Law Perspective," *Ijtihad: Jurnal Wacana Hukum Islam dan Kemanusiaan* 25, no. 2 (2025): 191–212, https://doi.org/10.18326/ijtihad.v25i2.191-212.

fiqh al-mawārīth. Haryadi and Shabah argue that digital estate planning provides a practical framework for managing digital wallets, private keys, and other blockchain credentials before the owner's death, thereby preventing the permanent loss of valuable digital assets.[66] Likewise, Anjum, Barkat, and Jatoi emphasize that succession planning for blockchain-based property should integrate *Sharīʿah* principles with technological safeguards to ensure that heirs can effectively exercise their inheritance rights after the owner's death.[67] From a comparative perspective, Abdel-Nabi, Al-Rasbi, and Bendari observe that the legal recognition of digital inheritance requires procedural mechanisms capable of verifying ownership, preserving digital access, and facilitating the orderly transfer of blockchain assets in accordance with applicable inheritance law.[68] These developments indicate that future reform of Indonesian Islamic Family Law should combine classical *farā'iḍ* principles with statutory regulation governing digital estate administration, blockchain authentication, and inheritance procedures for digital assets. Such an integrated framework would strengthen legal certainty, protect the proprietary rights of heirs, and ensure that technological innovation develops consistently with the objectives of *Sharīʿah* (*maqāṣid al-sharīʿah*), particularly the protection of property (*ḥifẓ al-māl*), while preserving the integrity of Indonesia's Islamic inheritance system.

Toward An Integrated Legal Framework For Digital Asset Inheritance In Indonesian Islamic Family Law

The preceding discussion demonstrates that the principal legal issue surrounding blockchain-based inheritance in Indonesia is no longer the recognition of NFTs and metaverse virtual land as inheritable property but the absence of a coherent legal framework governing their succession. Islamic jurisprudence has long recognized that property possessing lawful ownership, measurable economic value, and transferability constitutes *māl* and may therefore become part of *al-tirkah*. Likewise, Indonesian positive law acknowledges property rights, inheritance, and electronic transactions through separate regulatory instruments. However, these legal regimes continue to operate independently without providing an integrated mechanism for the inheritance of blockchain-based digital assets. As a result, legal uncertainty persists regarding ownership verification, digital wallet administration, access to private keys, valuation procedures, and the transfer of blockchain assets to lawful heirs. Hardiyansyah, Djaja, and Sudirman argue that the rapid transformation of digital property requires adaptive legal reform capable of responding to technological innovation while preserving legal certainty.[69] Similarly, Sendrawan et al. emphasize that the modernization of inheritance administration must incorporate digital property governance and institutional procedures to accommodate emerging forms of ownership.[70] Consequently, the challenge facing Indonesian Islamic Family Law is not to reformulate the substantive principles of *fiqh al-mawārīth*, but to construct procedural regulations capable of implementing those principles within the technological architecture of blockchain-based assets.

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[66] Deva Fahreza Haryadi and Musyaffa Amin Ash Shabah, "Digital Estate Planning for Crypto Assets: A Synergetic Analysis of Indonesian Fatwas and Farā'iḍ Principles," *Sakina: Journal of Family Studies* 10, no. 1 (2026): 42–54, https://doi.org/10.18860/jfs.v10i1.25106.

[67] Rehana Anjum, Arun Barkat, and Asif Ali Jatoi, "Succession of Digital Assets under Islamic Inheritance Law: A Fiqh-Grounded Framework for Crypto, Cloud Accounts, and NFTs," *ACADEMIA International Journal for Social Sciences* 5, no. 3 (2026): 166–175, https://doi.org/10.63056/academia.5.3.2026.1628.

[68] Ahmed El-Tohami Abdel-Nabi, Talal Salim Alrasbi, and Mohamed Ibrahim Bendari, "Digital Inheritance from the Perspective of Omani Law and Islamic Jurisprudence," *Journal of Cultural Analysis and Social Change* 10, no. 2 (2025): 1136–1143, https://doi.org/10.64753/jcasc.v10i2.1745.

[69] Tendri Hardiyansyah, Benyy Djaja, and Maman Sudirman, "Transforming Inheritance Law in the Digital Era: Challenges, Opportunities, and Adaptive Strategies for Indonesia," *Jurnal Al-Hakim: Jurnal Ilmiah Mahasiswa, Studi Syariah, Hukum dan Filantropi* 6, no. 2 (2024), https://doi.org/10.22515/jurnalalhakim.v6i2.10174.

[70] Tjhong Sendrawan, Rosa Agustina, Edmon Makarim, Arman Nefi, and Josephine Rus Indra Sapti Ipfelkofer, "Optimizing the Role of Notaries in Digital Property Inheritance: A Comparative Legal Analysis," *Indonesia Law Review* 15, no. 2 (2025): 218–233, https://doi.org/10.15742/ilrev.v15n2.3.

An integrated legal framework for digital inheritance should be constructed upon three mutually reinforcing dimensions: substantive legal recognition, procedural inheritance administration, and technological governance. First, substantive legal recognition requires that NFTs and metaverse virtual land be expressly acknowledged as inheritable property under Indonesian Islamic Family Law, provided that they satisfy the Islamic legal requirements of *māl mutaqawwam*, including lawful ownership, measurable economic value, and transferability. Such recognition would harmonize the classical doctrines of *māl*, *al-milk*, and *al-tirkah* with the contemporary legal concept of digital property without altering the established principles of *fiqh al-mawārīth*.[71] Second, procedural inheritance administration should establish clear legal mechanisms governing ownership verification, blockchain asset identification, valuation, succession documentation, and the lawful transfer of digital wallets and private keys to eligible heirs. Comparative legal scholarship increasingly emphasizes that inheritance disputes involving blockchain assets generally arise not from disagreements concerning inheritance rights but from the absence of legally recognized procedures capable of verifying ownership and facilitating asset transfer after the owner's death.[72] Third, technological governance should ensure that legal procedures are supported by secure digital infrastructure capable of protecting blockchain credentials while preventing unauthorized access and cyber-related risks. As Lee argues, effective regulation of digital property requires legal institutions to recognize the technological characteristics of blockchain ownership rather than treating digital assets merely as conventional intangible property.[73] Through the integration of these three dimensions, Indonesian Islamic Family Law would be capable of providing both legal certainty and practical enforceability for digital inheritance in the blockchain era.

An essential component of the proposed legal framework is the incorporation of digital estate planning into Islamic inheritance administration. Unlike conventional assets, blockchain-based property cannot be transferred solely through judicial determination or the application of inheritance rules because access to NFTs and metaverse virtual land depends upon digital wallets, cryptographic authentication, and private-key control. Without legally authorized access to these technological instruments, heirs may possess valid inheritance rights while remaining practically incapable of exercising ownership over the inherited assets. Consequently, effective inheritance administration requires legal mechanisms enabling asset owners to prepare digital inheritance arrangements during their lifetime, including the secure documentation of blockchain holdings, designation of trusted executors or custodians, and lawful procedures governing the disclosure or recovery of private-key credentials after death. Haryadi and Shabah argue that digital estate planning should become an integral component of Islamic inheritance governance because it bridges the gap between the normative principles of *farā'iḍ* and the technological realities of blockchain ownership.[74] Similarly, Anjum, Barkat, and Jatoi emphasize that contemporary Islamic inheritance law must extend beyond determining heirs' fractional shares by establishing practical mechanisms capable of ensuring the effective transfer of crypto-assets, NFTs, and other blockchain-

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[71] Bunga Desyana Pratami, Yos Johan Utama, Ana Silviana, Imaro Sidqi, and Iqbal Kamalludin, "Digital Assets and Islamic Inheritance Law: Reinterpreting the Concept of Māl through Maqāṣid Sharīʿah," *Ulul Albab: Jurnal Studi dan Penelitian Hukum Islam* 9, no. 2 (2026): 152–166, https://doi.org/10.30659/jua.v9i2.51899.

[72] Ahmed El-Tohami Abdel-Nabi, Talal Salim Alrasbi, and Mohamed Ibrahim Bendari, "Digital Inheritance from the Perspective of Omani Law and Islamic Jurisprudence," *Journal of Cultural Analysis and Social Change* 10, no. 2 (2025): 1136–1143, https://doi.org/10.64753/jcasc.v10i2.1745.

[73] Luke Lee, "Examining the Legal Status of Digital Assets as Property: A Comparative Analysis of Jurisdictional Approaches" (SSRN Electronic Journal, April 25, 2024), https://doi.org/10.2139/ssrn.4807135.

[74] Deva Fahreza Haryadi and Musyaffa Amin Ash Shabah, "Digital Estate Planning for Crypto Assets: A Synergetic Analysis of Indonesian Fatwas and *Farā'iḍ* Principles," *Sakina: Journal of Family Studies* 10, no. 1 (2026), https://doi.org/10.18860/jfs.v10i1.25106.

based property.[75] Accordingly, integrating digital estate planning into Indonesian Islamic Family Law would not modify the substantive rules of inheritance but would strengthen the implementation of those rules by ensuring that legally recognized inheritance rights remain practically enforceable within decentralized digital ecosystems.

The findings of this study further indicate that strengthening legal certainty concerning blockchain-based inheritance requires comprehensive regulatory reform rather than fragmented legal interpretation. Existing Indonesian legislation governing inheritance, electronic transactions, and crypto-asset regulation has not yet established explicit provisions concerning the inheritance of NFTs, metaverse virtual land, and other blockchain-based assets. This normative gap creates uncertainty not only regarding the legal status of digital assets as inheritance property but also concerning procedures for ownership verification, valuation, transfer, and posthumous access to blockchain-controlled property. Recent comparative studies similarly recommend harmonizing inheritance law with emerging digital property regimes to ensure adequate legal protection for heirs and improve legal certainty within rapidly evolving digital economies.[76] Likewise, Nurjana, Bakung, and Amrain emphasize that dedicated digital inheritance regulations are increasingly necessary to protect successive rights and prevent legal disputes arising from technological developments.[77] Therefore, Indonesian legal reform should explicitly recognize blockchain-based digital assets as inheritable property, establish legal procedures governing digital estate administration, and integrate these provisions into the broader framework of Islamic Family Law and national inheritance legislation. Such reforms would reinforce the objectives of *maqāṣid al-sharīʿah*, particularly the protection of property (*ḥifẓ al-māl*), while simultaneously providing greater legal certainty, protecting heirs' proprietary rights, and ensuring that Islamic inheritance law remains responsive to technological transformation.

CONCLUSION

This study demonstrates that Non-Fungible Tokens (NFTs) and metaverse virtual land satisfy the essential characteristics of *māl* under Islamic jurisprudence because they possess lawful ownership, measurable economic value, legal control, and transferability. Consequently, these blockchain-based digital assets may legitimately constitute *al-tirkah* (inheritance estate) and become subject to distribution under *fiqh al-mawārīth*. Although classical Muslim jurists did not directly address blockchain technology or virtual property, the doctrinal flexibility of Islamic property law permits the recognition of new forms of wealth as long as they fulfill the substantive legal requirements governing ownership and economic value. From the perspective of Indonesian positive law, however, the absence of explicit legal regulation concerning blockchain-based inheritance continues to generate uncertainty regarding ownership verification, succession procedures, and the transfer of digital assets following the owner's death.

The study further concludes that the distribution of blockchain-based inheritance should continue to follow the substantive principles of *fiqh al-mawārīth* without altering the established fractional shares of lawful heirs. Nevertheless, the technological characteristics of blockchain ownership require complementary procedural mechanisms that are absent from conventional inheritance administration. Ownership verification, digital wallet administration, private-key management, blockchain asset valuation, and secure succession procedures have become indispensable elements for ensuring that legally recognized inheritance rights can be effectively exercised by heirs. Accordingly, digital inheritance should be understood not as a modification of

[75] Rehana Anjum, Arun Barkat, and Asif Ali Jatoi, "Succession of Digital Assets under Islamic Inheritance Law: A Fiqh-Grounded Framework for Crypto, Cloud Accounts, and NFTs," *ACADEMIA International Journal for Social Sciences* 5, no. 3 (2026), https://doi.org/10.63056/academia.5.3.2026.1628.

[76] Nur Ali, A. D. Salikin, and K. Kosim, "The Urgency of Harmonizing Civil Inheritance Law with Digital Assets in the Indonesian Legal System," *JURNAL AKTA* 12, no. 4 (2025), https://doi.org/10.30659/akta.v12i4.47286.

[77] Nurjana Nurjana, Dolot Alhasni Bakung, and Fitran Amrain, "The Urgency of Regulating Digital Inheritance to Protect the Distribution of Successive Rights in Indonesia," *Journal of Law, Human Rights, Immigration, and Corrections* 1, no. 3 (2026), https://doi.org/10.65101/lawric.v1i3.223.

Islamic inheritance law but as a contemporary procedural extension necessary for implementing its principles within decentralized digital environments.

The principal contribution of this study lies in the development of an integrated legal framework that combines the classical doctrines of *māl*, *al-milk*, *al-tirkah*, and *maqāṣid al-sharīʿah* with Indonesian positive law, blockchain governance, and digital estate planning. Unlike previous studies that generally examine digital assets from commercial, technological, or general legal perspectives, this research specifically analyzes NFTs and metaverse virtual land as distinct inheritance objects within Indonesian Islamic Family Law. By integrating Islamic jurisprudence, national inheritance law, and blockchain governance into a coherent normative framework, this study contributes to the contemporary development of Islamic Family Law while expanding scholarly discourse concerning the legal adaptation of Islamic inheritance principles to emerging digital property regimes.

Finally, this study recommends that Indonesian lawmakers develop comprehensive regulations governing blockchain-based inheritance through the harmonization of Islamic Family Law, inheritance legislation, and digital asset governance. Such reforms should explicitly recognize blockchain-based digital assets as inheritable property, establish legal procedures for ownership verification and digital estate administration, and provide institutional mechanisms capable of facilitating the lawful transfer of blockchain-controlled assets after death. Future research may further examine the implementation of digital inheritance through empirical studies involving judges, notaries, Islamic legal institutions, blockchain practitioners, and digital asset owners, thereby contributing to the formulation of a comprehensive legal model capable of responding to the continuing transformation of digital property in the era of blockchain technology.

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