BLOCKCHAIN AND ISLAMIC LAW: A COMPARATIVE ANALYSIS OF THE FOUR SUNNI SCHOOLS

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Abstract

This study examines the perspectives of the four major Sunni Islamic legal schools—Hanafi, Shafiʿi, Maliki, and Hanbali—on the concepts of māl and ʿaqd and their implications for integrating blockchain technology within the framework of maqāṣid al-sharīʿah. Employing a normative–comparative approach, the study demonstrates that the Hanafi school adopts a relatively flexible conception of māl, grounded in social value and utility recognized by ʿurf, thereby allowing for the recognition of non-physical assets such as cryptocurrencies. By contrast, the Shafiʿi school maintains a more restrictive stance emphasizing physical existence and effective possession. The Maliki school recognizes manfaʿah as a legally protected interest while requiring a high degree of contractual clarity and the avoidance of speculation, whereas the Hanbali school advances the most expansive framework, grounded in maṣlaḥah and the presumption of permissibility in transactions. The study further argues that blockchain technology may contribute to the realization of the five core objectives of maqāṣid al-sharīʿah: ḥifẓ al-māl through transparency and decentralization, ḥifẓ al-ʿaql by mitigating gharar, ḥifẓ al-nasl through secure recordkeeping, ḥifẓ al-dīn by enhancing institutional accountability, and ḥifẓ al-nafs through improved data security and humanitarian aid distribution. Nevertheless, effective implementation requires robust Sharīʿah governance, ethical safeguards, data protection mechanisms, and coherent regulatory frameworks to ensure that technological innovation advances public usufruct while preventing harm.

Keywords: *Blockchain; Islamic Law; Islamic Legal Schools; Maqāṣid al-Sharīʿah.*

A. INTRODUCTION

As a distributed ledger technology, blockchain has transformed the global financial system by enabling decentralized, secure, and transparent transactions[1]. According to the World Economic Forum (2025), approximately 10% of global GDP is projected to utilize blockchain-based tokenization by 2027[2], with the market value estimated to reach USD 3 trillion in 2024. Within the context of Islamic finance, blockchain offers potential usufructs for enhancing Sharia compliance through the use of smart contracts, while simultaneously reducing intermediary costs and improving transactional efficiency.[3] Nevertheless, its implementation presents normative challenges concerning compatibility with Islamic legal principles, particularly from the perspectives of the four Sunni schools of law: Hanafi, Maliki, Shafi'i, and Hanbali.[4]

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[1] Kudakwashe Muzoriwa, *How Blockchain Technology Is Revolutionising Islamic Finance*, GCC, 13 Juli 2024, https://gulfbusiness.com/blockchain-technologys-impact-on-islamic-finance/.

[2] Jeremy Allaire, "Blockchain: In from the Cold and Set to Disrupt the World of Finance," World Economic Forum, 15 Januari 2024, https://www.weforum.org/stories/2024/01/blockchain-change-world-finance-stablecoins-internet/.

[3] Winda Fitri, "Kajian Penerapan Smart Contract Syariah dalam Blockchain: Peluang dan Tantangan," Articles, *JATISWARA* 38, no. 2 (Juli 2023): 223–32, https://doi.org/10.29303/jtsw.v38i2.526.

[4] aldy amrillah, "Hukum Blockchain dalam Islam: Analisis & Penerapan," *Belajar Jual Bitcoin Beli Bitcoin | Indodax Academy*, 3 Maret 2025, https://indodax.com/academy/hukum-blockchain-dalam-islam/; Faisol Habibi dan Oman Fathurohman SW, "Pro Kontra Cryptocurrency," *AT-TASYRI': JURNAL ILMIAH PRODI MUAMALAH* 16, no. 2 (2024): 171–84.

Due to concerns regarding the potential presence of ribā and contractual uncertainty that may conflict with Islamic legal principles, the Hanafi and Hanbali schools adopt a more cautious approach toward the integration of Islamic fintech innovations, including blockchain. These schools emphasize the necessity of stringent regulatory frameworks and clearly defined contractual structures to ensure that transactions remain free from *ribā* and *gharar*[5]. In contrast, the Maliki and Shafi'i schools exhibit a relatively more accommodative stance toward fintech innovation, provided that contractual arrangements—such as *muḍārabah* and *mushārakah*—are properly executed in accordance with established Sharia criteria[6].

Further debate concerns the appropriate legal classification of digital assets within blockchain-based systems. While the Shafi'i school traditionally requires physical existence (*'ayn*) and the capacity for effective transfer of ownership (*qabḍ*) to recognize property status, the Hanafi school adopts a more expansive view by recognizing digital assets as *māl* insofar as they are accepted by prevailing custom (*'urf*), thereby challenging the exclusion of non-physical assets[7]. At the institutional level, Nahdlatul Ulama through its Bahtsul Masail Forum, has proposed the conditional permissibility of cryptocurrencies through a more

[5] Syarif dan Aysan, "Usury-Free Capital through Sharia Fintech."
[6] Syarif dan Aysan, "Usury-Free Capital through Sharia Fintech."
[7] Suhirman, "Cryptocurrency as an Islamic Financial Entity: The Nahdliyin's Istinbath Fiqh Approach"; Syarif dan Aysan, "Usury-Free Capital through Sharia Fintech."

flexible fiqh approach. In contrast, several authoritative religious bodies have adopted more restrictive positions; for instance, Muhammadiyah's Council for Religious Opinion and Reform and Indonesian Ulama Council (MUI) have classified cryptocurrencies as impermissible, both as a medium of exchange and as a tradable commodity.

A review of prior studies indicates that blockchain discourse within Islamic legal scholarship has attracted considerable academic attention, yet a substantial gap persists in comprehensive four-school comparative analysis. For example, a study published in the Journal of Contemporary Maqāṣid Studies (2022) examines blockchain technology from a *maqāṣid al-sharīʿah* perspective, emphasizing facilitation, security, transparency, and anti-monopoly considerations, but does not systematically address inter-madhhab differences[8]. Similarly, research in the International Journal of Islamic Studies assesses the compatibility of blockchain and Bitcoin with Islamic economic principles through an analysis of five classical fiqh texts and forty scholarly articles, focusing primarily on the prohibitions of *ribā, gharar,* and *maysir*; however, its methodological approach remains largely generalized and does not offer a rigorous differentiation of madhhab-specific

[8] Yusof Mahmoud Aljamos dkk., "The Blockchain Technology from Maqasid Shari'ah Perspective," Articles, *Journal of Contemporary Maqasid Studies* 1, no. 2 (Juli 2022): 59–82, https://doi.org/10.52100/jcms.v1i2.54.

interpretations[9]. Likewise, a study by Dahdal et al. in the European University Law Review highlights the role of blockchain in enhancing Sharia compliance and trans-jurisprudential consistency, while explicitly acknowledging the lack of detailed comparative analysis across Islamic legal schools[10].

Regulatory frameworks governing blockchain and cryptocurrency in Muslim-majority countries remain highly fragmented. In Saudi Arabia, which formally adheres to the Hanbali school, cryptocurrency trading is prohibited on the basis of a fatwa issued by the Council of Senior Scholars, citing concerns over ribā, gharar, and legal uncertainty[11]. The Saudi government further affirms the Saudi riyal as the sole legal tender, thereby denying cryptocurrencies legal payment status and restricting related financial activities[12]. By contrast, Indonesia—where Shafi'i jurisprudence predominantly informs Islamic legal discourse—permits cryptocurrency trading under strict regulatory oversight by the Commodity Futures Trading Regulatory Agency

[9] Muhammad Sami, "Analysis of the Compatibility of Blockchain and Bitcoin Technology in the Digital Financial System: A Legal and Islamic Economic Review of Financial Innovation in the Digital Era," *Sinergi International Journal of Islamic Studies* 3, no. 2 (2025): 129–38.

[10] Dahdal, Truby, dan Ismailov, "The role and potential of blockchain technology in Islamic finance."

[11] Ghaida Habadi dan Tareck Alsamara, "The Legal Nature of Cryptocurrencies: Analyzing Potential Regulatory Approaches in the United Arab Emirates and the Kingdom Saudi Arabia," *Journal of Ecohumanism* 4, no. 1 (2025): 2473–84.

[12] Habadi dan Alsamara, "The Legal Nature of Cryptocurrencies: Analyzing Potential Regulatory Approaches in the United Arab Emirates and the Kingdom Saudi Arabia."

(Bappebti), alongside Sharia compliance supervision by the National Sharia Board – Indonesian Ulama Council (DSN-MUI)[13]. This regulatory approach illustrates how cryptocurrencies may be treated as tradable commodities under rigorous supervision to mitigate excessive gharar and speculative practices, while remaining prohibited as a medium of exchange.

This study addresses the identified literature gap through a comparative analysis of the four major Islamic legal schools—Hanafi, Maliki, Shafi'i, and Hanbali—in relation to blockchain technology, with particular attention to the legal status of digital assets, the validity of smart contracts, and the potential presence of *ribā* and *gharar*[14]. The analysis aims to provide a comprehensive theoretical foundation to support regulatory harmonization and the development of inclusive Islamic fintech solutions capable of accommodating diverse Islamic legal requirements across Muslim jurisdictions. Blockchain is examined as a critical technological instrument for advancing Islamic financial ethics, given its capacity to enhance

[13] Teddy Kusuma, "Cryptocurrency dalam perdagangan berjangka komoditi di indonesia perspektif hukum Islam," *Tsaqafah* 16, no. 1 (2020): 109–26; Adi Nur Rohman, Diana Fitriana, dan Widya Romasindah Aidy, "Enhancing Economic Security through Sharia Fintech Regulation in Indonesia: Strengthening the Sharia Business Ecosystem," *Fiat Justisia: Jurnal Ilmu Hukum* 17, no. 3 (2023): 237–60.

[14] Dahdal, Truby, dan Ismailov, "The role and potential of blockchain technology in Islamic finance"; Syarif dan Aysan, "Usury-Free Capital through Sharia Fintech."

transparency, accountability, and Sharia compliance through immutable transaction records[15].

The rapid expansion of the digital economy and the projected growth of internet users in Muslim-majority countries over the coming decade necessitate timely and comprehensive legal adaptation. Responsive and harmonized regulatory frameworks are required to ensure that Islamic financial innovation develops sustainably and achieves broad acceptance[16]. In this context, the findings of this study offer practical relevance for policymakers, fatwa-issuing bodies, and industry stakeholders involved in designing Sharia-compliant financial products while promoting equitable and secure digital financial inclusion[17].

This study adopts a qualitative normative–comparative approach through a library-based analysis of classical and contemporary fiqh texts from the Hanafi, Maliki, Shafi'i, and Hanbali schools, focusing on the concepts of *māl, gharar,* and *'aqd* as contextualized within the development of digital assets, smart contracts, and blockchain technology[18]. The analysis

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[15] Ariani, Hidayanti, dan Hulaimi, "Blockchain Integration in Sharia Finance: Building a Shariah- Compliant Decentralized Finance Ecosystem."

[16] Istianah Zainal Asyiqin, "Islamic Economic Law in the Digital Age: Navigating Global Challenges and Legal Adaptations.," *Media Iuris* 8, no. 1 (2025); Rohman, Fitriana, dan Aidy, "Enhancing Economic Security through Sharia Fintech Regulation in Indonesia: Strengthening the Sharia Business Ecosystem."

[17] Ariani, Hidayanti, dan Hulaimi, "Blockchain Integration in Sharia Finance: Building a Shariah- Compliant Decentralized Finance Ecosystem"; Syarif dan Aysan, "Usury-Free Capital through Sharia Fintech."

[18] sugiyono Sugiyono, "Metode penelitian kunatitatif kualitatif dan R&D," *Alfabeta, Bandung*, 2016.

employs the *muqāran* method to identify divergences and convergences in madhhab-specific *istinbāṭ* methodologies, particularly in the application of the principle *al-aṣl fī al-muʻāmalāt al-ibāḥah*, the role of *ʻurf*, and the use of *maṣlaḥah* in assessing the legal status of blockchain technology and crypto-assets. The theoretical framework is grounded in *maqāṣid al-sharīʻah* and the methodological shift from *qaulī* to *manhajī* approaches[19], with *maqāṣid* serving as an evaluative tool to assess blockchain's contribution to the preservation of core Sharia objectives through transparency, decentralization, and the mitigation of gharar. The *manhajī* approach further enables a contextual interpretation of scriptural sources and classical fiqh methodologies by incorporating contemporary *ʻurf mālī*, evolving conceptions of intangible *māl*, and the characteristics of digital contracting, complemented by a historical analysis tracing the development of *ʻurf* in monetary functions and exchange mechanisms, as articulated by Al-Ghazali in *al-Mustaṣfā.*

B. RESULTS AND DISCUSSION

1. Conceptualizations of *Māl* in Sunni Legal Schools

Within *fiqh al-muʿāmalāt*, the Hanafi school advances a comparatively flexible conception of property (*māl*), defining it as anything that may be lawfully owned, stored, and socially recognized as valuable, regardless of physical form, so long as its existence is validated by prevailing custom (*ʿurf*). Departing from

[19] Jasser Auda, "Maqasid al-Shariah: An introductory guide," *Herndon: International Institute of Islamic Thought,(IIIT)*, 2008.

approaches that privilege materiality (*ʿayn*), this framework reflects the Hanafi methodological emphasis on *istiḥsān* and *ʿurf*, whereby legal assessment prioritizes social valuation and functional utility over tangibility. Accordingly, property status is determined not by physical substance but by the presence of lawful economic value (*māliyyah*) and recognized legal worth (*taqawwum*) within established social practice[20].

The central basis of this flexibility lies in the authoritative role of *'urf* as a source in legal derivation (*istinbāṭ al-ḥukm*). The Hanafi school acknowledges that social interaction, technological development, and temporal change shape societal perceptions of value, allowing customary practice to serve as a valid basis for recognizing new forms of *māl* so long as they do not clearly contradict definitive (*qaṭʿī*) Sharia norms[21]. By employing *'urf* as a normative benchmark, Hanafi jurisprudence demonstrates a high degree of adaptability in responding to financial and economic developments unknown in the early Islamic period[22].

This adaptability is particularly salient in the context of non-physical assets, including cryptocurrencies. Hanafi jurists have long recognized rights and usufructs (*manfaʿah*) as non-material forms of *māl* and permitted their exchange in contracts

[20] Ibnu Abidin, "Hasyiyah Rad al-Mukhtar ala Dur al-Mukhtar, Jilid 5," *Beirut: Daar Al-Fikr, t. th*, t.t., 89.

[21] Abidin, "Hasyiyah Rad al-Mukhtar ala Dur al-Mukhtar, Jilid 5," 89–90.

[22] Badr Al-Din Al-Syâfi'i, "bin Muhammad bin Bahadir Abdullah li," *Bahrul Muhith fi Ushul Fiqh li Al-Zarkasyi* 1413 (t.t.): 524.

such as *ijārah*, providing a doctrinal analogy for evaluating digital assets. Accordingly, cryptocurrencies may be classified as *māl* when they achieve broad societal acceptance (*ʿurf ʿām*) or recognized usage within specific communities (*ʿurf khāṣ*), functioning as a store of value or medium of exchange. From the Hanafi perspective, legal recognition thus hinges on functional utility and social acceptance rather than physical form, offering a pragmatic framework for accommodating digital financial innovation within contemporary Islamic economics.

In contrast, Imam al-Shafi'i grounds the concept of ownership in more stringent and well-defined criteria. At its core, *māl* is understood as something that possesses value such that it may be lawfully exchanged and requires compensation if damaged, even when its value is minimal, provided that it is not customarily discarded by people, such as a small copper coin (*fals*). This conception emphasizes both exchangeability and compensability as essential indicators of legal value[23].

Accordingly, the Shafi'i approach reflects a structural difficulty in recognizing entities lacking physical form. Within the dominant framework of this school, rights (*ḥaqq*) or usufructs (*manfaʿah*) cannot independently constitute tradable property unless they are inseparably attached to a tangible entity (*'ayn*). On this basis, classical Shafi'i fiqh would reject modern

[23] Jalaluddin Abdurrahmân As-Suyuthi, "Al-Asybâh wa an-Nadhair fii qowa'id wa furu'fiqh as-Syâfi'iyah," *Beirut: Dar il al-Kutub al-Ilmiyah*, t.t., 327.

constructs such as "digital assets" as valid objects of sale due to the absence of physical substance and the impracticability of actual possession (*qabḍ*), as articulated by Imam Al-Shirazi in *al-Muhadhdhab*.

As documented in *al-Mudawwanah al-Kubrā*, transmitted by Sahnun from Ibn al-Qasim, the Maliki school advances a more expansive conception of *māl*. While physical ownership (*ʿayn*) remains a foundational element, Maliki jurists accord significant legal status to *manfaʿah* (usufruct), recognizing it as a form of property in its own right. On this basis, the usufruct derived from an object—such as the right to reside in a house—is treated as a proprietary interest that may be independently owned and exchanged, most notably within ijārah contracts, where the subject matter is the usufruct rather than the corporeal asset itself[24]. This recognition of *manfaʿah* as *māl*, however, is subject to clearly defined constraints. Prominent Maliki authorities, including Imam al-Qarafi in *al-Furūq*, stress that usufruct must be clearly specified, legally valid, and sufficiently stable in duration and value. Contracts premised on speculative usufructs or those marked by excessive value fluctuation are deemed invalid due to the presence of prohibited gharar. Accordingly, a central doctrinal concern within the Maliki school lies in

[24] Malik bin Anas, "al-Mudawwanah al-Kubra," *Dar Shadir, Beirut, t. th* 3 (1994): 440.

delineating the boundary between impermissible uncertainty and tolerable commercial risk[25].

The Hanbali school articulates the broadest and most inclusive conception of *māl*. In *al-Mughnī*, Ibn Qudamah defines *māl* as "anything that provides lawful usufruct (*manfaʿah mubāḥah*) to others, except in cases of necessity"[26]. This definition does not hinge upon the existence of physical form; rather, any entity that yields permissible utility may qualify as *māl*, whether it takes the form of a tangible substance (*ʿayn*) or an intangible usufruct (*manfaʿah*). This framework is further reinforced by the *uṣūlī* principle popularized by Shaykh al-Islām Ibn Taymiyyah in *Majmūʿ al-Fatāwā*, namely that the default rule governing transactions is permissibility (*al-aṣl fī al-muʿāmalāt al-ibāḥah*) unless explicitly prohibited by divine injunction. [27]

Table 1.

Comparative Conceptions of *Māl* across the Four Sunni Schools of Islamic Law

Madhhab	Core Definition of *Māl*	Position on *Manfaʿah* (Usufruct)	Position on Digital Assets
Hanafi	Anything recognized as valuable according to	Recognized as *māl*	Acceptable when widely used and

[25] Shihabuddin Ahmad bin Idris al-Qarrafi, "t. th. al-Furuq: Anwar al-Buruq Fi Anwa'al-Furuq. t. tp," *PenerbitAlam al-Kutub*, t.t., 265.

[26] Abdullah bin Ahmad Ibn Qudamah, "Al-mughni," *Egypt: Maktabah al-Kaherah* 4 (1968): 3.

[27] Ibn Taimiyah, "Taqiy al-Din Abu al-'Abbas Ahmad bin'Abd al-Halim al-Harrani (1995)," *Majmu'al-Fatawa* 29 (t.t.): 64.

	prevailing custom (*'urf*), including non-physical entities		socially recognized
Shafi'i	Must consist of a tangible (*'ayn*) object that exists physically and is deliverable	Not considered *māl* independently; must be attached to a physical object	Not accepted due to lack of physical form
Maliki	*Māl* encompasses clearly defined and lawful usufructs	Recognized as *māl*, provided it is non-speculative	Acceptable when the usufruct is clear and free from *gharar*
Hanbali	Anything that yields permissible (*mubāḥ*) usufruct, whether physical or non-physical	Recognized as *māl*	Most receptive; acceptable as long as it provides usufruct and is not prohibited

Differences among Islamic legal schools significantly shape state-level approaches to blockchain adoption. In Indonesia, where Shafi'i jurisprudence predominates, emphasis on tangible subject matter (*ʿayn*), actual possession (*qabḍ ḥaqīqī*), and avoidance of gharar leads to heightened scrutiny of smart contracts, particularly regarding contractual validity and party identification. As a result, implementation requires additional safeguards, including rigorous Shariah audits, legal clarification

of cryptocurrencies, and human oversight mechanisms. Contemporary Indonesian studies highlight ongoing efforts to harmonize positive law with Shariah compliance.[28].

In contrast, Saudi Arabia—operating within a predominantly Hanbali framework and supported by proactive state guidance—adopts a more pragmatic approach to blockchain implementation. Policy frameworks emphasize maṣlaḥah, administrative efficiency, and legal enforceability, facilitating the institutional use of smart contracts in areas such as waqf administration, property registration, and Islamic financial services. Regulatory initiatives have lowered technical and legal barriers to adoption, while ongoing Shariah review and regulatory oversight continue to address concerns related to gharar and non-halal uses of digital assets[29].

2. Validity of Contracts in Sunni legal Schools

In Islamic law, the concept of contract (*'aqd*) requires clarity and legal certainty in its formation and execution in order to satisfy the conditions of a valid transaction. Within the Hanafi school, contracts are considered legally binding whether concluded orally or in writing, provided that the essential

[28] Iin Indriani Mokodompis, Rizaldy Purnomo Pedju, dan Adamu Abubakar Muhammad, "Integrating Islamic Law and Modern Regulation: Cryptocurrency as a Sharia-Compliant Digital Asset in Indonesia," *Antmind Review: Journal of Sharia and Legal Ethics* 1, no. 2 (2024): 83–93.

[29] Mohammd Ali G Al Zuraib, "Cryptocurrencies and Blockchain in Islamic Jurisprudence: A Comparative Legal and Economic Study," Articles, *International Journal of Environmental Sciences* 11, no. 1s (Maret 2025): 659–61, https://doi.org/10.64252/ncq8cs85.

elements of offer and acceptance (*ījāb–qabūl*) are fulfilled and the contractual subject matter (*ma'qūd 'alayh*) is free from ambiguity. This approach prioritizes mutual consent between contracting parties without requiring simultaneity between *ījāb* and *qabūl*, thereby allowing temporal separation as long as continuity is preserved and no intervening factor invalidates the agreement. Such flexibility provides doctrinal support for contemporary contractual practices that rely on diverse modes of communication and digital documentation[30].

Concurrently, the Maliki school emphasizes transparency (*wuḍūḥ*) and the avoidance of *jahālah*—informational asymmetry or ambiguity—particularly in relation to smart contracts executed through algorithmic code. From a Maliki perspective, contracts must be structured to eliminate uncertainty that may lead to dispute or injustice. Accordingly, the algorithmic code underlying smart contracts must be explicit, intelligible, and accessible, ensuring that all parties clearly understand their respective rights and obligations. This position aligns with the objectives of Shariah (*maqāṣid al-sharīʿah*), which prioritize justice and reciprocal usufruct, thereby allowing smart contracts that meet these criteria to be accommodated within the Islamic legal framework[31].

[30] Atiyah dkk., "Legitimacy of smart contracts from the perspective of Islamic law: A case study of blockchain transactions"; Syarif dan Aysan, "Usury-Free Capital through Sharia Fintech."

[31] Atiyah dkk., "Legitimacy of smart contracts from the perspective of Islamic law: A case study of blockchain transactions."

Moreover, the application of smart contracts in Islamic banking has been examined through the lens of *maṣlaḥah mursalah*, which considers public interests not explicitly stipulated in the textual sources yet consistent with Sharīʿah objectives. By enhancing transparency and reducing the risks of fraud and contractual dispute, smart contracts may advance key Sharīʿah goals, including the protection of property, fairness, and the public good. However, optimal integration of smart contracts into contemporary Islamic financial systems depends on several critical factors, notably Shariah compliance mechanisms, technological infrastructure, and prevailing legal constraints. Consequently, while the convergence of classical contract theory and smart contract technology presents substantial opportunities for innovation, it simultaneously demands rigorous legal and doctrinal evaluation to ensure sustained conformity with Islamic legal principles[32].

Table 2.

Smart Contracts across the Four Schools

Madhhab	**Characteristics of a Valid Contract**	**Position on *Gharar***	**Position on Smart Contracts**
Hanafi	Flexible offer and acceptance; simultaneity not required	Moderate; *'urf* may validate or invalidate contracts	Acceptable if contractual clarity and *ījāb–qabūl* are fulfilled

[32] Susi Nurkholidah dkk., "Implementation of Smart Contracts in Sharia Finance: Maslahah Mursalah's Perspective," *Journal of Mujaddid Nusantara* 1, no. 4 (2024): 211–21.

Shafi'i	Must be explicit, immediate, and involve a tangible object	Highly restrictive	Generally difficult to accept due to absence of physical delivery
Maliki	Emphasizes clarity (*wuḍūḥ*) and absence of jahālah	Highly cautious toward gharar	Acceptable if the code is explicit and non-ambiguous
Hanbali	All contracts are valid unless explicitly prohibited	Flexible, provided no harm arises	Acceptable as long as they serve maṣlaḥah and comply with Sharīʿah

Critically, the Shafi'i school—with its strong emphasis on physical *ʿayn*, actual possession (*qabḍ ḥaqīqī*), and heightened sensitivity to *gharar*—tends to be overly restrictive when applied directly to the digital contract ecosystem and blockchain-based smart contracts. The central tension lies in the tendency to equate the absence of physical form and the immaterial nature of code with prohibited uncertainty, despite emerging scholarship demonstrating that distributed ledger transparency, decentralized verification, and automated contractual execution can, in many financial contexts, reduce rather than exacerbate *gharar*. Without being complemented by a *maqāṣid*-oriented interpretation and an expanded conception of *qabḍ* that accommodates verifiable

digital transfer, a strict Shafi'i application risks producing what may be characterized as regulatory "over-blocking" [33].

Conversely, the Hanbali school, grounded in the principle of *al-aṣl fī al-muʿāmalāt al-ibāḥah* and a strong orientation toward *maṣlaḥah*, offers the most flexible and adaptive framework for accommodating digital contracts and assets, including smart contracts and blockchain-based asset tokenization. This flexibility is particularly conducive to fostering innovation, as several studies suggest that blockchain and smart contracts can enhance *ḥifẓ al-māl* through increased transparency, auditability, and the reduction of moral hazard. However, if such permissiveness is not constrained by adequate *sadd al-dharāʾiʿ* safeguards, it risks weakening the protective function of *fiqh al-muʿāmalāt*. Critical assessments of contemporary crypto-finance caution that prematurely legitimizing asset structures and contractual models characterized by extreme volatility, speculative behavior, and informational asymmetry may undermine the distinctive ethical foundations of Islamic finance by disregarding systemic risks that *sadd al-dharāʾiʿ* is designed to preempt[34]. Accordingly, the most viable framework for

[33] Jehan Afwazi Ahmad dan Teduh Dirgahayu, "The role of blockchain to solve problems of digital right management (DRM)," *Jurnal Teknik Informatika (Jutif)* 4, no. 1 (2023): 85–95.

[34] Siswoyo Aris Munandar dan Fahrurrozi Fahrurrozi, "Controversies of cryptocurrency: Fatwa analysis and implications from Muhammadiyah and NU perspectives in Indonesia," Articles, *Journal of Islamic Law on Digital Economy and Business* 1, no. 1 (Agustus 2025): 18–35, https://doi.org/10.20885/JILDEB.vol1.iss1.art2.

integrating smart contracts and blockchain technology into Islamic finance does not lie in an unmodified adoption of Shafi'i rigidity nor in an unqualified embrace of Hanbali permissiveness. Rather, it requires a calibrated synthesis that combines the Shafi'i school's sensitivity to *gharar* and protection of vulnerable parties with the Hanbali school's adaptive flexibility, rigorously framed by *maqāṣid al-sharīʿah*, robust Shariah governance mechanisms, and effective technological regulation.

Table 3.

Blockchain-Based Smart Contracts: Technical Process, Fiqh Analysis, and *Maqāṣid* Perspective

	Stage	Technical Activity (Blockchain)	Fiqh Analysis (Legal Pillars & Rulings)	*Maqāṣid al-Sharīʿah* Perspective
1	**Contract Initiation**	Buyer (A) intends to purchase an asset from Seller (B); transaction terms are encoded into a smart contract	*Ṣīghah* (*Ījāb*): Program code constitutes valid written offer (*kitābah*) disseminated through the network[35]	*At-Taysīr* (Facilitation): Classified as *ḥājiyyāt*, simplifying negotiations without physical presence[36].

[35] Saba Mohammed Mostafa–Dawood Alboul dan Hayel Abd-al-Hafeez Yousef, "Smart Contracts Used in the Blockchain: a Juristic Study," *Dirasat, Shari'a and Law Sciences* 49, no. 2 (2022): 5.

[36] Aljamos dkk., "The Blockchain Technology from Maqasid Shari'ah Perspective," 15.

2	**Acceptance**	Buyer approves terms via a private key (digital signature) and transmits confirmation/funds	*Ṣīghah* (*Qabūl*): Digital signature represents valid acceptance; parties are temporally present but spatially absent[37].	*Ḥifẓ al-Māl*: Private keys ensure that only the rightful owner authorizes asset transfer[38].
3	**Verification**	Transaction is broadcast to the network; nodes/miners validate authenticity and prevent double spending	Validation Process: Prevents fraud (*ghishysh*) and data manipulation prior to ledger entry[39]	Al-Amn (Security): Categorized as *ḍarūriyyāt*, protecting assets from theft and cyberattacks[40]
4	**Execution**	Upon fulfillment of conditions, the smart contract automatically transfers assets without intermediaries	*Al-Wafāʾ bi al-ʿUqūd*: Automated enforcement ensures fulfillment and	*Manʿ al-Iḥtikār*: Classified as *ḥājiyyāt*; reduces intermediary costs and

[37] Alboul dan Yousef, "Smart Contracts Used in the Blockchain: a Juristic Study," 5.

[38] Aljamos dkk., "The Blockchain Technology from Maqasid Shari'ah Perspective," 16.

[39] Aljamos dkk., "The Blockchain Technology from Maqasid Shari'ah Perspective," 7.

[40] Aljamos dkk., "The Blockchain Technology from Maqasid Shari'ah Perspective," 15.

			eliminates default risk[41]	promotes fairness[42]
5	**Recording**	Transaction is permanently recorded in a new block and added to the blockchain	*Qabḍ Ḥukmī*: Ledger entry constitutes constructive legal possession and transfer of ownership[43]	*Ash-Shafāfiyyah* (Transparency): Classified as taḥsīniyyāt; enables auditability and trust[44]
6	**Settlement**	Funds are transferred to the seller and ownership shifts to the buyer; transaction is immutable	*Luzūm al-ʿAqd*: Immutable contracts resemble binding (*lāzim*) agreements, difficult to revoke[45]	*Ḥifẓ al-Māl & Maʾālāt al-Afʿāl*: Ensures legal certainty and prevents future disputes[46]

[41] Alboul dan Yousef, "Smart Contracts Used in the Blockchain: a Juristic Study," 2.

[42] Aljamos dkk., "The Blockchain Technology from Maqasid Shari'ah Perspective," 18.

[43] Alboul dan Yousef, "Smart Contracts Used in the Blockchain: a Juristic Study," 11.

[44] Aljamos dkk., "The Blockchain Technology from Maqasid Shari'ah Perspective," 17–18.

[45] Alboul dan Yousef, "Smart Contracts Used in the Blockchain: a Juristic Study," 10.

[46] Aljamos dkk., "The Blockchain Technology from Maqasid Shari'ah Perspective," 7.

3. Blockchain in Light of *Maqāṣid al-Sharīʿah*

The rapid growth of digital technologies, particularly blockchain, has fundamentally transformed the functioning of the global economy and financial systems. Within the field of Islamic finance, this transformation has generated both new challenges and opportunities concerning the integration of technological innovation into a framework grounded in *maqāṣid al-sharīʿah*—the fundamental objectives of Islamic law as articulated by al-Ghazali and al-Shatibi. This study seeks to advance the analysis of blockchain integration within the *maqāṣid* framework, with particular attention to its alignment with the five core objectives: *ḥifẓ al-māl* (protection of wealth), *ḥifẓ al-ʿaql* (protection of intellect), *ḥifẓ al-nasl* (protection of lineage), *ḥifẓ al-dīn* (protection of religion), and *ḥifẓ al-nafs* (protection of life).

From the perspective of *ḥifẓ al-māl* (protection of wealth), blockchain offers significant advantages through its transparency, decentralization, and high level of data security. According to Ibn Ashur, the protection of wealth encompasses not merely safeguarding assets from loss or theft, but also facilitating circulation, promoting distributive justice, protecting property rights, and enhancing accessibility. Blockchain's core features—such as distributed ledgers, immutability, and cryptographic verification—closely align with these objectives. First, transparency and accountability are strengthened, as transactions are permanently recorded and publicly verifiable, thereby

reducing the risks of fraud and data manipulation. Second, decentralization reduces reliance on intermediaries, lowers transaction costs, and accelerates financial transfers, as demonstrated in applications related to digital zakat and waqf management[47]. Third, blockchain supports justice and the protection of property rights by enabling reliable verification of ownership and asset transfers, including in the tokenization of Shariah-compliant assets such as digital sukuk[48]. Nevertheless, unresolved concerns remain. Certain blockchain protocols, particularly Proof of Work (PoW), are associated with substantial energy consumption, raising environmental concerns that may conflict with *maqāṣid al-sharīʿah* principles related to public welfare. In response, alternative consensus mechanisms—such as Proof of Stake (PoS) and Proof of Authority (PoA)—have been proposed as more energy-efficient solutions that better align blockchain implementation with the objectives of sustainability and collective usufruct within Islamic law[49].

Second, from the perspective of *ḥifẓ al-ʿaql* (protection of intellect), *maqāṣid al-sharīʿah* requires that the adoption of new technologies not generate cognitive confusion, normative

[47] Dewi Rahmawati, *Blockchain For Zakat: Integration Of Maqasid As-Syari'ah And Socio-Economic Functions In Indonesia*, t.t.

[48] "Islamic finance revolution: Blockchain and Shariah compliance — Daryo News," diakses 18 Juni 2025, https://daryo.uz/en/2023/10/13/islamic-finance-revolution-blockchain-and-shariah-compliance.

[49] Syukron Jamal, "Peran Teknologi Blockchain dalam Keuangan Syariah: Analisis Tantangan dan Solusinya," *Al-Musyarakah: Jurnal Ekonomi Islam* 4, no. 1 (2024): 93–107.

deviation, or excessive speculation (*gharar*). When blockchain technologies are used without adequate understanding, users may be exposed to heightened risk, particularly through speculative cryptocurrency investments lacking clear underlying assets. Accordingly, digital literacy and financial education constitute essential prerequisites for the responsible adoption of blockchain within Muslim communities.

The implementation of Shariah-compliant smart contracts has the potential to mitigate *gharar* by enhancing legal clarity and ensuring that contractual terms are executed strictly in accordance with mutual agreement[50]. In addition, blockchain-based transparency facilitates Sharīʿah audit and regulatory oversight by providing accessible and verifiable transaction data to all relevant stakeholders, thereby reducing the risk of fraud and information asymmetry that could undermine public trust[51].

Across the four Sunni legal schools, a shared emphasis on prudence (*iḥtiyāṭ*) characterizes the reception of technological innovation. The Hanafi and Maliki schools tend to exhibit greater openness to contemporary *ijtihād*, provided that new technologies do not contravene foundational Sharīʿah principles. By contrast, the Shafi'i and Hanbali schools apply more stringent criteria to ensure the absence of *gharar* and *maysir*, reflecting a more

[50] Jamal, "Peran Teknologi Blockchain dalam Keuangan Syariah: Analisis Tantangan dan Solusinya."

[51] Pranata dkk., "The Convergence of Blockchain Technology and Islamic Economics: A Decentralized Solution for Shariah-Compliant Finance."

cautious stance toward the epistemic and ethical risks associated with emerging financial technologies.

Third, from the perspective of *ḥifẓ al-nasl* (protection of lineage), blockchain technology—characterized by decentralization, transparency, cryptographic security, and data immutability—offers a highly reliable system for administrative and legal recordkeeping. Within this framework, blockchain may be employed to securely and permanently document marital status, birth records, and inheritance rights. Any authorized modification or addition of data is automatically recorded and cannot be altered or deleted without network consensus, thereby significantly reducing the risks of data falsification, record loss, or misappropriation of lineage-related rights that frequently generate social and legal disputes.

Blockchain-based digital recordkeeping is particularly relevant to the protection of children's rights and the interests of future generations. Islamic law places strong emphasis on safeguarding children's rights to inheritance, legal identity, and familial status. In practice, however, inheritance disputes often arise due to incomplete data, lost documentation, or administrative manipulation. By enabling permanent and verifiable documentation of transactions and legal status changes related to lineage and inheritance, blockchain strengthens legal certainty while protecting children and future generations from injustice and neglect.

From the perspective of Islamic legal schools, the application of blockchain for the protection of lineage is generally acceptable across the Hanafi, Maliki, Shafi'i, and Hanbali traditions, provided that it does not violate core Shariah principles such as privacy, justice, and the avoidance of harm (*mafsadah*). The Hanafi and Maliki schools, which are comparatively more receptive to legal adaptation, tend to permit technological innovation when it demonstrably serves public interest (*maṣlaḥah*) and does not contradict definitive textual evidence. By contrast, the Shafi'i and Hanbali schools emphasize prudence (*iḥtiyāṭ*) and regulatory oversight to ensure that technological applications yield genuine usufructs and do not introduce new forms of harm.

Nonetheless, the implementation of blockchain within the context of *ḥifẓ al-nasl* faces several challenges. Data privacy constitutes a primary concern, as publicly accessible digital records may compromise individual confidentiality if not properly regulated. Robust encryption and authorization mechanisms are therefore required to ensure that access to sensitive data is strictly limited to authorized parties. Additionally, limited digital literacy—particularly in developing Muslim-majority contexts—poses a structural barrier, necessitating comprehensive educational and socialization programs to enable effective and responsible use of blockchain technology.

Fourth, from the perspective of *ḥifẓ al-dīn* (protection of religion), blockchain should be understood as a value-neutral technology whose legal status depends on its mode of use. When applied to lawful, transparent, and equitable transactions, blockchain may support the protection of religious values. Conversely, its use becomes impermissible when it facilitates activities prohibited under Shariah, such as transactions involving unlawful goods, interest-based practices (*ribā*), or purely speculative behavior[52]. This conditional assessment is consistent with the foundational logic of *maqāṣid al-sharīʿah*, which requires that technological innovation promote public usufruct (*maṣlaḥah*) and prevent harm (*mafsadah*). Accordingly, digital literacy and targeted education within Muslim communities are essential to enable informed distinctions between Shariah-compliant and non-compliant applications of blockchain technology.

Beyond transactional use, blockchain also has the potential to strengthen governance and accountability within religious institutions. The availability of immutable digital records enhances the efficiency and transparency of financial audits, thereby improving public trust in zakāt and waqf institutions and facilitating more accurate and timely distribution of social funds to eligible beneficiaries. Recent empirical studies,

[52] Pranata dkk., "The Convergence of Blockchain Technology and Islamic Economics: A Decentralized Solution for Shariah-Compliant Finance."

including those by Ariani, indicate that blockchain may offer practical solutions to governance challenges in Islamic philanthropy, provided that its implementation remains firmly aligned with Shariah principles[53].

Fifth, from the perspective of *ḥifẓ al-nafs* (protection of life), the preservation of human life constitutes one of the most fundamental objectives of Islamic law. Islam accords paramount importance to the safety and continuity of human life across all domains, including the development and utilization of modern technologies. In the contemporary digital era, blockchain has emerged as an innovation with tangible potential to support life protection, particularly through applications in healthcare systems, humanitarian assistance, and personal data security.

Owing to its core features—decentralization, transparency, and immutability—blockchain offers a highly secure data management system that is resistant to manipulation. In the context of personal data protection, this technology enables the encrypted and distributed storage of patients' medical records, ensuring that sensitive information remains accessible only to authorized parties. Such safeguards are critical for preventing data breaches, misuse, or manipulation of health information that could jeopardize patient safety. Empirical research by Agbo, published in the *Journal of Healthcare Informatics Research*,

[53] Ariani, Hidayanti, dan Hulaimi, "Blockchain Integration in Sharia Finance: Building a Shariah- Compliant Decentralized Finance Ecosystem."

demonstrates that blockchain-based systems have been implemented across various hospitals and healthcare institutions to enhance the security and integrity of medical data, thereby reducing the risks of medical errors and cybercrime that may pose direct threats to human life[54].

Beyond data protection, blockchain also plays a significant role in the distribution of humanitarian aid. In disaster and humanitarian crisis contexts, aid delivery is frequently undermined by bureaucratic inefficiencies, corruption, and limited transparency. Blockchain-based systems can ensure that all aid-related transactions are permanently recorded and publicly auditable, enabling assistance to reach intended beneficiaries directly and minimizing the risk of diversion. A report by the World Food Programme (2020) documents the success of the "Building Blocks" project, which employs blockchain technology to distribute food assistance to Syrian refugees in Jordan. Through real-time transaction monitoring, the system reduced losses and enhanced the efficiency and accuracy of aid delivery, thereby contributing directly to life-saving outcomes and improved public health among affected communities[55].

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[54] Cornelius C Agbo, Qusay H Mahmoud, dan J Mikael Eklund, "Blockchain technology in healthcare: a systematic review," 7, no. 2 (2019): 56.

[55] "Blockchain Against Hunger: Harnessing Technology In Support Of Syrian Refugees | WFP Innovation," diakses 19 Juni 2025, https://innovation.wfp.org/blog/blockchain-against-hunger-harnessing-technology-support-syrian-refugees.

From the standpoint of *maqāṣid al-sharīʿah*, initiatives aimed at safeguarding human life are not only encouraged but prioritized. Accordingly, the application of blockchain in healthcare delivery, humanitarian aid, and personal data protection aligns closely with the principle of *ḥifẓ al-nafs*. Nevertheless, such implementation must remain attentive to ethical considerations, data privacy, and regulatory compliance to prevent the emergence of new forms of harm.

C. CONCLUSION

Although blockchain offers considerable potential to advance the five pillars of *maqāṣid al-sharīʿah*—including *ḥifẓ al-māl* through transparency and decentralization, *ḥifẓ al-ʿaql* via the reduction of *gharar* and enhanced informational clarity, *ḥifẓ al-nasl* through secure documentation of family and inheritance status, *ḥifẓ al-dīn* by strengthening the accountability of religious institutions, and *ḥifẓ al-nafs* through improved health data security and the efficiency of humanitarian aid—its acceptance and implementation cannot be treated as monolithic. These potentials require an integrative framework capable of accommodating methodological divergences among the classical legal schools (*madhāhib*). To address this need, the *Maqāṣid*–Madhhab–Technology (MMT) framework is proposed as an implementation architecture that operates across three interrelated layers. The first layer consists of the universal objectives of *maqāṣid al-sharīʿah*, which function as a shared

normative umbrella. The second layer encompasses madhhab-specific juristic parameters that determine varying degrees of tolerance toward non-physical assets (*māl ghayr maddī*), acceptable levels of *gharar*, and the validity of digital contractual forms. The third layer concerns the technical design of blockchain systems and smart contracts, which are calibrated to these juristic profiles. This layered configuration enables the development of differentiated blockchain-based financial products that can be transparently marketed to Muslim stakeholders according to their jurisprudential alignment.

Within the MMT framework, Islamic financial authorities at both national and regional levels are advised to adopt a set of concrete policy recommendations. First, they should establish a dual shariah–technology governance standard by mandating the integration of Shariah Supervisory Boards and specialized Technology Committees tasked with conducting comprehensive evaluations. These evaluations should encompass contractual audits (assessing compliance with the essential pillars and conditions of *ʿaqd*), *gharar* and *ribā* risk audits (identifying hidden or systemic uncertainties), and *maqāṣid*-based audits (examining impacts on justice, financial inclusion, and consumer protection), following emerging models of shariah governance in Islamic financial technologies. Second, regulators should require the implementation of a triple audit protocol—technical (code security and system integrity), shariah (juristic validity of contractual structures), and *maqāṣid* (socio-economic impact

assessment)—as a prerequisite for the public release of any blockchain-based product. This protocol should operate under a cascade model, whereby failure to meet the standards of any single audit layer may halt the project's progression or necessitate substantial redesign prior to approval.

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