



Fintech Ecosystem on Blockchain-Based Sukuk: Perspective of Al-Najjar's Maqāṣid Al-Shariah Concept

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ABSTRACT

The Fourth Industrial Revolution has had a significant impact on financial technology, one of which is the emergence of blockchain technology as a tool for sukuk issuance. This study aims to analyze the fintech ecosystem in blockchain-based sukuk using the Maqāṣid al-najjar theory approach, which include: faith, humanity, self, mind, welfare, social entities, wealth, and the environment. This study uses a qualitative methodology with a literature study approach. The results of the study indicate that sukuk based on blockchain technology are in line with seven of the eight basic principles set out in the Maqāṣid al-najjar framework. technology such as smart contracts, transparency of blockchain technology, efficiency of sukuk issuance, and safe and globally supportive accessibility. such as an example of one of the values of faith through Sharia compliance, humanity through efficiency and reduction of issuance costs, and wealth through the distribution of assets carried out safely and transparently. However, the environmental dimension is still not met in these values, due to the high energy consumption of blockchain, which is contrary to the Maqāṣid al-najjar theory of preserving the environment. This study concludes that blockchain technology-based sukuk is very much in line with the basic principles of Maqāṣid Al Najjar, such as increasing the efficiency and accessibility of Islamic financial instruments. However, to fully fulfill the eight elements of Maqāṣid sharia initiated by al najjar, efforts are needed to address environmental problems and challenges through the development and innovation of energy-efficient blockchain technology or other sustainable solutions

ABSTRAK

Revolusi Industri Keempat telah memberikan dampak yang signifikan terhadap teknologi finansial, salah satunya adalah munculnya teknologi blockchain sebagai alat untuk penerbitan sukuk. Penelitian ini bertujuan untuk menganalisis ekosistem fintech dalam sukuk berbasis blockchain dengan menggunakan pendekatan teori Maqāṣid al-najjar, yang meliputi: keimanan, kemanusiaan, diri, akal, kesejahteraan, entitas sosial, kekayaan, dan lingkungan. Penelitian ini menggunakan metodologi kualitatif dengan pendekatan studi pustaka. Hasil penelitian menunjukkan bahwa sukuk berbasis teknologi blockchain sejalan dengan tujuh dari delapan prinsip dasar yang ditetapkan dalam kerangka Maqāṣid al-najjar. teknologi seperti kontrak pintar, transparansi teknologi blockchain, efisiensi penerbitan sukuk, dan aksesibilitas yang aman dan mendukung secara global. seperti contoh salah satu nilai keimanan melalui kepatuhan Syariah, kemanusiaan melalui efisiensi dan pengurangan biaya penerbitan, dan kekayaan melalui distribusi aset yang dilakukan secara aman dan transparan. Akan tetapi, dimensi lingkungan masih belum terpenuhi dalam nilai-nilai tersebut, dikarenakan tingginya konsumsi energi blockchain, yang bertentangan dengan teori Maqāṣid al-najjar tentang pelestarian lingkungan. Penelitian ini menyimpulkan bahwa sukuk berbasis teknologi blockchain sangat sejalan dengan prinsip dasar Maqāṣid Al Najjar, seperti meningkatkan efisiensi dan aksesibilitas instrumen keuangan Islam. Akan tetapi, untuk sepenuhnya memenuhi delapan unsur Maqāṣid syariah yang digagas al-najjar, diperlukan upaya

untuk mengatasi masalah dan tantangan lingkungan melalui pengembangan dan inovasi teknologi blockchain yang hemat energi atau solusi berkelanjutan lainnya.



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INTRODUCTION

The Fourth Industrial Revolution, sometimes referred to as Industry 4.0, represents a technology transformation that is changing operational and interactive paradigms (Schwab, 2016). The impact will be seen in the regulation and governance of all technology-driven activities and transactions. Technological innovation is rapidly revolutionizing financial products, with the integration of sukuk into blockchain being one area of exploration (Blossom Finance, 2019a). In this context, Islamic financial instruments such as sukuk play a vital role. Sukuk, or Islamic bonds, are long-term securities grounded in Sharia principles, obligating issuers to provide returns through profit-sharing or fees rather than interest (Dewan Syariah Nasional, 2002). Unlike conventional bonds that rely solely on interest payments, sukuk are based on underlying contracts such as mudarabah, musharakah, murabahah, or ijarah, ensuring a strong link with real economic activities (Beik, 2011). This unique structure reflects the prohibition of elements such as riba, gharar, and maysir, positioning sukuk as an ethical alternative to conventional debt instruments (Rahmawati & Tanjung, 2018).

Numerous individuals erroneously conflate blockchain technology with digital currency like Bitcoin. Blockchain is the technology employed in Bitcoin transactions and other digital currencies utilizing distributed payment mechanisms. This technology can also be utilized for further applications (Nakamoto, 2008). Incorporated in the execution of blockchain-based sukuk.

The objective of employing blockchain to investigate sukuk is to address the challenges associated with sukuk structure. The below factors represent some of the most substantial barriers to enhanced market acceptability. The sukuk issuance paperwork process is more protracted and less efficient than that of conventional bonds, leading to increased costs. The judgment of Sharia ulama is essential for every sukuk structuring process, and including Sharia rulings increases the cost of the operation. Third, the absence of standardization, as seen in the conventional bond market, impedes the structuring process, escalates costs, and constrains market dispersion. Fourth, universally recognized Sharia principles are necessary for various sukuk entities to address Sharia disputes consistently. Finally, I will note Additional challenges encompass tax treatment that diverges from those of conventional bonds, credit rating stipulations, and asset considerations throughout the transaction period (Khan et al., 2020). To address these challenges, blockchain technology emerges as a promising innovation. Blockchain is a peer-to-peer distributed ledger system that records and validates transactions in blocks without reliance on a central authority (Allen, 2017). Each transaction is transparent, immutable, and verifiable by the majority of network participants (Kunhibava et al., 2021). Although often associated with cryptocurrencies like Bitcoin (Nakamoto, 2008), blockchain applications extend far beyond digital currencies, offering opportunities in payment systems, supply chain management, and, importantly, Islamic capital markets.

Multiple parties are essential in a typical sukuk structure to enable proper asset transfer, safeguard investor interests, and ensure adherence to applicable regulations across all sukuk tenors. The parties that may participate in the issuing of traditional sukuk include: 1) An issuer, often a special purpose vehicle (SPV), that issues sukuk and safeguards the underlying assets for sukuk holders. Sukuk holders, who are the proprietors of sukuk. 3) Obligors, who necessitate financing and are accountable for remitting payments to sukuk holders/investors, Sharia consultants ensure that the sukuk structure adheres to Shari'ah compliance. 5) Regulatory bodies, including capital market approval agencies, 6) Legal consultants who ensure the structure's legality, 7) Investment banks, both individually and together, serve as the principal regulator, rating advisor, and primary manager, guaranteeing and overseeing bids while advising the obligor. 8) Facility agent, responsible for supervising the operational aspects of the sukuk depository (Comcec (2018) in Kunhibava et al., 2021).

Concurrently, the issuance of sukuk with blockchain technology is significantly more streamlined and uncomplicated (Mohamed (2019) in Ministry of Finance, 2019a). Zaka and Shaikh assert that blockchain-based

sukuk facilitates asset tracking, hence augmenting investor confidence. Muneeza et al. discovered that blockchain-based publication enhances efficiency and reduces expenses, hence allowing fundraisers on crowdfunding sites to issue their own shares. The HSBC Center for Sustainable Finance, in partnership with the Sustainable Digital Finance Alliance, published a report detailing a study on blockchain-based bonds, including green bonds, issued by banks until Q3 2019, revealing enhanced efficiency and reduced costs across all bond types. Mohsin introduced the innovative Sukuk Wakaf concept, highlighting the application of blockchain-based smart contracts to enhance the efficiency and transparency of the Sukuk Wakaf fundraising process (Khan et al., 2020). Blockchain facilitates and enhances processes for the benefit of individuals. The welfare of the populace is a fundamental principle of *maqāṣid al-shari'ah*.

However, the implementation of blockchain in sukuk cannot be separated from the broader fintech ecosystem. A fintech ecosystem is a collaborative framework involving regulators, financial institutions, technology providers, and consumers that collectively drive financial innovation (Avianti et al., 2021). Effective coordination among these actors is crucial to ensure that blockchain-based sukuk achieve efficiency, security, and regulatory compliance. Demand from young digital-native generations, availability of technological talent, and supportive policies from regulators such as OJK and Bank Indonesia are essential components that determine the success of this integration (Leon A Abdillah & et all, 2020).

In analyzing the implications of blockchain-based sukuk, Al-Najjar's conception of *maqāṣid al-shariah* offers a comprehensive anthropocentric perspective. Al-Najjar expands the traditional framework by emphasizing four dimensions: preserving life (faith and humanity), protecting human essence (soul and intellect), safeguarding the social system (progeny and community), and maintaining the material dimension (wealth and environment) (Najjar (al) & Majid, 2008). This holistic formulation positions *maqāṣid* not only as a legal framework but also as a guide for aligning technological innovation with ethical, social, and environmental responsibilities.

Maqāṣid, in general, refers to the objectives of Islamic law, which dictate the permissibility or prohibition of various actions (Auda, 2013). Building upon this, Al-Najjar's formulation provides a more comprehensive perspective compared to earlier frameworks, making it particularly relevant for examining contemporary innovations such as blockchain-based sukuk. This paper therefore aims to elucidate the implementation of blended sukuk and blockchain technology through the lens of Al-Najjar's *maqāṣid al-shariah* framework, considering both advantages and disadvantages.

RESEARCH METHOD

This study employs a qualitative methodology. The employed data collection method is a literature review, which involves gathering library documentation from articles, journals, and books, as well as publication data from external sources to evaluate the issues presented in this article. This article employs data analysis techniques like data reduction, data display, and conclusion drawing. The three data analysis procedures will refine the article's core and exclude irrelevant data, so facilitating a conversation that addresses the underlying issue formulations of this article.

RESULT AND DISCUSSION

FINTECH ECOSYSTEM ON BLOCKCHAIN-BASED SUKUK: SMARTSUKUK

The Sukuk blockchain is an innovative concept in contemporary culture, with Smart Sukuk being one of the platforms facilitating sukuk issuance using blockchain technology. Blossom Finance's Smart Sukuk is a blockchain-based platform for issuing sukuk (Blossom Finance, 2019). The intelligent Sukuk launched by Blossom Finance in Indonesia represents a pioneering advancement in this sector, and this platform is considered one of the premier blockchain applications in Islamic Finance (Mounira, 2020). This sukuk exemplifies two burgeoning trends in the Islamic capital market: digital innovation and an increasing emphasis on social impact finance.

This platform is the inaugural blockchain-based sukuk that endorses socially positive companies. The SmartSukuk on this platform is predicated on an Ethereum "Smart Contract," which is fundamentally a blockchain-based software application. Smart contracts govern all data, tasks, calculations, and payments associated with sukuk, creating a permanent audit trail at each phase (Blossom Finance, 2019).

Blossom Finance has developed two blockchain contract methodologies for its sukuk. The cash is collected and allocated to the venture capital firm "PBMT Social Ventures," which serves as the sukuk issuer, specifically for the first sukuk, known as sukuk mudarabah, structured on the principle of profit sharing. The issuer supports a microfinance cooperative that extends loans to small enterprises, including farms and local grocery stores. The funds generated from deposit-based operations are allocated to investors. PMBT possesses a sharia review

board that oversees mudarabah agreements and funding as a regulated entity under the Indonesian Financial Services Authority (Blossom Finance, 2019).

The second sukuk is designed as sukuk al-istisna' wa al-ijarah, or asset-based rental sukuk. Nevertheless, despite the technology being prepared, no financial resources have been allocated for the sukuk. Blossom Finance is reportedly assessing applicants for a second sukuk issuer, intended to finance projects like hospital building. Upon completion, the hospital and its facilities will be leased, and the earnings will be allocated to investors (Blossom Finance, 2019).

Blockchain technology generally has several advantages, such as enhanced transparency, indestructibility, decentralization, resilience, irreversibility, efficiency, and reduced transaction costs, attributable to its digital ledger. These advantages can enhance transaction convenience, hence promoting *Maslahah's* welfare (Blossom Finance, 2019). From a maqāsid perspective, this feature supports *hifz al-mal* (protection of wealth) by safeguarding investor assets and ensuring contract integrity. Furthermore, the tokenization of sukuk units into digital assets enhances accessibility and cross-border investment, which resonates with *hifz al-nasl* (prosperity and continuity of the community) by facilitating broader financial inclusion. Transparency, another key attribute of blockchain, reinforces *hifz al-'aql* (preservation of intellect) as investors are empowered to make rational decisions based on verifiable, immutable records. Nevertheless, the high energy consumption associated with blockchain infrastructure contradicts *hifz al-bi'ah* (protection of the environment), highlighting a dimension where technological advancement diverges from maqāsid principles. This duality illustrates both the potential and limitations of blockchain in fulfilling the holistic objectives of Islamic law.

SWOT ANALYSIS: FINTECH ECOSYSTEM ON BLOCKCHAIN-BASED SUKUK

Blockchain offers several benefits. Transparency: The transaction records of the blockchain are entirely accessible to the public (Oh & Shong, 2017). The method of recording and authenticating transactions on the blockchain contributes to the preservation of record integrity (Lemieux, 2017). Owing to these advantages, blockchain possesses the capacity to evolve into a transparent innovation platform for e-commerce, especially in the areas of finance, currency, supply chain management, inventory, accounting, and trading (Ghanbary, 2021a). Due to this transparency, blockchain may be utilized across several industries, especially banking, and its usefulness is anticipated to grow.

The benefit of utilizing sukuk on blockchain is the comparison of issuance expenses. Comparing the expenses associated with issuing conventional sukuk to those of tokenizing sukuk using blockchain on Ethereum reveals that blockchain tokenization is more cost-effective (Khan et al., 2020). Blockchain technology, as outlined in the SWOT analysis, can diminish transaction costs by minimizing or eradicating the necessity for intermediaries and exchange fees. Financial services companies may derive advantages from this expertise.

Moreover, blockchain technology possesses the capacity to markedly enhance information processing efficiency. Blockchain enhances the efficiency of clearing and settlement processes by facilitating autonomous delivery and payment mechanisms without reliance on a central authority. This significantly mitigates the likelihood of a settlement (Chiu & Greene, 2019). Institutions can save substantial sums in back-office and operational costs through the use of blockchain technology. Blockchain can substantially decrease costs, particularly in settlements, potentially by over 99 percent. Counterparty risk is lessened if settlement occurs in real time.

Another benefit is the very low expense of building a blockchain system and its long-term viability, enabling transactions to be executed more swiftly and economically. Moreover, system uptime among network members is assured 24/7, facilitating effortless and efficient synchronization within its design. The system's transactions are transparent, traceable, and subject to audit. This facilitates a singular record presentation that seamlessly impacts the audit process, enabling regulators to monitor and intervene only when required. It can enhance the transparency of underlying assets and cash flows (Kunhibava et al., 2020). Blockchain can enhance investor trust in decision-making due to the abundance of information and openness it offers.

Moreover, when sukuk is issued using blockchain technology, the documentation offered to sukuk holders or investors is disseminated as tokens (cryptocurrency) that signify a share of or ownership in the underlying asset, along with dividend distributions or profit sharing. Due diligence and KYC verification can be conducted utilizing blockchain technology; sukuk ratings based on issuers can be assessed through an automated market value technique; asset evaluations can be performed via an automated market valuation approach; Sharia compliance and assessment can be systematically reviewed based on AI and legal stipulations; and dividend allocations can be executed through smart contracts (Ministry of Finance, 2019b).

Despite its numerous advantages, blockchain possesses significant disadvantages, including an absence of standards. In addition to the existing vast network, there is no standardized framework for blockchain applications. Standardization can save costs, enhance consensus mechanisms, and facilitate interoperability between networks and blockchain systems (Ghanbary, 2021a). As a result, blockchain technology is still in its

early phases, and standards for transactions are now being defined around the world. Moreover, due to the uncertain regulatory status of blockchain, it will have difficulties in achieving broader acceptability among existing financial institutions if its future regulatory framework remains ambiguous (Niranjanamurthy et al., 2019).

The subsequent drawback is to application integration; Blockchain solutions necessitate significant modifications or complete system overhauls. Companies must design a new strategy to facilitate the transition (Niranjanamurthy et al., 2019). Moreover, complexity presents a disadvantage. Despite the potential and advantages of blockchain, industry stakeholders may struggle to grasp the technology's complex features, including its encryption principles and underlying distributed ledger. Consequently, creating a blockchain application requires a distinct amalgamation of talents that not all industries are prepared to invest in (Nwagwu, 2020).

Blockchain technology in sukuk issuance presents a complex balance of strengths, weaknesses, opportunities, and threats, which can be analyzed through the *maqāṣid al-shariah* framework. Transparency, as one of blockchain's core strengths, enhances *hifz al-mal* (protection of wealth) by safeguarding investor assets through immutable records, while also reinforcing *hifz al-'aql* (preservation of intellect) by enabling rational decision-making based on verifiable information. Similarly, the reduction of transaction costs through tokenization supports *hifz al-mal*, as it minimizes wasteful expenditures and ensures more equitable access to financial instruments. On the other hand, the high energy consumption required for blockchain networks contradicts *hifz al-bi'ah* (protection of the environment), raising concerns regarding sustainability and the ethical use of resources. Furthermore, regulatory ambiguity constitutes a significant threat, potentially undermining *hifz al-din* (religion) and *hifz al-mujtama'* (protection of the community) if sukuk issuance fails to comply with Sharia principles or leaves investors unprotected.

In addition, the limitations of blockchain sukuk are Capital market instruments cannot be issued without the approval of regulatory authorities. The securities commission of each country serves as the regulatory body for the sukuk market, namely overseeing the capital market. Regulators must regulate financial markets to ensure investor protection and to maintain fair and ethical market behaviour. The sukuk blockchain's distinct characteristic is its integration into a decentralised issuance process, which prompts regulatory apprehensions. It is possible to circumvent many existing consumer protection regulations in the capital markets in the absence of a unified regulatory entity overseeing all aspects of issuance. It is crucial to acknowledge that the sukuk blockchain may potentially experience failure, and there is a risk of default. The regulatory authority is essential to the success of this sukuk blockchain endeavour.

From a regulatory perspective, the success of blockchain-based sukuk in Indonesia depends on the coordinated role of key institutions. The Financial Services Authority (OJK) holds a central role in safeguarding investor interests, supervising sukuk issuance, and ensuring fair market practices. Bank Indonesia (BI) contributes to the infrastructure for payment systems, settlement mechanisms, and integration with the broader financial ecosystem. Meanwhile, the National Sharia Council (DSN-MUI) is responsible for validating Sharia compliance at every stage of sukuk structuring, including those issued on blockchain platforms. Without a clear regulatory framework that harmonizes these authorities, blockchain sukuk may face challenges related to enforceability, investor protection, and Sharia compliance. Thus, regulatory clarity is not merely a procedural necessity but a fundamental requirement for ensuring that blockchain sukuk fulfills its *maqāṣid* objectives of promoting justice, transparency, and public welfare.

Despite its advantages and disadvantages, blockchain technology presents both possibilities and risks. Enhancing system security represents one of the opportunities. Blockchain is inherently more secure than several other storage systems due to its reliance on encryption. Moreover, this data is fragmented, and no one possesses comprehensive control over the database. Data cannot be arbitrarily deleted, and it will remain inaccessible to unauthorised individuals (Ghanbary, 2021b). Moreover, blockchain offers organisations and end users enhanced efficiency advantages, including cost reductions, along with the foundational mechanisms for smart contracts and advanced audit functionalities (Cioroianu et al., 2021).

Another application of Blockchain technology is its capacity to facilitate fundraising from a large number of individuals using software. Moreover, blockchain facilitates cross-border transactions for organisations, guaranteeing real-time data access. A complex enterprise will derive the greatest benefit from blockchain, as it optimises global transaction networks (Nwagwu, 2020). The implementation of digital technologies, such as blockchain, will provide a sustainable competitive advantage for company growth in the context of economic virtualisation. The ability to enhance operating tools and develop new services in the future constitutes a competitive advantage of blockchain technology, shown by blockchain-based sukuk (Osmani et al., 2020).

Blockchain faces vulnerabilities from environmental restrictions, since the concern over global warming has led to an increased emphasis on sustainable practices. Extensive blockchain networks necessitate substantial energy consumption, which incurs significant costs. The blockchain network presently expends more energy

than most countries worldwide. The energy burden will be further scrutinised as blockchain use expands. Significant resistance to extensive energy use may arise if alternative energy sources for blockchain-based applications are not identified (Ghanbary, 2021b).

Additionally, other threats to Sharia compliance necessitate the involvement of a qualified Sharia adviser or Sharia committee to ensure adherence to relevant Sharia requirements, as is essential in other Islamic financial instruments, to confirm that the sukuk is a Sharia-compliant product (Securities Commission Malaysia, 2018). Given that adherence to Shari'ah principles is essential for the legitimacy of all sukuk, identical requirements must be applied when sukuk are constructed using blockchain technology.

Unlike traditional bonds, it necessitates a singular blockchain-based framework for all issuances, irrespective of the purpose of issuance. The debtor and creditor have a relationship analogous to that of the issuer and bondholder. Consequently, the structure will remain same across all types of publications. Nonetheless, in the sukuk framework, the procedures must vary according to the specific type of underlying Sharia contract and its modifications (Kunhibava et al., 2020). A Shari'ah adviser or Sharia committee must be involved at every stage of sukuk issuance, including those based on blockchain technology (Securities Commission Malaysia, 2018). Consequently, in contrast to blockchain bonds, the sukuk blockchain still needs approval from a Shari'ah council. This signifies that financial expenditures for sharia advisory services are important in blockchain-based sukuk, since the absence of a sharia consultant poses the risk of sharia non-compliance.

The matter of sharia compliance with cryptocurrencies remains contentious, with several divergent viewpoints. The conformity of digital currencies with Sharia law in Islamic finance remains a contentious question among jurists and intellectuals. Although the majority of legal professionals refrain from asserting the legitimacy or validity of digital money, others have an opposing perspective (Kunhibava et al., 2020).

FINTECH ECOSYSTEM ON BLOCKCHAIN-BASED SUKUK: MAQĀŠID AL-NAJJAR'S PERSPECTIVE

Analysis of fintech ecosystem on blockchain-based sukuk in maqāšid al-najjar's perspective explained in the table as follows:

Table 1.1 Implementation of maqāšid al-Najjar in a blockchain-based sukuk ecosystem

No	Ecosystem on blockchain-based sukuk	Maqasid al-Najjar							
		Faith	Humanity	Self	Mind	Prosperity	Social entity	Wealth	Environment
1	Demand	✗	✓	✗	✗	✗	✗	✗	✗
2	Talent	✗	✓	✗	✓	✗	✗	✓	✗
3	Solution	✗	✓	✗	✓	✓	✓	✓	✗
4	Capital	✗	✓	✗	✗	✗	✗	✗	✗
5	Policy	✓	✓	✓	✗	✗	✗	✗	✗

The analytical results indicate that the sharia service ecosystem does not completely satisfy the eight values outlined in al-Najjar's maqāšid theory, table explanation 1.1:

1. Faith (maintain religion)

Al-Najjar elucidated that several supportive indications exist to uphold religion, one of which is taysir, signifying the facilitation of ease for its followers. Taysir seeks to instill in followers the belief that the religion is beneficial and feasible to practice. The taysir indication aligns with the objective of issuing blockchain-based sukuk to ease transactions, adhering to Islamic law, which is reinforced by the presence of contracts inside the demand attribute of the blockchain-based sukuk ecosystem. The existence of contracts that align with and support the taysir indication.

2. Humanity (maintain human humanity)

Al-Najjar elucidated that the preservation of human dignity is founded on four pillars: nature, the purpose of life, honor, and freedom, all of which seek to safeguard mankind. Research indicates that the issuing of blockchain-based sukuk allows for a comparative analysis of issuance costs. Comparing the expenses of issuing conventional sukuk with those of tokenizing sukuk using blockchain on Ethereum reveals that the latter is more cost-effective. According to the SWOT analysis, blockchain technology can decrease transaction costs by minimizing or eradicating the necessity for middlemen and exchange fees. Financial services firms can leverage this expertise. Moreover, blockchain technology possesses the capacity to markedly enhance the efficiency of information processing. Blockchain enhances the efficiency of clearing and settlement processes by facilitating autonomous delivery and payment mechanisms without reliance on

a central authority. This markedly diminishes settlement risks. Institutions may save operational and back-office expenditures by tens of thousands of dollars with blockchain technology. Consequently, all characteristics of the blockchain-based sukuk ecosystem—namely demand, talent solutions, capital, and policy align with the value of humanity.

3. Self (maintain the soul)

Al-Najjar asserts that the preservation of the soul encompasses two dimensions: the tangible and the conceptual. Preserving the essence in significance is achieved by offering a sense of security to the soul. The security of blockchain-based sukuk services is assured due to the enhanced transparency of underlying assets and cash movements provided by blockchain technology. Blockchain can enhance investor trust in decision-making due to the transparency of the information presented. Moreover, when sukuk is issued utilising blockchain technology. Blockchain technology can facilitate due diligence and KYC verification. Consequently, blockchain-based sukuk serves as a secure transaction solution and is incorporated within the policy framework.

4. Mind (maintain reasoning)

Al-Najjar posits that reason is fundamentally an inherent capacity in people that enables comprehension, differentiation, and judgement, with the preservation of reason including both physical and non-physical dimensions. Physically sustaining cognitive function involves activities that promote brain growth and the avoidance of factors that harm the brain. Preserving physical well-being can be achieved by the consumption of nutritious meals and the avoidance of alcohol and similar substances. The blockchain-based sukuk ecosystem features a sukuk ranking determined by the issuer, utilising automated market value techniques. Asset evaluation is conducted through an automated market valuation approach, while Sharia compliance and assessment are reviewed automatically via AI and legal provisions. Dividend allocation (payment) is executed through smart contracts. The blockchain-based sukuk ecosystem that aligns with rational value is characterised by its solution attributes.

5. Prosperity (maintain descendants)

Preserving descendants entails sustaining the community and ensuring the continuance of the human lineage. Preserving lineage is a fundamental Islamic principle that significantly impacts societal stability, enabling individuals to fulfil their responsibilities as caliphs while also safeguarding the continuity of the human race. In blockchain-based sukuk, preserving lineage or, more specifically, ensuring community and human continuity. Blockchain-based sukuk offers efficiency advantages for organisations, communities, and end consumers. Moreover, blockchain enables organisations to conduct cross-border transactions, guaranteeing real-time information exchange. This capability is incorporated inside the solution characteristic of the blockchain-based sukuk ecosystem.

6. Social entity (maintain the structure of society)

Al-Najjar says that preserving the social structure of society necessitates the maintenance of its two fundamental components: society and social interactions. Blockchain-based sukuk not only facilitate transactions but also streamline the international transaction process. The use of digital technologies, such as blockchain, will confer a sustained competitive edge for the advancement of corporations, communities, and social organisations in the realm of economic virtualisation. The ability to enhance operational tools and develop new services in the future constitutes a competitive advantage of blockchain technology. This functionality is incorporated into the solution aspect of the blockchain-based sukuk ecosystem.

7. Wealth (maintain of wealth)

Al-Najjar asserts that asset maintenance may be achieved through several methods, including safeguarding their worth and facilitating their circulation and rotation. The notion of asset circulation pertains to the distribution and payback of assets. Asset distribution is a process of circulation that pertains to individual rights within society. Redistribution is a method of wealth circulation grounded in religious, moral, and humanitarian principles. In the allocation and preservation of assets, blockchain-based sukuk inherently offers more security than several other storage methods due to its foundation in encryption. Moreover, this data is decentralised, and no one possesses complete authority over the database. Data cannot be arbitrarily removed and will remain inaccessible to unauthorised individuals.

8. Environment (maintain the environment)

According to Al-Najjar, protecting the environment means maintaining a balanced system and preserving and protecting it from damage, pollution and excessive consumption. Preserving nature is one of the main roles in the organization's social responsibility or corporate social responsibility. In terms of environmental protection, blockchain-based sukuk are not yet susceptible to environmental regulations, as the prospect of global warming has prompted a new focus on ecologically beneficial behavior. Large blockchain networks require a lot of power, which is very expensive. Blockchain networks currently consume more energy than most countries on the planet. The energy burden will be more of a concern than ever as blockchain usage

increases. There may be a lot of resistance to this large-scale energy use if new energy sources are not found to support blockchain-based programs.

The research indicates that the blockchain-based sukuk ecosystem satisfies seven criteria of maqāṣid al-Najjar, with one value, the natural environment, remaining unfulfilled.

CONCLUSION

This study shows that the financial technology landscape, especially in blockchain-based sukuk, is highly aligned with the principles of Al-Najjar's maqāṣid al-shariah framework. The fintech ecosystem is aligned as evidenced by seven of the eight maqāṣid values: faith, humanity, self, mind, welfare, social entity, and wealth. These values are supported by features such as smart contract features, transparency of processing, efficiency of issuance costs, security-related features, and global accessibility.

However, in this study the environmental dimension remains a challenge, due to the high energy consumption of blockchain, and is driven by a network that requires a lot of resources. This is contrary to the value of Maqāṣid al-najr which requires preserving and maintaining the natural environment. The solution to overcome this deficiency requires innovation in energy-efficient blockchain technology or alternative solutions that are aligned with sustainable practices. Although blockchain-based sukuk shows alignment with most of the values of Al-Najjar's Maqāṣid, further blockchain development is needed to achieve a full holistic approach that includes environmental sustainability in its operational framework.

This study is subject to several limitations. First, it is primarily conceptual in nature, relying on secondary sources without empirical validation. Second, the analysis is confined to Al-Najjar's maqāṣid framework and does not extend to other contemporary approaches, such as Auda's systems-based maqāṣid. Third, the study does not incorporate insights from regulators, practitioners, or market participants, which could provide a more applied perspective.

Future research should therefore expand in several directions. Empirical studies, such as surveys or case studies of blockchain sukuk pilots, would enrich the current findings and provide practical evidence. Technological research on energy-efficient consensus mechanisms and green blockchain models is also necessary to address environmental concerns. Additionally, comparative analyses of different maqāṣid frameworks may yield deeper insights into the normative underpinnings of Islamic fintech. Finally, further exploration of the role of regulatory institutions and Sharia councils in governing blockchain sukuk would contribute to a more comprehensive understanding of its feasibility and compliance.

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