

Integrating Tokenisation into the Islamic Business and Finance Ecosystem

Muhammad Fazlurrahman Syarif

Bangor University – The United Kingdom

blpabb@bangor.ac.uk

Abstract

This article examines the integration of tokenisation into the Islamic business and finance ecosystem as a conceptual response to the growing digitalisation of financial markets, halal business, and Islamic social finance. Tokenisation enables real-world and financial assets to be represented as blockchain-based digital tokens, offering potential benefits such as fractional ownership, liquidity enhancement, transparency, traceability, and wider investment participation. Within Islamic finance, these features are particularly relevant because Shariah principles emphasise asset-backing, ownership clarity, risk-sharing, ethical investment, and the avoidance of riba, gharar, and maysir. The article argues that tokenisation can support Islamic capital markets, tokenised sukuk, halal supply chains, Islamic crowdfunding, waqf, zakat, and SME financing when properly governed through Shariah-compliant and maqasid-oriented frameworks. However, the integration of tokenisation also raises important concerns, including regulatory uncertainty, cybersecurity risks, speculative trading, digital literacy gaps, and the need for stronger Shariah supervision. The discussion highlights four core themes: tokenisation as Shariah-compatible financial innovation, its role in Islamic business ecosystem development, its potential in Islamic social finance, and the governance challenges that must be addressed. The article concludes that tokenisation offers transformative potential, but only if embedded within ethical, regulatory, and institutionally credible Islamic finance structures.

Keywords

Tokenisation, Blockchain, Sukuk, Waqf, Governance

Introduction

Tokenisation has emerged as one of the most important developments in the digital transformation of finance. It refers to the process of converting real-world assets, financial claims, or rights of ownership into digital tokens recorded on blockchain or distributed ledger infrastructure. Through tokenisation, assets that were previously illiquid, expensive to transfer, or limited to institutional investors can be divided into smaller digital units and traded more efficiently. Milkau (2024) discusses the question of whether tokenisation can deliver efficiency and what kind of efficiency it may generate, while Schwarz (2022) highlights that early design decisions in blockchain-based tokenisation have significant implications for how tokenised systems function. Bouraga (2025) further contributes to this discussion by classifying tokenisation approaches on blockchain, showing that tokenisation is not a single model but a diverse set of technological and institutional arrangements.

The relevance of tokenisation is particularly strong for Islamic finance because Islamic financial principles emphasise asset-backing, ownership clarity, risk-sharing, ethical investment, and the link between finance and real economic activity. Daly and Frikha (2016) explain that Islamic finance is built upon basic principles that contribute to financing economic activity, while Tatiana et al. (2015) discuss the principles and instruments used by Islamic financial institutions. These principles create a natural connection with tokenisation, especially when digital tokens represent real assets, sukuk claims, waqf assets, halal business interests, or Shariah-compliant investment rights. Shah (2024) directly connects asset tokenisation with Islamic finance, historical perspectives, sukuk innovation, and Shariah-compliant blockchain, suggesting that tokenisation may become a significant tool for Islamic capital market development.

The significance of this topic also lies in the growing role of Islamic fintech and blockchain in reshaping financial access, business models, and institutional governance. Unal and Aysan (2022) show that fintech, digitalisation, and blockchain have become increasingly important areas of investigation in Islamic finance. Alsaghir (2023) links digital risks and Islamic fintech with social justice and financial inclusion, indicating that technological innovation must be assessed not only in terms of efficiency but also in terms of ethical and social outcomes. Hidayat et al. (2021) propose a new model of the Islamic financial ecosystem in relation to sustainable economy, which supports the idea that tokenisation should be understood as part of a wider Islamic business and finance ecosystem rather than a narrow financial technology.

This article aims to conceptually examine how tokenisation can be integrated into the Islamic business and finance ecosystem. It argues that tokenisation has potential to support Shariah-compliant financial innovation, halal business development, Islamic social finance, SME financing, supply-chain transparency, and inclusive investment. However, this potential is not automatic. Tokenisation must be carefully designed to avoid *riba*, *gharar*, *maysir*, excessive speculation, unclear ownership structures, and non-compliant underlying assets, as Shariah prohibitions remain central to Islamic banking and finance (Kuyateh, 2022). The paper is guided by three research questions: How can tokenisation be integrated into the Islamic business and finance ecosystem?

In what ways can tokenisation support Shariah-compliant financial innovation and business development? What challenges limit the adoption of tokenisation in Islamic finance and halal business ecosystems?

The article contributes to broader debates on Islamic fintech, digital assets, blockchain-based capital markets, Shariah governance, and financial inclusion. Banu et al. (2026) discuss tokenisation in relation to efficient and integrated digital capital markets, while Ahmed (2024) examines security tokens, ecosystems, and financial inclusion from Islamic perspectives. Chehade et al. (2025) further frame Shariah-compliant tokenisation as a blockchain application for sustainable Islamic finance in emerging markets. These studies indicate that tokenisation is not merely a technological trend, but a structural development with implications for Islamic financial architecture, regulatory systems, market access, and maqasid-oriented development.

Literature review

The literature on tokenisation explains it as a digital mechanism for representing ownership, claims, or access rights through blockchain-based tokens. Milkau (2024) examines the efficiency promise of tokenisation, noting that its benefits depend on the type of infrastructure, settlement design, operational model, and legal recognition. Schwarz (2022) shows that early design decisions in blockchain-based tokenisation matter because they influence governance, interoperability, custody, investor access, and market structure. Bouraga (2025) provides a classification framework for blockchain tokenisation approaches, demonstrating that tokenisation may involve different token types, asset classes, technical designs, and business objectives. Thazuddin and Makkimane (2026) discuss tokenisation of real-world assets from theoretical and practical perspectives, while Sikiru et al. (2024) examine tokenisation of illiquid assets as part of the next generation of investment banking advisory and capital markets. Together, these studies show that tokenisation may enhance liquidity, fractional ownership, transparency, and market participation, but its effectiveness depends on institutional design.

Within Islamic finance, the compatibility of tokenisation depends on the nature of the underlying asset, the structure of ownership, the rights attached to the token, and the avoidance of prohibited elements. Daly and Frikha (2016) explain the basic principles of Islamic finance and its contribution to economic financing, while Tatiana et al. (2015) identify the principles and instruments used by Islamic financial institutions. Kuyateh (2022) emphasises the importance of Shariah prohibitions, particularly *riba*, *gharar*, and *maysir*, which are highly relevant when assessing digital assets and token trading. Sami (2025) reviews blockchain and Bitcoin technology from legal and Islamic economic perspectives, showing that digital financial innovation requires careful Shariah and legal analysis. Soamole (2025) proposes a hybrid Shariah-compliant blockchain model for Islamic finance, reinforcing the argument that blockchain systems must be adapted to Islamic legal and ethical requirements.

The literature also connects tokenisation with sukuk innovation and Islamic capital markets. Shah (2024) argues that asset tokenisation can be linked to historical developments in Islamic finance

and sukuk innovation through Shariah-compliant blockchain. Chehade et al. (2025) examine Shariah-compliant tokenisation in emerging markets and suggest that blockchain applications may support sustainable Islamic finance. Ahmed (2024) also discusses security tokens and financial inclusion from Islamic perspectives, highlighting how tokenisation may widen access to investment opportunities. Banu et al. (2026) focus on digital capital markets and the role of tokenisation in developing efficient integrated market infrastructure, which has implications for Islamic capital markets seeking greater liquidity and transparency.

Islamic fintech literature provides another important foundation. Unal and Aysan (2022) present a retrospective investigation of fintech, digitalisation, and blockchain in Islamic finance, showing that digital technology is reshaping the Islamic finance landscape. Aysan and Syarif (2025) discuss the fusion of blockchain and Islamic fintech in relation to SME financing, financial well-being, and trade financing, indicating that tokenisation may contribute to real-sector development. Alsaghir (2023) highlights digital risks in Islamic fintech and links them to social justice and financial inclusion, showing that tokenisation must be assessed through both technological and ethical lenses. Kenneh (2024) further discusses Shariah investment challenges and sustainable inclusive financial equality in digital innovation, reinforcing the need to connect digital assets with financial justice.

The Islamic business ecosystem is also relevant because tokenisation can be applied beyond finance to halal supply chains, smart contracts, certification, and trade operations. Doborjginidze et al. (2020) show that smart contracts can improve supply-chain efficiency and reliability, while Deeva et al. (2020) discuss blockchain and smart contracts as technological methods for regulating transactions and trade operations. Abd Muin et al. (2026) examine blockchain integration in halal supply-chain management and argue that it can enhance transparency in Islamic business practices. These studies support the idea that tokenisation can strengthen halal value chains by improving traceability, authenticity, ownership documentation, and transaction verification.

Islamic social finance represents another major area of potential application. Dallah et al. (2026) discuss Islamic cryptocurrencies and waqf management through global asset tokenisation, suggesting that tokenisation may transform waqf administration and participation. Ibrahim et al. (2023) explore the remodeling of qard hasan with cash waqf funds as a post-pandemic economic stability solution. Hikam et al. (2025) discuss digital services in Islamic social finance through a service-dominant framework, while Darajat (2025) evaluates the role of zakat, waqf, and Islamic philanthropic instruments in addressing wealth distribution inequality and social justice in the digital economy era. Adegbite (2024) also highlights blockchain's role in enhancing financial inclusion, supporting the idea that tokenised Islamic social finance can widen participation and community impact.

Finally, the literature highlights governance, regulation, and institutional readiness. Azizov et al. (2025) propose a maqasid al-shariah framework for fintech and digital asset regulation in Muslim jurisdictions, which is directly relevant to tokenisation. Sharif et al. (2025) connect Shariah governance and digital security through secure digital credentials in Islamic estate administration.

Ermiati (2025) examines the transformation of Shariah supervision in the digital Islamic financial ecosystem and identifies national policy directions. These studies indicate that tokenisation requires integrated governance involving Shariah scholars, regulators, technology experts, Islamic financial institutions, and market participants.

Methods

This study adopts a qualitative and conceptual research approach to examine the integration of tokenisation into the Islamic business and finance ecosystem. A qualitative design is appropriate because the study focuses on technological, Shariah, institutional, regulatory, and ethical dimensions that cannot be fully captured through quantitative measurement. Rather than testing hypotheses or measuring statistical relationships, the research seeks to develop a theoretically grounded understanding of how tokenisation can be positioned within Islamic finance and halal business practices as part of a broader framework of asset-backing, transparency, ownership clarity, financial inclusion, and maqasid-oriented innovation.

The analysis is based on secondary qualitative data derived from an extensive review of peer-reviewed literature in tokenisation, blockchain, Islamic finance, Islamic fintech, digital assets, halal business, and Islamic social finance. The study also draws on contemporary discussions concerning tokenised sukuk, Shariah-compliant digital assets, smart contracts, halal supply-chain transparency, waqf tokenisation, zakat digitalisation, and Islamic crowdfunding platforms. These sources are selected because they provide conceptual and practical insights into how tokenisation can be understood, structured, and institutionalised within Islamic business and finance. This approach enables a critical assessment of the opportunities and constraints associated with embedding blockchain-based tokenisation into Shariah-compliant financial and commercial ecosystems.

To enhance analytical depth, the study adopts a thematic and theory-driven approach by synthesising insights from Islamic finance theory, blockchain literature, Shariah governance, Islamic fintech, and digital asset regulation. The materials are analysed to identify recurring themes such as asset-backing, fractional ownership, transparency, traceability, smart contracts, tokenised investment, halal value chains, Islamic social finance, and financial inclusion. The analysis also considers contemporary challenges, including Shariah uncertainty, regulatory fragmentation, cybersecurity risks, speculative behaviour, digital literacy gaps, and institutional readiness. By integrating literature-based insights with conceptual analysis, the methodology provides a holistic framework for understanding how tokenisation can strengthen the Islamic business and finance ecosystem while remaining aligned with Shariah principles and ethical digital innovation.

Result and Discussion

Tokenisation as a Shariah-Compatible Financial Innovation

Tokenisation can function as a Shariah-compatible financial innovation when it is structured around asset-backing, ownership clarity, transparency, and legitimate economic value. In

conventional markets, tokenisation is often promoted for efficiency, liquidity, and fractionalisation. However, in Islamic finance, its significance is deeper because Shariah-compliant finance requires a clear link between financial claims and real assets or permissible economic activities. Milkau (2024) questions the type of efficiency tokenisation may deliver, which is important for Islamic finance because efficiency alone is insufficient if the structure fails to meet Shariah principles. Tokenisation must therefore be assessed not only by operational speed or reduced cost, but also by whether it strengthens asset-backed financing, reduces uncertainty, and enhances fairness in financial transactions.

Asset tokenisation aligns with Islamic finance when the token represents genuine ownership, usufruct, or rights in a permissible asset. Shah (2024) highlights the relevance of asset tokenisation for Islamic finance, particularly through sukuk innovation and Shariah-compliant blockchain. This is significant because sukuk already represent ownership or beneficial interests in underlying assets, making them conceptually compatible with tokenisation. Tokenised sukuk can potentially reduce issuance costs, widen investor participation, improve secondary market liquidity, and provide more transparent records of ownership. Chehade et al. (2025) similarly argue that Shariah-compliant tokenisation can support sustainable Islamic finance in emerging markets, especially where conventional capital market access is limited.

Security tokens are another important area. Ahmed (2024) discusses security tokens, ecosystems, and financial inclusion from Islamic perspectives, suggesting that tokenisation can democratise access to investment when properly governed. For Islamic finance, tokenised securities must avoid interest-bearing debt, excessive uncertainty, speculative structures, and non-permissible underlying assets. Kuyateh (2022) emphasises the importance of avoiding *riba*, *gharar*, and *maysir* in Islamic banking and finance, which remains central to any tokenised structure. This means that tokens cannot simply be labelled Islamic; they must be examined based on contract structure, asset ownership, investor rights, risk allocation, trading rules, and use of proceeds.

Real-world asset tokenisation may also support Islamic capital formation. Thazuddin and Makkimane (2026) discuss theoretical and practical perspectives on tokenising real-world assets, while Sikiru et al. (2024) examine the tokenisation of illiquid assets in investment banking and capital markets. In an Islamic finance context, tokenised real estate, commodities, infrastructure assets, halal business equity, or productive assets could provide Shariah-compliant investment opportunities, provided the assets are permissible and the ownership rights are clear. This can support financial inclusion by allowing smaller investors to participate in assets that were previously accessible only to large institutions.

However, Shariah compatibility requires more than asset representation. Azizov et al. (2025) propose a *maqasid al-shariah* framework for fintech and digital asset regulation, which suggests that tokenisation should be evaluated according to broader objectives such as justice, transparency, wealth circulation, protection of property, and public benefit. Sami (2025) shows that blockchain and Bitcoin-related technologies require legal and Islamic economic review, while Soamole (2025) proposes a hybrid Shariah-compliant blockchain model for Islamic finance.

These studies indicate that the technology must be designed around Islamic legal and ethical requirements rather than adopted uncritically. Therefore, tokenisation is Shariah-compatible only when its technological, contractual, and market structures support real economic value, ethical conduct, and maqasid-oriented outcomes.

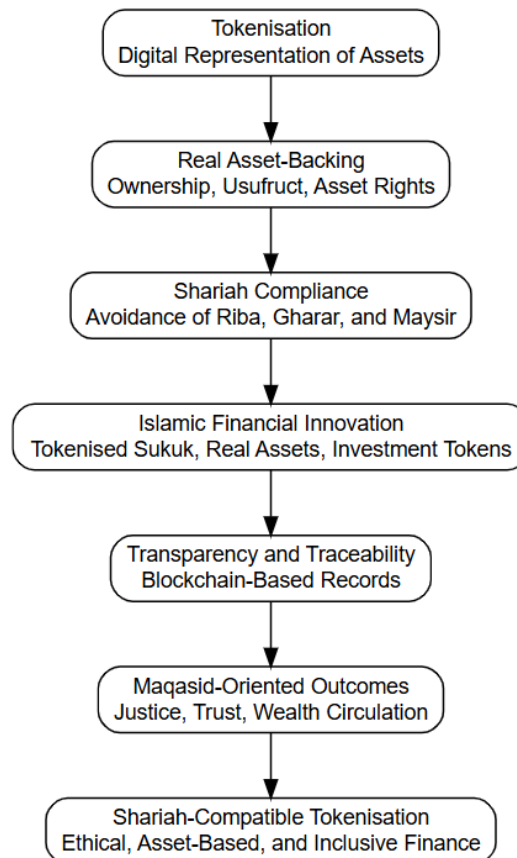


Figure 1. Tokenisation as a Shariah-Compatible Financial Innovation

Figure 1 illustrates how tokenisation can function as a Shariah-compatible financial innovation when it is grounded in real asset-backing, ownership clarity, and ethical financial conduct. The framework begins with tokenisation as the digital representation of assets, which must be linked to genuine ownership, usufruct, or asset rights to meet the requirements of Islamic finance. Shariah compliance then becomes the central filter to ensure that tokenised structures avoid riba, gharar, maysir, excessive speculation, and non-permissible underlying assets. When these conditions are fulfilled, tokenisation can support Islamic financial innovation through tokenised sukuk, real assets, and Shariah-compliant investment tokens. Blockchain-based transparency and traceability further strengthen trust and accountability, allowing tokenisation to contribute to maqasid-oriented outcomes such as justice, wealth circulation, and inclusive finance.

Tokenisation and Islamic Business Ecosystem Development

Tokenisation can also support the broader Islamic business ecosystem by strengthening halal value chains, SME financing, trade financing, and digital market infrastructure. Islamic finance has always emphasised the relationship between finance and the real economy. Hidayat et al. (2021) propose a model of the Islamic financial ecosystem connected to sustainable economy, showing that Islamic finance should operate as part of an interconnected system of institutions, markets, social finance, and real-sector development. Tokenisation can contribute to this ecosystem by enabling digital ownership, traceability, programmable contracts, and more accessible financing for halal businesses and entrepreneurs.

SME financing is one of the most promising areas. Aysan and Syarif (2025) discuss the fusion of blockchain and Islamic fintech in SME financing, financial well-being, and trade financing. Tokenisation can allow SMEs to raise capital through Shariah-compliant equity tokens, asset-backed financing tokens, or tokenised receivables linked to real trade transactions. Such models may reduce dependence on collateral-heavy bank financing and expand access to capital for halal entrepreneurs. Unal and Aysan (2022) show that blockchain and digitalisation are already important in Islamic finance, suggesting that tokenisation can be part of the next stage of Islamic fintech development.

Smart contracts can enhance the operational efficiency of Islamic business transactions. Dobjiginidze et al. (2020) argue that smart contracts can improve supply-chain efficiency and reliability, while Deeva et al. (2020) describe blockchain and smart contracts as methods for regulating transactions and trade operations. In Islamic business, smart contracts may be used to automate payment conditions, verify delivery, record asset transfers, manage profit-sharing arrangements, and improve compliance monitoring. For example, a tokenised murabaha trade transaction could digitally record purchase, ownership transfer, markup disclosure, and payment obligations. A tokenised musharakah structure could record contributions, profit-sharing ratios, and distribution rules.

Halal supply chains represent another important application. Abd Muin et al. (2026) show that blockchain technology can enhance transparency in halal supply-chain management and Islamic business practices. Tokenisation can strengthen this process by linking digital tokens to certified halal products, production batches, logistics events, or ownership claims. This can improve trust among consumers, regulators, producers, and investors. It may also help prevent fraud in halal certification by creating immutable records of sourcing, processing, transportation, and certification status.

Trade financing can also benefit from tokenisation. Islamic trade finance often involves documentation, asset transfer, and verification requirements. Tokenisation can reduce documentation friction by representing trade assets, invoices, warehouse receipts, or commodity ownership digitally. When combined with smart contracts, this may improve settlement speed and reduce operational disputes. However, tokenised trade finance must still comply with Islamic rules

on ownership, possession, sale sequencing, and risk transfer. Therefore, technological efficiency must be integrated with Shariah governance.

Tokenisation also has implications for cross-border Islamic business. Banu et al. (2026) discuss tokenisation in relation to efficient and integrated digital capital markets, which can be relevant for Islamic markets across jurisdictions. Tokenised Islamic assets may allow investors from different countries to access sukuk, halal business ventures, waqf projects, or Islamic funds more easily. This can strengthen global Islamic capital flows, but only if regulatory frameworks, Shariah standards, digital identity systems, and custody mechanisms are sufficiently harmonised.

Overall, tokenisation can develop the Islamic business ecosystem by connecting finance, trade, halal production, entrepreneurship, and digital infrastructure. Yet this development requires careful design. If tokenisation is driven only by speculation or market hype, it may weaken the ethical foundations of Islamic finance. If it is connected to real assets, halal value chains, SME empowerment, and transparent governance, it can become a powerful tool for Islamic business development.

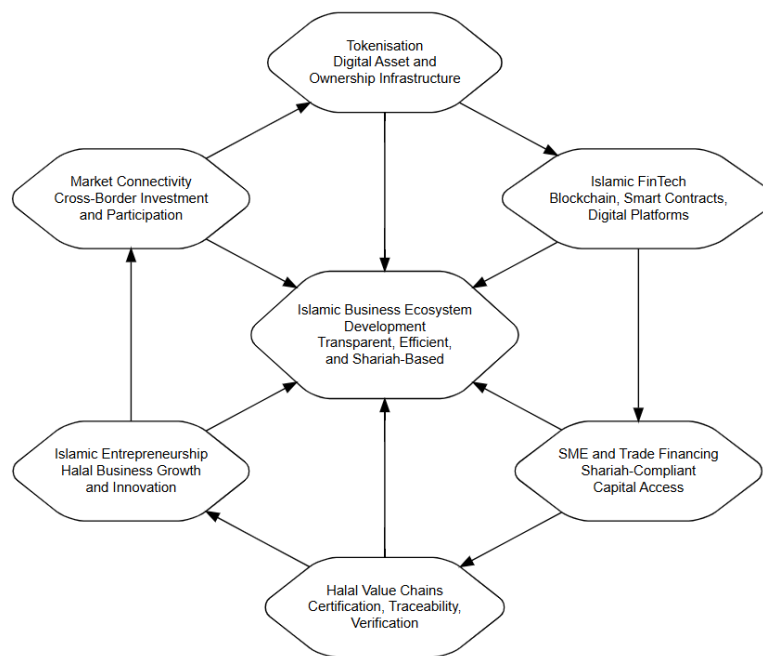


Figure 2. Tokenisation and Islamic Business Ecosystem Development

Figure 2 presents tokenisation as a catalyst for Islamic business ecosystem development. The figure positions tokenisation as a digital infrastructure that supports ownership recording, asset representation, and transaction verification. Through Islamic fintech tools such as blockchain, smart contracts, and digital platforms, tokenisation can improve SME financing, trade financing, halal value-chain transparency, and Islamic entrepreneurship. In this framework, tokenised financing mechanisms may help halal businesses access capital more efficiently, while

blockchain-based traceability can strengthen halal certification, product verification, and consumer trust. These elements collectively enhance market connectivity by enabling broader cross-border participation and investment. As a result, tokenisation contributes to the development of a more transparent, efficient, and Shariah-based Islamic business ecosystem.

Islamic Social Finance and Inclusive Tokenisation

Islamic social finance is one of the most important areas where tokenisation can create meaningful impact. Zakat, waqf, sadaqah, qard hasan, and other philanthropic instruments are central to the Islamic economic vision of wealth circulation, poverty alleviation, and social justice. Darajat (2025) evaluates the role of zakat, waqf, and Islamic philanthropic instruments in addressing wealth distribution inequality and social justice in the digital economy era. Tokenisation can support this agenda by improving transparency, participation, traceability, and impact reporting in Islamic social finance.

Waqf tokenisation is particularly promising. Dallah et al. (2026) discuss Islamic cryptocurrencies and the future of waqf management through global asset tokenisation, suggesting that tokenisation could open new ways to manage and mobilise waqf assets. Traditionally, waqf assets may suffer from illiquidity, weak governance, limited public participation, and underutilisation. Tokenisation can allow fractional participation in waqf development projects, digital tracking of contributions, and clearer reporting of how waqf revenues are used. It can also enable global Muslim communities to participate in waqf projects across borders, provided the structure complies with waqf rules and local regulations.

Cash waqf and qard hasan models can also be strengthened through digital platforms. Ibrahim et al. (2023) propose remodeling qard hasan with cash waqf funds as a solution for post-pandemic economic stability. Tokenisation can support this model by representing contribution units, beneficiary rights, repayment flows, or project-based waqf participation through transparent digital records. This may improve trust among donors and beneficiaries because transactions and fund allocation can be monitored more clearly. Hikam et al. (2025) discuss digital services in Islamic social finance through a service-dominant framework, indicating that Islamic social finance should be designed around user participation, service quality, and social value creation.

Financial inclusion is another major benefit. Adegbite (2024) examines the role of blockchain technology in enhancing financial inclusion, while Ahmed (2024) links security tokens and ecosystems with inclusion from Islamic perspectives. Tokenisation can reduce minimum investment thresholds and allow small contributors to participate in Islamic social finance and ethical investment. For example, micro-tokenised waqf projects, tokenised sadaqah campaigns, or qard hasan pools can allow individuals to contribute small amounts while still receiving transparent updates on social impact. This can be especially relevant for underserved communities, diaspora networks, and young digital users.

Kenneh (2024) discusses Shariah investment challenges and sustainable inclusive financial equality in digital innovation. This is important because inclusive tokenisation must not reproduce existing inequalities. Digital access, literacy, legal protection, and trustworthy platforms are necessary for tokenised Islamic social finance to benefit wider communities. If tokenisation is accessible only to technologically advanced or wealthy users, it may fail to achieve maqasid-oriented inclusion. Therefore, inclusive tokenisation requires affordable platforms, user education, multilingual access, transparent fees, and strong consumer protection.

Tokenisation can also improve accountability in zakat and philanthropic distribution. Digital tokens can record contributions, allocation categories, project milestones, and beneficiary verification. This does not mean that all social finance must become tradable; in fact, many Islamic social finance tokens should not be speculative instruments. Instead, tokens may function as digital records, contribution certificates, access rights, or governance tools. This distinction is crucial because Islamic social finance aims at social welfare rather than profit-seeking speculation.

Thus, tokenisation can support Islamic social finance when it is designed to enhance trust, transparency, participation, and impact. Its value lies not merely in digitalisation, but in enabling more effective wealth circulation and social justice. To achieve this, Islamic social finance platforms must combine Shariah governance, technological reliability, donor protection, beneficiary dignity, and measurable social outcomes.

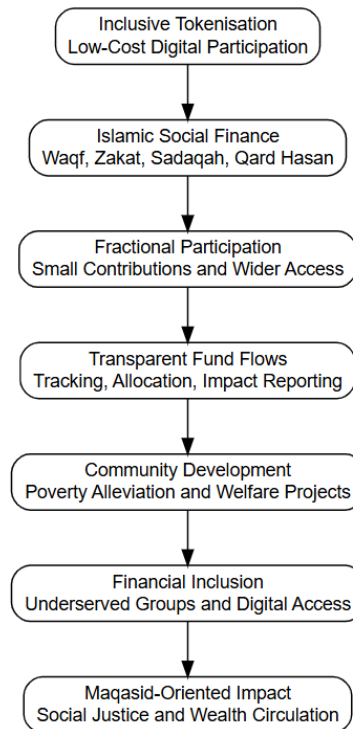


Figure 3. Islamic Social Finance and Inclusive Tokenisation

Figure 3 demonstrates the role of tokenisation in strengthening Islamic social finance and financial inclusion. The framework begins with inclusive tokenisation, which enables low-cost digital participation and allows wider groups of contributors to engage in Islamic social finance mechanisms such as waqf, zakat, sadaqah, and qard hasan. Through fractional participation, small contributors can support social finance projects that may previously have required larger capital commitments. Tokenisation also enhances transparency by enabling digital tracking of fund flows, allocation processes, and impact reporting. These features can strengthen community development by supporting poverty alleviation, welfare initiatives, and productive social projects. Ultimately, inclusive tokenisation supports maqasid-oriented impact by promoting social justice, wealth circulation, and greater access for underserved communities.

Governance, Regulatory, and Institutional Challenges

Despite its potential, tokenisation faces significant governance, regulatory, and institutional challenges in the Islamic business and finance ecosystem. Alsaghir (2023) highlights digital risks in Islamic fintech, particularly in relation to social justice and financial inclusion. These risks include cybersecurity threats, platform failure, fraud, data misuse, technological exclusion, and speculative behaviour. Tokenisation may increase efficiency and access, but it may also expose users to new forms of digital vulnerability if governance structures are weak.

Shariah governance is one of the most critical challenges. Ermiati (2025) examines the transformation of Shariah supervision in the digital Islamic financial ecosystem and highlights policy directions for digital Shariah oversight. Tokenised products require Shariah review not only at launch but throughout their lifecycle, including asset selection, token issuance, custody, trading, secondary-market behaviour, smart contract rules, and redemption mechanisms. A token may be Shariah-compliant at issuance but become problematic if traded speculatively, detached from underlying assets, or used in non-compliant financial arrangements.

Regulation also remains fragmented. Azizov et al. (2025) propose a maqasid al-shariah framework for fintech and digital asset regulation in Muslim jurisdictions, indicating that regulation must balance innovation, protection, and Islamic ethical objectives. Digital assets often operate across borders, while Islamic finance regulation remains jurisdiction specific. This creates uncertainty regarding legal ownership, investor rights, tax treatment, custody, dispute resolution, and Shariah recognition. Without regulatory clarity, Islamic financial institutions may hesitate to adopt tokenisation, and investors may lack sufficient protection.

Digital security is another major concern. Sharif et al. (2025) evaluate a secure digital credentials management framework in Islamic estate administration, linking Shariah governance with digital security. This is relevant because tokenisation depends on secure digital identity, custody, credential verification, and transaction authentication. If private keys are lost, platforms are hacked, or digital identities are compromised, investors and beneficiaries may suffer serious losses. Therefore, tokenised Islamic finance must include strong cybersecurity, secure custody, auditability, and recovery mechanisms.

The compatibility of blockchain and digital assets with Islamic legal principles also requires careful review. Sami (2025) analyses blockchain and Bitcoin technology in the digital financial system from legal and Islamic economic perspectives. Soamole (2025) proposes a hybrid Shariah-compliant blockchain model, suggesting that Islamic finance may require specialised blockchain designs rather than relying entirely on conventional crypto infrastructure. This is important because some blockchain ecosystems are associated with speculation, anonymity, volatile tokens, and non-compliant activities. Islamic tokenisation should therefore use controlled, transparent, and governance-oriented infrastructure.

Institutional capacity is another limitation. Islamic banks, fintech firms, regulators, Shariah boards, halal certification bodies, and social finance institutions may lack the technical expertise needed to evaluate tokenisation. Tokenisation requires knowledge of blockchain architecture, smart contracts, securities regulation, Islamic jurisprudence, cybersecurity, accounting, and investor protection. Without interdisciplinary expertise, institutions may either reject innovation unnecessarily or adopt it without adequate safeguards.

The final challenge is ethical direction. Tokenisation can serve maqasid-oriented development, but it can also fuel speculative trading, asset bubbles, and exclusion if poorly designed. Therefore, Islamic tokenisation must be guided by Shariah governance, regulatory clarity, technological standards, and social purpose. It should prioritise real assets, productive investment, halal business development, financial inclusion, and social finance impact. Only then can tokenisation become a meaningful part of the Islamic business and finance ecosystem rather than a digital replication of conventional speculative markets.

Conclusion

Tokenisation offers significant potential for transforming the Islamic business and finance ecosystem. By converting real-world assets, financial claims, and participation rights into digital tokens, tokenisation can improve transparency, liquidity, fractional ownership, market access, and operational efficiency. These features are highly relevant to Islamic finance because the industry is founded upon asset-backing, ownership clarity, ethical investment, and the connection between finance and real economic activity. When designed properly, tokenisation can strengthen Islamic capital markets, support sukuk innovation, improve halal business financing, and widen participation in Shariah-compliant investment opportunities.

The integration of tokenisation into Islamic finance should not be understood merely as technological adoption. It requires a deeper alignment between blockchain-based innovation and the ethical, legal, and social objectives of Islamic finance. Tokenised products must represent permissible assets, avoid interest-based structures, reduce uncertainty, prevent gambling-like speculation, and ensure fair allocation of risk and reward. This means that tokenisation must be evaluated according to both technical efficiency and Shariah substance. A tokenised Islamic financial product should not only be faster or more accessible; it should also contribute to justice, transparency, trust, and real economic benefit.

Tokenisation also provides important opportunities for Islamic business ecosystem development. It can support SMEs, halal entrepreneurs, trade finance, and supply-chain transparency by creating digital records of ownership, certification, transaction flows, and contractual obligations. Through smart contracts and blockchain infrastructure, Islamic business transactions can become more transparent, traceable, and efficient. In halal value chains, tokenisation may improve consumer trust by strengthening the verification of production, logistics, certification, and distribution. In Islamic trade and SME financing, it may reduce barriers to capital and help smaller enterprises access wider investor networks.

Islamic social finance is another area where tokenisation can make a meaningful contribution. Waqf, zakat, sadaqah, and qard hasan platforms can benefit from greater transparency, participation, and impact monitoring. Tokenisation can allow small contributors to participate in waqf projects, enable better tracking of social finance flows, and improve accountability in fund allocation. It can also support cross-border participation by allowing global Muslim communities to contribute to social development initiatives in a more transparent and structured manner. However, tokenised social finance must remain focused on public benefit rather than speculation, ensuring that digital tools serve social justice and community welfare.

At the same time, the adoption of tokenisation in Islamic finance faces serious challenges. Regulatory uncertainty remains one of the most important barriers, especially because digital assets often operate across borders while Islamic finance regulation remains jurisdiction-specific. Questions of legal ownership, investor protection, custody, tax treatment, dispute resolution, and Shariah recognition must be clarified before tokenisation can develop at scale. Without regulatory certainty, institutions may hesitate to innovate, and investors may be exposed to unnecessary risks.

Shariah governance must also evolve to address the complexity of tokenised financial structures. Digital tokens require ongoing supervision across issuance, trading, custody, redemption, and secondary-market behaviour. Shariah boards must understand both Islamic jurisprudence and technological infrastructure in order to evaluate tokenised products properly. This requires stronger interdisciplinary collaboration between scholars, regulators, technologists, lawyers, and Islamic finance practitioners. Shariah supervision in the digital era must move beyond product approval and become a continuous governance process.

Cybersecurity, digital literacy, and institutional capacity are equally important. Tokenisation depends on secure digital infrastructure, reliable custody systems, identity verification, smart contract accuracy, and protection against fraud or hacking. Users must also understand the risks and rights attached to tokenised assets. If platforms are poorly designed or investors are inadequately informed, tokenisation may create new forms of vulnerability rather than inclusion. Islamic financial institutions must therefore invest in technology, education, governance, and consumer protection before expanding tokenised products.

Ultimately, tokenisation can become a transformative tool for Islamic business and finance if it is guided by maqasid-oriented objectives, regulatory clarity, ethical design, and strong institutional

governance. Its greatest value lies not in copying speculative digital asset markets, but in strengthening asset-backed finance, widening access to investment, improving halal business transparency, and enhancing Islamic social finance. The future of tokenisation in Islamic finance will depend on whether institutions can balance innovation with compliance, efficiency with justice, and digital transformation with ethical responsibility. When these conditions are met, tokenisation can support a more inclusive, transparent, and resilient Islamic business and finance ecosystem.

References

- Abd Muin, M. A., Omar, A. C., Bahaman, M. A., Majid, M. F. C., Aziz, M. F., & Ismail, I. A. (2026). The Integration of Blockchain Technology in Halal Supply Chain Management (HSCM): Enhancing Transparency in Islamic Business Practices. *Journal of Advanced Research Design*, 141(1), 312-319.
- Adegbite, A. (2024). The role of blockchain technology in enhancing financial inclusion. *IOSR Journal of Economics and Finance*, 15(5), 19-28.
- Ahmed, H. (2024). Security tokens, ecosystems and financial inclusion: Islamic perspectives. *International Journal of Islamic and Middle Eastern Finance and Management*, 17(4), 730-745.
- Alsaghir, M. (2023). Digital risks and Islamic FinTech: a road map to social justice and financial inclusion. *Journal of Islamic Accounting and Business Research*.
- Aysan, A. F., & Syarif, M. F. (2025). Fusion of Blockchain and Islamic Fintech: Unlocking New Possibilities in SME Financing, Financial Well-Being, and Trade Financing. In *Disruptive Technologies and Muslim Societies: From AI and Education to Food and Fintech* (pp. 345-370).
- Azizov, E., Azizov, A., Azizli, A., & Babayev, A. A. (2025). A Maqasid al-Shariah Framework for Fintech and Digital Asset Regulation in Muslim Jurisdictions. *Journal of Islamic Law and Legal Studies*, 2(2), 96-113.
- Banu, E., Born, A., Evrard, J., Lambert, C., & Spolaore, A. (2026). Towards an efficient and integrated digital capital market in Europe: the role of tokenisation and the Eurosystem's policy response. *Macroprudential Bulletin*, 33.
- Bouraga, S. (2025). Tokenisation approaches on blockchain: state-of-the-art and classification framework. *International Journal of Information Technology and Management*, 24(1-2), 145-161.
- Cehade, I., Al-Mohamad, S., Sraieb, M., Baalbaki, C., Jreisat, A., & Khaki, A. R. (2025). Shariah-compliant tokenization: blockchain applications for sustainable Islamic finance in emerging markets. In *2025 5th International Conference on Sustainable Islamic Business and Finance (SIBF)* (pp. 96-100). IEEE.
- Dallah, D., Chan, R., & Bachtiar, M. (2026). ISLAMIC CRYPTOCURRENCIES AND THE FUTURE OF WAQF MANAGEMENT: A STRATEGIC VISION FOR GLOBAL ASSET TOKENIZATION. *Journal Islamic Economic Minangkabau*, 4(2), 183-196.

- Daly, S., & Frikha, M. (2016). Islamic finance: Basic principles and contributions in financing economic. *Journal of the Knowledge Economy*, 7(2), 496-512.
- Darajat, U. A. (2025). Wealth Distribution Inequality and Social Justice in Islamic Economics: An Evaluation of the Role of Zakat, Waqf, and Islamic Philanthropic Instruments in the Digital Economy Era in Indonesia. *Journal of Social Science and Economics*, 4(2), 152-165.
- Deeva, T. V., Nikiporets-Takigawa, G., Lustina, T. N., Podsevalova, E. N., & Didenko, E. N. (2020). Blockchain technologies and smart contracts: New technological methods to regulate transactions and trade operations. *Int. J*, 8, 3659-3664.
- Doborjginidze, G., Petriashvili, L., & Inaishvili, M. (2020). Improve efficiency and reliability of supply chains using smart contracts. *International Academy Journal Web of Scholar*, (8 (50)), 13-18.
- Ermiati, E. (2025). Transformation of Sharia Supervision in the Digital Islamic Financial Ecosystem: Challenges and National Policy Directions. *International Journal on Advanced Science, Education, and Religion*, 8(3), 208-215.
- Hidayat, S. E., Izharivan, Y., & Sari, C. A. (2021). Islamic finance and sustainable economy: A new model of islamic financial ecosystem. In *Islamic finance and sustainable development: A sustainable economic framework for Muslim and Non-Muslim countries* (pp. 265-284). Cham: Springer International Publishing.
- Hikam, M., Siswanto, S., & Djalaluddin, A. (2025). Integrating digital services in Islamic social finance: A service-dominant framework. *Share: Jurnal Ekonomi dan Keuangan Islam*, 14(1), 285-318.
- Ibrahim, Z., Mahadi, N. F., Zakariyah, H., & Hasan, A. (2023). Remodeling Qard Hasan with cash Waqf fund: Economic stability solution post Covid-19. *AZKA International Journal of Zakat & Social Finance*, 1-23.
- Kenneh, M. (2024). Sharia investment challenges and growth for sustainable and inclusive financial equality in digital innovation. *Bulletin of Islamic Economics*, 3(1), 1-11.
- Kuyateh, M. A. (2022). Shariah Compliance Prohibitions in Islamic Banking and Finance: The Case of Riba, Gharar and Maysir. *Journal of Islamic Banking & Finance*, 39(1), 29.
- Milkau, U. (2024). Will tokenisation deliver efficiency? And what kind?. *Journal of Securities Operations & Custody*, 17(1), 79-94.
- Sami, M. (2025). 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(2), 129-138.
- Schwarz, M. (2022). Blockchain-based tokenisation: Status and implications of early design decisions. *Journal of Securities Operations & Custody*, 14(2), 171-182.
- Shah, D. H. M. (2024). Asset Tokenization in Islamic Finance Historical Perspectives, Sukuk Innovations, and the Shariah Compliant Blockchain. *Pakistan Research Journal of Social Sciences*, 3(3).
- Sharif, D., Buja, A. G., Deraman, N. A., Nasaruddin, N. I. S., Zolkeplay, A. F., & Aminuddin, R. (2025, November). Bridging Shariah Governance and Digital Security: Evaluating a Secure Digital

Credentials Management Framework for Islamic Estate Administration in Malaysia. In *2025 IEEE 23rd Student Conference on Research and Development (SCORED)* (pp. 1-6). IEEE.

Sikiru, A. O., Chima, O. K., Otunba, M., Gaffar, O., & Adenuga, A. A. (2024). The Tokenization of Illiquid Assets: Architecting the Next Generation of Investment Banking Advisory and Capital Markets. *International Journal of Scientific Research in Humanities and Social Sciences*, 1(2), 404-432.

Soamole, S. B. (2025). Beyond Bitcoin: Developing a hybrid Shariah-compliant blockchain model for Islamic finance—Empirical evidence and simulation analysis. *Journal of Islamic Fintech Studies*, 3(2), 55-78.

Tatiana, N., Igor, K., & Liliya, S. (2015). Principles and instruments of Islamic financial institutions. *Procedia Economics and Finance*, 24, 479-484.

Thazuddin, H. M., & Makkimane, V. K. (2026). Tokenization of Real-World Assets: Theoretical and Practical Perspectives. In *The Impact of Blockchain in Token Economies* (pp. 137-182). IGI Global Scientific Publishing.

Unal, I. M., & Aysan, A. F. (2022). Fintech, digitalization, and blockchain in Islamic finance: Retrospective investigation. *FinTech*, 1(4), 388-398.