



Digital Transformation Of The Islamic Debt Market: A Narrative Study Of Sukuk Tokens In Malaysia

MOHD ROZIE MOHD DAMIT^{1, a}, ROZITA @ UJI MOHAMMED², JACQUALINE KOH SIEW LEN STEPHEN³, DEWI TAJUDDIN⁴, JASMINE DAVID⁵

¹ Lecturer, Faculty of Business and Management, Universiti Teknologi MARA (UiTM), Kota Kinabalu Campus, Sabah Branch, Malaysia. Email: mohdrozie@uitm.edu.my

² Associate Professor, Faculty of Business and Management, Universiti Teknologi MARA (UiTM), Kota Kinabalu Campus, Sabah Branch, Malaysia. Email: rozlim97@uitm.edu.my

³ Senior Lecturer, Faculty of Business and Management, Universiti Teknologi MARA (UiTM), Kota Kinabalu Campus, Sabah Branch, Malaysia. Email: jacqu807@uitm.edu.my

⁴ Senior Lecturers, Faculty of Business and Management, Universiti Teknologi MARA (UiTM), Kota Kinabalu Campus, Sabah Branch, Malaysia. Email: dewi400@uitm.edu.my

⁵ Senior Lecturers, Faculty of Accounting, Universiti Teknologi MARA (UiTM), Kota Kinabalu Campus, Sabah Branch, Malaysia. Email: juspi330@uitm.edu.my

^a Corresponding authors

Abstract

Blockchain technology's expanding footprint particularly through tokenised sukuk has sparked considerable interest in its application to Islamic capital markets. Malaysia, as the world's leading sukuk issuer, provides an ideal case for examining both the promises and pitfalls of these digital financial innovations. This study explores the digital transformation of Malaysia's Islamic capital market by focusing on how blockchain-based tokenisation meets with technological capabilities, legal frameworks, and Shariah governance requirements. To achieve the objective of the study, this study employed a structured narrative review through synthesizing evidence from academic literature, regulatory documents, and industry reports. The analysis done was the thematic analysis and the results reveals that tokenisation offers tangible benefits such as it help to enhance operational efficiency, reduced issuance costs, and broader market access especially for the retail investors and micro, small and medium enterprises (MSMEs). Evidently, Malaysia's pilot initiatives have demonstrated institutional readiness and regulatory backing for blockchain-based Islamic products. However, significant tensions persist. There are the rigidity of smart contracts clashes with Islamic contracts' inherent flexibility, complexity due to Malaysia's dual legal system practices, poorly regulated cybersecurity regulations, data reliability, and cross-border governance have remained unresolved. Thus, this paper proposes a hybrid smart contract model that balances automation with human oversight as a way forward. The paper also identifies a critical gap that requires further attention because the empirical evidence on tokenised sukuk's economic performance and risks remains scarce. Meanwhile, future research should prioritise quantitative approaches to assess market impact, investor behaviour, and systemic implications.

Keywords: Tokenized Sukuk, Blockchain, Smart Contracts, Islamic Finance, Shariah Governance, Fintech

JEL Classification Code: G23; G28; O33; Z12

Introduction

The World Bank (2022) reports highlighted that there has been a significant global increase in the use of digital payments because the percentage of adults in developing countries who make or receive payments online have significantly increased from 35% in 2014 to 57% in 2021. According to Illes et al. (2025), their study found that 91% of the 93 central banks surveyed in the Bank for International Settlements (BIS) 2024 survey are in the midst of investigating or intend to create Central Bank Digital Currencies (CBDCs) to support the Digital Transformation. This clearly indicated that the global financial system is swiftly do the transitioning to digital. This development includes reshaping the way financial products are designed, distributed and regulated by Islamic financial institutions. In this evolving landscape, the Islamic capital market continues to embrace technological innovations to improve efficiency, transparency, and financial inclusion in business operations (Anami, 2026; Shahzadi, 2025). One of the most important instruments in this market is sukuk. Unal and Aysan (2022) explain that sukuk is a Shariah-compliant financial instrument that works almost the same as conventional bonds. However, the uniqueness of Sukuk is that its returns are generated from the underlying assets and permitted economic activities and not from interest-based transactions (usury). Meanwhile, according to the Securities Commission Malaysia (2026), sukuk is a certificate of equal value that proves ownership or undivided investment in assets structured based on Shariah principles and concepts approved by the Shariah Advisory Council.



The effectiveness of sukuk as one of the best investment instruments can be seen as Malaysia has strengthened its position as a leading global hub for sukuk issuance over the past two decades. This success is supported by a comprehensive regulatory framework, strong institutional support and a mature Islamic finance ecosystem (Fitch Ratings, 2024; Securities Commission Malaysia, 2026). In addition, the latest evidence also shows that Malaysia continues to contribute to the largest share of the global sukuk market with an estimated 36% of the world's total sukuk market by the end of 2024. This highlights that Malaysia's strategic position to promote the growth of the global Islamic Financial Market has gained significant achievement. (Securities Commission Malaysia, 2026). Although the Malaysian Sukuk Market has successfully entered the market, the traditional sukuk issuance process still relies on a variety of intermediaries. This includes the need for legal consultants, trustees, registrars and payment agents as well as sharia advisors. While these stakeholders play an important role in maintaining regulatory compliance and investor protection, the participation of these parties is often decisive to increased transaction costs, prolonged withdrawal procedures and operational inefficiencies (Hamza, 2020; Mousavi et al., 2025). For example, the shocks faced during the COVID-19 pandemic. The pandemic has further exposed the weaknesses of conventional financial infrastructure and further fuelled investors' desire to find digital alternatives that can improve resilience, efficiency and continuity in carrying out capital market activities. In addition, previous research has also proven that the pandemic has accelerated the implementation of fintech and digital innovation in the Islamic banking sector to ensure faster, safer, and crisis-resilient delivery of financial services (Rabbani et al., 2022; Afrizal, 2024).

In this context, the presence of blockchain technology can be a catalyst that promises maximum convenience and is an ideal alternative for innovation in Islamic banking. Meanwhile, Distributed Ledger Technology enables the issuance of tokenized financial assets through blockchain integration. This scope can be applied to sukuk tokens or better known as smart sukuk. In this implementation, ownership rights, contractual responsibilities and payment mechanisms can be represented digitally and easily executed using smart contracts that can be programmed and monitored. Unal and Aysan (2022) have stated that smart contracts can automate pre-established processes and reduce the need for human involvement. Thus, these capabilities can indirectly improve transparency, traceability, and operational efficiency (Mousavi et al., 2025). Furthermore, the discussion on blockchain-based Islamic finance in Malaysia has shifted from theory to actual application (Sharofiddin, 2025). The growing popularity of sukuk tokens has also reflected that broader efforts to democratize access to Islamic financial markets have paid off. Blockchain technology can provide new financing alternatives for micro, small and medium enterprises (SMEs) as it is able to reduce issuance costs and simplify the administrative procedures often faced by SMEs in accessing capital market financing (Hamza, 2020; Khan, 2026). Similarly, tokenization allows for easily implemented fractional ownership such as investments with significantly lower investment thresholds than those typically required in traditional Sukuk markets (Khan, 2026; Sharofiddin, 2025). Such innovations can lead to wider retail engagement, promote financial inclusion, and increase the accessibility of Shariah-compliant investment opportunities among SMEs. In addition, these blockchain-based structures are increasingly in demand as they have been integrated with sustainable finance initiatives such as green sukuk and waqf-related financing arrangements where enhanced transparency and traceability can improve accountability and impact measurement (Mousavi et al., 2025; White & Case, 2025).

However, this possibility will bring about significant obstacles of Shariah legal, technological, and governance in the future for the integration of blockchain technology into Islamic banking. One of the most important difficulties is the contrast between the unchanging character of intelligent contracts and the flexibility inherent in Islamic jurisprudence. Once used, intelligent contracts are hard to change, and are designed to perform pre-set instructions automatically. In contrast, Islamic contractual contracts generally provide renegotiation, restructuring or mutual termination as circumstances change. These divergences result in significant problems about the congruity of the application of automated contracts with the tenets and aims of Shariah (Hamza, 2020; Mousavi et al., 2025). Next, intelligent contracts are typically dependent on external data sources, referred to as oracles, which raises further issues. Vulnerabilities related to incorrect, manipulated or speculative data may result in an element of uncertainty (gharar) that impacts the Shariah compliance as the automated implementation relies on the accuracy and reliability of externally supplied information (Mousavi et al., 2025; Unal & Aysan, 2022). Additional challenges include cybersecurity threats, code flaws, and technology failures that can impact investor trust and market stability (Anami, 2026; Mousavi et al., 2025). In terms of regulation, the dual legal system of Malaysia, which comprises both the civil and Shariah legal systems, would also bring additional complexity for the governance of sukuk tokens. This dual structure has indeed played a major role in the success of Islamic finance, however, there is still uncertainty regarding law enforcement, dispute resolution mechanisms, cross-border transactions and liabilities arising from technological failures which still need to be improved (Sharofiddin, 2025; Securities Commission Malaysia, 2026). Furthermore, the increased participation of retail investors in the digital financial ecosystem would raise issues about financial literacy, consumer protection, and risk awareness, especially among less experienced investors (Khan, 2026; White & Case, 2025).



The academic interest in the blockchain-enabled Islamic finance has seen exponential growth; yet, the current body of literature is still mostly conceptual and qualitative in nature. However, the empirical information on the economic impact, market performance, liquidity characteristics and risk dynamics of sukuk tokens remains relatively sparse (Mousavi et al., 2025; Anami, 2026). Hence, critical questions remain unresolved on the practical implementation as well as the long-term governance and sustainability requirements of blockchain-based Islamic capital market products. The potential of blockchain technology to enhance the efficiency, transparency, and security of Islamic financial products has been explored in several studies. However, the majority of the discussions have concentrated on the technical and conceptual aspects, neglecting the interaction between technology, Shariah governance, and regulatory requirements in specific country contexts (Unal & Aysan, 2022; Mousavi et al., 2025). Besides, the research of Anami (2026) and Shahzadi (2025) reveal that most of the previous studies concentrated more on the applications of blockchain in Islamic banking and fintech in general instead of the implications of sukuk tokenisation in the Islamic capital market. The disparity is even more substantial in the Malaysian context since the country maintains a global leader in the sukuk market and at the same time is pursuing capital market digitalisation measures through blockchain technology, asset tokenisation and smart contract technology. However, the implementation of these innovations without compromising the Shariah compliance, investor safety and market stability still remains vague (Securities Commission Malaysia, 2026; Sharofiddin, 2025). Therefore, the main objective of this study is to critically examine the digital transformation of Malaysia's Islamic capital market through blockchain-based tokenisation. This study investigates the legal, technological and governance challenges of Shariah related to tokenised sukuk and subsequently proposes an integrated framework to support the development of sustainable, compliant and inclusive financial markets.

The study pursues four interrelated objectives to reach this goal. The first (RO1), this study attempted to examine the contemporary market trends, institutional motivators and technological infrastructures affecting the acceptance of sukuk tokens in Malaysia. The significance of comprehending these changes is to appraise the broader digital transformation path in the Islamic capital market, which is increasingly influenced by fintech technologies, blockchain, and asset tokenisation (Anami, 2026; Sharofiddin, 2025). Secondly (RO2), the study attempted to identify and examine the legal, technological and Shariah governance difficulties connected with sukuk tokens, with special focus on the relationship between the variety of intelligent contracts and the flexibility of Islamic contracts. This aim attempts to solve one of the most crucial discussions about the compatibility of blockchain technology with Islamic legal principles (Hamza, 2020; Mousavi et al., 2025). Third (RO3), this study explores the possible consequences of the sukuk tokens for financial inclusion particularly among retail investors and MSMEs by evaluating issues related to investor behaviour, online literacy, accessibility and consumer protection. These objectives are indicative of the increasing importance of ensuring that technological innovations support equitable and inclusive financial development through the reduction of barriers to participation and the expansion of access to Shariah-compliant investment instruments (Khan, 2026; White & Case, 2025). Third (RO3), this study investigates the possible consequences of the sukuk tokens for financial inclusion particularly among retail investors and MSMEs by evaluating issues related to investor behaviour, online literacy, accessibility and consumer protection. These objectives are indicative of the growing importance of ensuring that technological innovations support equitable and inclusive financial development through the reduction of barriers to participation and the expansion of access to Shariah-compliant investment instruments (Khan, 2026; White & Case, 2025).

Ultimately, this study will contribute to existing conversations on the future of Islamic banking by addressing the nexus of blockchain innovation, financial inclusivity, regulatory governance and Shariah compliance. In doing so, it aims to provide a comprehensive foundation for the sustainable development of tokenized sukuk and strengthen Malaysia's position as a global leader in digital Islamic finance in line with the country's aspirations to strengthen the digital transformation of the Islamic capital market and maintain Malaysia's dominant position in the global sukuk market (Securities Commission Malaysia, 2026; Anami, 2026).

Method

This study uses a narrative review methodology to examine the emerging intersections between blockchain technology and Islamic finance. This study attempts to place special emphasis on the development of sukuk tokens in the Malaysian Islamic capital market. Narrative studies are considered appropriate for this study because the field remains relatively new and suitable for various disciplines and as well as rapidly evolving. These narrative reviews provide greater flexibility in exploring complex phenomena that span multiple disciplines and domains of knowledge (Skelly et al., 2019) unlike systematic reviews which are primarily designed to answer narrowly defined questions through highly structured inclusion and exclusion criteria. This narrative review function is especially important to sukuk token research as innovation in technology, legislative advancement, and industry adoption often outpace the academic publication cycle.



Developments relating to blockchain and sukuk tokens are rapidly happening through a mix of industry initiatives, regulators and financial institutions, as also shown by Anami (2026) and Sharofiddin (2025). This study integrates perspectives from different disciplines to enable a more thorough analysis of the relevant opportunities and challenges in the development of sukuk tokens, given the complex interaction between Islamic finance, blockchain technology, financial regulation, Shariah governance, and capital market development. The approach allows for the studies to be conducted exploring both theoretical and practical elements simultaneously. Therefore, it can provide a more holistic view of the evolving sukuk token landscape (Theile & Beall, 2024). Narrative evaluations, however, can be more flexible and so are more susceptible to selection biases and subjective interpretations. To address these difficulties, the study has adopted a current structured narrative review process to enhance methodological transparency, uniformity and analytical rigour (Deroncele-Acosta, 2025). This technique is especially suitable as the issue of sukuk tokens involves the simultaneous interaction between the dimensions of technical, legal, Shariah governance and complex market growth (Unal & Aysan, 2022; Mousavi et al., 2025). The review process has been divided into four connected stages: (i) defining the scope of the research, (ii) identifying and collecting the literature, (iii) evaluating the quality of the literature, and (iv) thematic synthesis. These stages offer a methodical framework for the study of existing knowledge while keeping the strength of narrative inquiry interpretation.

The first step is to define the scope and direction of the review. This study is aligned with the study objectives and seeks to investigate the evolving sukuk token landscape in Malaysia. These are new market trends, new technological advancements, legal challenges, Shariah governance considerations and future research directions. Special attention is given to challenges resulting from the interaction of smart contract automation with Islamic contract principles and implications of tokenisation for financial inclusion and regulatory governance. This way, this study delineated a defined scope to assure the consistency of the research aims with the subsequent review process (Vorobev et al., 2025). Hamza (2020) argues that the link between intelligent contracts and Shariah principles is one of the most significant difficulties in the development of smart sukuk, while tokenisation is increasingly considered as a way to improve access to Islamic financial instruments (Khan, 2026). The second step is the review of literature through a large number of databases and academic search engines. As developments in blockchain technology often proceed faster than academic publications, this review not only draws on peer-reviewed journal articles but also on regulatory documents and industry reports to allow for a more comprehensive identification of current developments. Therefore, the search technique for this study comprised both academic and grey literature sources. Academic articles were searched in databases such as Scopus, Google Scholar, and SciSpace. In addition to the academic literature, relevant regulatory documents, policy reports, consultation papers, industry publications and official announcements have also been discovered and reviewed to support the academic literature. These resources contain documents from the Securities Commission Malaysia, central banking institutions, international regulatory bodies, and industry players who are currently engaging in blockchain-based Islamic financing projects in Malaysia. Sharofiddin (2025) mentions that most of the recent breakthroughs in token sukuk and asset tokenisation were done through pilot projects, regulatory documentation, and industry reports before they were extensively published in academic journals. This similar point is also emphasised by the industry's analysis on the evolution of the digital sukuk market in the GCC region (White & Case, 2025). Thus, the incorporation of grey literature is compatible with suggestions for emerging technical research, where significant advancements often originate from industrial practices before being widely reported in academic publications (Green et al., 2006; Henry et al., 2018).

We conducted literature searches using a mix of keywords: "sukuk token," "smart sukuk," "blockchain Islamic finance," "digital sukuk," "Shariah governance," "Islamic capital markets," "smart contract," "financial inclusion," and "RegTech." Preferentially studies released in the last decade are included, while seminal prior works are kept when needed to provide a conceptual and theoretical ground. Literature searches were performed using a mix of keywords including: "sukuk token," "smart sukuk," "blockchain Islamic finance," "digital sukuk," "Shariah governance," "Islamic capital markets," "smart contract," "financial inclusion," and "RegTech." Preferentially, research published in the last decade are included, while seminal prior works are kept when needed to provide a conceptual and theoretical ground. Having identified the relevant sources, a quality assessment process was undertaken to appraise the credibility, relevance, and contribution of each document. The assessment follows the concepts of the Narrative Review Article Rating Scale (SANRA). This principle is well established as a framework to improve the quality and transparency of narrative reviews (Vorobev et al., 2025). The sources are then assessed in terms of the rigour of the methodology, the relevance to the aims of the research, the clarity of the argument and the practical addition to the knowledge of sukuk tokens. Particular consideration is given to the availability of authoritative and verifiable information to support assertions regarding Shariah compliance, smart contract enforcement, digital asset ownership, investor protection and the usefulness of blockchain applications.

To improve openness and decrease potential bias, some parts of the PRISMA 2020 reporting structure have been revised (Page et al., 2021). PRISMA is mainly created for systematic reviews however its focus on transparent reporting,



documentation of methodological outcomes and clear presentation of evidence can be useful direction for narrative review research. Besides, the assessment also takes into account the views from different countries and different regulatory regimes to look into how token sukuk is interpreted, produced and regulated in different settings. This provides for a more fair appraisal of the opportunities and challenges that could be associated with token sukuk, and reduces the potential of over-reliance on one particular regulatory stance or theory. The methodological strategy used in this study is to combine the flexibility of story research with organised techniques for literature identification, quality rating and thematic synthesis. This research integrates perspectives from many disciplines and evidence sources to build a thorough basis for comprehending the evolution of blockchain technology in Malaysia's Islamic capital market. The following analysis supports the study objective of identifying major trends, obstacles, and prospects for sukuk token development, while retaining methodological rigour and analytical transparency. The development of digital capital market instruments must be balanced between technological innovation, investor protection and Shariah compliance as described by Securities Commission Malaysia (2026). Therefore, the methodological approach also serves as the basis for the formulation of policy and governance ideas to foster the development of sustainable, inclusive and Shariah-compliant sukuk tokens in the Malaysian environment.

Result

Five major themes (Figure 1) interrelate in understanding the emergence of sukuk tokens in the Malaysian Islamic capital market, drawing from the findings of a thematic synthesis of academic literature, regulatory papers and industry evidence. Together, these topics fulfill the aims of the study by explaining the drivers of technology development, addressing the challenges of Shariah law and governance, assessing the consequences for financial inclusion and outlining the regulatory priorities and future research agendas.

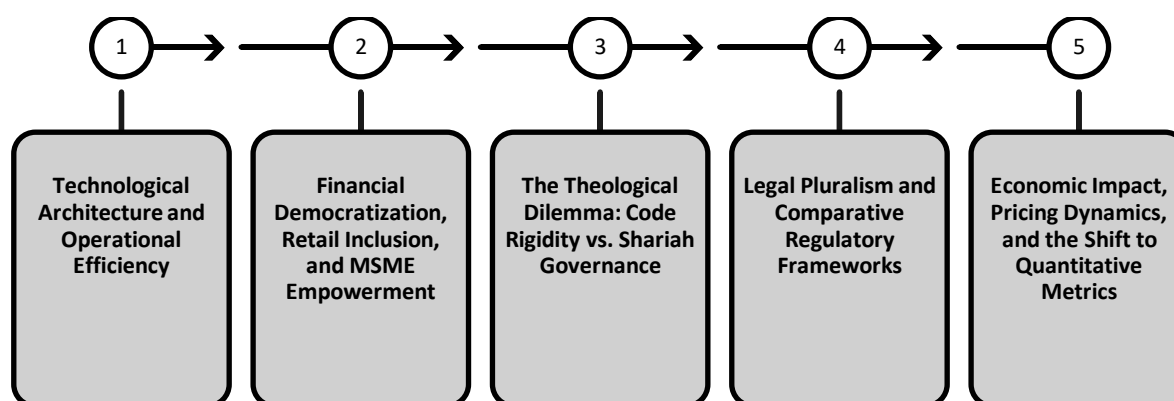


Figure 1 Thematic Analysis

Theme 1: Technology Architecture and Operational Efficiency (RO1)

The key findings from the literature studied suggest that the use of blockchain technology can enhance operational efficiency in the sukuk issuance and management process. Traditional sukuk structures incorporate a number of intermediaries, including trustees, registrars, legal consultants, payment agents and Shariah advisors, which add to increased transaction costs and administrative complexity. Ashurov (2025) notes that the involvement of different parties in the sukuk issuing procedure generally prolongs the execution period and raises operational costs. Literature also indicates that Distributed Ledger Technology (DLT) is able to streamline the process by using intelligent contracts. According to Hamza (2020), intelligent contracts enable the automatic execution of pre-programmed contractual duties, including profit distribution, ownership transfer, and compliance verification. This capacity has the potential to reduce dependency on manual intervention and improve operational efficiency. Evidence from blockchain-based systems like Blossom Finance and Wethaq also indicates that major administrative and operational operations that are typically performed manually can be effectively automated (Benalkama, 2021). Other data also indicate a growing readiness of financial organisations to utilise blockchain technology. Enterprise platforms such as HSBC's Orion have proven practical applications of DLT in supporting the entire digital security lifecycle, including issuance, storage, settlement, and reporting. Willson (2026) reports that pilot projects involving token securities and token cash settlement mechanisms demonstrate the industry's progress towards a near-atomic settlement environment, which has the potential to reduce settlement risk as well as improve overall transaction efficiency.



Theme 2: Financial Inclusion and Market Accessibility (RO1 and RO3)

The second major theme relates to the potential of tokenized sukuk to expand participation in the Islamic capital market. The literature consistently identifies high cost of publication as well as large investment thresholds as among the main barriers limiting access to the sukuk market, particularly for micro, small and medium enterprises (MSMEs) as well as retail investors. Nagano (2022) identified such factors as the main constraints hindering the expansion and inclusion of the sukuk market. Tokenization has the potential to address some of these constraints through fractional ownership and the reduction of issuance costs through process automation. Chehade et al. (2025) show that the emergence of micro sukuk structures allows small-scale issuers to access capital market financing more easily, while also increasing retail investor participation through lower minimum investment requirements. This development has the potential to expand access to Shariah-compliant investment instruments as well as promote more inclusive market participation. Practical evidence of this development can be seen through the RM100 million Sukuk Danum Programme implemented by Khazanah Nasional Berhad in collaboration with the Securities Commission Malaysia. This is among the first time that Islamic capital market instruments based on blockchain technology have been utilised in Malaysia. The program intends to investigate the possible benefits of tokenisation in supporting the development of the domestic capital market as stated by the Securities Commission Malaysia (2026). At the same time, Ashurov (2025) claims that such initiatives can help to deepen financial inclusion by providing chances for participation to investor groups who had limited access to capital market instruments in the past. Moreover, the outcomes of the study also point to a growing convergence between tokenisation and the sustainable finance agenda. Several studies show rising usage of blockchain technology in enabling green sukuk, waqf-linked finance and other socially responsible financial products. By increasing the transparency, traceability and monitoring of underlying assets and activities, these technologies can increase accountability and impact measurement for sustainable finance programs (Septianda et al., 2022).

Theme 3: Shariah Governance Challenges and Smart Contract Limits (RO2)

While tokenization offers a wide range of benefits to Islamic capital markets, the literature also identifies some significant challenges related to Shariah governance in the implementation of blockchain-based Islamic financial instruments. Bakri et al. (2026) state that one of the main issues of concern is the relationship between the variable nature of smart contracts and the flexibility requirements that typically exist in Islamic financial contracts. In general, Islamic finance contracts are based on the principles of mutual consent, fairness and adaptability to accommodate changing circumstances. Therefore, mechanisms such as joint renegotiation, restructuring, and termination of contracts remain important elements of Islamic jurisprudence. On the other hand, smart contracts are designed to execute commands that have been programmed automatically and have a limited ability to change after activation. According to Ashurov (2025), the automation and variability features that are the main strengths of blockchain technology can also pose challenges when applied in Islamic financial contracts that require a certain level of flexibility to deal with changing circumstances and the interests of the contracting parties. Some academics claim that this circumstance generates a potential friction between technology efficiency and Shariah compliance requirements (Ashurov, 2025; Bakri et al., 2026).

Moreover, the results of the study also show problems with the usage of external data sources or oracles in the smart contract ecosystem as well. As the autonomous execution of contracts relies on data from external sources, the reliability and integrity of the oracle system is a crucial factor determining the accuracy of the execution of contracts. Weaknesses in data distribution channels can potentially alter the outcome of smart contract deployment and therefore raise compliance difficulties as noted by Bakri et al. (2026). It is also said in the literature that faulty, corrupted or unverifiable data may produce an element of gharar (excessive uncertainty) thus putting the Shariah validity of tokenised financial products at risk. To solve these issues, there are only a few studies that have proposed a hybrid smart contract design that reaps the benefits of blockchain automation with human supervision. The idea is that the blockchain network can automate routine processes and operations of a mechanical character but judgements that involve legal, governance and Shariah compliance considerations are subject to human assessment. This hybrid method has the potential to be a more balanced governance mechanism as it can sustain operational efficiency without neglecting the necessity for human interpretation and consideration in complicated Shariah matters (Bakri et al., 2026).

Theme 4: Regulatory Governance and Legal Pluralism (RO2 and RO4)

The fourth theme is the regulatory context in which sukuk tokens are implemented. The literature highlights legal uncertainty as one of the key obstacles to a greater use of these instruments. Ilyas et al. (2020) argued that the concurrent existence of a civil legal system and a Shariah governance framework in Malaysia has unique issues in regulating digital Islamic financial assets.



According to Ashurov (2025), one of the main weaknesses of the blockchain-based Islamic finance ecosystem is the absence of comprehensive legal provisions to address particular issues such as smart contract enforcement, digital asset ownership, cybersecurity liability, and dispute resolution mechanisms. This ambiguity is further exacerbated in cross-border transactions involving several jurisdictions and regulatory authorities, and adds to the difficulties of regulatory coordination and law enforcement (Ashurov, 2025). Comparative information from the Gulf Cooperation Council (GCC) countries suggests that some authorities have been more proactive in regulating innovations based on blockchain. Sidiq and Muliana (2025) reported that the United Arab Emirates and Bahrain have set up a regulatory sandbox, special licensing structure, and specific governance procedures for digital financial services. Such techniques allow technical breakthroughs to be evaluated in a controlled environment, while assuring consumer protection and regulatory supervision. Moreover, there is a rising focus in the literature, on the application of Regulatory Technology (RegTech) and Supervisory Technology (SupTech) to enhance compliance monitoring, risk management and Shariah governance. According to Supriyadi et al. (2024) technologies such as artificial intelligence, biometric authentication and automated compliance systems can increase efficiency in supervisory operations inside digital financial markets. The adoption of this technology can not only increase transaction monitoring and risk identification but also help to ensure that Shariah compliance is executed more consistently in an increasingly complex financial environment (Supriyadi et al., 2024).

To summarise, the outcomes from this theme demonstrate that the success of implementing sukuk tokens is not just dependent on technological developments. It calls instead for a clear regulatory framework to be established, better coordination of civil and Sharia legislation, and for RegTech and SupTech to be used to enable more efficient and responsive governance. These findings suggest that the ability of institutions to adapt regulations and supervisory mechanisms to technological developments will be an important factor in supporting the sustainable growth of sukuk tokens in the Islamic capital market (Ashurov, 2025; Supriyadi et al., 2024).

Theme 5: Economic Implications and Directions for Emerging Research (RO3 and RO4)

The last theme relates to the economic implications of tokenized sukuk as well as current developments in academic research in this field. Awaludin et al. (2015) suggest that although tokenization is changing the technological infrastructure that supports the issuance and trading of sukuk, many of the economic features of Islamic fixed income instruments are still influenced by benchmarks and conventional financial market mechanisms. Additionally, several studies have identified liquidity as one of the ongoing challenges in the digital asset market. The limited level of interoperability between the token asset platform and the traditional capital market infrastructure can limit secondary market activity as well as reduce the effectiveness of the price discovery process. According to Ashurov (2025), the development of a more integrated market infrastructure is an important prerequisite to support efficient trade and settlement processes across conventional and digital financial ecosystems. The literature repeatedly points out the necessity of enhancing the integration of tokenisation platforms with current capital market systems for the purposes of expanding market liquidity, increasing investor involvement and strengthening confidence in tokenised products. Other results are related to the characteristics of the present study approach. This review indicates that the majority of sukuk token related works are still conceptual, exploratory or normative. There are still minimal empirical research on the economic performance, risk profile, liquidity dynamics, and macroeconomic consequences of tokenised sukuk. Supriyadi et al. (2024) say that the absence of empirical evidence makes it difficult to evaluate the real market performance of blockchain-based Islamic finance innovations. Some academics recommend using more comprehensive quantitative approaches, such as econometric modelling, risk assessment frameworks and market performance analysis, to more systematically evaluate the practical impact of such developments.

Moreover, the existing literature suggests that the research of sukuk tokens is still in the early phase of development and mainly on issues of idea, governance, and shariah compliance. Ashurov (2025) says that future study should focus more on the elements of investor behaviour, the effectiveness of secondary markets, institutional acceptance and the relationship between tokenisation and the development of the Islamic capital market as a whole. Research in these domains is vital to create empirical evidence which may help policy creation, market infrastructure development and regulatory framework improvement. Overall, the findings under this subject indicate that sukuk tokens are an innovation that has the potential to enhance operational efficiency, expand market participation, and improve financial inclusion in the Islamic capital market. However, these benefits may only be fully exploited if difficulties relating to liquidity, infrastructure development, Shariah governance and regulatory stability can be properly addressed. According to Supriyadi et al. (2024) and Ashurov (2025), future progress depends not only on the development of blockchain technology, but also on the development of governance frameworks, market infrastructure and regulatory mechanisms that can balance innovation, investor protection and Shariah compliance in the evolving digital financial environment.



Discussion

This study intends to investigate the digital transformation of Malaysia's Islamic capital market via blockchain-based tokenisation, as well as to explore the legal, technological and governance problems of Shariah in relation to the implementation of tokenised sukuk. The findings of the study indicate that the development of tokenised sukuk has passed the stage of conceptual discussions, and has proceeded to the stage of practical implementation and institutional adoption. According to Sharofiddin (2025), the usage of blockchain in the Islamic capital market has shifted from theoretical exploration to broad acceptance by financial institutions and market participants. The change is visible in many pilot projects to evaluate the potential of blockchain technology in the issuing and management of Islamic financial instruments. Within the framework of Malaysia, the deployment of the RM100 million Sukuk Danum Program by Khazanah Nasional Berhad in conjunction with the Securities Commission Malaysia indicates the possibility of deployment of Islamic capital market instruments based on blockchain in a regulated environment. This development reflects the growing confidence of institutions in tokenisation technology, while also demonstrating the regulator's commitment to explore innovations that can improve the efficiency, transparency and accessibility of the Islamic capital market (Securities Commission Malaysia, 2026).

Digital Transformation and Financial Inclusion

The findings of RO1 and RO3 suggest that the blockchain technology can bring about a transformation in the structure of participation in the Islamic capital market through enhanced operational efficiency and greater accessibility to Shariah-compliant investment instruments. The results are indicative of wider trends in the financial sector, where digitalisation is increasingly employed to cut transaction costs and overcome the limits of old service models. The conventional sukuk structures are usually associated with high issuance costs and extensive administrative restrictions, which limits the participation of small-scale issuers and ordinary investors. As per Hamza (2020), the tokenisation and automation through smart contract technology may decrease reliance on conventional intermediaries and improve the efficiency of the issuance process. Consistent with these findings, the present study found that tokenisation can help eliminate some of the obstacles to market entrance through fractional ownership, automation of administrative processes, and decrease of operational costs (Khan, 2026; Chehade et al., 2025). The consequences of these findings are especially crucial when considering financial inclusion. The advent of micro-sukuk structures could provide new financing alternatives for micro, small and medium enterprises (MSMEs) which often have challenges in getting access to finance through the capital market. At the same time, tokenisation makes it possible for retail investors to be involved in sukuk investments with a lower minimum investment value. According to Khan (2026), lowering the investment threshold can improve public participation in Islamic financial products and thereby increase market inclusion.

The development also has great ramifications from the Shariah perspective as it promotes the objectives of Maqasid al-Syariah relating to wealth distribution, economic involvement and social well-being. Tokenisation has the ability to contribute to the creation of a more accessible and equitable Islamic financial system by widening the access to investment and financing options. But those gains won't be achieved through technology alone. Its success also hinges on the presence of efficient investor protection mechanisms, sufficient levels of digital financial literacy and a regulatory framework that can assure responsible and sustainable market participation.

Aligning Smart Contract Automation with Shariah Governance

The results concerning RO2 point to one of the most major issues in the implementation of tokenised sukuk, i.e. the necessity to bridge the efficiency of smart contract automation with the flexibility that is a core aspect of Islamic finance contracts. These results indicate that blockchain technology, despite its potential for enhancing transparency, traceability and operational efficiency, has to be more critically examined in Islamic finance from the perspective of Shariah principles and purposes. Bakri et al. (2026) identified this issue as one of the most important Shariah governance challenges in the development of blockchain-based Islamic financial instruments. In Islamic jurisprudence, contracts are usually built on the principles of justice, mutual agreement and adaptability to changing circumstances. Therefore, mechanisms such as joint renegotiation, restructuring, and termination of contracts are considered part of the legal contract governance process. On the other hand, smart contracts are designed to execute commands that have been programmed automatically and have a limited degree of variability after activation. Ashurov (2025) argues that this feature creates a potential tension between the need for technological certainty and the flexibility required in Islamic contracts. These findings suggest that increased operational efficiency does not necessarily guarantee full compatibility with Shariah governance requirements, especially in situations that require contextual considerations or unexpected changes in circumstances.



In addition, this challenge also illustrates the difference between the automation-based technology approach and the Shariah approach which allows for human consideration in the decision-making process. One aspect that is difficult to fully emulate with automated execution is the ability to adapt contracts when circumstances change, conflicts arise, or revisions are needed. The results of this study therefore support the position that the development of intelligent contracts in Islamic finance should consider not only the technology efficiency but also the dynamic Shariah governance and compliance needs (Ashurov, 2025; Bakri et al., 2026). The concept of hybrid intelligent contracts has developed as a potential way to balance the two objectives. This technique does not automate the whole contract process but enables for routine and deterministic operations to be performed automatically using the blockchain, leaving the more complex decision-making functions like as legal interpretation, dispute settlement, and assessment of Shariah compliance under human supervision. According to Bakri et al. (2026), this hybrid model can offer a better balance between operational efficiency and Shariah compliance requirements. The study findings reveal that the success of the deployment of tokenised sukuk does not depend on the full automation of the system, but rather on the integration of technological advancements in conjunction with governance systems that are responsive to the Shariah principles and needs. In this context, hybrid intelligent contracts could form the basis for the development of digital Islamic financial products that are operationally efficient, but also have long-term legal integrity and Shariah compliance.

Regulatory Governance and Institutional Adaptation

Discussion on RO4 shows that preparation for regulation is one of the most critical criteria determining the effective adoption of sukuk tokens in the Islamic capital market. Malaysia has one of the most established Islamic financial ecosystems in the world. But the emergence of blockchain-based digital financial products brings new issues that demand continual institutional and legislative adaptation. Ilyas et al. (2020) noted that the coexistence of a civil legal system and Shariah governance framework would result in more complex coordination requirements to be implemented for electronic assets and intelligent contracts. The results indicate that the success of tokenisation depends not only on the technological feasibility but also on the regulatory clarity and the willingness of institutions to adjust the current legal framework. In this respect, regulators still have to pay more thorough attention to concerns such as smart contract enforcement, cybersecurity liability, dispute settlement, and cross-border transactions (Ashurov, 2025). The findings of the study also suggest that Malaysia can benefit from the experience of other jurisdictions in building a digital Islamic banking ecosystem. Sidiq and Muliana (2025) observed that Bahrain and the United Arab Emirates have established a regulatory sandbox, a specific licensing structure, and governance systems that facilitate blockchain-based innovation. This strategy enables for the testing of new technologies in a controlled environment prior to broader deployment in the financial system. Experience shows that innovation and investor protection do not necessarily conflict with each other, but institutional structures and legal frameworks differ from country to country. Both can be grown in a balanced manner through a flexible regulatory framework, while yet retaining an acceptable amount of control.

Furthermore, the study results reveal that the usage of Regulatory Technology (RegTech) and Supervisory Technology (SupTech) may become an important part of the regulation of digital financial markets. The application of artificial intelligence, data analytics and automated compliance systems can improve the capacity of institutions to monitor transactions, identify risks and achieve regulatory compliance more effectively (Supriyadi et al. 2024). In the case of sukuk tokens, the deployment of such technology can lower monitoring costs, expedite reporting and enhance oversight transparency. But at the same time, these technologies can assist in the enhancement of Shariah compliance via more constant monitoring of the activities and transactions taking place in the blockchain ecosystem. In general, the results of the study indicate that the development of sukuk tokens requires more than just technological innovation. The success of it relies on the capacity of the institution to provide a clear regulatory framework, to adapt the governance mechanisms to the technological changes and to increase coordination between the civil and Shariah legal aspects. In this context, the application of RegTech and SupTech and a proactive regulatory strategy could play an important role in developing an environment conducive to innovation and at the same time, ensuring market integrity, investor protection and Shariah compliance.

Advancing the Evidence Base for Tokenized Sukuk

Another key finding of this study relates to the existing research methodological profile on tokenised sukuk. The data indicate that most of the studies in this field remain conceptual, exploratory or normative in nature. While these studies have contributed significantly to the development of the theoretical underpinning and conceptual framework of tokenised sukuk, the empirical evidence on market performance, liquidity dynamics, risk profile and economic impact are still scarce. This case indicates that the creation of knowledge in the area is still at a nascent stage and has not yet reached a maturity level that would enable a comprehensive assessment of the effectiveness of its application in the real market environment.



According to Supriyadi et al. (2024), one of the main gaps in the literature connected to blockchain-based Islamic banking is the lack of empirical study. These findings are significant as the amount to which benefits commonly claimed for tokenisation – such as greater efficiency, lower costs and wider financial inclusion – may actually be realised in practice is difficult to determine without appropriate empirical evidence. Therefore, this paper agrees with the point of view that future research should go beyond conceptual talks and give more importance to monitoring and evaluating the performance of such instruments in practical environments. As sukuk token projects develop across countries, increased usage of quantitative approaches can potentially lead to a better understanding of the economic and financial ramifications of such instruments. Econometric approaches, market microstructure analysis and risk assessment models can be used to examine such things as pricing efficiency, market liquidity, transaction costs, investor behaviour and default risk. Such research can not only increase the academic evidence basis, but also serve to identify the elements that determine the success or failure of the adoption of sukuk token in the Islamic capital market. Future studies should also look into areas that remain under researched such as investor acceptability, institutional preparedness, efficiency of secondary markets and the relationship between tokenisation and the wider Islamic financial development goals. Research in these areas could potentially create a stronger evidence to help policy formulation, regulatory framework creation and strategic planning of financial institutions which are keen to tap into the blockchain technology in the Islamic capital market. Generally, the results of the study suggest that the future advances of tokenised sukuk would not only depend on technological innovation or regulatory advancements, but also on the establishment of a stronger empirical evidence foundation. More thorough evidence will allow policy makers, regulators, financial institutions and investors to make better judgements in supporting the establishment of a sustainable, efficient and Shariah compliant digital Islamic capital market.

Implications for the Future Development of Tokenized Sukuk

Another noteworthy finding of this study is the existing research methodological profile on tokenised sukuk. The data indicate that most of the studies in this field remain conceptual, exploratory or normative in nature. While these studies have contributed significantly to the development of the theoretical underpinning and conceptual framework of tokenised sukuk, empirical evidence on market performance, liquidity dynamics, risk profile and economic impact are still sparse. This case indicates that the creation of knowledge in the area is still at a nascent stage and has not yet reached a maturity level that would enable a comprehensive assessment of the effectiveness of its application in the real market environment. One of the main gaps in the literature connected to blockchain-based Islamic finance is the absence of empirical research, according to Supriyadi et al. (2024). These findings are crucial because, without sufficient empirical evidence, it is difficult to judge the extent to which benefits typically claimed for tokenisation, such as greater efficiency, lower costs and wider financial inclusion, may truly be realised in practice. Therefore, this paper supports the perspective that future research should move beyond conceptual discussions and attach more importance to monitoring and evaluating the performance of such tools in practical environments. As sukuk token projects grow across countries, increasing use of quantitative approaches has the potential to contribute to greater comprehension of the economic and financial ramifications of these instruments. Econometric approaches, market microstructure analysis and risk assessment models can be used to evaluate characteristics such as pricing efficiency, market liquidity, transaction costs, investor behaviour and default risk. Such research can not only increase the academic evidence foundation, but also serve to identify the elements that determine the success or failure of the sukuk token implementation in the Islamic capital market.

Further studies should also address elements that remain under researched such as investor acceptability, institutional preparedness, efficiency of secondary markets and the relationship between tokenisation and the wider Islamic financial development goals. Research in these areas might potentially generate stronger evidence to help policy formulation, the establishment of regulations, and the strategic planning of financial institutions wishing to tap into the blockchain technology in the Islamic capital market. In general, the results of the study suggest that future advances of tokenised sukuk would not only rely on technological innovation or regulatory advancements but also on the establishment of a stronger empirical data foundation. More thorough evidence will allow policy makers, regulators, financial institutions and investors to make better decisions in promoting the establishment of a sustainable, efficient and Shariah compliant digital Islamic capital market.

Conclusion

The study analyses the digitalisation of the Islamic capital market in Malaysia via the issuance of tokenised sukuk on blockchain technology. With the increasing convergence between financial technology and Islamic finance, this study examines the implications of Shariah technology, legislation and governance on tokenisation and the potential for sustainable and inclusive development in the Islamic capital market. The study employed a structured narrative assessment of academic literature, regulatory papers and industry evidence to analyse current market developments,



examine implications for financial inclusion, analyse governance difficulties and identify strategic directions for future development. The findings indicate that tokenised sukuk may enhance operational efficiency, increase transparency, lower transaction costs and broaden access to the Islamic capital market. The pilot in Malaysia additionally emphasises the increasing willingness of market participants, regulators and financial institutions to trial blockchain-based financial infrastructure. Tokenisation can also assist financial inclusion objectives, including by increasing the scope for retail investor engagement and improving access to capital market financing for micro, small and medium companies (MSMEs). But there are still some major obstacles to be solved. The link between the volatility of intelligent contracts and the degree of flexibility needed in Islamic contracts continues to be a relevant problem in Shariah governance. Furthermore, legal uncertainty, regulatory fragmentation, cybersecurity dangers, and the dependability of external data sources remain impediments to wider implementation. The findings indicate that the success of tokenised sukuk is not only dependent on technology innovation but also demands a solid Shariah governance framework, regulatory coordination and oversight. The hybrid smart contract structure is one of the important contributions of the study that is offered as a mechanism to balance the effectiveness of the blockchain automation and also the adaptability required in Islamic law. This strategy offers a practical means of incorporating blockchain technology into the Islamic financial ecosystem, through the automated implementation of regular activities, combined with human supervision of issues affecting governance, dispute resolution and Shariah compliance. The study also underlines the potential of RegTech and SupTech for enhanced compliance monitoring, risk management and investor protection in the digital financial ecosystem.

The study also found critical methodological shortcomings in the literature. Most of the study is either conceptual or qualitative and there is currently limited empirical information on market performance, liquidity, investor behaviour and economic impact. Therefore, future study should put more focus on empirical and quantitative methodologies to determine the real effectiveness of tokenised sukuk in the Islamic capital market. Some limitations should also be acknowledged. Firstly, the study was based mainly on secondary sources, which may have limited the availability of long-term empirical evidence. Second, the rapid evolution of blockchain technology and virtual assets may suggest that some of the conclusions may alter with the evolution of technology and the regulatory landscape. Thirdly, this study is concerned with the Malaysian context and the experience of other jurisdictions is only used for comparison and analytical enrichment reasons. Overall, tokenised sukuk could be a crucial driver for the future digital transformation of the Islamic capital market. However, to realise this promise, continual coordination between regulators, financial institutions, technology developers and Shariah scholars is needed to create an ecosystem that can strike a balance between innovation, legal certainty, investor protection and Shariah compliance. With its leadership position in Islamic finance and continued commitment to the digitisation of the financial sector, Malaysia is well-placed to pioneer the establishment of a sustainable, competitive and internationally relevant digital Islamic capital market model.

References

- Afrizal. (2024). *Covid-19 challenges and the role of Islamic fintech: A literature review*.
- Anami, A. K. (2026). *Challenges and opportunities in the Islamic capital market: Transforming financial services in the digital era*. *East African Finance Journal*, 5(1).
- Anami, A. K. (2026). *Challenges and opportunities in the Islamic capital market: Transforming financial services in the digital era*. *East African Finance Journal*, 5(1). <https://doi.org/10.59413/eafj/v5.i1.7>
- Ashurov, S. (2025, November 6). *Blockchain and smart sukuk in Malaysia: A new era for the Islamic capital market*. BURSA Saya. <https://my.bursamalaysia.com/learn/knowledge/explorer/blockchain-and-smart-sukuk-malaysia-new-era-Islamic-capital-markets>
- Awaludin, F., et al. (2015). Sukuk price dynamics - factors influencing Malaysia's sukuk yield curve. *Research Papers in Economics*.
- Bakri, M., Salsabilla, Namirah, C., & Ujang, S. (2026). Understanding Islamic contract theory in smart contracts: Blockchain and Sharia Analysis. *Proceedings of the International Seminar on Islamic Studies*, 7(1), 1469–1475. <https://jurnal.umsu.ac.id/index.php/insis/article/download/28632/pdf>
- Benalkama, M. (2021). Tokenization of sukuk: A successful experience. *Journal of Studies in Economics and Management*, 4(1), 904–923. <https://asjp.cerist.dz/en/downArticlepdf/635/4/1/155687>
- Chehade, I., Al-Mohamad, S., & Sraieb, M. (2025). Shariah-compliant tokenization: Blockchain applications for sustainable Islamic finance in emerging markets. *IEEE Exploration*.
- Deroncele-Acosta, A. (2025). QR method: A step-by-step guide to writing a narrative review. *Islands*. <https://www-scopus-com.ezaccess.remotexs.co/pages/publications/105015521679?origin=scopusAI>
- Fitch Ratings. (2024). *Malaysia still largest sukuk market globally*. Fitch Ratings.



- Green, B.B., Johnson, C.D., & Adams, A. (2006). Writing a narrative literature review for a peer-reviewed journal: The secrets of trading. *Journal of Chiropractic Medicine*. <https://www-scopus-com.ezaccess.remotexs.co/pages/publications/34848925195?origin=scopusAI>
- Hamza, O. (2020). The structure of smart sukuk from a Shariah perspective and the benefits of financing: A proposal for the use of smart sukuk through blockchain technology in Islamic banks in Turkey. *European Journal of Islamic Finance*. <http://www.ojs.unito.it/index.php/EJIF>
- Henry, B.M., Skinningsrud, B., Vikse, J., & Tomaszewski, K.A. (2018). Systematic review versus narrative review in clinical anatomy: A methodological approach in the era of evidence-based anatomy. *Clinical Anatomy*. <https://www-scopus-com.ezaccess.remotexs.co/pages/publications/85041134674?origin=scopusAI>
- Illes, A., Kosse, A., & Wierst, P. (2025). *Advancing in tandem: Results of the 2024 BIS survey on central bank digital currencies and crypto* (BIS Papers No. 159). Basel, Switzerland: Bank for International Settlements. Retrieved from <https://www.bis.org/publ/bppdf/bispap159.htm>
- Ilyas Bin Ab Razak, M., et al. (2020). Fintech in Malaysia: An assessment of the requirements for Shariah-compliant regulations. *Journal of Social Sciences and Humanities of Agriculture*.
- Khan, M. (2026). *Tokenized sukuk: The missing layer in emerging sovereign debt?* OMFIF.
- Mousavi, S. H., Tohidinia, A., & Mousavi, S. M. (2025). *Transforming Islamic Finance: The Impact of Blockchain and Smart Sukuk*. *Access Journal*.
- Nagano, M. (2022). Is Islamic finance following a financial hierarchy?: Evidence from the main market of sukuk.
- Page, M. J., McKenzie, J.E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C.D., ... & Moher, D. (2021). 2020 PRISMA Statement: Updated guidelines for reporting systematic reviews. *Journal of Clinical Epidemiology*.
- Rabbani, M. R., Bashar, A., Nawaz, N., Karim, S., Ali, M. A. M., Rahiman, H. U., & Alam, M. S. (2022). *Exploring the role of Islamic fintech in combating the aftershocks of COVID-19: The open social innovation of the Islamic financial system*. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(2), 136.
- Securities Commission Malaysia. (2026). *Capital Market Masterplan 2026-2030: Malaysia still tops global sukuk market*. Securities Commission Malaysia.
- Securities Commission Malaysia. (2026). *Definition of Sukuk and Islamic capital market guidance*. Securities Commission Malaysia.
- Securities Commission Malaysia. (2026). *Guidance Note on Sukuk: An Alignment with Maqasid Al-Shariah Guidance Islamic Capital Market Malaysia*. Securities Commission Malaysia.
- Securities Commission Malaysia. (2026, April 28). *Khazanah led Malaysia's first sukuk token pilot in collaboration with the SC*.
- Septianda, DE, et al. (2022). Blockchain in the Islamic economy. *SIBATIK JOURNAL: Scientific journals in the fields of social, economic, cultural, technological and education*.
- Shahzadi, K. (2025). *FinTech innovation and Islamic finance: A thematic literature review*. *Journal of Islamic Banking, Economics and Policy*, 2(1). <https://doi.org/10.63740/ecccex16>
- Sharofiddin, A. (2025). *Blockchain and Smart Sukuk in Malaysia: A New Era for Islamic Capital Markets*. IIUM Institute of Islamic Banking and Finance.
- Sidiq, M. Y., & Muliana, S. (2025). Analysis of the Shariah-based crypto asset regulatory framework in the United Arab Emirates (UAE) and Bahrain. *Journal of Islamic Law on Digital Economics and Business*, 1(1), 36–52. <https://doi.org/10.20885/JILDEB.vol1.iss1.art3>
- Skelly, M., Duong, A., Simunovic, N., & Ayeni, O. R. (2019). Types of reviews and how to get started. In *the Handbook of Basic Methods for Clinical Orthopedic Research: A Practical Guide and Case-Based Research Approaches*. <https://www-scopus-com.ezaccess.remotexs.co/pages/publications/85169528464?origin=scopusAI>
- Supriyadi, Djatna, T., Arkeman, Y., & Muslich. (2024). Blockchain in Islamic finance: A bibliometric analysis. *Proceedings of the 7th International Conference on Informatics, Engineering, Science and Technology (INCITEST 2024)*. <https://www-scopus-com.ezaccess.remotexs.co/pages/publications/105015678863?origin=scopusAI>
- Theile, C.M., & Beall, AL (2024). Literary narrative review: Overview. *Journal of Dental Hygiene*. <https://www-scopus-com.ezaccess.remotexs.co/pages/publications/85185200438?origin=scopusAI>
- Unal, I. M., & Aysan, A. F. (2022). Fintech, digitalization, and blockchain in Islamic finance: Retrospective investigation. *FinTech*, 1(4), 388-398. <https://doi.org/10.3390/fintech1040029>
- Vorobev, V. A., Shcherbatykh, A. V., & Kalyagin, A. N. (2025). Methodological guidelines for narrative literature review in compliance with SANRA quality criteria. *Siberian Medical Studies*. <https://www-scopus-com.ezaccess.remotexs.co/pages/publications/105023426759?origin=scopusAI>
- White & Case. (2025). *Islamic Finance 2.0: Innovation, tokenisation, and the evolution of sukuk markets in the GCC*. Willson, M. (2026, February 20). *HSBC's Orion blockchain platform*. Blockchain Council.
- World Bank. (2022). *Global Findex Database 2021 survey headline findings on the use of financial services*.