

# Empowering MSMEs through Blockchain-Based Shariah-Compliant Financing in the Multipolar Economic Era: The Potential of Initial Coin Offerings

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**Abstract:** This study examines the potential of blockchain-based Shariah-compliant financing as an alternative mechanism for empowering micro, small and medium enterprises (MSMEs) in the evolving multipolar economic era, with particular attention to Initial Coin Offerings (ICOs), as an alternative mechanism. As global economic power becomes increasingly dispersed and economic uncertainties intensify, MSMEs face greater challenges in accessing financing that is flexible, inclusive and compliant with Shariah principles. In response, this study explores how blockchain technology, particularly through token-based fundraising mechanisms, can support a more transparent and resilient financing ecosystem capable of strengthening MSME competitiveness and sustainability within the Malaysian context. The study adopts a qualitative approach through normative-juridical analysis, supported by an extensive review of academic literature, legal frameworks, regulatory guidelines, policy documents and Shariah resolutions. It also incorporates fiqh adaptation (takyif fiqhi) and a comparative analysis of selected international blockchain-based financing practices to evaluate their suitability within the Islamic finance ecosystem. The analysis indicates that blockchain technology offers significant potential to improve financing accessibility, enhance transparency, facilitate efficient transactions and reduce excessive reliance on conventional financial intermediaries. However, the use of ICOs for MSME financing requires careful Shariah structuring, strong governance, investor protection and regulatory oversight to avoid elements of uncertainty, speculation and non-compliance. When developed in accordance with Shariah principles, blockchain-based financing can provide a more ethical, inclusive and sustainable alternative to conventional financing mechanisms while supporting the resilience of MSMEs amid the challenges of a multipolar economy. This study contributes to the discourse on Islamic finance, financial technology and public policy by proposing a conceptual foundation for blockchain-enabled Shariah-compliant financing. The proposed framework provides practical guidance for policymakers, financial institutions and regulatory authorities in developing a more resilient and inclusive digital financing ecosystem for MSMEs.

**Keywords:** Blockchain, Shariah-Compliant Financing, Initial Coin Offerings, MSMEs, Multipolar Economy.

## Introduction

The global economy is undergoing a significant structural transition from a relatively centralised order towards a more complex and multipolar economic era (Michael, 2022). The multipolar economic era has reshaped global trade, financing structures and digital economic participation (Tung et al., 2023). In this study, the multipolar economic era refers to an economic environment in which global economic influence is no longer concentrated within a single dominant bloc. The contemporary global economy is no longer centred solely on traditional advanced economies, but is increasingly shaped by emerging markets, regional blocs, commodity producing economies and cross-border digital platforms. This transition is driven by several interrelated developments, including geopolitical tensions, shifts in trade relations, supply chain restructuring, financial uncertainty and the rapid expansion of digital finance (IMF, 2023).

The emergence of a multipolar economy has changed the way firms participate in markets, access capital and respond to external shocks (Mariotti, 2025). Economic activities are no longer determined solely by domestic market conditions, but are increasingly influenced by global trade patterns, platform-based competition, regional supply chains and digital financial infrastructure (IMF, 2023). As a result, business resilience has become a central concern, particularly for smaller firms that often lack the financial depth, technological capacity and institutional support enjoyed by large corporations (OECD, 2024). In this context, resilience refers not only to the ability of firms to survive economic shocks, but also to their capacity to adapt, compete and sustain growth within an uncertain and rapidly changing economic environment.

The shift towards a multipolar economic era has also intensified the need for more flexible and inclusive financing mechanisms. As global supply chains become more fragmented and financing conditions become more restrictive, smaller firms may face greater pressure to secure working capital, invest in digital tools and respond quickly to changes in market demand (Kumar, 2025). These challenges are particularly relevant in emerging economies where micro, small and medium enterprises (MSMEs) form the backbone of domestic economic activity but often remain underserved by formal financial systems (Beck, et al., 2006). Therefore, the discussion on MSME empowerment in the present economic era cannot be separated from the issue of financing accessibility,

technological adaptation and institutional resilience.

At the same time, the digitalisation of finance has opened new possibilities for alternative financing. Financial technology, digital platforms and blockchain-based systems have created new channels for mobilising funds, recording transactions and connecting fund seekers with potential investors beyond traditional banking structures (Zhou, 2024). Blockchain technology, in particular, is often associated with transparency, traceability, decentralisation and automation through smart contracts. (Xu, et al., 2022) These features suggest that blockchain may support new forms of financing that are more efficient, transparent and accessible. However, the use of blockchain in financing also raises important concerns, especially in relation to speculation, investor protection, regulatory compliance and Shariah governance (Abdur Rauf, et al., 2026).

MSMEs play a crucial role in economic development because they contribute to output, employment, entrepreneurship, innovation and social inclusion. In Malaysia, MSMEs constitute the majority of business establishments and remain a key driver of national economic growth. According to recent official data, Malaysian MSMEs contributed significantly to gross domestic product, employment and exports, demonstrating their importance not only as small business entities but also as a strategic component of the national economy. Their role is particularly important in supporting household income, local production, community-based enterprise and inclusive economic participation (KUSKOP, 2023).

Despite their importance, MSMEs continue to face persistent financing constraints. These constraints commonly include limited collateral, weak credit history, incomplete financial records, insufficient documentation, high financing costs and limited awareness of alternative financing options (Azira, 2019). For many micro and small enterprises, especially early-stage businesses, conventional credit assessment may not fully capture their actual business potential because formal lenders often depend on historical financial statements, repayment records and collateral strength (Krishnan & Rani, 2024). As a result, many viable MSMEs may remain excluded from suitable financing despite having operational potential and market demand (Ramlee & Berma, 2013).

In Malaysia, the issue is closely linked to the structure of the financing ecosystem. Bank financing continues to play a major role in supporting SMEs, but excessive reliance on banking institutions may limit the availability of financing instruments that are more flexible, risk-sharing and growth-oriented (Krishnan & Rani, 2024). This is important because MSMEs do not all require the same type of financing. MSMEs have diverse financing needs, including working capital, growth capital, digital transformation, equipment financing and market expansion. However, in many low and middle income economies, access to investment and working capital remains limited due to weak track records, inadequate collateral, poor credit histories and broader institutional or structural barriers (Cruz, et al., 2023).

From the perspective of Islamic finance, the financing challenge is even more specific. Muslim entrepreneurs require financing that is not only accessible and affordable, but also consistent with Shariah principles. This requires financing structures that avoid *riba*, excessive uncertainty, speculation and unethical business activities, while promoting fairness, transparency, asset-backing, risk-sharing and real economic contribution (Sugiharto, et al., 2025). Hence, the empowerment of MSMEs in Malaysia requires an alternative financing framework that combines financial inclusion, technological innovation and Shariah compliance.

The financing challenges faced by MSMEs are not new. Issues such as lack of collateral, weak financial records, high cost of financing and complex documentation have long been identified as major barriers to MSME financing (Krishnan & Rani, 2024). However, the multipolar economic era has made these long-standing challenges more complex and more urgent. MSMEs are now operating in an environment shaped by market uncertainty, cross-border competition, supply chain disruptions, digital transformation and changing consumer behaviour (OECD, 2024).

This means that the problem is not simply that MSMEs face difficulties in obtaining financing. Rather, the problem is that their financing needs have become more demanding in a rapidly changing economic environment (Kharashvili, et al., 2025). MSMEs today require capital not only to maintain daily operations, but also to invest in digital platforms, improve logistics capacity, upgrade technology, manage rising input costs and compete with regional and international businesses through online marketplaces (Abdul Azeez, et al., 2024). Without suitable financing, MSMEs may struggle to adapt to the demands of the multipolar economy and may become increasingly vulnerable to external shocks.

Blockchain-based financing has the potential to respond to some of these challenges. Through features such as distributed record keeping, transaction transparency, smart contract automation and reduced reliance on intermediaries, blockchain may support a more efficient and accessible financing ecosystem (Kumar, et al., 2023). Within this broader ecosystem, Initial Coin Offerings (ICOs) represent one possible blockchain fundraising mechanism through which enterprises may raise capital by issuing digital tokens to prospective investors. For MSMEs, ICOs may offer an alternative route to financing by widening access to potential funders, reducing dependence on conventional intermediaries and enabling more transparent monitoring of fundraising activities.

However, the use of ICOs and other forms of blockchain financing must be approached with caution. If they are not properly structured, these mechanisms may reproduce the problems commonly associated with speculative

digital assets, weak governance, information asymmetry and investor risk (Teng et al., 2026). This concern is especially important in the Islamic finance context, where any proposed financing mechanism must be grounded in Shariah principles, supported by clear contractual relationships and linked to real economic activity. Therefore, ICOs cannot be treated merely as digital fundraising tools, but must be conceptually reconstructed within a Shariah-compliant framework that ensures transparency, asset or benefit linkage, ethical governance and protection against *riba*, *gharar* and *maysir*.

Therefore, the key problem addressed by this study is the absence of a clearly articulated Shariah-compliant blockchain financing framework, particularly through ICO fundraising, that can support the empowerment of Malaysian MSMEs in the multipolar economic era. The study argues that MSME empowerment should not be understood merely as access to capital, but as the development of a financing ecosystem that is inclusive, transparent, ethical and resilient.

Existing literature has discussed MSME financing, Islamic finance, fintech, blockchain and ICOs from different perspectives. Studies on MSME financing commonly focus on credit access, financing gaps, collateral constraints, information asymmetry, banking support and policy intervention (Wajebo, 2022). Meanwhile, studies on Islamic finance often emphasise Shariah-compliant contracts, risk-sharing principles, ethical finance and financial inclusion. Separately, blockchain and ICO studies tend to focus on technological architecture, digital assets, tokenisation, smart contracts, decentralised financial systems and digital fundraising mechanisms.

Although these areas are individually well developed, there remains limited discussion that integrates MSME empowerment, blockchain-based ICO financing and Shariah compliance within the specific context of the multipolar economic era. Existing studies have not sufficiently explored how ICOs can be structured as a Shariah-compliant financing mechanism for MSMEs facing economic uncertainty and evolving financing needs. This creates a gap for a conceptual study that connects technological innovation with Islamic financial principles and MSME resilience. This study addresses that gap by examining the potential of Shariah-compliant ICOs as a blockchain-based alternative financing mechanism for empowering MSMEs in Malaysia, contributing to a more transparent, inclusive and ethically governed financing framework.

## Method

This study adopts a qualitative and conceptual approach to examine the potential of blockchain-based Shariah-compliant financing, with particular attention to Initial Coin Offerings (ICOs), as an alternative mechanism for empowering MSMEs in the multipolar economic era. This approach is appropriate because the study focuses on interpreting existing literature, regulatory frameworks and Shariah principles rather than collecting empirical field data (Creswell & Poth, 2016; Bowen, 2009). The data used in this study consist of primary legal and regulatory documents, as well as secondary academic sources. Primary documents include relevant Malaysian legal frameworks, regulatory guidelines issued by the Securities Commission Malaysia and Bank Negara Malaysia, policy documents, and Shariah resolutions related to Islamic finance and digital assets. Secondary sources include journal articles, books, institutional reports and previous studies on MSME financing, Islamic finance, blockchain technology, fintech and ICO fundraising.

The analysis is conducted through three main methods. First, normative-juridical analysis is used to examine the compatibility of blockchain financing and ICO mechanisms with existing legal and regulatory frameworks. Second, *fiqh* adaptation analysis (*takyif fiqhi*) is applied to assess the Shariah characterisation of token-based fundraising, particularly in relation to the nature of tokens, underlying assets, contractual relationships and the avoidance of *riba*, *gharar*, *maysir* and excessive speculation. Third, comparative analysis is employed to examine selected international blockchain financing practices and evaluate their suitability for the Malaysian Islamic finance ecosystem. These methods provide the basis for developing a conceptual framework for blockchain-enabled Shariah-compliant financing for MSMEs.

## Results and Discussion

### 1. MSME Financing Needs and Challenges in the Multipolar Economic Era

The financing needs of micro, small and medium enterprises (MSMEs) must be understood within the changing structure of the global economy. The multipolar economic era refers to an economic environment in which global economic influence is no longer concentrated within one dominant bloc, but is increasingly distributed across multiple centres of growth, including Asia, ASEAN, China, India, Gulf economies and cross-border digital markets (World Bank, 2011; IMF, 2023). This development has created a more dynamic but uncertain economic environment, shaped by geopolitical tensions, changing trade relations, supply chain restructuring, digital competition and financial volatility (IMF, 2023; OECD, 2024).

For MSMEs, the multipolar economic era does not necessarily create entirely new financing problems. Rather, it intensifies long-standing structural challenges that have historically limited their access to formal

financial systems. MSMEs often face constraints such as limited or insufficient collateral, weak or non-existent credit history, incomplete or informal financial records, high financing costs and complex documentation requirements imposed by financial institutions (Cruz, et al., 2023). In many cases, micro and small enterprises operate informally or semi formally, making it difficult for lenders to accurately assess their creditworthiness. As a result, financial institutions tend to perceive MSMEs as high risk borrowers, leading to stricter lending conditions, higher interest rates or outright rejection of financing applications (Indran, 2025).

These financing challenges become more critical in the context of a multipolar economic environment that demands greater adaptability and competitiveness. Investment in digital technology is increasingly seen as a fundamental necessity for MSMEs to maintain competitiveness, improve operational efficiency and expand customer reach (Purnomo et al., 2024). In the multipolar era, this need becomes more urgent as competition is no longer limited to domestic markets, but involves regional and global players through digital platforms, evolving supply chains and geopolitical uncertainties that require businesses to respond more quickly and flexibly (Maria, 2024). Therefore, MSMEs are increasingly required to invest in digital technologies, explore new markets, upgrade production capabilities and strengthen supply chain resilience to ensure business sustainability and growth.

However, limited access to affordable and timely financing restricts their ability to make such investments. In addition, delays in loan approval processes, rigid repayment structures and lack of tailored financial products further constrain MSMEs' operational flexibility (Mbowe, 2020). Consequently, many MSMEs rely on internal funds or informal financing sources, which may not be sufficient to support long term growth or to withstand external economic shocks.

In Malaysia, MSMEs occupy a significant position in the national economy. They contribute substantially to gross domestic product, employment and exports, making them an important driver of inclusive economic development (Tairuddin et al., 2023). Their role is not limited to business activity alone, but also extends to income generation, local entrepreneurship, employment creation and community level economic participation. Therefore, any disruption affecting MSME financing may have wider implications for national economic resilience.

The shift towards a multipolar economy has increased the pressure on Malaysian MSMEs in several ways. First, Malaysian MSMEs face increasing cross-border competition as digital platforms and regional trade integration expand market access beyond domestic boundaries. Through e-commerce and digital marketplaces, local MSMEs are no longer competing only with domestic businesses, but are increasingly exposed to regional and international sellers that can reach Malaysian consumers without relying on conventional physical market entry (Malaysia Competition Commission, MyCC, 2025). This situation places greater pressure on MSMEs to improve product quality, pricing strategies, digital marketing capabilities and operational efficiency in order to remain competitive.

This development is evident in Malaysia's e-commerce marketplace, where cross-border merchants, particularly from Mainland China and other Southeast Asian markets, participate through platforms such as Shopee, Lazada and TikTok Shop. These sellers often benefit from competitive pricing, economies of scale, streamlined supply chains and direct sourcing from manufacturers or factories. Their presence contributes to competitive pressure within Malaysia's online marketplace landscape, especially for local merchants that are largely made up of MSMEs (MyCC, 2025). As a result, Malaysian MSMEs are pressured to improve product quality, pricing strategies, digital marketing capabilities and operational efficiency in order to remain competitive.

Second, market uncertainty and supply chain disruptions have increased operational risks for MSMEs, particularly those that depend on imported inputs, logistics networks or external demand. Changes in raw material prices, shipping costs, currency movements and delivery delays can directly affect production costs, inventory planning and cash flow (Moheb et al., 2018). For MSMEs with limited reserves, such disruptions may reduce profit margins and weaken their ability to respond quickly to market changes. As a result, financing becomes important not only for daily operations, but also for managing business risks, securing alternative suppliers, strengthening inventory systems and maintaining operational continuity (Sreedevi & Saranga, 2017).

Third, digital transformation has become a business necessity rather than an optional strategy. MSMEs increasingly require digital tools, online marketing, payment systems, data management, logistics integration and technology upgrading to remain competitive in a platform-based economy (Thanush et al., 2026). However, digital adoption involves financial costs, including software subscriptions, digital hardware, internet connectivity, cybersecurity, training and platform related to marketing expenses (Amarachi, & Yakasai, 2025). Therefore, MSMEs now require financing not only for working capital, but also for digital upgrading and long term business resilience.

These developments show that MSME financing should not be viewed merely as access to capital. In the multipolar economic era, financing is closely linked to business resilience, competitiveness and the ability to adapt to changing market conditions. Conventional bank financing remains important, but it may not fully address the diverse needs of MSMEs, particularly micro and early stage enterprises that lack collateral, formal records or established credit profiles. This creates the need for alternative financing mechanisms that are more flexible,

inclusive and responsive to the realities of MSME operations.

From the perspective of Islamic finance, the issue is not only whether MSMEs can access financing, but whether the financing mechanism is consistent with Shariah principles. A suitable financing model for Muslim MSMEs should promote transparency, fairness, real economic activity and risk-sharing, while avoiding *riba*, *gharar*, *maysir* and excessive speculation. Therefore, the empowerment of MSMEs in the multipolar economic era requires a financing ecosystem that combines accessibility, flexibility, technological innovation and Shariah compliance. This provides the basis for examining blockchain-based Shariah-compliant financing, particularly Initial Coin Offerings (ICOs), as a potential alternative mechanism for MSMEs.

## 2. The Potential of ICOs as Blockchain-Based Alternative Financing for MSMEs

Initial Coin Offerings (ICOs) represent one of the earliest forms of blockchain-based fundraising. In general, an ICO refers to a mechanism through which a business or project raises capital by issuing digital tokens to investors in exchange for fiat currency or established cryptocurrencies such as Bitcoin or Ether (Howell et al., 2020). ICOs are enabled by distributed ledger technology, which allows transactions and token ownership to be recorded transparently without relying entirely on traditional financial intermediaries (Momtaz, 2020). This feature makes ICOs relevant to the discussion on MSME financing because they offer a possible alternative route for businesses that face difficulties in obtaining bank-based financing.

The development of ICOs can be traced to early token sale experiments within the cryptocurrency community. Mastercoin, later known as Omni, is commonly identified as one of the earliest ICO examples when J. R. Willett proposed a token-based fundraising model in 2013 to support the development of a new protocol layer on top of Bitcoin (Momtaz, 2020). Ethereum later became a more significant proof of concept when its 2014 token sale raised substantial funds for the development of a blockchain platform capable of running smart contracts and decentralised applications. In this case, Ether was not merely presented as an investment object, but as a functional token or “fuel” required to operate within the Ethereum network (Fenu, et al., 2018). This development demonstrated that tokens could serve not only as fundraising instruments, but also as tools for building and coordinating a wider digital ecosystem.

The growth of ICOs became more visible during the 2017–2018 period, when the number of offerings and the amount of capital raised increased rapidly (Fenu, et al., 2018). This phase reflected strong market interest in token-based fundraising as an alternative to traditional venture capital and public equity markets. Academic studies describe ICOs as a new form of entrepreneurial finance, particularly for early stage ventures that may not have access to conventional investors or established financial networks (Howell, et al., 2020). The rapid growth of ICOs during this period shows their capacity to mobilise capital across borders and connect issuers directly with global investors.

The potential of ICOs lies in their ability to connect issuers directly with a wider pool of investors (Ante et al., 2018). Through token issuance, MSMEs may be able to raise funds from investors who are interested not only in financial returns, but also in supporting the development of a product, service or digital ecosystem (Fisch, et al., 2019). In this sense, ICOs share some similarities with crowdfunding, but they are distinguished by the use of blockchain technology and digital tokens. The use of blockchain can improve transparency, traceability and transaction efficiency, while smart contracts may support automated execution of certain financing conditions, such as token distribution, investor rights and the use of funds (Khan, et al., 2021). These features may reduce information asymmetry and improve investor confidence if properly governed.

International experience demonstrates that ICOs have the capacity to mobilise significant capital for early stage ventures. For example, Filecoin, a blockchain-based decentralised storage network, raised more than USD257 million through its ICO in 2017, making it one of the largest token offerings at the time (Jin et al., 2017). The MobileGo project raised approximately USD53.07 million over a 30 day ICO period, positioning it among the largest token offerings recorded (Adhami, et al., 2018). Although these cases do not represent conventional MSMEs, they show that token-based fundraising can attract substantial investor participation when the project has a clear value proposition, strong technological foundation and credible ecosystem.

For MSMEs, the relevance of these examples is not in replicating large scale ICO fundraising, but in demonstrating the possibility of alternative capital mobilisation through blockchain-based mechanisms. A Shariah-compliant ICO model for MSMEs would need to be smaller, more regulated and more closely linked to real economic activity. Instead of issuing speculative tokens with unclear value, MSMEs could issue tokens that represent access to future services, participation in a specific business project, or rights linked to permissible underlying assets and activities. Such a model may support MSMEs that require capital for working capital, digitalisation, equipment upgrading, market expansion or supply chain development.

Nevertheless, ICOs should not be viewed as a complete solution to MSME financing challenges. The global ICO market has also been associated with serious problems, including speculation, fraud, failed projects, misleading information and weak investor protection (Zetzsche, et al., 2018). Some ICOs raised funds without clear business models, while others failed to deliver the promised products or services. These weaknesses show that the potential of ICOs depends heavily on governance, disclosure, regulatory oversight and the credibility of

the issuer. Therefore, for ICOs to become a viable financing mechanism for MSMEs, they must be structured within a transparent, regulated and Shariah-compliant framework.

### 3. Shariah, Regulatory and Governance Requirements for ICO-Based Financing

Although ICOs offer potential as an alternative financing mechanism, their use for MSMEs cannot be accepted uncritically. The early development of ICOs showed that token-based fundraising may mobilise capital efficiently, but it also revealed significant weaknesses related to speculation, fraud, information asymmetry and weak investor protection. Therefore, the transformation of ICOs into a viable Shariah-compliant financing mechanism requires a clear Shariah structure, strong governance and appropriate regulatory oversight.

From a Shariah perspective, the first requirement is the existence of a clear contractual basis. The token issued through an ICO must represent a recognisable right, benefit, asset or participation in a permissible economic activity. If the token only represents speculative expectation without clear underlying value, it may involve *gharar* and *maysir* (Jailani, & Muneeza, 2023). Similarly, if the financing structure promises a fixed return without genuine risk-sharing or is linked to interest-based arrangements, it may raise the issue of *riba*. Therefore, the Shariah characterisation of the token must be determined through (*takyif fiqhi*), particularly by examining the nature of the token, the rights of investors, the use of proceeds and the contractual relationship between the issuer and token holders (Ahmed, 2024).

In addition, the classification of tokens plays a crucial role in determining their Shariah status. Generally, tokens may be categorised into utility tokens, security or investment tokens, and payment tokens, each carrying different legal and economic implications (Hacker, & Thomale, 2018). Utility tokens typically grant access to a product or service, while investment tokens may represent ownership, profit-sharing rights or claims over assets (Susanty, et al., 2025). Investment tokens issued with security characteristics, including equity tokens, derivative tokens and fund tokens, where such tokens typically grant holders certain financial rights such as profit participation, ownership claims or exposure to underlying assets (Lesche et al., 2022). Payment tokens, on the other hand, function primarily as a medium of exchange. From a Shariah perspective, each category must be assessed differently, as the underlying rights and obligations vary significantly (Fokri, 2021). This classification is important to ensure that the token structure aligns with appropriate Shariah contracts and avoids elements of uncertainty, speculation or unjust enrichment.

In the context of MSME financing, ICO tokens should be carefully structured in accordance with their classification and linked to real economic activity rather than speculative market trading. For example, a token may represent access to future services, entitlement to specific benefits, participation in a business project, or rights connected to permissible underlying assets. Depending on the structure, the relevant Shariah contracts may include *musharakah*, *mudarabah*, *wakalah*, *ijarah* or *bay' al-manfa'ah*. However, the suitability of these contracts depends on the actual rights and obligations created by the token. A utility token, for instance, may be closer to a right of benefit if it provides access to a clearly defined product or service, while an investment token may require closer scrutiny from the perspective of partnership, profit-sharing, ownership and investor protection (Ahmed, 2024).

In structuring ICO financing for MSMEs, it is important to move beyond general principles and focus on how token design translates into enforceable rights and obligations. The classification of tokens should therefore be based on their functional characteristics rather than labels. For instance, tokens that grant access to a defined service or platform may be treated as rights of benefit, while tokens that involve capital contribution and expectation of returns require assessment under partnership-based contracts. This distinction is crucial because it determines the applicable Shariah principles, risk allocation and governance requirements. Accordingly, careful structuring is needed to ensure that the token accurately reflects the underlying transaction and does not create ambiguity in the legal and Shariah relationship between the issuer and investors.

For utility tokens, the promised benefit must be clearly specified at the point of issuance, as practical risks to purchasers remain high if the project fails, the contract is unclear, or the issuer's obligations are not enforceable as expected (Beusekom, 2020). The whitepaper should explain the nature of the service, the scope of usage rights, the redemption mechanism, the validity period, the risks involved and the conditions under which the benefit will be delivered (Koenraad, et al., 2022). If the token merely creates vague expectations without a clearly defined service or benefit, it may give rise to *gharar*. However, where the utility attached to the token is sufficiently clear and practically deliverable, the element of uncertainty may be reduced. This makes utility tokens potentially suitable for MSMEs that wish to raise funds by offering future access to halal products, services, digital platforms, memberships or usage-based benefits.

The second relevant structure is the investment-based or security token. Unlike utility tokens, investment tokens may give holders economic rights such as profit participation, ownership interest or claims linked to the value of an underlying project or asset (Efimova, et al., 2024). In the context of MSME financing, this type of token may be used to fund business expansion, equipment acquisition, digital transformation or a specific commercial project. Where the token represents capital contribution and shared exposure to profit and loss, it may initially be assessed through the principles of *musharakah*, particularly when investors are regarded as participants

in a joint venture and bear risks in proportion to their contribution (Sugianto, 2024).

However, the actual structure of investment-based tokens may not always reflect a full *musharakah* arrangement. In practice, token holders often act as passive capital providers, while the issuer retains control over business operations and project management. This creates a separation between capital ownership and managerial authority. From a *takyif fiqhi* perspective, such an arrangement may be closer to *mudarah*, where investors function as *rabb al-mal* by providing capital, while the MSME issuer acts as *mudarib* by managing the business or project (Rejeb, 2021).

Although the transaction may appear on a digital platform as a simple purchase of tokens using fiat currency or cryptocurrency, its legal and Shariah substance requires deeper assessment. The investor is not merely acquiring an independent digital item, but is participating in a structured investment arrangement linked to the performance of an underlying business activity. Therefore, the token purchase should not be analysed only as a sale transaction, but as a contribution of capital into a pooled financing structure. This distinction is important because it determines the applicable Shariah contract, the allocation of risk, the entitlement to profit and the responsibilities of the issuer.

The Shariah validity of investment tokens depends on the clarity of investor rights, ownership structure, profit distribution, loss-bearing arrangement and management responsibilities. The token should not promise fixed or guaranteed returns, as this may conflict with the principle of risk-sharing and may resemble interest-based financing (Hamdouni, & Khaldi, 2025). Instead, any return to investors must be connected to the actual performance of the underlying project or business. The issuer must also disclose how profits will be calculated, how losses will be treated, how funds will be utilised and what rights token holders possess throughout the financing period. In this regard, the whitepaper, digital token and smart contract should collectively function as documentation of the contractual relationship between the MSME issuer and investors.

In Malaysia, the regulatory treatment of ICO financing must be understood within the broader division of authority between Bank Negara Malaysia and the Securities Commission Malaysia. Bank Negara Malaysia is primarily responsible for monetary stability, financial institutions, payment systems and anti-money laundering and counter-financing of terrorism concerns (Jailani, & Muneeza, 2023). The Securities Commission Malaysia, on the other hand, regulates capital market activities, including securities, investment products and digital asset offerings (Zhang, et al., 2024). Therefore, ICO financing for MSMEs cannot be treated merely as a private fundraising arrangement, as it may involve capital market, payment and investor protection implications.

Malaysia's current approach to digital token fundraising is largely channelled through the regulated Initial Exchange Offering (IEO) framework under the Guidelines on Digital Assets (Securities Commission Malaysia, 2024). This approach reflects a cautious regulatory position shaped by past global ICO failures, fraud risks and concerns over investor protection. From this perspective, Malaysia's restrictive stance has a clear rationale, it reduces the possibility of unregulated public fundraising, misleading token sales and speculative digital asset schemes. It is also consistent with the need to ensure market integrity and Shariah compliance in financial innovation.

However, this cautious framework also creates practical limitations for MSMEs and early stage ventures. The requirements imposed on token issuers and platform operators may be difficult for smaller firms to satisfy, especially those with limited financial capacity, compliance expertise and legal resources. As a result, ICO financing may become accessible only to more established firms, while micro and small enterprises remain excluded from the very alternative financing mechanism that could potentially address their collateral and credit constraints. This creates a policy tension between investor protection and financial inclusion.

Malaysia may therefore benefit from a more balanced regulatory pathway. Rather than adopting a highly restrictive model or allowing unregulated token sales, a hybrid framework could be developed. Such a framework should balance innovation with investor protection through adaptive regulatory design, while incorporating strong AML/CFT standards, clearer token classification, smart contract audit requirements and Shariah governance. In this regard, guidance issued by Bank Negara Malaysia on anti-money laundering and counter-financing of terrorism for digital currencies highlights the importance of customer due diligence, transaction monitoring and reporting obligations for entities dealing with digital assets (Bank Negara Malaysia, 2018).

It should also promote cross-border regulatory harmonisation to reduce regulatory arbitrage and market fragmentation, particularly in the context of global digital asset markets. In addition, controlled regulatory experimentation through mechanisms such as regulatory sandboxes and innovation hubs can support the safe testing of new token based financing models (Teng, et al., 2026). A dedicated Shariah-compliant tokenisation sandbox, for instance, could allow selected MSMEs to test utility or investment-based tokens under regulatory supervision while ensuring that investor protection and Shariah requirements are not compromised.

Comparative regulatory experience suggests that no single model is universally suitable. A highly enforcement driven approach may protect investors but may also discourage innovation. A more flexible model may support market development but requires strong institutional capacity and technical expertise (Bauer, et al., 2021). For Malaysia, the more realistic approach is not to replicate any foreign model entirely, but to develop an integrated framework that reflects local regulatory priorities, Islamic finance principles and MSME financing needs. Such a framework could draw lessons from jurisdictions that distinguish token categories more clearly,

provide room for regulatory experimentation and impose strong governance requirements on token issuers.

Accordingly, the governance of ICO MSME financing in Malaysia should rest on several core requirements, clear token classification, transparent disclosure, Shariah review, investor protection, smart contract reliability, monitoring of fund utilisation and post issuance accountability. Without these safeguards, ICOs may repeat the weaknesses of earlier speculative token markets. With them, however, ICOs could evolve into a more ethical and inclusive form of blockchain-based financing that supports MSME empowerment, advances Malaysia's digital economy agenda.

#### 4. Conceptual Framework for Empowering MSMEs through Shariah-Compliant ICOs

Based on the preceding analysis, this study proposes a conceptual framework for Shariah-compliant ICO financing for MSMEs. The framework should not be understood as a ready to implement technical prototype, but as a conceptual framework that identifies the main actors, contractual relationships, governance mechanisms and regulatory safeguards required to transform ICOs from speculative token sales into ethically governed financing instruments. Its main purpose is to demonstrate how ICOs may be redesigned to support MSME financing while remaining anchored in Shariah principles, investor protection and real economic activity. As illustrated in Figure 1, the proposed framework consists of three interrelated layers, pre-issuance governance, the core financing process, and post-issuance or continuous governance.

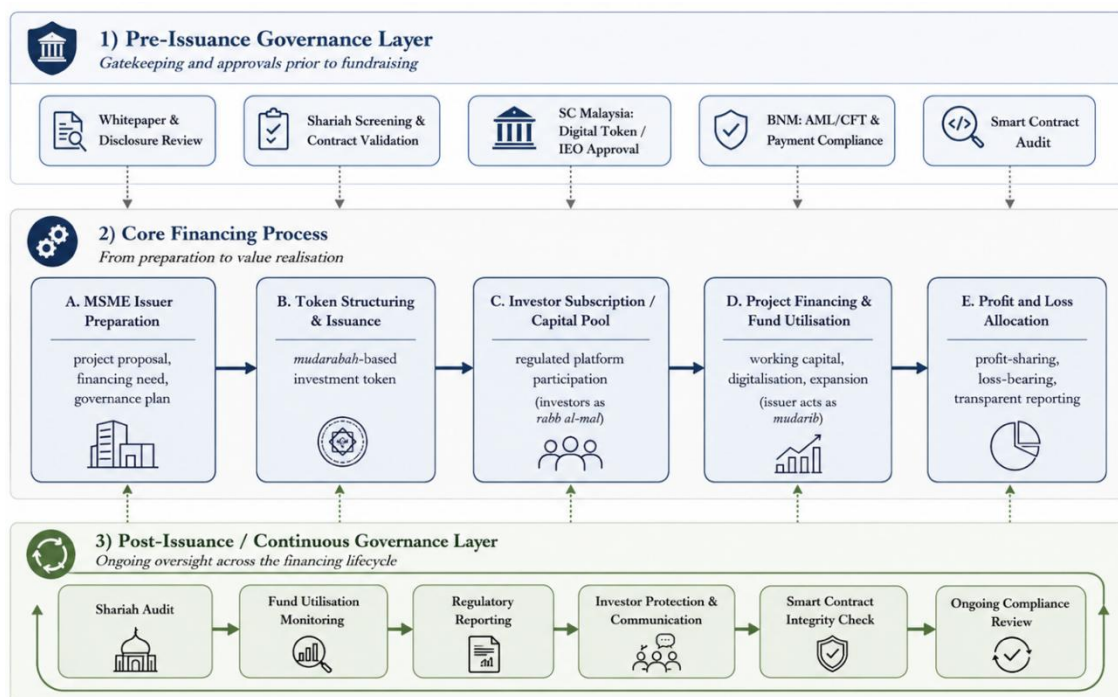


**Figure 1. Proposed Mudarabah-Based Shariah-Compliant ICO Framework for MSME Financing**

Source: Author's illustration

The first layer is the pre-issuance governance layer, which functions as the gatekeeping mechanism before fundraising is allowed to take place. This layer is crucial because many failures in earlier ICO markets originated before issuance, particularly through vague whitepapers, unrealistic business claims, unclear token rights, weak disclosure and inadequate verification of the issuer (Howell, et al., 2020; Fisch, 2019). Therefore, the MSMEs issuer must prepare a whitepaper that clearly explains the project proposal, financing need, business model, financial projections, Shariah contract, token structure, risk disclosure, governance plan and smart contract rules. The whitepaper should not operate merely as a promotional document, but as the primary disclosure instrument through which investors, regulators and Shariah advisers assess the credibility and permissibility of the proposed financing (Chou, et al., 2023).

Within this pre-issuance layer, Shariah screening and contract validation are particularly important. The Shariah adviser must examine whether the MSME's business activity is permissible, whether the proposed token represents a valid right or economic interest, and whether the contractual arrangement reflects the true substance of the transaction (Jailani, & Muneeza, 2023). For an investment-based ICO, the token should not simply be treated as a digital object sold to investors. Rather, it may represent capital participation in a structured financing arrangement (Chohan, 2017). In this regard, a *mudarabah* structure may be appropriate where investors act as

*rabb al-mal* and the MSME issuer acts as *mudarib* (Rejeb, 2021). However, this classification requires careful takyif fiqhi because the Shariah ruling depends on the actual rights, obligations, profit-sharing arrangement and loss-bearing mechanism created by the token.

The pre-issuance layer also requires regulatory approval and compliance checks. In Malaysia, the Securities Commission Malaysia is central to the regulation of digital token offerings, particularly under the Guidelines on Digital Assets (Securities Commission Malaysia, 2020), while Bank Negara Malaysia may become relevant where the structure involves digital currency payments, AML/CFT risks or payment system considerations (Bank Negara Malaysia, 2018). This dual regulatory environment is necessary to prevent unregulated fundraising, protect investors and preserve financial integrity. However, it also creates a policy tension. A highly regulated structure may reduce fraud and speculation, but it may also impose compliance costs that are difficult for MSMEs and early-stage firms to bear. Therefore, the framework requires a proportionate regulatory approach in which disclosure, audit and approval requirements are calibrated according to the size of fundraising, token type, issuer risk and investor profile. Without such proportionality, ICO financing may become accessible only to larger firms, thereby weakening its value as an inclusive financing mechanism for MSMEs.

The second layer is the core financing process, which represents the main economic relationship between the MSME issuer and investors. The process begins with MSME issuer preparation, where the financing need is linked to a specific real economic purpose such as working capital, digitalisation, equipment upgrading, market expansion or supply chain development. This linkage is essential because Shariah-compliant ICO financing should not be detached from productive economic activity. If the funds are raised without a clear business purpose, the token may become speculative and may expose investors to excessive uncertainty (Ahmed, 2024).

The next component in the core financing process is token structuring and issuance. In the proposed framework, the focus is on an investment token structured on the basis of *mudarabah*. The token represents the investor's participation in a capital pool and their entitlement to profit according to an agreed ratio (Shahimi, 2022). Nevertheless, the token must be designed carefully to avoid confusion between ownership, debt, profit entitlement and speculative trading value. If investors purchase the token primarily for resale and price appreciation, the financing may shift from productive investment into speculative trading (Momtaz, 2021). Therefore, the token's economic function must remain connected to the underlying MSME project, and any secondary trading must be governed in a way that does not undermine the Shariah character of the arrangement (Al-Yassi, & Rosman, 2026).

Investor subscription and capital pooling form the next stage of the core process. Investors participate through a regulated platform and contribute funds into a capital pool. From a Shariah perspective, their position must be clearly identified. If the structure is based on *mudarabah*, investors are capital providers and should bear capital loss in proportion to their contribution, unless the loss is caused by negligence, misconduct or breach of mandate by the issuer (Ghozali, & Kurniawan, 2017). This must be disclosed clearly before subscription. The framework therefore rejects any structure that guarantees fixed returns to token holders, as such an arrangement may contradict the risk-sharing nature of *mudarabah* and resemble interest-based financing.

The funds are then deployed to the MSME project. The issuer, acting as *mudarib*, is responsible for managing the project and using the funds according to the approved purpose. Blockchain technology and smart contracts may support this process by recording transactions, automating selected obligations and enabling milestone fund release. However, technological transparency should not be overstated. A blockchain ledger can show the movement of funds, but it cannot by itself determine whether a business decision is commercially sound, whether expenditure is justified, or whether the project remains Shariah-compliant (Asy'arie, et al., 2025). For this reason, blockchain must be supported by institutional governance, financial reporting, audit mechanisms and Shariah monitoring.

Profit and loss allocation is the final component of the core financing process. In a genuine *mudarabah* structure, profit is distributed according to a pre-agreed ratio, while financial loss is borne by investors as capital providers, except where the issuer is proven to have acted negligently or breached the agreed mandate (Ghozali, & Kurniawan, 2017). This rule must be translated clearly into the whitepaper, smart contract and investor disclosure. The framework must also clarify how profit is calculated, how losses are recorded, how negligence is determined and what remedies are available to investors in the event of mismanagement. Without these safeguards, the structure may appear Shariah-compliant in form but fail to protect investors in substance.

The third layer is the post-issuance or continuous governance layer. This layer is the most critical element in distinguishing the proposed framework from conventional ICO practices. Earlier ICO failures often occurred not only because of weak fundraising disclosure, but also because of poor post-issuance accountability (Howell et al., 2020). After funds were collected, some issuers failed to deliver promised projects, changed the use of proceeds, provided limited reporting or disappeared from investor scrutiny (Roosenboom, et al., 2020). Therefore, Shariah-compliant ICO financing cannot be treated as a one off fundraising event. It must operate as a monitored financing lifecycle.

Post-issuance governance should include Shariah audit, fund utilisation monitoring, regulatory reporting, investor protection and communication, smart contract integrity checks and ongoing compliance review. Shariah

audit ensures that the issuer's business activity, use of funds and profit distribution remain consistent with the approved contract (Jailani, & Muneeza, 2023). Fund utilisation monitoring reduces the risk of misappropriation and helps ensure that the capital is used for real economic activity. Regulatory reporting strengthens accountability to the relevant authorities, while investor communication reduces information asymmetry after the token has been issued. Smart contract integrity checks are also necessary because coding errors, cyber risks or poorly designed automation may create legal, financial and Shariah consequences (Liu, & Zhen, 2019).

This continuous governance layer also addresses a key limitation of relying solely on blockchain technology. While blockchain can improve transparency at the transaction level, governance failures may still occur outside the chain, particularly in business decisions, project execution, financial reporting and Shariah compliance. Therefore, the proposed framework does not treat technology as a substitute for regulation or Shariah supervision. Instead, blockchain functions as an enabling infrastructure, while regulatory oversight, Shariah governance and institutional accountability provide the normative and legal control mechanisms.

Overall, the proposed governance architecture may empower MSMEs by widening access to capital, reducing dependence on collateral bank financing, improving fundraising transparency and linking financing to real economic activity. However, its effectiveness depends on several conditions, proportionate regulation, credible Shariah governance, reliable smart contract design, enforceable disclosure standards, investor literacy and continuous post-issuance accountability. Without these conditions, ICOs may repeat the weaknesses of earlier speculative token markets. With them, however, Shariah-compliant ICOs may develop into a more ethical, inclusive and resilient financing pathway for MSMEs in the multipolar economic era.

## Conclusion

This study examined the potential of Initial Coin Offerings (ICOs) as a blockchain-based Shariah-compliant financing mechanism for empowering MSMEs in the multipolar economic era. The discussion shows that although MSME financing constraints are not new, they have become more complex due to market uncertainty, cross-border competition, supply chain disruption and the growing need for digital transformation. In this context, financing is not merely about access to capital, but is closely connected to MSME resilience, competitiveness and long-term sustainability. The analysis indicates that ICOs may offer an alternative route for MSMEs to mobilise capital through token issuance, reduce excessive reliance on conventional financial intermediaries and improve transparency through blockchain-based records. However, this potential must be approached critically, as earlier ICO practices were associated with speculation, weak disclosure, project failure and inadequate investor protection. Therefore, ICOs should not be adopted as speculative fundraising tools, but must be reconstructed as regulated and Shariah-governed financing mechanisms linked to real economic activity.

From a Shariah perspective, ICO-based financing must be supported by clear token classification, valid contractual relationships, transparent disclosure and proper risk-sharing arrangements. Utility tokens may be suitable where they represent clearly defined benefits or usage rights, while investment-based tokens may be structured through contracts such as *musharakah* or *mudarabah*. In particular, a *mudarabah*-based model may be relevant where investors act as passive capital providers and the MSME issuer manages the project. Nevertheless, any structure that guarantees fixed returns, involves excessive uncertainty or encourages speculative token trading should be avoided. The proposed governance architecture highlights three essential layers, pre-issuance governance, the core financing process and post-issuance governance. These layers ensure that ICO financing is supported by whitepaper disclosure, Shariah screening, regulatory approval, smart contract audit, fund utilisation monitoring, investor protection and continuous compliance review. In the Malaysian context, a proportionate regulatory approach is needed to balance investor protection, Shariah compliance and MSME financial inclusion. Overall, this study concludes that Shariah-compliant ICOs have the potential to support MSME empowerment, but only if they are developed within a transparent, regulated and real economy based framework. Blockchain should be viewed as an enabling infrastructure rather than a complete solution. Future research may examine MSME readiness, investor acceptance, regulatory feasibility and the practical implementation of Shariah-compliant ICO models in Malaysia.

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