

# Presenting a Smart Sukuk Model for Islamic Microfinance Institutions in Bangladesh: Towards Achieving SDGs

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## ABSTRACT

The Islamic bonds and debts, according to Islamic Shariah, are referred to as Sukuk, which provides cheaper and interest-free funding options for businesses and lower-risk bonds for individual investors. This study aims to present a novel fintech-based (Smart) SRI Sukuk model that can be useful for Islamic microfinance institutions (IMFIs) of Bangladesh in managing the source of funds. This study adopted a systematic literature review approach to assess the benefits of using Smart SRI Sukuk for IMFIs. In addition, 15 experts on Islamic finance were interviewed to determine the best possible ways to integrate technology into the SRI Sukuk model. The outcomes of this study have confirmed the effectiveness of using a blockchain and smart contract-based SRI Sukuk for managing the source funds of Islamic microfinance institutions in Bangladesh. The Smart SRI Sukuk can be immensely beneficial for IMFIs that always find it difficult to arrange the source funds and manage those in an efficient manner. On the other hand, there is a lack of law and regulatory support that might create problems while implanting a blockchain-based Islamic crowdfunding system in Bangladesh. Future researchers and experts in Islamic finance will also find the ideas presented in this research helpful.

**Keywords:** Islamic Microfinance; Sukuk; SRI; Smart Contracts; Bangladesh

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## INTRODUCTION

Poor individuals can break free from the cycle of poverty in a way that is both effective and compliant with Shariah by using Islamic microfinance. Islamic microfinance has the

potential to help those in Bangladesh who are severely impoverished and barely scrape by if it is executed well. This can assist Bangladeshi planners and policymakers in taking the required

actions to create an inclusive financial system for their nation. Despite being primarily a Muslim nation, Bangladesh has widely embraced traditional microfinance since its founding in the mid-1970s, as noted by Mia (2024). However, Islamic microfinance is still very new and hasn't taken off in this country, despite the fact that it has a lot to offer the poor.

The Islamic microfinance system does not typically overlook the extreme impoverished, in contrast to conventional microfinance endeavors. Scholars like Mohamed and Fauziyyah (2020) claimed that there are numerous ways to obtain Islamic microfinance to suit a range of demands and poverty levels, including the most disadvantaged. According to Mohamed and

Fauziyyah's (2020) research, one of the best strategies for eradicating poverty is Islamic microfinance, especially in Muslim nations. Similarly, Uddin et al. (2024) discovered that the coercive loan recovery strategy, higher interest rates, fund diversion, religious pressure on borrowers, and gender disparity associated with conventional microfinance can be lessened by the Shari'ah-based products and different approaches employed by Islamic microfinance models. These approaches may include gender neutrality, a co-operating approach for loan repayment, and prevention of fund diversification.

The following table summarizes the difference between traditional microfinance and Islamic microfinance system:

**Table 1: Comparison between Islamic and conventional microfinance**

Item	Islamic microfinance	Traditional microfinance
Assets (mode of financing)	Non-interest-based Islamic financial instrument	Interest-based
Liabilities (sources of funds)	Islamic charities, external funds, clients' savings	External funds, clients' savings
Target Objective	Family welfare	Women empowerment
Target group	Family	Women
Transfer of funds	No cash (goods)	Cash
Financing the poorest	Include the poorest	Exclude the poorest
Dealing with default	Using Islamic ethics	Peer pressure and threats
Employee work incentive	Monetary and religious	Monetary
Deduction at contract inception	No deduction	Partial fund deducted
Loan liability (for women clients)	Recipient and spouse	Recipient
Loan repayment schedule	Flexible	Weekly instalment
Nature of programme	Religious social development	Secular social development
Savings	Flexible	Compulsory weekly savings
Financial services	Savings, credits, education funds, micro-insurances, social welfare funds	Savings, credits, education funds, micro-insurances
Cost of loans	Much less than 35 per cent (No interest)	More than 35 per cent (including 20 per cent absolute interest rate)

As per Maikabara et al. (2020), Islamic microfinance is a morally responsible financial

instrument that caters to low-income persons, those without bank accounts, and small enterprises

who do not have enough creditworthiness to qualify for loans from microfinance or traditional commercial banks. All groups are given access to money through Islamic microfinance programs, which are based on demographic data like age, gender, marital status, locality, occupation, religion, and monthly income. It is crucial to emphasize that Islamic microfinance, irrespective of racial or religious background, typically helps all facets of society.

In Bangladesh, higher operational costs, a lack of interest from the religious people, and a shortage of customised products are creating hindrances to the popularisation of the conventional microfinance system (Nabi et al., 2017). As an effective solution to this problem, people can adopt Islamic microfinance systems. However, the Islamic microfinance industry accounts for only a 5% share of the microfinance market in Bangladesh, where more than 37 million impoverished people in this country benefit from different types of conventional microfinance products at present (Nabi et al., 2017). This is a major issue, as around 90% of the people of this country are Muslims. Hence, this study focuses on enhancing the capability of Islamic microfinance institutions in Bangladesh by proposing a Smart SRI Sukuk model so that they can manage the source of funds in a more efficient manner.

Previous researchers have not discussed the possibility of using smart contracts in SRI Sukuk, which can be invaluable resources for Islamic microfinance institutions. They have only highlighted how technology can be used in sukuk contracts, without highlighting the Islamic microfinance programmes. Hence, this research fulfils an important research gap.

### **Objective of the Study:**

This study aims to present a novel fintech-based (Smart) SRI Sukuk model that can be useful

for Islamic microfinance institutions (IMFIs) of Bangladesh in managing the source of funds. This model can effectively enhance the resource management capabilities of Islamic microfinance institutions so that more indigent people can benefit, thus contributing to achieving the SDGs.

This paper has five sections. The first one is the introductory section that describes the background of the study and clarifies its objectives. The second section outlines the research outcomes of the previous researchers on the current topic and explains the theoretical background. The next section clarifies the methodology used in this research. The fourth section analyses the outcomes of the research and presents a novel model for implementing Smart SRI Sukuk by the Islamic microfinance institutions in Bangladesh. Finally, the conclusion section summarises the research outcomes and offers some useful recommendations.

## **LITERATURE REVIEW**

### **Theoretical Background**

In this section, the financial intermediation theory is analysed to develop the theoretical framework of this study. According to Friedman (1970, p. 193), "Every empirical study rests on a theoretical framework, on a set of tentative hypotheses that the evidence is designed to test or to adumbrate." The theoretical framework also provides the framework for data analysis and aids in the interpretation of the study's findings.

According to Grassi et al. (2022) the financial intermediation theory suggests that financial intermediaries can help reduce transaction costs and informational asymmetries. Informational asymmetries can lead to market flaws by producing adverse selection, moral hazard, and the necessity for expensive enforcement and verification procedures like audits. Financial intermediaries can assist in mitigating these expenses, either fully or

partially, as these defects may also increase the transaction costs (Scholtens & Van Wensveen, 2003). For example, banks might assist households in preventing idiosyncratic shocks that impair their liquidity positions by acting as coalitions of depositors and financial intermediaries (Scholtens & Van Wensveen, 2003).

This study emphasizes the significant role Islamic MFIs can play as financial intermediaries based on the financial intermediation theory. For instance, by distributing the funds obtained by the sukuk system to the underprivileged microfinance recipients personally, they can help them improve their socioeconomic circumstances. Consequently, by considering the function of Islamic microfinance institutions when implementing Islamic microfinance programs, this study both validates and supports the financial intermediation hypothesis.

According to Ahmad et al. (2021), Islamic microfinance is based on four key principles:

- 1) Interest is strictly prohibited.
- 2) Although the most popular Islamic microfinance programs do not adhere to conventional profit-and-loss sharing principles, lenders are reimbursed through profit sharing.
- 3) Islamic financial institutions are not allowed to finance activities that are deemed sinful by Islam, such as alcohol consumption, maysir (gambling), or borrowing and lending to conventional MFIs that impose interest.
- 4) Contract conditions must be entirely clear and devoid of any ambiguity since Gharar, or uncertainty, is prohibited.

### **Previous Studies**

It is commonly acknowledged that suitable microfinance products and services can significantly and sustainably reduce poverty levels around the world (Ahmed et al., 2021).

Microfinance can help reduce poverty over the long run by enabling the diversification of income-generating ventures. The modest loans that MFIs provide to underprivileged borrowers might be used to launch new ventures. Additionally, this can assist them in meeting their everyday expenses for food and drink, schooling and medical fees, and wedding costs. MFIs are viewed as a potential remedy for the issue of poverty in this sense (Rohman et al., 2021).

Microfinance began in Bangladesh in the 1970s when Nobel Laureate and founder of Grameen Bank Prof. Muhammad Yunus began microcredit programs. Through microfinance, Grameen Bank has demonstrated impressive results in easing the suffering of the impoverished and empowering impoverished women to become economically independent (Alaro & Alalubosa, 2019). Since then, numerous new microlenders have emerged and launched their businesses around the nation. Bangladesh's microfinance sector has grown significantly during the past three decades (Hossain & Abdullah, 2019).

In addition, Riwajanti (2013) noted that Islamic microfinance differs from traditional microfinance in a few specific ways. Islamic ideals, for instance, are embodied in the fundamental idea of Islamic microfinance, which provides a superior means of reducing poverty via the advancement of social justice and human potential. When it comes to social and economic elements, Islamic microfinance provides better solutions. However, the traditional microfinance system frequently fails to help the impoverished escape the cycle of debt and is unable to significantly improve their economic circumstances (Riwajanti, 2013).

Islamic microfinance initiatives are associated with socially responsible investments (SRI), in which the capital of investors is allocated exclusively to Halal initiatives that serve the community. These initiatives frequently entail

charitable investments through Waqf, Zakat, or other instruments. As a result, these contribute to reducing poverty and closing the wealth gap (Dhaoui, 2015). Islamic MFIs are far smaller in size than regular MFIs due in large part to their relative youth in the microfinance sector. Islamic MFIs only possess 10% of the total assets held by conventional MFIs (Fersi and Bougelbène, 2021).

Furthermore, the growth of Islamic microfinance in Bangladesh is not as expected due to a variety of constraints, including a lack of sufficient resources and regulatory backing as well as high transaction costs (Hossain & Abdullah, 2019). Two of the main obstacles to Bangladesh's Islamic microfinance development are the dominance of conventional NGOs/MFIs and the absence of Islamic financing sources. As a result, just 5% of Bangladesh's microfinance market is made up of Islamic microfinance products, despite the fact that over 37 million of the nation's impoverished citizens benefit from various forms of microfinance (Nabi et al., 2017).

Sukuk is the most widely used Islamic capital market instrument, and the foundation of socially responsible investing (SRI) is microfinance (Khouildi & Kassim, 2018). There is currently an opportunity to issue Sukuk, with the money raised going toward supporting microprojects by a microfinance group. The proceeds from the SRI Sukuk issue may be utilized by a reputable and well-managed microfinance institution that oversees microproject financing through a partnership. On the other hand, in addition to financing projects, the microfinance organisation will also have additional responsibilities. It will also initiate efforts aimed at improving the managerial skills of entrepreneurs. Moreover, rather than depending exclusively on debt-based financing, Khouildi and Kassim (2018) argued that this type of funding would promote risk-sharing in financial transactions.

This study has revealed that there is a lack of prior research on the potential applications of technology in various Islamic microfinance programs in Bangladesh. Prior studies did not emphasize the application of blockchain and smart contract technologies in the implementation of SRI Sukuk as the source money for Islamic MFIs from Bangladeshi viewpoints. Therefore, an effort has been made in this study to address these issues and identify suitable solutions to effectively integrate SRI Sukuk based on technology into the Islamic microfinance programs in Bangladesh.

## METHODOLOGY

This study has adopted a qualitative methodology. As defined by Denzin and Lincoln (2011, p.2), "Qualitative research is multimethod in focus, involving an interpretative, naturalistic approach to its subject matter. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them. Qualitative research involves the studied use and collection of a variety of empirical materials – case study, personal experience, introspective, life story, interview, observational, historical, interactional, and visual texts – that describe routine and problematic moments and meanings in individuals' lives."

Primary data were collected from 15 experts on fintech and Islamic finance who are currently serving as in various reputed financial organizations in Bangladesh. They were numbered as P1 to P15 for identifying purposes. For collecting data, a semi-structured open-ended questionnaire was developed.

Furthermore, a systematic literature review approach was also adopted in this research to examine and analyze scholarly literature. Secondary data was collected from articles published in different international journals and

conference proceedings. Research databases that were used for searching the articles included Scopus, Mendeley, and Google Scholar. The keywords used for searching the articles included 'technology in Sukuk', 'Sukuk in Bangladesh', 'Sukuk in Islamic Microfinance', and 'Smart Contracts in Sukuk'. 167 articles were found, and after reading the abstract of these papers, 137 were excluded. The rest of 30 papers were used for this research. The data analysis was done through using thematic analysis and content analysis processes.

The current study has also adopted the case study method, as the particular case of Bangladesh is considered for this study. [Bartlett and Vavrus \(2016\)](#) opined that a case is used by the researchers to mean one place, setting, institution, or a person or group of people. In the social science discipline, this case study design is used in an extensive manner. Through the approach of case study, it becomes possible to explore complex issues in their real-life settings in an in-depth manner ([Crowe et al., 2011](#)).

## **RESULT AND DISCUSSION**

### **Sukuk and its Shariah Compliance**

In the Islamic capital market, sukuk—which are ownership certificates of underlying assets—have grown in importance. Sukuk, which derives from the Arabic term "sakk," which means a certificate or legal document, offers an alternative to conventional interest-based economies. Considering the risks that were made public during the global financial crisis of 2008, this is especially pertinent ([Nurhanifah, 2024](#)). The mechanics of the sukuk market have been extensively studied, and the results indicate that they are viable avenues for raising capital and fostering sustained economic expansion ([Paltrinieri et al., 2023](#)). Sukuk lowers governments' reliance on both domestic and foreign

bank loans, which promotes social justice while also minimizing risks ([Nurhanifah, 2024](#)).

"Sukuk" refers, according to [Yildirim et al. \(2020\)](#), to Islamic bonds and debts that are subject to Shariah. A pre-arranged profit-sharing rate that is acceptable to both parties can be used by owners to purchase asset-backed securities under the Sukuk concept; interest-based transactions are not involved in any phase of the transaction process. In actuality, bonds and sukuk are comparable. For example, whereas bonds and Sukuk have the same nominal values, their operational theories are different. Bonds are conventional financial products that carry interest, whereas Sukuk is based on Islamic law and has no interest. [Billah et al. \(2024\)](#) also noted that Sukuk is unique in that it prohibits fixed interest payments; gambling (maysir); transactions involving a deliberate lack of transparency or excessive ambiguity (gharar); and short selling, speculation, and arbitrage transactions. Sukuk provides cheaper and interest-free funding options for enterprises, as well as lower-risk bonds for private investors ([Rafay et al., 2017](#)). As of September 2023, the value of Sukuk issued was USD 20.6 billion globally, compared to USD 8.7 billion in 2022 ([Billah et al., 2024](#)).

The market's exponential growth demanded clarity with regard to Shari'ah matters and uniformity. As a result, the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) published its Shari'ah Standard on "Investment Sukuk" in May 2003. According to the definition provided, "Investment Sukuk are certificates of equal value, representing undivided shares owning tangible assets, usufruct and services or (in possession of) the assets of particular projects or special investment activity. However, this applies once the value of the Sukuk has been received, the subscription has closed, and the funds received have been put into use for which

the Sukuk have been issued" (Khan et al., 2021, p. 167).

Sukuk is recognized in the global financial industry as an alternative investment vehicle since it adheres to Shariah principles. The Sukuk Market represents the recognition of Shariah regulations in relation to Islamic capital and money market operations. Therefore, there must be no elements or actions in this market that are prohibited by Islam. In order to maintain the stringent standards of Islamic law, Yildirim et al. (2020) assert that all financial instruments used in the Islamic capital and money market must adhere to Shariah.

Additionally, Khouildi and Kassim (2018) describe how Socially Responsible Investment (SRI) Sukuk is a financial instrument whose primary objectives are the advancement of the social sector and environmental preservation. SRI Sukuk is driven more by principles and ethics than by financial gain, in contrast to other financial instruments. Investors in the SRI Sukuk, like those in other Sukuk, will subscribe to an issued certificate attesting to their complete ownership of a certain project. At the conclusion of the project, investors will receive payment based on their shares or in accordance with any prior terms and agreements. Additionally, the profits received from the issuance of SRI Sukuk have to be invested in, utilized for, or applied to specific assets or purposes that comply with Shariah's laws and tenets. Instead of being ambiguous or broad, the issuance's purpose should be precise and well-defined (Khouildi and Kassim, 2018).

### A Brief Overview of Smart Contracts

According to Iftikhar and Saba (2020, p. 33), "A smart contract is a complex software program that is automatically executed upon fulfillment of a contractual obligation or predetermined condition already stipulated or programmed in the contract". By implementing terms and conditions, clauses,

and other contract-specific criteria, smart contracts can be made to seem uniquely yours. When the parties reach an agreement, they execute a time-stamped and cryptographically signed smart contract in a distributed ledger, or blockchain. When a certain need is satisfied, the contract immediately becomes active. Smart contracts based on blockchain technology have the potential to enhance the reliability, efficiency, and cost-effectiveness of business operations while minimizing the likelihood of fraud, error, or delay (Iftikhar & Saba, 2021; Mohamed & Ali, 2019).

When smart contracts are included into blockchains, the terms of an agreement can be automatically enforced without requiring communication with a third party. According to Zheng et al. (2020), smart contracts can reduce risks, improve the efficiency of business processes, and minimize costs associated with administration and services. An illustration of a blockchain-based smart contract can be found in the following figure:

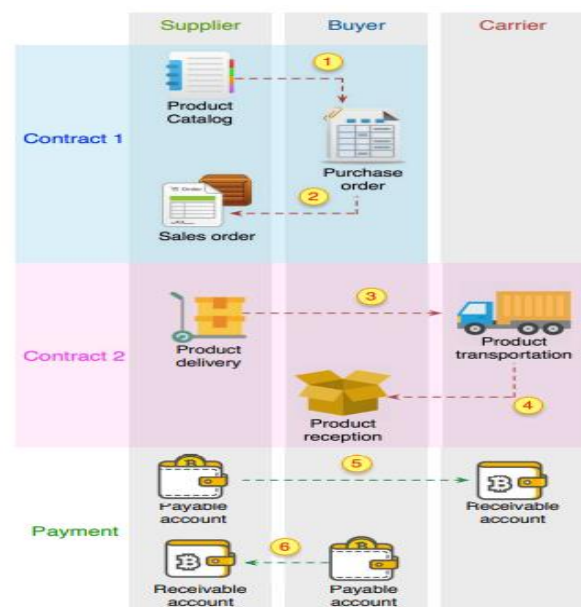


Figure 1. A Smart Contract Example Between a Buyer and a Supplier/Seller (Zheng et al., 2020, p. 475)

In this instance, a supplier provides a customer with a product catalog in Contract 1 via the blockchain network. In order to enable a buyer

to access product details and concurrently verify the credibility and standing of the supplier, this catalogue, which includes product details (such as kind, price, quantity, and availability) as well as shipping and payment terms—is disseminated and recorded in the blockchain. The buyer then places the order with the required quantity and due date via the blockchain. This entire procedure, as the graphic illustrates, is a purchase contract (sometimes referred to as Contract 1). It is significant to remember that the supplier and the customer handle the entire transaction directly, without the assistance of a third party. After Contract 1 is fulfilled, the provider will search for the blockchain for a carrier to complete the shipment phase (Zheng et al., 2020).

Like in Contract 1, the carrier uploads to the blockchain the shipment's terms and conditions as well as the cargo description, which includes the source, destination, cost, capacity, and delivery time. If the supplier accepts the contract that the carrier offers, the products will be delivered to the carrier, who will thereafter send them to the buyer. This entire process, which is completed without outside assistance, results in Contract 2, as shown in the figure. Together with Contracts 1 and 2 being automatically executed, the payment processes—which comprise payments from the supplier to the carrier and the buyer to the supplier—are also automatically carried out. For instance, the payment between the customer and the supplier will immediately proceed as soon as the buyer certifies that the products have been received, fulfilling the predetermined criteria. The entire procedure is done peer-to-peer without the use of middlemen like banks, in contrast to traditional transactions. As a result, turnaround times and transaction costs can be greatly decreased (Zheng et al., 2020). Smart SRI Sukuk may be effectively implemented with the use of these smart contracts.

## **Use of Sukuk for Islamic Microfinance in Bangladesh**

Kassim (2024) looked into the viability of using SRI Sukuk as a fundraising mechanism in an effort to develop financial inclusion in Muslim countries and increase the sustainability of Islamic MFIs. The study concludes that the SRI Sukuk has a high potential to be developed as an innovative Shari'ah-compliant mechanism for funding Islamic microfinance programs based on Malaysia's experience issuing SRI Sukuk to support socially conscious projects and the European Bank for Reconstruction and Development's successful experience issuing the first microfinance bonds (Kassim, 2024).

Musari (2016) gave an account of how the Indonesian cooperative Association of Farmer Groups has financed farmers' operating capital through the usage of Sukuk. In this sense, sukuk has helped their community by acting as a microfinancing instrument. The Association of Farmer Groups cooperative provides an investment certificate as a means of circumventing the difficulties associated with banking funding, primarily the high interest-based loan. This ownership document, which is based on a profit-sharing agreement, is used to provide funding for cocoa businesses. The investment certificate that the cooperative has issued is referred to as a Sukuk in Islamic finance and economics. This Sukuk employs a profit-sharing Mudarabah contract, in contrast to most Sukuk that are now in use in Indonesia and around the world, which use ijarah contracts. Profits are distributed based on a predetermined percentage. Furthermore, the Indonesian Association of Farmer Groups has shown that farmers can get funding from sources other than bank loans. Mustari (2016) argues that the Association of Farmer Groups has improved wealth distribution through this method by

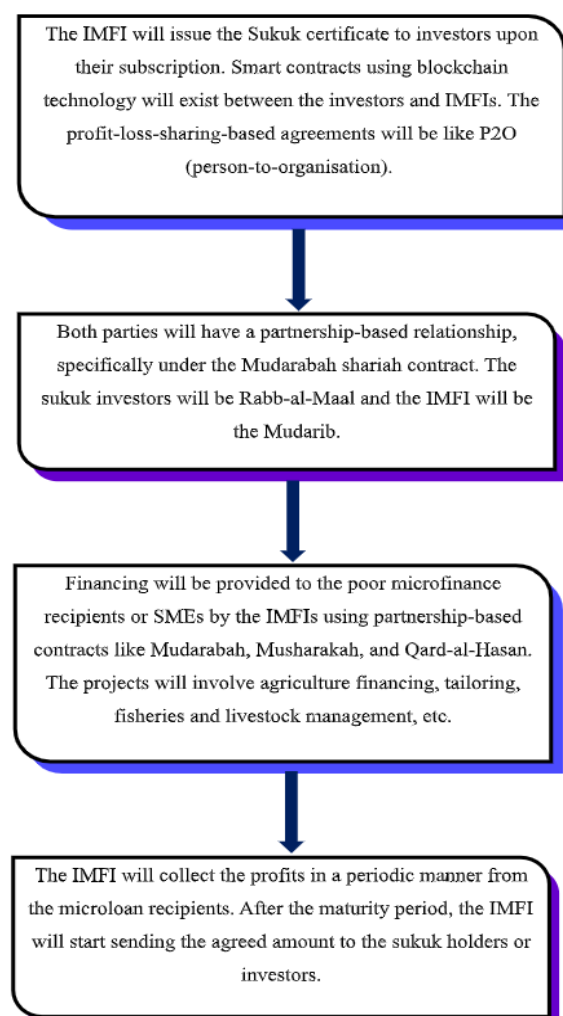


developing networks, providing strict coaching, and investing cooperatively with some individuals.

P9 expressed the following opinion regarding the possibility of utilizing Sukuk in Islamic microfinance initiatives: "Sukuk money can be used for Islamic microfinance programs, without a doubt. Shariah advisors, on the other hand, ought to be consulted at every stage of the procedure to ensure that all Sukuk and Islamic microfinance project management activities adhere to Shariah. P11 and P13 voiced viewpoints that were similar.

In this study, the Sukuk mechanism that will be used by the IMFIs will be the "Smart SRI Sukuk", which will use technologies like blockchain and smart contracts, and the ultimate target will be to improve the socio-economic conditions of the poor people living in various remote areas in Bangladesh.

The model developed in this study to use smart SRI Sukuk in Islamic microfinance projects is illustrated below:



**Figure 2. Proposed Model for Using Smart Sukuk in Islamic Microfinance Programmes**

The 'Smart SRI Sukuk' mechanism used in this study will have a number of advantages. For example, the contracts will be fully secured, as no third party (like trustees, payment agents,

accountants, etc.) will be involved in the transactions. This will improve regulatory oversight, simplify the process of Sukuk issuance, and eventually boost transparency, efficiency, and

cost-effectiveness of the overall system. Unlike the traditional Sukuk, no minimum investment will be involved in this process. In addition, there will be no geographical barrier, so investors from other countries can be easily involved in the system.

The smart Sukuk system also has some challenges. For instance, with smart Sukuk, there is no way to change or terminate a contract once it has started. This undoubtedly causes problems in the case of a Mudarabah contract, which grants both parties the freedom to end it whenever they see fit, barring the inclusion of any additional terms at the outset, such as a time limit.

In addition, as opined by one of the participants (P9), “The Sukuk instrument is not popular in a country like Bangladesh for a variety of reasons, including the absence of government support, lack of financial education, and financial instability as a whole. In order to solve these problems, the government and civil society organisations must take the necessary steps. P13 and P14 also appeared in a similar manner.

According to P12, “There are no specific laws regarding the use of smart Sukuk in Islamic microfinance institutions in Bangladesh, so it will be a big challenge.”

### **The Blockchain Technology Used in Smart Contract Agreements for Smart SRI Sukuk**

With the aid of blockchain technology, a decentralised user network is established, and transactions are documented in a publicly accessible distributed ledger. These characteristics of blockchain provide an open and reasonably priced platform for managing the source of funds for implementing microfinance initiatives.

With the advancement of technology such as blockchain, there are several potential benefits that can be achieved concerning the management of source funds for Islamic microfinance programmes. Blockchain technology is designed to ensure trust,

transparency, security, and the traceability of data shared across a network via a shared and immutable ledger that can only be accessed by verified members (Kunhibava et al., 2024). Along with faster settlement and lower counterparty risks, blockchain's unique features also include the near impossibility of modifying past data and encryption and decryption for security purposes. These attributes are advantageous for financial transactions. Immutability makes records unchangeable, but decentralization permits the distribution of the same record in an unchangeable state. This helps to establish and preserve users' trust in the system. In order to reduce personnel and transaction costs for businesses and increase trade accuracy and security, decentralization eliminates some intermediaries while maintaining service delivery, changing the role of stakeholders in financial markets and expediting the settlement process (Kunhibava et al., 2024). Hence, blockchain technology is undoubtedly the missing impetus to the growth and efficiency of the Islamic microfinance sector, ensuring a high degree of accuracy, accountability and reliability.

Shariah law, which forbids the giving or receiving of interest, forms the foundation of Islamic microfinance. Asset-based loans and profit-sharing are the mainstays of Islamic microfinance. It is feasible to develop a system that complies with the rules of Islamic finance and offers transparent, safe, and effective financial transactions by utilising blockchain technology. The creation of a transparent and impenetrable ledger is a significant benefit of utilising blockchain technology in Islamic banking. A decentralised ledger that is available to all network users can be created with blockchain technology. This implies that every Sukuk transaction may be monitored and validated, guaranteeing that all participants are following the rules of Islamic financing.

However, as mentioned by P7, “The use of technology is not extensive in Bangladesh. At present, no Islamic microfinance institute in Bangladesh is using any sort of technology. So, it will not be easy to implement Smart SRI Sukuk here.” P10 and P11 also expressed similar opinions. Problems like these can be efficiently solved by enhancing technology infrastructure and promoting digital finance literacy, as opined by the participants.

### Benefits and Challenges of Using Technology for Implementing Smart SRI Sukuk

Smart contracts that make use of Blockchain's digital ledger provide a lot of benefits overall. Smart contracts can be made more transparent, resilient, decentralized, efficient, unchangeable, cost-effective, and incorruptible by technology. Each of these benefits might make transactions easier, which would improve people's wellbeing. This could aid in achieving Maslaha. Again, one of the five pillars of the Maqasid Al-shariah, which safeguards Al-Mal (property), is the digital ledger in smart contracts, which is intended to prevent fraud. Nonetheless, Shariah's general precepts should serve as a guide for smart Sukuk contracts, and they should steer clear of any aspects that are forbidden in transactions (Hamza, 2020).

According to Khan et al. (2021), the blockchain and smart contracts make every process more transparent. The greater transparency of the blockchain automatically lowers the likelihood of fraud and speculation in Sukuk transactions by enhancing investor and issuer trust. A decentralized, unchangeable record also ensures that everyone engaged has equal access to information, which builds trust. P6 opined that “Blockchain can ensure transparency and traceability of all the transactions, which helps to reduce risk. This is specifically important in Islamic

finance.” P13 also iterated that “To enhance transparency, blockchain can play a vital role.”

According to P1, “Using blockchain technology in smart contracts can enhance the speed and ease of all the transactions, which will be very much beneficial.” P5 also echoed in the same way. Moreover, as highlighted by P4, “Through adopting a decentralised network and encryption techniques, blockchain can enhance the overall security of the entire system.” The benefits of using this technology to minimise fraud and reduce costs were also emphasised by P6.

Since smart contracts are not now enforceable, they occasionally encounter issues with legal recognition (Khan et al., 2021). The contract's parties rely on the programmers' interpretation; however it is not advisable for either side to rely solely on the programmer. Moreover, the agreement frequently leaves open the methods for handling disagreements between the parties. To implement smart contract technology in the Islamic microfinance system, these issues need to be appropriately resolved.

As mentioned by P5, “In Bangladesh, you will not find any legal binding while implementing smart contracts using blockchain technology. This might create some legal issues in some cases.” P9 and P11 also focused on this issue.

The legal constraints regarding the use of a blockchain-based Islamic crowdfunding platform were also highlighted by P1 and P5. As stated by P1, “There is a lack of law and regulatory support that might create problems while implanting a blockchain-based Islamic crowdfunding system in Bangladesh.” However, according to P13, “Islamic microfinance institutes must come forward and collaborate with the government agencies to solve the regulatory issues.”

It is another big challenge to make the blockchain-based system cost-effective. As opined by P9, “The cost of developing and implementing a

blockchain-based system has to be less than the benefits obtained from this system.”

## **CONCLUSION AND RECOMMENDATION**

Using a Smart SRI Sukuk model as presented in this study can bring revolutionary changes in the funding source management system of the Islamic microfinance institutions in Bangladesh. As the present IMFIs in Bangladesh are often suffering from funding crisis, this novel Smart SRI Sukuk system can be immensely beneficial for these institutions.

This study recommends that Islamic microfinance institutions need to develop close

collaboration with IT experts to develop a system to implement this Smart SRI Sukuk in Bangladesh. The government and policymakers should also come forward to develop the necessary rules and regulations that might help the IMFIs to use this Smart SRI Sukuk model. With the concerted efforts from the government, policymakers, civil society organisations, Islamic microfinance organisations, IT companies, and all the stakeholders, it can be possible to reduce the rate of poverty in Bangladesh. Ultimately, this will also help to achieve the SDG goals.

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