



Risk Management Strategy of Sharia Microfinance Institutions Challenges, Innovation, and Sustainability in the Era of Digital Disruption

Siswadi¹, Wilda 'Ainun Najihah²

¹Universitas Sunan Drajat, Lamongan, Indonesia

²Universitas Islam Negeri Maulana Malik Ibrahim, Malang, Indonesia

*** Corresponding author:**

siswadidrajat@gmail.com

Article Info	Abstract
Article history: Received: September 20, 2025 Revised: October 05, 2025 Accepted: October 20, 2025 Keywords: risk Management, Islamic Microfinance institutions, Financial Inclusion, Artificial Intelligence, Sustainability.	ABSTRACT Sharia Microfinance Institutions (MFIs) have an important role in supporting the community's economy, especially in developing countries such as Indonesia. LKMS exists as an alternative financing based on sharia principles and aims to increase financial inclusion for small and medium community groups. However, in its operations, MFIs face various risks, including credit risks, liquidity risks, and operational risks that can affect the sustainability of the institution. This study aims to examine the implementation of risk management in MFIs using a qualitative approach through a literature study. The results of the study show that the implementation of risk management is able to help MFIs minimize potential losses, strengthen financial stability, and increase institutional competitiveness. However, there are challenges in the form of limited resources, lack of managerial expertise, and regulatory complexity that often hinder the effectiveness of risk management. In addition, the application of technological innovations, especially Artificial Intelligence (AI), is considered to be able to support the effectiveness of risk management through improving transaction security, service efficiency, and financing risk control. This study recommends the need to strengthen the capacity of human resources, adaptive regulatory support, and the use of digital technology to strengthen the sustainability of MFIs in the face of global economic dynamics.
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Introduction

Indonesia's national economy cannot be separated from the role of financial institutions, especially the micro business sector which contributes greatly to people's economic activities. Micro enterprises are one of the important foundations for strengthening the people's economic structure, although their growth is often hampered. This barrier is mainly due to limited access to financing, as most micro entrepreneurs come from the lower middle class and are often not considered to have funding prospects by formal financial institutions. As a result, this sector runs slowly and has not been able to develop optimally (Riska, 2017)

In this context, Sharia Microfinance Institutions (LKMS) are present as an alternative means, which bridges the needs of the community with sharia principles. LKMS functions as a link between people who have excess funds and people in need, especially in small and medium groups. (Jamalulel, 2015). (Siswadi, 2021)

Along with the development of the times, sharia financial institutions are now financial institutions that are urgently needed by the wider community to help in terms of capital. The Indonesian population is mostly from the lower middle economic group, the existence of financial institutions that can touch the lower layers is necessary. (Siswadi, 2017). The growth of Islamic microfinance institutions in the last two decades has been relatively rapid, especially in developing countries such as Indonesia and Malaysia. This institution is not only tasked with providing access to financial services, but also emphasizes the value of justice, ethics, and social sustainability in its activities. With Islamic economic principles, LKMS seeks to provide more humane financial solutions for marginalized community groups (Suprayogo, 2022). (Siswadi, 2019) However, like other financial institutions, MFIs also face various risks that must be managed appropriately, ranging from credit risk, liquidity risk, to operational risk (Mirzaei et al., 2013).

The application of risk management in microfinance institutions in developing countries, especially in the context of sharia-compliant microfinance, plays an important role in mitigating potential risks and ensuring financial stability. These institutions face a wide range of risks, such as credit risk and liquidity risk, that can have a significant impact on their operations. By implementing risk management practices, these institutions can minimize the occurrence of risks such as non-performing loans and maintain financial health.

Risk management in MFIs plays an important role in maintaining the stability and sustainability of institutional operations. Its implementation includes strategies to reduce non-performing loans, strengthen liquidity, and increase institutional resilience to market uncertainty. Sharia-based financial products, such as Murabahah, Mudharabah, Musyarakah, Rahn, and

Multi-service financing, designed not only in accordance with sharia but also paying attention to the risk mitigation inherent in financing activities (Munibah et al., 2018). In addition, the regulatory framework governing risk management and supervision in sharia-compliant microfinance institutions, which are typically cooperative entities, underscores the importance of good risk management practices to ensure the stability and sustainability of such financial institutions in the dynamic economic landscape of developing countries (Aldoseri & Worthington, 2009).

The main purpose of this study is to examine the application of risk management in Islamic microfinance institutions in developing countries. The focus of the research is directed at the process of identifying various types of risks that have the potential to be faced, as well as analyzing the steps taken to manage these risks. In addition, this study also seeks to evaluate the effectiveness of the methods applied in risk management by Islamic microfinance institutions.

The main motivation of this study is to expand the understanding of risk management practices in Islamic microfinance institutions in developing countries. By understanding the types of risks faced and the mitigation strategies used, it is hoped that a more effective approach can be formulated to improve the sustainability and stability of the institution, while minimizing potential losses in the future.

This study uses a qualitative method by collecting data through literature studies and analysis of various publications that discuss the application of risk management in Islamic microfinance institutions in developing countries. Through this qualitative approach, this research is expected to be able to provide a more comprehensive insight into the implementation of risk management, as well as contribute to the development of better risk management practices within Islamic microfinance institutions.

The findings of this study are that Islamic microfinance institutions have helped reduce poverty and improve the economic welfare of underprivileged communities in developing countries. While Sharia microfinance institutions have great potential, the sector also has obstacles. However, this study provides recommendations to overcome these challenges in order to strengthen the Islamic microfinance sector.

Material & Methods

This study employed a qualitative descriptive approach using a literature study method. The data were obtained from various secondary sources, including journal articles, books, government regulations, and institutional reports relevant to risk management in Islamic Microfinance Institutions (MFIs). The analytical process involved identifying, classifying, and interpreting existing theoretical and empirical findings related to risk management strategies, innovation, and sustainability in the era of digital disruption.

The research emphasized the integration of Artificial Intelligence (AI) as a technological innovation to enhance institutional performance, efficiency, and risk mitigation capabilities within Sharia microfinance frameworks. The data analysis was conducted through content examination and conceptual synthesis, focusing on three main aspects: (1) the implementation of risk management in MFIs; (2) the challenges faced in applying risk management; and (3) the contribution of AI-based innovation toward improving institutional resilience and competitiveness.

This method enabled a comprehensive understanding of how risk management principles are applied in Islamic financial contexts, particularly in developing economies such as Indonesia, and how technological adoption supports the sustainability of MFIs.

Results and Discussion

The Application of Artificial Intelligence as Innovation in the Era of Disruption in Reducing the Risk of Islamic Microfinance Institutions.

Artificial Intelligence (AI), or in Indonesian often called artificial intelligence, is a form of human intelligence modeling applied to a programmed system so that it is able to perform activities that resemble human actions. This technology produces artificial capabilities that can support the decision-making process automatically. Some experts argue that AI is a technique in computer science that allows machines to perform human-like jobs. In general, artificial intelligence can be understood as an information-based automation system designed to be able to think and act like a human with the help of machine or computer devices.

The rapid development of AI has made significant contributions to various sectors, including business, finance, and banking. In the context of banking, as stipulated in Law Number 10 of 1998, banking includes institutions, business activities, as well as methods and procedures in carrying out operational activities. In the early stages, banking services still rely on direct

communication (face-to-face) which is relatively inefficient, time-consuming, and poses challenges in terms of service and security. The presence of AI then brought important updates in the financial industry, especially in improving operational efficiency and service quality to customers. This technology allows financial institutions to provide faster, safer, and more effective transaction services, both to clients and prospective clients. *The Role of AI in Risk Management in Sharia Microfinance Institutions*

One of the most advanced forms of digitalization is the application of artificial intelligence (AI). This technology helps the financial industry achieve optimal levels of efficiency while supporting the sustainability of business activities. In the banking world, AI has been used to strengthen digital security, minimize the risk of manipulation, and prevent fraudulent acts. For Islamic microfinance institutions, the use of AI can be a solution in overcoming various obstacles, including improving services to customers. AI enables institutions to respond to customer inquiries faster, provide more personalized service, and reduce long queues through the use of automated digital systems.

Previous research shows that AI has been applied to various systems, one of which is the *decision support system* used by banks to determine the eligibility of customers to obtain loans. This proves that AI not only plays a role in improving operational efficiency, but also in supporting data-driven decision-making processes so that risks can be minimized.

AI helps the Islamic microfinance industry provide information quickly, accurately, and accurately. This means that AI can help banks minimize losses when issuing loans, improve payment security, improve regulatory compliance, and maximize customer targeting for Islamic financial institution products. Therefore, the Islamic microfinance industry can compete with Islamic banks to meet current needs (Sulistyowati et al., 2023).

Risk management of financing of Islamic microfinance institutions

Risk can be understood as a condition faced by individuals and companies when there is a possibility of adverse outcomes. Risks are not only limited to losses, but also include opportunities that provide huge profits as well as the potential for significant losses. Every risk has essentially cost consequences. For example, if a shoe factory experiences a fire, the direct losses caused are in the form of loss of physical assets such as buildings, raw materials, and products that are ready to be marketed. In addition, there are also indirect losses, namely the cessation of operational activities for some time so that the company's cash flow stops. This condition has the potential to cause delays in payments to suppliers and creditors, which can ultimately disrupt the company's reputation and business relationships.

In this context, risk management plays an important role because it can help companies adapt to changing business environments, strengthen governance, optimize business strategies, protect assets, and prevent overly speculative decision-making. With the proper implementation of risk management, potential losses can be minimized and even avoided.

Theoretically, risk is often interpreted as the deviation of the actual outcome from the expected value. Risk reflects the likelihood of results that differ from initial expectations, so there is always an element of uncertainty. In other studies, risk is also seen as the presence of danger and hazard. Hazard refers to an event that has the potential to cause loss, while hazard is a condition that increases the chance of the occurrence of the dangerous event. Hazards can be physical, such as the characteristics of objects that are prone to causing losses, or moral hazards that arise due to human behavior that increase the potential for loss.

The factors causing the risk are very diverse, ranging from natural, operational, political, technical, financial, legal, to human resources and management organization. The impact can affect the company's services, performance, and reputation. Uncertainty is inevitable, so every party, including company leaders, is required to always carry out risk management on an ongoing basis. If a risk does occur, the main step that needs to be taken is to reduce or suppress the impact to a minimum so that the company is still able to survive and grow.

Companies that fail to manage risk will be more susceptible to losses, often even leading to bankruptcy. On the other hand, companies that are able to anticipate and control risks well can not only survive, but also have the potential to grow to be healthier and more successful, while creating a better work environment for their employees (Awaluddin, 2020).

Liquidity Risk Management of Sharia Microfinance Institutions

According to Fatulahman, in the Islamic view, risk management is interpreted as an effort to maintain and protect assets with full trust to Allah for the benefit of the ummah. In practice in Indonesia, legal arrangements regarding cooperatives have been regulated through Law Number 17 of 2012. However, the implementation of the law is not optimal because until now there are no government regulations or other technical rules that are the basis for law enforcement. In fact, to carry out the mandate of this law, at least 10 government regulations and 8 implementing decrees are needed.

On the other hand, Law Number 25 of 1992 regarding cooperatives is still in force. Until 2004, Indonesia did not have a special law that specifically regulated the existence of Baitul Maal wat Tamwil (BMT) as a sharia-based microfinance institution. Only in 2004, the government issued the Decree of the Minister of Cooperatives and SMEs Number 91 which regulates the business activities of Islamic financial services cooperatives. Then, in 2007 the Ministry of Cooperatives and SMEs again issued regulations related to Wholesale Sharia Financial Services Cooperatives (KJKS), namely the Regulation of the Minister of Cooperatives and Small and Medium Enterprises of the Republic of Indonesia Number 06/PER/M.KUKMI/I/2007 concerning Technical Guidelines for Productive Loan Programs for Cooperatives and Micro Enterprises (P3KUM) with a sharia pattern. This regulation was then updated with the Regulation of the Minister of Cooperatives and SMEs Number 06/PER/M.KUKMI/I/2008.

Risk Management in Microfinance Institutions

In the research of Ismawan and Budiantoro (2005), they defined microfinance as an abbreviation for corporate microfinance, which simply means "financial services for micro businesses." According to the Indonesian Joint Movement for Microfinance Development (Gema PKM), micro entrepreneurs are provided with various financial services such as deposits, loans, payments and insurance using systems and processes adapted to Masu's conditions. However, CGAP (Consultative Group to Help the Poorest), an institution established by the World Bank, says that microfinance is an effective credit tool for micro-entrepreneurs, providing quality short-term guarantees (Anwar & Susilo, 2015).

Results The application of risk management in Islamic microfinance institutions in developing countries has a very crucial role in minimizing potential losses while maintaining operational stability. Various obstacles can affect the performance of Islamic microfinance institutions, which ultimately has an impact on the social and economic roles that are carried out. The results of the study show that the level of awareness of the importance of risk management in Islamic microfinance institutions in developing countries is still diverse. Some institutions have implemented risk management practices well, while others still need to improve their understanding of the concepts and benefits of risk management. The complexity of financial risks faced by banks and financial institutions requires preparedness in anticipating potential risks, including in efforts to identify banking risks in various ASEAN countries (Munibah et al., 2018). The results of previous research (Munibah et al., 2018) show that behavioral attitudes have been proven to have a significant positive influence on the interest of small entrepreneurs in doing simple accounting. Therefore, governments and relevant agencies need to actively publish and train the use and importance of simplified accounting analysis in small business accounting to mitigate risk.

One of the important results identified is that many Islamic microfinance institutions in developing countries are still faced with limited resources, both in terms of funding, competence, and supporting facilities. This condition has implications for their limitations in implementing

risk management optimally. Not a few institutions experience obstacles in designing a comprehensive risk management system and involving a workforce with special skills. The biggest obstacle that often arises is the lack of access to adequate financial resources (Lailatul Mufidah, 2021). This can make it difficult for them to provide adequate financial services to their clients, which can lead to a lack of access to credit and other financial products. manage risk, as they may not have the necessary funds to absorb potential losses.

Another obstacle faced by MFIs is the limited availability of human resources with the necessary skills and knowledge to manage risks effectively. This can be a challenge in developing countries where there is a shortage of qualified professionals in the financial sector (Kobayashi & Miyabayashi, 2012). The limited availability of human resources can make it difficult for MFIs to implement effective risk management strategies, which can increase the risk of loss and negatively impact their sustainability. The problem of availability and needs of human resources is not only in terms of quantity, but also quality (Suprayugo, 2022).

Other findings show that Islamic microfinance institutions in developing countries often face problems related to regulation and compliance. The complexity of the rules and the existence of fairly dynamic policy changes are often obstacles to the implementation of effective risk management. Some institutions have difficulties in understanding and fulfilling the provisions of the regulations that are enforced. In fact, compliance with regulations is a crucial aspect so that microfinance institutions can operate legally and maintain customer trust. Non-compliance with legal provisions can have serious consequences, ranging from administrative sanctions to revocation of operational permits.

Artificial *Intelligence* is also one of the solutions to reduce risk management in overcoming risk management obstacles. The use of AI in the Islamic microfinance industry can overcome several customer problems, such as responding to customer interactions and providing services, and minimizing long queues due to the use of manual systems. The results of previous research have been applied related to the decision support system on customer financing determination.

Conclusions

The study concludes that effective risk management is essential for maintaining the stability and sustainability of Sharia Microfinance Institutions (MFIs). Although MFIs face various challenges, such as limited human resources, funding constraints, and regulatory complexity, proper implementation of risk management can minimize potential losses and strengthen institutional resilience.

The integration of Artificial Intelligence (AI) offers a strategic innovation to enhance operational efficiency, data security, and decision-making accuracy. To ensure sustainability, MFIs need to strengthen three key aspects: human resource capacity, adaptive regulations, and technological innovation. These efforts will enable Islamic microfinance institutions to remain competitive, inclusive, and aligned with Sharia principles in the digital era.

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Author Contribution Statement

S conceptualized the research framework, supervised the overall design, and conducted the

literature synthesis related to risk management and Sharia financial principles.

WAN contributed to the analysis of AI applications, data interpretation, and the preparation of the manuscript draft. Both authors reviewed and approved the final version of the article and are jointly responsible for its intellectual content.

AI Disclosure Statement

The authors declare that no generative artificial intelligence (AI) tools were used in the process of writing, editing, or analyzing the content of this manuscript. All interpretations, arguments, and conclusions presented herein are the results of the authors' independent critical analysis based on reviewed literature and scholarly reasoning. Any mention of Artificial Intelligence within the article refers solely to its conceptual and practical application in the financial and institutional context, not to the writing or data analysis of this paper itself.

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