

# Operational Risk Management Analysis at Bank Muamalat Indonesia

Fandi Febriansyah<sup>1\*</sup>, Faisal Muchlis<sup>2</sup>, Ahmad Muhtadi<sup>3</sup>, Putri Shinta Dewi<sup>4</sup>

<sup>1,2,3,4</sup> Postgraduate Program in Sharia Economics at the State Islamic University Sayyid Ali Rahmatullah Tulungagung, Indonesia

Email Correspondent  
fandifebriansyah1202@gmail.com

## ARTICLE INFO

### Article history:

Received Oct 04, 2025

Revised Nov 03, 2025

Accepted Dec 20, 2025

Available online Jan 05, 2026

### Keywords:

Management, Operational Risk, Bank Muamalat Indonesia

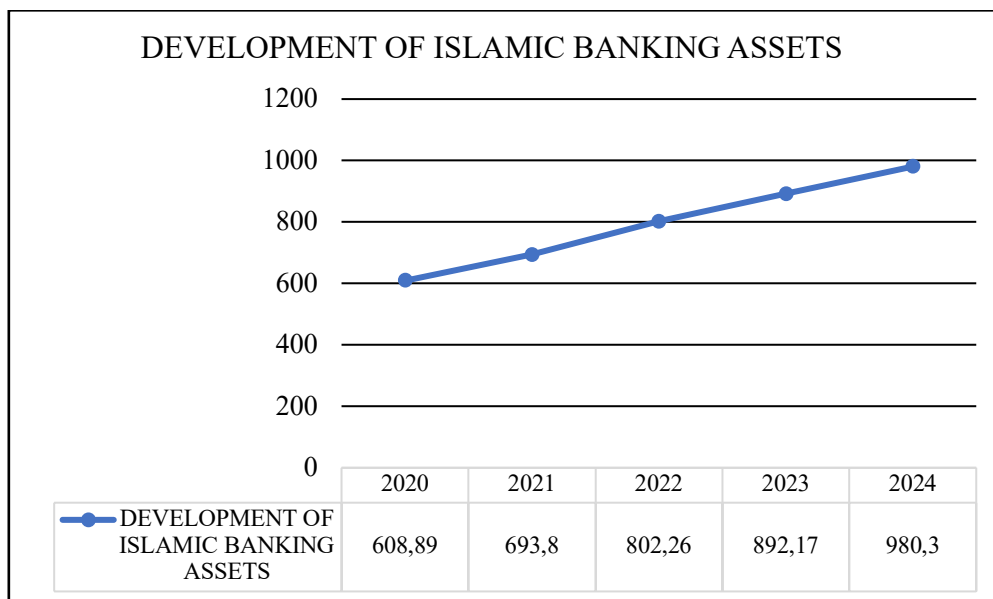
*This is an open access article under the CC BY-SA license.  
Copyright © 2024 by Author.  
Published by UIN Suska Riau*

## ABSTRACT

The development of the Islamic banking industry in Indonesia continues to show improvement in line with growing public trust in sharia principles. As the first pure Islamic bank, Bank Muamalat Indonesia faces operational risk challenges in the digital era, such as cybersecurity and potential fraud. The purpose of this study is to analyze the implementation of operational risk management at Bank Muamalat Indonesia in maintaining stability and supporting innovation in Islamic banking. Using a qualitative method with a literature study approach, this study utilizes secondary data from annual financial reports, OJK regulations, and related scientific publications. The results show that Bank Muamalat implements monitoring of risk appetite, risk tolerance, a risk-aware culture, and internal control systems such as RCSA, KRI, and BCM. The implementation of effective risk management has been proven to increase profitability, operational efficiency, and bank resilience, as reflected in the decrease in the BOPO ratio and the strengthening of its reputation and financial stability. Thus, operational risk management plays a strategic role in supporting the sustainable growth and competitiveness of Bank Muamalat Indonesia in the Islamic banking industry.

## INTRODUCTION

The development of the Islamic banking sector in Indonesia shows steady growth. This industry continues to experience expansion in terms of institutions, service networks, and the volume of assets under management. According to Islamic banking statistics from the Financial Services Authority (OJK) in 2024, there were 14 Islamic Commercial Banks (BUS) and 19 Islamic Business Units (UUS) actively operating, with total assets consistently showing a positive annual growth trend. This growth reflects the strengthening position of Islamic banking in the national financial system. Furthermore, regulatory and government policy support has also driven improved performance and expanded market share of the Islamic banking industry in Indonesia. This situation demonstrates that Islamic banking has significant potential to contribute to national economic stability while strengthening financial inclusion based on Islamic values.



**Chart 1.1 National Islamic Banking Asset Growth Trend**

Source: OJK Statistics

The graph above shows that Islamic banking assets have consistently increased over the past five years. This growth reflects growing public awareness and trust in the Islamic financial system, as well as a growing preference for financial services that align with Islamic principles.(Octaviani & Manda, 2021).

As a pioneering Islamic bank in Indonesia, Bank Muamalat has made a significant contribution to the development of the national Islamic financial system. The bank plays a role in expanding financial inclusion and providing ethical and equitable financing alternatives in accordance with Islamic principles.(Ramadhona &

Hesi, 2023) However, amidst these positive developments, Islamic banks also face more complex challenges than conventional banks. Contract structures and products based on Islamic principles give rise to different risk patterns, including financing risk, market risk, liquidity risk, and especially operational risk. (Ahmad Suhaimi, MA, 2021).

Operational risk is one of the most complex types of risk because it is directly related to system reliability, human resource competency, and the effectiveness of internal controls. Failure in any of these aspects can result in financial and reputational losses for a company. For example, research conducted by Sobana et al. (2021) at Bank BRI showed that during the COVID-19 pandemic, operational risk increased significantly due to weak supervision of employees and customers. This factor indicates that external and internal conditions can interact to create greater potential risks to bank stability (Sobana et al., 2021).

Furthermore, financial indicators such as the Operating Expenses to Operating Income (BOPO) ratio also reflect a bank's efficiency and resilience in managing operational risk. A study found that an increase in the BOPO ratio negatively impacts the profitability of Islamic banks. Therefore, effective operational risk management not only serves to prevent losses but also serves as a strategic factor in maintaining the competitiveness and sustainability of Islamic banks (Balqis et al., 2023).

In the context of Bank Muamalat Indonesia, the implementation of operational risk management has become crucial in line with the intensive digital transformation. Since 2019, Bank Muamalat launched the Muamalat DIN (Digital Islamic Network), which enables online account opening and various other digital services. By 2024, the number of users will reach approximately 500,000. This transformation improves service efficiency, but also creates new risks such as cybersecurity and potential fraud. To anticipate this, Bank Muamalat has strengthened internal controls through the implementation of RCSA, KRI, LED, and Business Continuity Management (BCM) to maintain operational stability in the digital era.

Therefore, this study focuses on the analysis of operational risk management at Bank Muamalat Indonesia, which is currently facing the dynamics of innovation and rapid change in the Islamic banking industry. This study is expected to provide a deeper understanding of Bank Muamalat's risk management strategies and implementation in maintaining operational stability and performance in the digital era. In addition to providing practical contributions to strengthening operational risk management systems, this research is also expected to add to the academic literature on risk management in Islamic financial institutions in Indonesia.

## LITERATURE REVIEW

### 1. Risk Management

According to ISO 31000, risk is defined as the influence of uncertainty on the achievement of organizational objectives, which can lead to potential losses from both internal and external factors. Bank Indonesia emphasizes that risk is the potential loss that affects a bank's revenue and capital. Studies state that risk management is a systematic process that includes identifying, measuring,

monitoring, and controlling risks to minimize negative impacts on the organization (Ahmad Suhaimi, MA, 2021).

In the context of Islamic banking, the primary objective of risk management is to maintain operational stability and business sustainability in accordance with Islamic principles. This effort is achieved through asset protection, increased efficiency, and strengthening public trust. Recent findings indicate that risk management no longer functions solely as a protective mechanism but has evolved into a strategic tool in business governance and decision-making. This is relevant for Bank Muamalat Indonesia (BMI), a pioneer in Islamic banking facing complex challenges amidst digitalization and industry competition (Anggriani & Wilda Yulia Rusyida, 2022).

## 2. Operational Risk

Operational risk is one of the primary risks in the banking industry, including for Bank Muamalat Indonesia. This risk encompasses potential losses due to internal process weaknesses, human error, system failures, and external events such as natural disasters or cyberattacks. In practice, operational risk can take the form of transaction errors, fraud, information technology disruptions, and compliance violations (Wahyuningsih et al., 2024).

With the digital transformation, Islamic banks (BMI) face increasing technology-based operational risks, such as digital payment system vulnerabilities, customer data security risks, and the complexity of automated processes. The study emphasizes the importance of implementing technology-driven risk management in Islamic banking, which requires integration between information technology systems, human resource training, and early warning systems to prevent potential losses. Therefore, the effectiveness of operational risk management at Islamic banks (BMI) depends heavily on the bank's ability to synergistically combine technical, managerial, and Sharia compliance aspects (Ahmad Bagus Mas'udi & Ilham M. Said, 2024).

## 3. Operational Risk Regulatory Framework in Islamic Banking

The national regulatory framework plays a crucial role in shaping BMI's operational risk management system. Based on OJK Regulation No. 18/POJK.03/2016, every Islamic bank is required to implement comprehensive risk management, encompassing risk identification, measurement, monitoring, and control. This regulation is reinforced by OJK Circular Letter No. 13/SEOJK.03/2018, which emphasizes operational risk control system and procedure standards.

In the international context, Basel II and Basel III standards serve as benchmarks for strengthening capital resilience and risk management at BMI. This study demonstrates that implementing Basel III principles can enhance the resilience of Islamic banks to economic shocks, although adaptations to the characteristics of profit-loss-sharing contracts are necessary. As the oldest Islamic bank in Indonesia, BMI is also facing the challenges of moving towards Basel IV, which emphasizes transparency, data governance, and digital resilience.

Therefore, the implementation of risk regulations at BMI must align global standards, local compliance, and Islamic values.

#### 4. Theory and Principles of Sharia Risk Management

Islamic banking has unique characteristics that distinguish it from conventional systems, namely, it is based on the principles of justice, trustworthiness, and the prohibition of *gharar*. The principle of justice demands fair transactions without harming any party, while trustworthiness emphasizes the bank's responsibility to manage funds transparently and with integrity. The prohibition of *gharar* prevents transactions from being overly uncertain. Therefore, risk management in Islamic banks must align with Islamic values and Sharia law (Arno et al., 2024).

Furthermore, BMI's sharia risk management approach aligns with the *maqāṣid al-syarī'ah*, which emphasizes the protection of religion, life, intellect, descendants, and property. Studies show that implementing *maqāṣid* in risk management strengthens social welfare while maintaining financial sustainability. In this context, the concepts of relief and effort serve as principles for balancing professional endeavor and spiritual reliance, making risk management at BMI not merely technical but also ethical and religious (Kiranawati et al., 2023).

## METHODOLOGY

This study uses a qualitative method with a library research approach to analyze the implementation of operational risk management at Bank Muamalat Indonesia. This approach was chosen because it allows researchers to comprehensively and contextually examine the concepts, principles, and practices of risk management in the context of Islamic banking. The data sources used include Bank Muamalat Indonesia's annual report for the 2021–2024 period, official policies of the Financial Services Authority (OJK), Basel II–III international standards, and previous research findings in reputable scientific journals, providing a strong theoretical and empirical basis for the analysis.

The analysis process was conducted using the Miles and Huberman interactive analysis model, which includes three main stages: data reduction, data presentation, and conclusion drawing. This study resulted in an in-depth interpretation of the relationship between modern risk management theory and Islamic banking practices. This approach is considered most appropriate because it allows for an analysis that is not only descriptive but also examines theoretically and normatively how the implementation of operational risk management at Bank Muamalat Indonesia aligns with Islamic principles, such as trustworthiness, fairness, and prudence (Soegiyono, 2011).

## RESULTS AND DISCUSSION

### Operational Risk Management Concept

Operational risk management is a series of practices aimed at identifying, measuring, and controlling potential risks faced by financial institutions, particularly Islamic banks. In this context, operational risk can arise from internal factors such as

human error and system disruptions, as well as external factors such as unforeseen events. Its management efforts are an essential part of a comprehensive strategy to protect assets, minimize losses, and improve operational efficiency (Aprilia et al., 2022).

Operational risk arises from weaknesses in processes, systems, or policies that can lead to significant losses. Therefore, Islamic banks need to implement a risk management system that encompasses identification, mitigation, and ongoing monitoring. This approach aligns with the principle of *maqāṣid al-syarī'ah*, which emphasizes the balance between financial goals and the welfare of the community (Nelly et al., 2022). The operational risk management process in Islamic banking is explained more clearly as follows:

1. Risk Identification

The first stage in operational risk management is the risk identification process, where Islamic banks identify various potential risks that can disrupt their operational activities from both internal and external factors (Saputra & Suwardi, 2023).

2. Risk Assessment and Measurement

The next stage is risk assessment and measurement to determine the severity and likelihood of each risk occurring. This evaluation helps the bank prioritize risk management based on the potential impact on operational and financial stability.

3. Risk Mitigation

The risk mitigation stage is carried out by implementing policies, strategies and control systems that aim to reduce the impact of identified operational risks (Rohmandika, 2024).

4. Risk Monitoring and Reporting

The final stage is periodic risk monitoring and reporting to assess the effectiveness of implemented mitigation policies. Banks need to continuously monitor risk developments to quickly adjust their strategies if weaknesses in risk management are identified (Saidatur Rolianah & Umayyatun, 2024).

### **Bank Muamalat Indonesia's Operational Risk Management Framework**

Bank Muamalat Indonesia has implemented a comprehensive operational risk management framework designed to ensure all operational activities are carried out effectively, efficiently, and in accordance with prudent principles. This framework includes the following key components (Bank Muamalat Indonesia, 2024) :

1. Internal Provisions and Risk Management Policies

The Bank establishes various internal regulations in the form of policies, procedures, and technical guidelines that detail operational risk strategies, processes, control systems, and governance. These documents serve as a reference for day-to-day operational activities, ensuring that each work unit has clear guidelines for identifying, assessing, monitoring, and controlling operational risk.

2. Risk Management Organizational Structure

The Bank has established a dedicated organizational structure with clearly defined tasks and responsibilities for risk management. Each work unit carries out its role



according to its respective functions and authorities, both at the managerial and operational levels, to ensure that operational risks are detected and controlled in a timely and proportionate manner.

3. **Implementation of the Principle of Dual Control and Segregation of Duties**  
To minimize the potential for errors and abuse of authority, the Bank implements the principle of dual oversight and separation of functions and responsibilities. This mechanism ensures that every transaction and operational activity must be verified by more than one authorized party, thereby enhancing the accuracy and integrity of the Bank's operations.
4. **Determination and Monitoring of Operational Limits**  
Banks establish tiered operational limits based on the level of risk and complexity of their business activities. These limits are regularly evaluated to ensure they remain aligned with business developments and changes in internal and external conditions.
5. **Determining Risk Appetite and Risk Tolerance**  
As part of its risk governance implementation, the Bank determines acceptable risk levels and operational risk tolerance limits. These determinations are periodically evaluated and adjusted to ensure alignment with business strategy, capital capacity, and the dynamics of the changing risk environment.

### **Bank Muamalat Indonesia's Operational Risk Management Strategy**

Bank Muamalat Indonesia consistently implements comprehensive operational risk management to ensure business continuity and protect the bank's assets and reputation. All steps taken are oriented towards preventing, controlling, and monitoring risks that can arise from human weaknesses, systems, internal processes, and external factors. This operational risk management is implemented in a structured manner to ensure that all work units have the same awareness and responsibility for the risks they face. The following strategies are implemented by Bank Muamalat Indonesia (Bank Muamalat Indonesia, 2024):

1. **Operational Risk Champion Program (ORION)**  
As part of its operational risk management strategy, Bank Muamalat has developed the Operational Risk Champion (ORION) program in each work unit. This program strengthens coordination, expedites risk event reporting, and enhances employee capacity to identify and manage operational risks independently. ORION enables more effective and responsive risk management processes.
2. **Monitoring Risk Appetite and Risk Tolerance**  
Within the operational risk management framework, Bank Muamalat regularly monitors achievement of established risk appetite and risk tolerance. This monitoring aims to ensure that all potential operational losses remain below the risk tolerance limit. This is a critical component of maintaining operational stability and ensuring compliance with risk management policies.
3. **Strengthening Operational Risk Culture**

Improving the effectiveness of operational risk management is also achieved by strengthening a culture of risk awareness in the workplace. The Bank implements various communication and education programs, such as:

- a. Regular email blast delivery regarding Operational Risk Awareness, Anti-Fraud Awareness, and IT Security Awareness.
- b. Direct outreach at branch offices and head offices regarding operational risks and fraud prevention.
- c. Implementation of Muamalat Internal Certification (MIC) which now includes Cyber Risk Awareness training.

All these activities aim to create a work culture that is aware of risks and supports the implementation of the precautionary principle.

4. Operational Risk Monitoring and Evaluation

As part of the operational risk management cycle, Bank Muamalat actively monitors and evaluates improvement projects related to data quality, financing documentation, and business process efficiency. This evaluation is crucial to ensure that risk management is carried out sustainably and based on accurate data.

5. Implementation of Anti-Fraud Strategy in Operational Risk Management

To strengthen its internal control system, the Bank has implemented an anti-fraud strategy integrated with its operational risk management policy. Some of the steps taken include:

- a. Implementation of Fraud Detection System (FDS) to detect suspicious transactions in real time.
- b. Socialization of the implementation of ISO 37001 Anti-Bribery Management System (SMAP) in various branches.
- c. Conducting surprise visits to high-risk work units to ensure compliance with risk control procedures.

6. Implementation of the Four Eyes Principle and Separation of Functions

To ensure objectivity and prevent conflicts of interest, Bank Muamalat implements the four eyes principle in its operational risk management structure. A strict separation of duties and responsibilities ensures effective and independent internal oversight.

7. Utilization of Operational Risk Management Tools

To support risk reporting and documentation, the Bank utilizes the ORBIT (Operational Risk-Based Information Technology) application as part of its operational risk management system. This application records the Loss Event Database (LED) that all work units must report monthly, regardless of whether a risk event occurs or not.

8. Enhanced Cyber Security and Resilience

Given the increasing digital threats, Bank Muamalat is strengthening its information technology security as part of its operational risk management. This includes updating its security systems, enhancing cyber resilience, and developing early detection mechanisms for potential cyberattacks.

9. Implementation of Business Continuity Management (BCM)



As a mitigation measure against external risks, the Bank implements Business Continuity Management (BCM) to ensure operational continuity despite disruptions, disasters, or other emergencies. BCM is a critical component of the operational risk management framework, which focuses on maintaining continuity of service to customers.

### **The Impact of Implementing Operational Risk Management at Bank Muamalat Indonesia**

The implementation of operational risk management at Bank Muamalat Indonesia plays a strategic role in driving improved financial performance, operational efficiency, and ensuring the institution's sustainability. Through a comprehensive and integrated risk management system, Bank Muamalat is able to identify, assess, and control various potential risks that could impact operational and financial stability. One of the most prominent impacts of this operational risk management implementation is a significant improvement in the bank's financial performance.

Studies show that effective risk management practices, especially in managing liquidity risk and credit risk, have a significant impact on increasing bank return on equity (ROE) and profitability. (Ahmad Bagus Mas'udi & Ilham M. Said, 2024) Proper risk management enables banks to minimize potential losses and maintain revenue stability, ultimately increasing company value. Furthermore, transparent risk management disclosures contribute to improved regulatory compliance and strengthened investor and customer confidence, thus promoting overall financial stability. (Rahmawati et al., 2024).

The implementation of sound operational risk management also supports liquidity optimization. Bank Muamalat maintains a balance between liquidity and profitability through effective risk mitigation strategies. These efforts help reduce credit risk and increase resource efficiency, thereby strengthening liquidity and minimizing potential losses from non-performing financing. Within the context of operational efficiency, the implementation of risk management plays a crucial role in cost control and productivity improvement.

Through the implementation of clear internal policies, strong internal oversight, and effective segregation of functions, Bank Muamalat has been able to reduce operational errors and increase transaction efficiency. This has resulted in a lower operating expense to operating income (BOPO) ratio, indicating improved efficiency and cost performance. (Aprilia et al., 2022). Bank Muamalat's BOPO ratio experienced a slight decline in 2024, reaching 99.04%, after previously reaching 99.41% in 2023. Previous research also confirmed that integrating risk management systems into every aspect of a bank's operations has the potential to reduce costs while increasing revenue (Ardana & Faiz, 2022).

**Table 1.1 BOPO Ratio of Bank Muamalat Indonesia 2020-2025**

BOPO ratio	2024	2023
Operating Expenses to Operating Income	99.04%	99.41%

Source: Bank Muamalat Indonesia, 2024

In addition to contributing to financial performance, the implementation of operational risk management also strengthens the reputation and trust of stakeholders. Transparency in risk reporting and consistency in operational controls provide customers and business partners with confidence that Bank Muamalat has the reliable ability to manage risks professionally. Furthermore, proactive risk management plays a role in increasing the bank's resilience to external shocks. Through the development of contingency plans and emergency preparedness, Bank Muamalat is able to maintain operational stability even in crisis situations, such as those experienced during the COVID-19 pandemic. This measured risk management approach helps the bank avoid unexpected cost spikes and maintain business continuity.(Rahmawati et al., 2024).

Overall, the implementation of operational risk management at Bank Muamalat Indonesia not only improves financial performance and cost efficiency, but also strengthens its reputation, public trust, and resilience to external dynamics. Therefore, the implementation of an effective risk management system is a strategic element in supporting sustainable growth and long-term stability for Bank Muamalat Indonesia.

## CONCLUSION

Operational risk management at Bank Muamalat Indonesia is a crucial aspect in maintaining business stability, efficiency, and sustainability, especially amidst digital transformation and innovation in sharia-based services. The Bank consistently monitors risk appetite and tolerance, strengthens a culture of risk awareness through educational programs, and implements internal control systems such as the Risk and Control Self Assessment (RCSA), Key Risk Indicators (KRI), and Business Continuity Management (BCM) to identify, assess, and control potential risks. The implementation of this comprehensive risk management system has had a positive impact on improving financial performance, operational efficiency, and institutional resilience, as reflected in increased profitability, a decrease in the BOPO ratio, and a strengthened reputation and public trust. By implementing sharia-based risk management principles and supporting appropriate technology, Bank Muamalat is able to maintain operational stability, withstand external shocks, and encourage continuous innovation in the national sharia banking industry, making operational risk management a strategic factor for the bank's long-term growth and sustainability.

## REFERENCES

- Ahmad Bagus Mas'udi, & Ilham M. Said. (2024). Pengaruh Manajemen Risiko Terhadap Kinerja Keuangan Perbankan: Literature Review. *Journal of Social and Economics Research*, 5(2), 2080–2086. <https://doi.org/10.54783/jsr.v5i2.312>
- Ahmad Suhaimi, M.A. (2021). Studi Manajemen Risiko Pada Bank Syariah Indonesia

- (Bsi). *Jurnal Manajemen Risiko*, 2(I), 73–78.  
<https://doi.org/10.33541/mr.v2i1.3438>
- Anggriani, S. W., & Wilda Yulia Rusyida. (2022). Analisis Komparatif Risiko Keuangan Bank Umum Syariah dan Unit Usaha Syariah Periode 2016-2021. *Velocity: Journal of Sharia Finance and Banking*, 2(2), 122–134.  
<https://doi.org/10.28918/velocity.v2i2.6192>
- Aprilia, Y., Khilmia, A., & Ilma Ahmad, Z. (2022). Manajemen Risiko Operasional Pada Perbankan Syariah: Bibliometrik. *IQTISHADIA Jurnal Ekonomi & Perbankan Syariah*, 9(2), 192–203.  
<https://doi.org/10.19105/iqtishadia.v9i2.6729>
- Ardana, Y., & Faiz, A. (2022). Analisis Data Panel Dalam Mengukur Determinan Pengungkapan Enterprise Risk Management Pada Perusahaan Perbankan Di Indonesia. *Jurnal Bisnis Darmajaya*, 8(2), 105–119.  
<https://doi.org/10.30873/jbd.v8i2.3304>
- Arno, A. K., Ilham, I., & Ridwan, R. (2024). Sharia Compliance and Profitability in Financial Performance Islamic Banks in Indonesia. *Futurity Economics&Law*, 112–130. <https://doi.org/10.57125/fel.2024.06.25.07>
- Balqis, T., Yuni Lubis, S., & Sugianto. (2023). Implementasi Manajemen Resiko Bank Syariah. *Rayah Al-Islam*, 7(3), 1572–1586.  
<https://doi.org/10.37274/rais.v7i3.870>
- Bank Muamalat Indonesia. (2024). *Laporan Keuangan Tahunan Bank Muamalat Indonesia Tahun 2024*. [www.bankmuamalat.co.id](http://www.bankmuamalat.co.id)
- Kiranawati, Y. C., Aziza, S. M., Nasim, A., & Ningsih, C. (2023). Islamic Banking Governance in Maqashid Sharia Perspectives: A Systematic Literature Review. *Share: Jurnal Ekonomi Dan Keuangan Islam*, 12(1), 59–74.  
<https://doi.org/10.22373/share.v12i1.15446>
- Nelly, R., Siregar, S., & Sugianto, S. (2022). Analisis Manajemen Risiko Pada Bank Syariah: Tinjauan Literatur . *Reslaj: Religion Education Social Laa Roiba Journal*, 4(4), 918–930. <https://doi.org/10.47467/reslaj.v4i4.1008>
- Octaviani, L., & Manda, G. S. (2021). Analisis Pengaruh Risiko Perbankan terhadap Laba Bersih bank Syariah. *Jesya (Jurnal Ekonomi & Ekonomi Syariah)*, 4(2), 837–846. <https://doi.org/10.36778/jesya.v4i2.411>
- Rahmawati, F., Syahpawi, S., & Nurnasrina, N. (2024). Kajian Yuridis Pengelolaan Manajemen Risiko Pada Perbankan Syariah. *Money: Journal of Financial and Islamic Banking*, 2(1), 69–80. <https://doi.org/10.31004/money.v2i1.23805>
- Ramadhona, A. G., & Hesi, E. P. (2023). Kajian Risiko Operasional Pada Profitabilitas Bank Umum Syariah Periode 2018-2021. *Jurnal Manajemen Dan Perbankan (JUMPA)*, 10(1), 71–79. <https://doi.org/10.55963/jumpa.v10i1.502>
- Rohmandika, M. S. (2024). Sharia Bank'S Attention Related To Sustainability Performance, Through Financial Performance, Good Corporate Governance, and Risk Management. *SULTANIST: Jurnal Manajemen Dan Keuangan*, 12(1), 19–26. <https://doi.org/10.37403/sultanist.v12i1.564>
- Saidatur Rolianah, W., & Umayyatun. (2024). Analisis Risiko Pembiayaan dan Risiko Likuiditas pada Kesehatan Bank Umum Syariah di Indonesia. *SAUJANA : Jurnal Perbankan Syariah Dan Ekonomi Syariah*, 6(01), 10–23.  
<https://doi.org/10.59636/saujana.v6i1.166>
- Saputra, E., & Suwardi. (2023). Mitigasi Risiko Kepatuhan Bank Syariah Terhadap Prinsip Syariah. *AL-IQTISHAD: Jurnal Perbankan Syariah Dan Ekonomi Islam*, 1(1), 23–33. <https://doi.org/10.47498/iqtishad.v1i1.2155>
- Sobana, D. H., Quraisyn, A. Q., Kusumawadani, A., Hermawati, D. H., Layusa, N., Putri, P. N., Habibah, S., & Agustin, W. N. (2021). Analisis Risiko Operasional

Bank Bri Kantor Cabang Cianjur Pada Masa Pandemi Covid-19. *Ar-Rihlah : Jurnal Keuangan Dan Perbankan Syariah*, 1(1), 1.  
<https://doi.org/10.35194/arps.v1i1.1290>

Soegiyono. (2011). *Metode Penelitian Kuantitatif, Kualitatif dan R&D*.

Wahyuningsih, S., Jasmin, J., & Juwono, E. (2024). Peran Strategi Manajemen Risiko dalam Mengoptimalkan Likuiditas dan Meminimalkan Risiko Kredit di Industri Perbankan di Indonesia. *Sanskara Manajemen Dan Bisnis*, 2(03), 156–167.  
<https://doi.org/10.58812/smb.v2i03.420>