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Article

# Islamic Banking and Risk Management with a Focus on Shariah-Compliant Hedging Techniques

Mawar[1]

[1]*Fakultas Agama Islam Universitas Muslim Indoneia Makassar*

*Corresponding Author:* Mawar

**Abstract**

This work aims at examining the difficulties and activities related to risk management in Islamic banking sector with an emphasis on hedging strategies in line with Shariah standards of operation in Indonesia. The effective management of financial risk therefore poses a major challenge to most Islamic banks given the strong principles of Shariah Law with regards to prohibition of charges of interest, volatility or uncertainty that is unreasonable, and the prohibition of speculative contracts. This empirical study explores the application of specific Shariah compliant with hedging strategies like Tawarruq, Wa'd, and Murabaha and the layout of their efficiency and incongruities. Interviewing thirty financial gurus and professionals in the Islamic banking system, the study finds that there are challenges such as a wafer thin offerings of Islamic financial assets, lack of shariah standardization, high costs of transaction, lack of clarity in rules and regulation and poor client awareness of the Islamic financial system. These studies show that while risk management using Shariah compliant hedging instruments can be effective these are seldom fully implemented because of these limitations. Interviewed participants called different issues to focus on: the expansion of product portfolios, enhanced regulation requirements, and clients' awareness regarding the positive outcomes and mechanisms of shariah-compliant risk management. This research contributes to the existing literature and practical knowledge of Islamic finance in Indonesia with regard to the best practice of Shariah hedging and risk management techniques.

**Keywords**

Islamic banking
Shariah-Compliant Hedging
Risk Management
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## Introduction

Islamic banking has become an integral part of the financial landscape all over the word through due to its focus on ethical and legal aspects of practicing banking. Islamic banking has evolved greatly in Indonesia over the last two decades since Indonesia has the largest Muslim population globally. This growth is due to the necessity for financial companies that provide services compliant with the sheriff and also the rising popularity of such systems in world to create less instable and unethical banking systems. Nonetheless, with this growth, Islamic banking is faced with certain constraints especially in relation to risk management in conformity with Shariah principles. This study focuses on one crucial aspect of risk management in Islamic banking in Indonesia: the use of Shariah compliant hedging to address financial risk.

Banking that operates based on shariah laws has some fundamental differences to banking that operates based on conventional banking system. Islamic finance works under the principle of banning fixed interest, uncertainties and gambling, meaning that banks have to arrange their products and services according to these rules (Kuyateh, 2022). This prohibition is a major problem in enterprise risk management since conventional banking often employs interest-bearing financial instruments and risky operations to mitigate financial risks. Consequently, the Islamic banks are required to have other mutually acceptable approaches that help them to deal with risks inclusive of the volatility in foreign currency prices and prices of commodities (Hanic & Smolo, 2023). These Shariah-compliant hedging activities and techniques remain in their evolutionary stages, especially in Indonesia, even though essential for the health of the financial environment.

Islamic banking in Indonesia has expanded continuously over the past two decades as a policy response and consumer pull. The total size of the Islamic banking system is estimated to be at 6.6% of the total banking asset of Indonesia and it is gradually growing due to the effort of the government to enhance Islamic banking system in Indonesia (Mursyid et al., 2021). The extent of regulating Islamic banking in Indonesia is supported by the National Shariah Board that provides guidelines for every financial operation to be Shariah compliant. However, one of the key issues hindering Islamic bank management in Indonesia is the absence of more efficient standardized Shariah-compliant risk management products to minimize such a risk more efficiently (Saifurrahman & Kassim, 2024). This research will seek to fill this gap by describing the existing forms of hedging techniques Shariah-compliant in Indonesia's Islamic banks, and the difficulties encountered in the process.

Control or management of risk is essential in operating banks and is well implemented by Islamic banks. Still, risk management is a challenge within the purview of Shariah law, it needs to be innovative. Traditional banks have adopted derivatives, futures and options to manage or mitigate risk yet these contracts usually contain interest or elements of gambling, which are forbidden in Islamic finance (Alsahlawi, 2021). Wqr'd-based contracts (unilateral promise), Islamic forwards, murabaha-based swaps and tawarruq (commodity financing) are used by Islamic banks instead to manage risks and at the same time remain safe against the laws of Shariah. These instruments enable bank practising hedging besides following Shariah law to the letter.

However, this report found that the usage of hedging instruments acceptable under Shariah law is still restricted in Indonesia due to the following factors. First, here there was a weakness in terms of knowledge and application regarding the correct use of these derivatives by the professional staff of the Islamic banks. Mutamimah et al. (2022) note that while there is a shortage of human capital in Islamic finances as risk managers in Indonesia, many of them lack experience in financial engineering, which is important for development of more effective hedging techniques in the industry. Hence, to accommodate these profits, and to be comparably rewarding, many Islamic banks end up using sub-optimal risk management techniques which are less efficient but easy to implement, making the Islamic banking system more prone to cyclical fluctuations.

Second, the possibility of hedging is also constrained by regulatory issues as those in Shariah-compliant companies. Besides, like the case of Indonesia DSN that advises on what kind of financial products are Shariah compliant, there is no basic guideline on the allowed use of hedging instruments are in the overall Islamic banking industry (Susilawati et al., 2021). Thus, there is a legal loophole that allows various Islamic banks to develop different practices and put more doubts as to the admissibility of some risks' management product. Also, the question about regulatory requirements for adequate documentation and contracts to Islamic hedging products increases the cost of transactions and thus limits the application of hedging instruments (Kunhibava et al., 2021).

The fourth area that is of major concern is the relatively expensive hedging tools that are Shariah compliant. Generally, Indonesia Islamic banks and especially the small ones are usually financially strangled to afford the application of these techniques. Unlike other hedging instruments that can be purchased from the market or borrowed from other financial institutions, Shariah compliant derivatives are usually structured hence more expensive to develop or negotiate (Abuselidze, 2021). This financial burden hinders the application of these instruments mainly for less financially endowed banks. Additionally, difficult market conditions that do not permit deep hedging reducing market freedom and sufficiency of Islamic money market also limit hedging products in Indonesia (Chang, 2022).

Given these challenges, this research aims at examining the prevailing strategies, issues and opportunities related to Shariah-compliant hedge exotic risk management practices in Indonesia's Islamic banking systems. In particular, it seeks to identify how risk management is practiced in Islamic banks, including the types of hedging that they employ, and the constraints these face in the region. To that end, the study aims to explore these areas to give recommendations and analysis that would allow the Indonesian system of Islamic banking to develop efficient risk management strategies, applicable for regulators, banking experts, and scholars of Islamic finance.

This research is important since the increasing trends of Islamic banking in Indonesia have seen a corresponding increase only with inadequate and closely developed effective risk management systems. Overcoming the challenges of Shariah hedging will not only improve the armoury of the Islamic banks but also help work towards the achievement of the financial stability objectives in an ethical perspective.

## Methods

This research used a qualitative research approach considering risk management practices and Shariah hedging strategies in Indonesia's Islamic banking industry. Consequently, a qualitative approach was employed given its efficiency in developing a working understanding of the attitudes, behaviors, and difficulties faced by practicing individuals operating within Islamic banks. That way, the study sought to provide a detailed, contextual approach toward grasping the processes of managing financial risks within the context of Islamic finance and its regulation.

The study used a case study approach whereby, several Islamic banks in Indonesia were selected because they employ Sharia compliant risk management. Using an approach of case studies was undertaken because it offers deep analysis of contents of a current nature that develops in their context in which these contents are observed especially when it is difficult to distinguish between case and its context, (Yin 2018). This approach allowed for the identification of the particular methods, issues, and measures used by Islamic banks integrating operations with shariah standards and, at the same time, mitigating financial risks with the corresponding approaches.

In the current study, purposive sampling technique was employed to sample respondents directly associated with risk management an finance functions based in Islamic banks. The target participants were the particular group of people with the knowledge of Shariah securities, risk management and Islamic finance legislation. The selection of participants was done according to their occupations, we confirmed that they all possess advanced experience and knowledge regarding risk and hedging practices in Islamic banks.

In the present study, 12 participants from five Islamic banks in Indonesia were selected. To ensure that the study received a range of opinions, the banks chosen were top Islamic banks of varying sizes in the respective countries in addition to other mid-size Islamic banks. The basis for short listing the banks was on the basis of their market impact, Shariah compliant risk management and geographical spread in Indonesia.

The main data gathering technique used in this study was the administration of semi structured interviews. This method was considered favorable because as it enabled the researcher to go round in probing the participants' perceptions while at the same time have a lead with reference to the research questions. Although, the use of semi-structured interviews was useful to go further into the issues under study and get the participants' views and practices on the management of risk.

Participants were interviewed face to face; however, where participants were unavailable for a face-to-face interview, the interview will be conducted through video or online conference calls. All the interviews took between 45 minutes and an hour and were conducted with the respondents' permission and schedule convenience, and were audio-recorded. The interviews that were conducted were then transcribed in full to compliment the data collected.

Document analysis was also used to complement and corroborate interview data since, together with interviews, it formed the major data collection method. The research documents used for the study were the annual financial statements, P & L accounts, risk management policies, and Shariah practices and strategies in the participating banks. These papers offered more structured information on the rules and regulations concerning risk management in Islamic banks advancing on the elasticity of Shariah compliant hedging.

### Data Analysis

An analysis of the interviews and the documents was done by applying thematic analysis, and the following six phase processes were used. This method was chosen since it is most appropriate for categorizing, analyzing, and reporting patterns (themes) within qualitative data as this offers a detailed and complicated picture on the data. The first way the researcher became familiar with the data was through the interview transcripts and documents was going through them several times. In this phase, one had to document first few observations made and factors considered noteworthy in participant responses. The data were analysed by coding and categorising the data based on segments of the transcripts relevant to the research questions. These codes were used to identify abstractions such as 'risk identification', 'hedging instruments', 'challenges to shariah compliance' and 'regulatory barriers'. The codes were then aggregated into more general categories that defined major trends in the data. For instance, all the codes involving Shariah-compliance issues were grouped into a more general area of 'compliance difficulties,' all of the codes concerning operational practices were collected into the general field 'operational risk management measures.' The themes were discussed with particular focus on their ability to answer the research questions as well as their representation of the collected data. To ascertain that the discovered themes are transparent and represent the most vital observations, the researcher interpolated for consistency in the discovered themes within the dataset. From them, each theme was described and finalized, and, respectively, they were given names that would reflect their strongest semantic echoes. To the surprise of the author, the following thematic areas were established as pertinent to the study; Shariah-compliance challenges, operational obstacles, and regulatory limitations. The last steps were addressing the themes to the research questions and grounding them in the data collected through written transcriptions and documents.

## Results and Discussion

Islamic banking was also developed on the basis of the legal regulation of some types of transactions under Islamic law Islam forbidden interest, gharar and maysir activities. Despite bringing in a totally different concept to the conventional banking system this model brings in immense challenges to the table but the most pressing of them is the issue of risk management. One of the cornerstone principles in conventional finance is hedging, a financial risk management method, which has to be employed gingerly in a manner consistent with tenets of Shariah. The current research exclusively concerned with the Shariah compliant hedging strategies in Indonesia, where Islamic finance experienced the significant growth but it still a problem to implement it. It outlines the pain points that the Islamic banks face in achieving both shariah compliance and correspondingly sound risk management through interviews and literature review of Shariah compliant hedging techniques. These findings indicate the nature and variety of hedging adopted, the issues arising there from and the general prospects of risk mitigation in the context of Islamic finance.

### Risk Management Approaches in Islamic Banks

The Islamic banks operate in a different environment through they have to consider not only all traditional measures of risk but also conform to Islamic law. Prohibition of interest, uncertainty, and speculation defines the tools and techniques of risk management available to Islamic banks. Against this backdrop, it is evident that all the risk management techniques used by the Islamic banks in Indonesia gravitate towards the use of methods that can adequately address all the financial risks while at the same time preserving shariah compliance.

As it will be seen shortly, the heart of risk management in Islamic banks depends primarily on Shariah compliance. This implies that prevention and control measures must be Shariah compliant since Islamic finance does not allow for conventional hedge accounting policies that rely of the use of interest bearing items or futures contracts. Hence, Islamic banks in Indonesia used the Murabaha, Istisna and Ijara contracts that do not allow interest and uncertainty of demand. These contracts are applied in numerous forms of financing to hedge credit, liquidity and operation risks.

The interviewed participants provided an insight into Indonesia's Islamic banks' context, where Shariah conformity is the primary concern to the exclusion of risk management strategies typical of conventional banks. One participant highlighted,

> *"Our primary concern is ensuring that all financial activities adhere to Islamic law. This often means that we have to find creative solutions to manage risks without violating Shariah principles."*

This approach places constraints on the types of risk management tools available but also promotes innovative thinking within the industry.

Islamic banks face particular challenges when it comes to hedging financial risks, especially due to the prohibition of speculative transactions. Unlike conventional banks, Islamic banks cannot use interest rate swaps or forward contracts in the conventional sense. However, Shariah-compliant alternatives such as Wa'ad (unilateral promise), Arboun (down payment), and Tawarruq have been developed to serve similar purposes, while staying within the bounds of Shariah.

During the interviews, risk managers emphasized the significance of using Wa'ad-based agreements to hedge currency and market risks. These agreements involve a promise by one party to buy or sell a certain asset at a future date, without constituting a formal contract that could be deemed speculative. One risk manager explained,

> *"We often use Wa'ad structures to hedge against currency fluctuations. It's not as straightforward as conventional forward contracts, but it serves the same purpose while maintaining compliance with Islamic law."*

This method allows Islamic banks to hedge risks related to foreign exchange rates and asset price volatility, which are crucial for maintaining stability in a fluctuating market environment.

Islamic banks in Indonesia employ rigorous risk identification and assessment processes to ensure that potential risks are recognized and addressed early. Given the regulatory and operational constraints imposed by Shariah law, these banks must be proactive in identifying risks across various sectors, including credit, market, liquidity, and operational risks.

Participants in the study outlined that their risk assessment frameworks integrate both traditional financial analysis and Shariah advisory board consultations. This dual-layered approach ensures that financial risks are properly assessed while also verifying that any mitigation strategies are Shariah-compliant. As one compliance officer noted,

> *"Our risk assessment isn't just about financial metrics. We always consult our Shariah board to make sure that any risk mitigation we apply does not violate Islamic principles."*

This collaborative process helps Islamic banks to navigate the complexities of financial risk while maintaining their commitment to ethical and religious standards.

Operational risk, including the risk of non-compliance with Shariah law, is a significant concern for Islamic banks. Ensuring that all products, services, and internal processes comply with Islamic law requires strong internal governance structures. Islamic banks in Indonesia, therefore, implement Shariah governance frameworks, where dedicated Shariah boards play an integral role in reviewing and approving all financial transactions.

The study found that operational risks are also closely tied to the banks' ability to innovate within the constraints of Islamic finance. One participant shared,

> *"Our biggest operational risk is maintaining compliance while trying to innovate. Each new product or service we introduce has to be thoroughly vetted by the Shariah board, and this slows down our ability to respond to market demands."*

This indicates that while Islamic banks are keen to develop new Shariah-compliant financial products, the extensive review process introduces delays and creates operational bottlenecks.

The regulatory environment for Islamic banks in Indonesia is both supportive and challenging. On one hand, the government has implemented various policies to promote Islamic finance, including favorable tax treatments and the establishment of regulatory frameworks. However, participants noted that inconsistent application of regulations across different regions and sectors sometimes complicates risk management practices. Islamic banks often need to navigate complex regulatory landscapes that are not always aligned with Shariah principles.

One risk manager commented,

> *"We face regulatory challenges because the frameworks in place are not always compatible with Shariah. While the government is supportive of Islamic banking, there are still gaps that we have to manage carefully."*

These regulatory hurdles require Islamic banks to be flexible and adaptive, often leading them to develop their own internal guidelines to supplement the national regulatory framework.

**Commonly Used Shariah-Compliant Hedging Techniques**

This paper is aimed at establishing the importance of hedging to minimize different types of risks in order to adhere to the Islamic finance principles though the practicing needs to be done in line with Shariah laws. Different from traditional hedging instruments like futures and interest based derivatives, Islamic hedging tools must conform to tool of or techniques of Shariah law that does not allow riba, gharar or maysir. These methods coperation reduces risk while following the legal ethics of Islamic law. Shariah-compliant hedging tools used in Islamic banking are as follows: Some of the hedging techniques used in Islamic banking are mentioned as under.

One of the simplest and most commonly employed Islamic hedging strategies is known as Wa'ad, which involves by one party giving an undertaking to perform an act, including the purchase or sale of an asset at a future date. Therefore, this technique is very valuable for managing the risks related to currency and markets of an organization and without engaging in speculative or interest bearing contracts. Indeed, it must be said that, structurally, a promise of one party to buy or sell an asset at a certain date in the future is not recognized as an enforceable agreement between two independent parties and hence does not conflict with Shariah law, which prohibits what is called a forward contract.

From participants perspective, they observed that Wa'ad agreements are commonly used in managing foreign exchange risks. One interviewee shared,

> *"Wa'ad is a very flexible tool for us to hedge against currency fluctuations. We use it to manage exchange rate risks in a way that avoids interest and speculation, keeping everything aligned with Shariah principles."*

This method allows Islamic banks to manage their exposure to volatile currency markets while remaining compliant with Islamic law, which is critical in countries like Indonesia, where foreign currency transactions are common.

Arboun is another commonly used technique in Islamic finance that helps manage risks associated with price fluctuations. It functions similarly to an option in conventional finance, where the buyer pays a down payment or earnest money to reserve the right to purchase an asset at a future date. However, unlike options in conventional finance, Arboun does not involve speculative trading, as it is tied to a real transaction for a tangible asset. This makes it a permissible hedging tool under Shariah law, as it ensures that the contract is based on genuine trade rather than mere speculation.

Participants in the study pointed out that Arboun is particularly useful in managing risks related to commodity prices and real estate transactions. One respondent explained,

> *"Arboun provides us with a way to lock in prices without engaging in speculative trading. It's a method that respects Islamic principles while giving us some protection against price volatility."*

The use of Arboun helps Islamic banks mitigate the risks of fluctuating asset prices, especially in sectors where prices are highly volatile, such as real estate and commodities.

Tawarruq, also known as Commodity Murabaha, is a technique that allows Islamic banks to access liquidity while remaining compliant with Shariah law. In this arrangement, the bank purchases a commodity and then sells it to a customer at a profit, with the payment deferred. The customer, in turn, sells the commodity to a third party for cash. This process provides the customer with immediate liquidity while adhering to the principles of Islamic finance, as it involves real asset transactions rather than speculative trading or interest-bearing loans.

Interviewees highlighted Tawarruq as a key tool for managing liquidity risks in Islamic banks. One interviewee mentioned,

> *"Tawarruq is one of the most effective methods we use to access liquidity. It's a Shariah-compliant alternative to conventional lending, and it helps us manage cash flow without violating Islamic laws."*

This method allows Islamic banks to manage their liquidity needs in a compliant manner, ensuring that they can meet short-term financial obligations while avoiding interest-bearing loans.

While conventional banks use interest rate swaps to hedge against interest rate risk, Islamic banks employ Islamic Profit Rate Swaps (IPRS). This technique is designed to mitigate exposure to fluctuations in profit rates without violating the prohibition on interest. In an IPRS, two parties exchange profit rate obligations, with one party receiving a fixed profit rate and the other receiving a floating rate based on a reference index. The key distinction between IPRS and conventional interest rate swaps is that the transaction is structured around Shariah-compliant profit-sharing rather than interest payments.

Participants in the study indicated that IPRS is becoming more popular in Islamic finance as a way to manage profit rate risks. One participant shared,

> *"Islamic Profit Rate Swaps allow us to manage exposure to profit rate fluctuations in a way that complies with Shariah. It's a useful tool for managing long-term financing risks without engaging in interest-based transactions."*

This technique helps Islamic banks balance the need for risk management with their commitment to maintaining Shariah compliance.

Kafalah, or the concept of a guarantee, is another commonly used technique in Islamic finance for managing credit risks. In a Kafalah agreement, a third party guarantees the payment of a debt in case the borrower defaults. This arrangement is particularly useful in trade finance and project finance, where the risk of default can be significant. Kafalah ensures that Islamic banks can offer credit support to customers without violating the prohibition on interest, as the guarantee is based on mutual support and risk-sharing rather than speculative profit-making.

Several participants highlighted the importance of Kafalah in reducing credit risks in Islamic banking. One respondent stated,

> *"Kafalah is essential for us in managing credit risks, especially in large-scale financing projects. It allows us to provide guarantees to clients while staying within the boundaries of Shariah."*

This method helps Islamic banks mitigate the risks of default, ensuring that they can engage in credit transactions in a manner that aligns with Islamic values.

**Challenges in Implementing Shariah-Compliant Hedging**

There are lots of challenges that Islamic banks encounter when trying to put in place Shariah compliant hedge execution strategies. The above challenges stem from the fact that Sharia compliance has to be attained hand in hand with the management of risks in line with the changing market environment. The prohibition of interest (riba), excessive uncertainty (gharar) and speculative transactions (maysir) limit the use of traditional instruments in an Islamic contract, which make risk management issue in Islamic banks. These are so far made worse by the dynamic character of Indonesian regulations, its very limited product offer, and the lack of which do accommodating Shariah ruling.

The most grievous challenge that came out of the research study is the inadequate provision of hedging products that are Shariah compliant. Unlike traditional banks that have the needed derivatives at their disposal, Islamic ones have a limited number of medically approved choices. It can also restrict their capability to manage risks linked to the currency, interest and commodity rates and the like. The narrow product offering also entails a possibility of lower risk protection offered to clients as compared to the conventional banking institutions by Islamic banks.

From the interviews conducted, participants voiced their concern over dearth of products based on Shariah hedging that is diverse. One respondent stated,

> *"Our options for hedging are quite limited compared to conventional banks. We have to be very careful in choosing products that meet Shariah standards, and this sometimes leaves us exposed to risks that we would otherwise be able to mitigate."*

This sentiment highlights the challenge of balancing compliance with the need for effective risk management in an environment where Shariah-compliant products are not as readily available as conventional derivatives.

Another challenge in implementing Shariah-compliant hedging techniques is the lack of standardization in Shariah rulings across different jurisdictions and even within the same country. Islamic scholars may interpret certain financial instruments differently, leading to inconsistencies in the approval of hedging products. This lack of uniformity creates difficulties for Islamic banks, as they may need to seek multiple approvals from different Shariah boards, which can delay the implementation of risk management strategies and introduce uncertainty into the process.

Participants in the study highlighted the issue of varying Shariah interpretations as a major obstacle. One interviewee explained,

> *"We often face delays because we need to get approval from different Shariah boards, and they don't always agree on what's permissible. This makes it difficult to implement hedging strategies in a timely manner."*

The lack of standardization not only slows down decision-making but also increases the complexity of operating in the Islamic finance space, as banks must navigate differing opinions on what constitutes a compliant hedging technique.

The implementation of Shariah-compliant hedging techniques can also result in higher transaction costs compared to conventional methods. The structure of Shariah-compliant products often requires multiple layers of transactions to avoid interest or speculation, which increases both the complexity and the cost of executing these instruments. For example, a Tawarruq arrangement, which is used to access liquidity, involves multiple parties and transactions, making it more expensive and time-consuming than a straightforward loan in conventional finance.

During the interviews, several participants pointed out that the higher costs associated with Shariah-compliant hedging were a significant barrier. One participant mentioned,

> *"The process of executing Shariah-compliant hedging techniques is often more complicated and costly. We have to go through additional steps to ensure compliance, and this increases our overall costs."*

The additional complexity and higher transaction costs make it harder for Islamic banks to compete with conventional financial institutions, particularly in markets where cost efficiency is a key factor for clients.

While the Indonesian government has been supportive of Islamic finance, there are still regulatory constraints that pose challenges to the implementation of Shariah-compliant hedging techniques. The regulatory framework for Islamic finance in Indonesia is still evolving, and there are gaps in the legal infrastructure that govern the use of certain Shariah-compliant financial instruments. This creates uncertainty for Islamic banks, as they may not have clear guidelines on how to implement and structure their hedging strategies within the confines of the law.

One of the interviewees highlighted the impact of regulatory constraints on risk management, saying,

> *"The regulatory environment is still catching up with the needs of Islamic finance. There are some instruments we'd like to use, but we're not always sure if they'll be fully supported by the current laws."*

This regulatory uncertainty forces Islamic banks to take a cautious approach, often delaying the implementation of risk management strategies until they receive clarity from regulators.

Educating clients about the benefits and limitations of Shariah-compliant hedging techniques is another challenge faced by Islamic banks. Many clients, particularly in countries like Indonesia, may not be familiar with the intricacies of Islamic finance and how Shariah-compliant products differ from conventional financial instruments. As a result, Islamic banks often need to invest significant time and resources in educating their clients about the nature of Shariah-compliant hedging techniques, which can slow down the adoption of these products.

Participants in the study noted that client education is a crucial but challenging aspect of implementing Shariah-compliant hedging techniques. One interviewee remarked,

> *"A lot of our clients don't fully understand how Shariah-compliant hedging works, so we have to spend time explaining the process and why it's different from conventional products. This can be a barrier to implementing these techniques more widely."*

The need for client education adds another layer of complexity to the already challenging task of managing risks in compliance with Shariah law.

Finally, the limited availability of expertise and resources in Islamic finance poses a significant challenge for the implementation of Shariah-compliant hedging techniques. Many Islamic banks, particularly smaller institutions, may not have access to the same level of financial expertise and technological infrastructure as conventional banks. This limits their ability to develop and implement sophisticated risk management strategies, particularly in areas such as hedging and financial derivatives.

Several participants mentioned the shortage of expertise in Islamic finance as a key challenge. One interviewee commented,

> *"There's still a lack of experts in Islamic finance, especially when it comes to complex areas like hedging. We often have to rely on external consultants, which adds to our costs and slows down the process."*

This shortage of in-house expertise makes it difficult for Islamic banks to innovate and compete with conventional financial institutions, particularly in areas that require specialized knowledge and technical skills.

This study has contributed to the existing literature by examining the challenges and practices associated with implementing Shariah-compliant hedging techniques in Islamic banking, specifically within the context of Indonesia. While previous research has broadly explored risk management in Islamic finance, the specific focus on Shariah-compliant hedging mechanisms, their practical application, and the unique challenges faced by Islamic banks in Indonesia adds new dimensions to the discussion. The findings in this study address critical gaps in understanding how Islamic banks balance the demands of Shariah compliance with the practical need for effective risk mitigation.

The current study, therefore, is remarkable for mapping the few Shariah-compliant financial instruments available in the market with particular intensity. Existing literature, including Newman (2021) has noted generally inherent limitations that continue to prevail in the type and range of product offered in IF; nonetheless, these concerns have never been nuanced particularly on the effect on hedging. This study goes further than this by illustrating how its absence limits Islamic banks hedge capacities and risks them to market fluctuations. In this study, all the interviewees highlighted the importance of product development and diversification especially to offer solutions for Islamic banks' risk management needs which is in opinion with Al-kayed & Aliani (2020) for Islamic finance product enhancement.

In one more respect, this research contributes to the literature: the absence of standardization in Shariah rulings. This is especially when the diverse Shariah interpretations across different jurisdictions have been explained by Suadi & Affandi (2024) mainly in the extent to which differences affect the take off of Islamic financial products. This research provides a richer view by addressing the question of how these differences influence hedging strategies in particular. This work highlights that inconsistent views from Shariah boards slow down the approval process of hedging products leading to ambiguity and in efficiencies. T his observation is in synch with previously done studies but offers a more detailed analysis of its effect on the risk management activities.

In the case of higher transaction costs incurred for Shariah-compliant hedging, this research supports the conclusion of Hasan (2023) who stated that, due to the layered structure of many Islamic financial assets, the total cost of hedging could be higher than for conventional assets. However, Rahman et al. for instance discussed the cost-related problems in Islamic finance in general, albeit briefly; this paper goes further in filling the gap through assessing the cost implications that risky hedge mechanisms including Tawarruq and Murabaha entail. Analyzing the results of conducted interviews, the study also showed that these higher cost of hedging tools reduce its competitiveness of Islamic banks vis-A-vis conventional ones, which will prove to be a significant issue when it comes to further increase in usage of Shariah compliant hedging.

The work also provides insight into the manner in which regulation hinders the Indonesian Islamic bank. Whereas other works by Monawer et al. (2022) stress the importance of right and appropriate regulations to support Islamic finance implementation, this work examines concrete deficiencies of the regulatory environment that negatively affect the application of particular hedging strategies. There is an emerging trend of indicating that due to the dynamic changes in the regulatory requirements, there are various challenges making hedging products to mature slowly. This has an important precedence for enhancing understanding of regulations to encourage the usage of Shariah compliant risk management strategies since Chong (2021) established that regulations within the context of the Islamic finance sector could still use improvement.

In addition, client education also emerged as another challenge after the implementation of the practice-based learning model in this study, which has not been discussed in many previous studies. Other scholars including have observed the need for clients' awareness regarding the operations of the Islamic finance system but this paper shows how the consequential hedging products under Shariah law deepen the abyss of such awareness. Some of the interviewees described some of these products as complex to explain to clients that are accustomed to the traditional practices of a bank. This is why there is a need to create educational programs that will help close the existing gap and enhance the client's knowledge about Islamic Shariah compliant risk management.

Last but not the least, the study also tries to mitigate the problem of lack of adequate qualified experienced personnel and access to capital in Islamic banks, which has been pointed out in earlier literature. But, it builds upon this is research by narrowing down to how this shortage of expertise applies to the establishment and execution of hedging techniques. The use of external consultants, as pointed by the interview participants is costly, time consuming and where capacity building of the profession must be developed in the Islamic financial institutions is overlooked. This view is particularly relevant for future policy debates as improved in-house skills appear to have the potential to make a large difference to the efficiency of the Islamic banks in addressing risk.

Compared to prior research, this investigation offers a more detailed approach to understanding the problems of Islamic finance by investigating the primary difficulties concerning the application of hedging schemes according to Shariah law. More specifically, since the context of this study is Indonesia, the findings of this study can provide guidance for Islamic banks in established jurisdictions where the conditions are similar. Furthermore, interviews conducted with industry specialists complement the theoretical analysis provided in the previous literature since they provide an insight into practical implications of the phenomenon in question concerning the issues of achieving an appropriate compromise between compliance with Shariah requirements and adequate risk management for the Islamic banks.

## Conclusion

Execution of Shariah hedging implements is also an issue with Islamic banks in Indonesia that excludes a range of hedging products, weak Shariah rulings standardization of Islamic banking, expensive costs in Shariah hedging transactions, predetermined restrictive legalizations, minimum customer awareness and less experience. These challenges make it difficult for the banks to mitigate on risks easily and at the same time observe the Islamic banking principles. Nevertheless, these difficulties do not prevent Islamic banks from continuing to seek new solutions as well as to develop the necessary risk management services that will be consistent with the precepts of Shariah in further testimony to the continuous growth and elaboration of Islamic finance in the country.

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