

Liquidity Risk Management: Ensuring Sustainability And Managing Islamic Banks In The Era Of Banking Industry Development

Manajemen Risiko Likuiditas: Jaminan Keberlanjutan Dan Pengelolaan Bank Syariah Di Era Perkembangan Industri Perbankan

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ABSTRACT

Liquidity Risk Management is the development of strategies and policies to manage liquidity risks that include the creation of cash reserves, diversification of funding sources, and the use of financial instruments to overcome liquidity shortages. The process of managing risks arising from the inability of an entity (company or bank) to meet its financial obligations on time due to lack of liquidity or available cash funds. Liquidity risk is the risk that a company or individual will be unable to meet short-term financial obligations because it cannot convert its assets into cash. Liquidity risk arises from the inability to meet maturing obligations from cash flow funding sources and/or from high-quality liquid assets that can be pledged, without disrupting the entity's activities and financial condition. Liquidity risk is one of the main challenges faced by companies in the world of finance and business. Liquidity risk can arise in various forms and situations. One of them is the inability of a company to access sufficient cash when needed, which can occur due to factors such as a sudden decline in sales, dependence on short-term funding, or unexpected economic changes. Liquidity instruments can be obtained from collecting third party funds (DPK), lending in the sharia money market, purchasing SBI Syariah, looking for investors from within the country or foreign investors, or from other sources of funds. The results of the study show that the implementation of liquidity risk management in Islamic Banks and UUS is carried out in the form of : 1. The Board of Directors, Commissioners, and DPS (Sharia Supervisory Board) are active in formulating and implementing risk management, 2. Preparing policies, procedures, and setting risk management limits, 3. Carrying out the process of identifying, measuring, monitoring and controlling risks as well as risk management information systems, 4. Forming a comprehensive internal control system.

Keywords : *Liquidity, Risk Management, Islamic Banking Industry*

ABSTRAK

Pengelolaan Risiko Likuiditas adalah pengembangan strategi dan kebijakan untuk mengelola risiko likuiditas, yang meliputi pembentukan cadangan kas, diversifikasi sumber pendanaan, dan penggunaan instrumen keuangan untuk mengatasi kekurangan likuiditas. Proses pengelolaan risiko yang timbul akibat ketidakmampuan suatu entitas (perusahaan atau bank) untuk memenuhi kewajiban keuangan tepat waktu akibat kekurangan likuiditas atau dana kas yang tersedia. Risiko likuiditas adalah risiko bahwa suatu perusahaan atau individu tidak dapat memenuhi kewajiban keuangan jangka pendek karena tidak dapat mengubah asetnya menjadi kas. Risiko likuiditas timbul dari ketidakmampuan memenuhi kewajiban yang jatuh tempo dari sumber pendanaan arus kas dan/atau dari aset likuid berkualitas tinggi yang dapat dijamin, tanpa mengganggu aktivitas dan kondisi keuangan entitas. Risiko likuiditas merupakan salah satu tantangan utama yang dihadapi perusahaan di dunia keuangan dan bisnis. Risiko likuiditas dapat muncul dalam berbagai bentuk dan situasi. Salah satunya adalah ketidakmampuan perusahaan untuk mengakses dana tunai yang cukup saat dibutuhkan, yang dapat terjadi akibat faktor-faktor seperti penurunan penjualan yang tiba-tiba, ketergantungan pada pendanaan jangka pendek, atau perubahan ekonomi yang tidak terduga. Instrumen likuiditas dapat diperoleh dari pengumpulan dana pihak ketiga (DPK), pinjaman di pasar uang syariah, pembelian SBI

Syariah, mencari investor dari dalam negeri atau investor asing, atau dari sumber dana lainnya. Hasil penelitian menunjukkan bahwa implementasi manajemen risiko likuiditas di Bank Syariah dan UUS dilakukan dalam bentuk: 1. Dewan Direksi, Komisaris, dan DPS (Dewan Pengawas Syariah) aktif dalam merumuskan dan melaksanakan manajemen risiko, 2. Menyusun kebijakan, prosedur, dan menetapkan batas manajemen risiko, 3. Melaksanakan proses identifikasi, pengukuran, pemantauan, dan pengendalian risiko serta sistem informasi manajemen risiko, 4. Membentuk sistem pengendalian internal yang komprehensif.

Kata kunci: Likuiditas, Manajemen Risiko, Industri Perbankan Syariah.

1. Introduction

Micro, Small, and Medium Enterprises (MSMEs) have long been recognized as one of the Sharia banking, or Islamic banking, is a banking system developed based on sharia principles. A bank is considered sharia banking because it adheres to sharia principles, which govern contracts based on Islamic law. In Islamic law, the only sources of law are the Quran and Sunnah. However, various regulations related to sharia financial institutions, such as banks, are legal products. The legal products currently in force in sharia banking institutions originally originated from sharia sources. The sources of sharia law encompass everything (QS. An-Nahl [16]:89) (QS. Al-An'am [6]:38).



Source: Financial Services Orientation (OJK)

The graph above shows that total Islamic banking assets have consistently increased from 2017 to 2022. In 2017, total assets were recorded at around IDR 430 trillion, then rose to IDR 490 trillion in 2018, IDR 540 trillion in 2019, and jumped significantly to IDR 610 trillion in 2020. Although data for 2021 is not available, in 2022, total assets reached nearly IDR 690 trillion. Meanwhile, the market share of Islamic banking also showed an increasing trend, from around 5.8% in 2017 to more than 6.6% in 2022.

The development of Islamic banking demonstrates a positive public response to it. Public enthusiasm for the growing presence of Islamic banking is inextricably linked to the inherent sharia principles inherent in Islamic banking. The application of sharia in Islamic banking has been shown to influence customer satisfaction. The goals of Islamic banking include, among other things, implementing the value system of the Quran and Sunnah within the socio-economic systems of Muslims, encouraging economic growth in Muslim countries by developing markets, institutions, and financial instruments, and mitigating the impact of extreme economic shocks using risk-sharing instruments. The emerging evidence suggests that Islamic banking is growing and developing more in regions with a high level of public awareness of Islamic law, although some transaction motivations are similar to those of conventional banks in general. Sharia principles are essential for distinguishing Islamic banking

from conventional banks. Currently, many parties still question or doubt the application of Sharia principles in Islamic banks. This has led to a negative stigma and the perception that Islamic banks are the same as conventional banks, with no differences.

Islamic banking is a form of financial institution that can influence national economic growth. Looking at Islamic banking growth statistics over the past five years, the market share in 2017 was 5.78% with total assets of IDR 435.02 trillion. This figure increased by February 2022, when the market share had reached 6.65% with total assets of IDR 681.95 trillion. This number will continue to rise as several Regional Development Banks (BPD) convert to Islamic banks. The increasing growth of Islamic banks will undoubtedly increasingly influence the existence of Islamic banks as intermediary institutions in community economic development. This is because, in accordance with their function, Islamic banks play a role as institutions that collect and distribute funds, as well as provide services that can facilitate financial transactions conducted by their customers. As institutions that collect funds from the public, Islamic banks are required to consistently maintain good and healthy performance. Good and healthy bank performance must always be a serious concern for bank management to maintain public trust.

Public trust in banks is key to their business operations. Banks that maintain public trust will consistently receive substantial deposits. However, if banks engage in actions that undermine trust, depositors will withdraw from the bank. Massive and uncontrolled withdrawals of funds by customers will disrupt the bank's liquidity. As the world's largest Muslim-majority country, Indonesia operates its economy using the principles of a people's economy. A people's economy reflects the government's commitment to the people's economic policies, but it is also the right choice for achieving public welfare. The development of a people's economy is closely linked to the development of the Muslim economy.

In general, a bank's primary function is to collect funds from the public in the form of deposits. These collected funds are then distributed back to the public in the form of loans (credit) and other banking services. To collect funds from the public, banks must assure customers that the money they deposit is secure. Therefore, to provide security to customers, banks must be liquid.

Liquidity studies in the banking sector are essential, whether undertaken by banks, financial practitioners, or third parties planning to deposit their funds with a bank. Assessing a bank's liquidity is crucial because it allows for determining whether the bank is healthy, moderately healthy, unhealthy, or unhealthy. One of the causes of bank bankruptcy is the inability to meet its liquidity needs. Therefore, sufficient liquidity must be available to avoid disrupting operational needs.

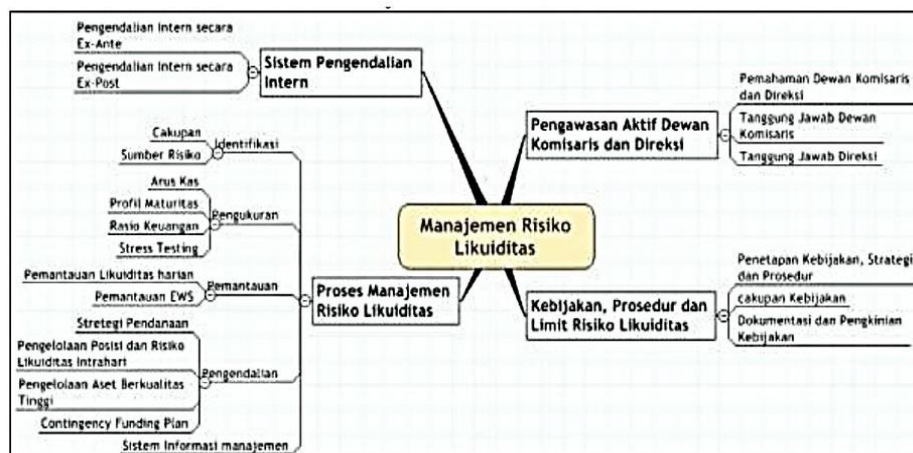


Figure 1. Liquidity Risk Management

Source: Bank Indonesia (2009)

In the image above, liquidity risk management in conventional banks is carried out through the active role of the board of directors, particularly in the formulation of risk policies, supervision of commissioners, and evaluation of their implementation. Unlike conventional banks, Islamic banks and Sharia-compliant.

2. Literature Review

MSMEs have long been acknowledged as a critical pillar of Indonesia's economy, Liquidity is generally defined as having sufficient funding sources to meet all maturing obligations. In other words, it refers to a company's ability to meet its obligations when they are due, whether foreseeable or unexpected (Djinarto, 2000). Liquidity is a bank's ability to manage assets and cash them in quickly, while protecting them from losses ranging from minimal to maximum. The most liquid asset group is cash. Cash in banks can consist of savings such as checking accounts, time deposits, and investments in short-term government securities. The implementation of liquidity in banking is far more complex than in other business entities. From a financial reporting perspective, for example, from the asset side, liquidity must be able to convert assets into cash. Meanwhile, from the liability side, liquidity is seen as a bank's effort to meet funding needs in its liability portfolio (Ismail, 2010).

Risk, according to Salim as quoted by Djojosoedarso, is uncertainty about the possibility of an event occurring. Cooper and Chapman added that risk refers to a situation where uncertainty in carrying out an activity can result in various outcomes, whether economic gain or loss, physical damage or injury, or delays in the process. So it can be concluded that liquidity risk management is a process of managing a possible problem that can occur at any time regarding the availability of liquidity in order to be able to take appropriate actions to minimize the problem. Bank liquidity risk arises when there is an imbalance between the demand and supply of funds. The supply of funds comes from customer deposits, credit facility payments, loans from financial markets, interest or non-interest income, and asset sales. Meanwhile, the demand for funds can be in the form of customer withdrawals, credit requests, interest, and non-interest costs (Susantun et al, 2019).

Liquidity risk management strategies in banks include asset liquidity management, liability liquidity management, and balanced liquidity management. However, Islamic banks face limitations in implementing these strategies because they cannot use non-Sharia-compliant short-term investment instruments, such as interest-bearing securities, and they cannot borrow funds from other banks because interest on loans is prohibited. Therefore, Islamic banks focus more on internal liquidity sources, such as higher cash holdings, to mitigate liquidity risk. Furthermore, liquidity risk in banks is also present, driven by the high level of financing defaults or non-performing loans. Non-performing loans are caused by borrowers (debtors) being unable to meet their installments according to the agreed contract. The obligation to pay installments to the bank should be a customer's concern, but for various reasons, customers ultimately fail to fulfill their obligations. If customer defaults on these payments are large, it will minimize bank profits. Banks unable to handle these non-performing loans will even be subject to stop-landing sanctions. If a bank reaches this stage, it will be closed to lending until it can reduce its non-performing loan rate. High non-performing loans will eat into the bank's profits from the previous year or the current year. Considering this, bank liquidity risk caused by non-performing loans must be anticipated as early as possible, starting from the search stage, creating a database of potential customers, financing analysis, monitoring, and repayment.

Thus, the liquidity risk that arises in the above case arises from the debtor's inability to fulfill the agreement with the bank, so the bank decides to stop the credit but the customer does not have the ability to fulfill it. Second, it arises in terms of the bank's relationship with depositors, for example when depositors withdraw their savings, but the bank is not yet able

to fulfill it (Greenbourn et al, 1995). Another opinion is also put forward by Goodhart as quoted by Arif and Aness (2012), liquidity risk arises from the bank's inability to pay all its obligations until they reach maturity, and the bank is also unable to liquidate assets properly at fair market value. Another factor that causes liquidity risk is the economic conditions in recession, resulting in large withdrawals of funds by customers. In addition, liquidity risk also arises from an imbalance between assets and liabilities, where assets are circulated for a long period of time (illiquid), while liabilities must be paid in the short term (liquid).

3. Research Methods

The research method used is a descriptive qualitative approach with a case study research type. The unit of analysis in this study is Liquidity Risk Management: Sustainability Guarantee and Management of Islamic Banks in the Era of Banking Industry Development. The analytical techniques used in this study are data reduction, data presentation, as well as conclusions and verification. The results of the study will be described in the form of descriptions, charts, and flowcharts. The research questions are answered by analyzing data obtained from literature that is carefully selected based on relevance, credibility, and actuality. Literature search techniques are carried out through scientific journal databases, library catalogs, and other online sources. The data obtained are then analyzed using content analysis and thematic analysis methods. Content analysis identifies relevant concepts, theories, and research findings, while thematic analysis identifies the main themes that emerge from the selected literature. After that, data processing is carried out to obtain research results to be written as research findings and interpreted until the final conclusion of the study is obtained.

4. Results and Discussions

The business activities of Islamic banks in disbursing financing are highly dependent on the availability of liquid funds. Liquid funds are obtained through the Islamic bank's intermediary function. According to the foundation of intermediation theory, there are two reasons why banks are necessary as intermediary institutions: the provision of liquidity and financial services. As providers of finance or liquid funds, Islamic banks collect (fund) funds from saving customers and then channel them to the real sector. In other situations, they must also guarantee the availability of liquidity when customers withdraw money. the savings (Diamond et al, 2001).

On the other hand, banks must be able to transition from short-term deposits to long-term financing, making them highly vulnerable to liquidity risk. Liquidity risk is a threat to banks that occurs when they are unable to meet maturing financial obligations due to a lack of cash or liquid assets that can be quickly sold. This can disrupt bank operations and negatively impact their financial condition. Liquidity is a crucial element for banks in maintaining their liquidity. Liquidity plays a crucial role in monitoring the condition of a bank, whether it is healthy, fairly healthy, less healthy, or even unhealthy.

Good liquidity management is key to building public trust in banks. Maintaining public trust is key to running a banking business. A bank's ability to maintain public trust will ensure a consistent flow of funds. This creates a significant opportunity for sufficient funding. Therefore, building trust with customers contributes to the bank's appeal, as the funds managed by the bank are secure. Liquidity risk management in Islamic banks differs from conventional banks. Islamic banks implement Islamic principles by prohibiting business transactions involving usury (riba), uncertainty (gharar), and maysir (fraud). Managing liquid and illiquid assets presents its own challenges for banks. In practice, banks face an imbalance (gap) between assets and liabilities, requiring equal movement to achieve a natural balance between liquid funds received through liabilities and investments in illiquid assets (Zhu, 2001).

If an imbalance occurs or the bank fails to bridge the gap, the potential for liquidity risk is significant. Bank failure can also lead to various unintended consequences, including the risk of bankruptcy, the risk of a government bailout, and reputational risk. Ineffective liquidity management, which leads to bank failure, is more likely due to the bank's inability to withstand liquidity pressures, the bank's inadequate liquidity funding instruments, and the bank's inability to find alternative sources of liquid funds, both internally and externally. Bank liquidity is divided into two categories: asset liquidity and liquidity instability. Asset liquidity refers to a bank's inability to sell assets at a specific market price. Liability liquidity instability stems from the inability to assess the adequacy of funds, particularly in meeting payment obligations on time (instability of basic deposits over a long period).

Bank managers, specifically the Assets Liability Committee (ALCO) team, as the primary authority responsible for asset and liability management, must strive to maximize the profitability of their managed assets. The ALCO must develop strategies to ensure each managed asset generates profits with minimal risk. The profitability of assets comes with the potential for risk. For example, the ALCO team faces the challenge of having sufficient liquidity to cover any mismatch in asset and liability maturity. Liquidity risk, which arises from changes in assets and liabilities, or unpredictable fluctuations in asset income and expenses, can trigger liquidity issues. Sharia banks, as banks operating in the real sector with a strong liquidity profile, must be able to withstand changes in asset and liability prices. Sharia banks with profit-loss sharing (PLS) contracts should have advantages in liquidity management, preventing them from being eroded by economic changes, let alone creating problems due to excess liquidity. Sharia banks must be careful in managing the asset maturity structure to remain solvent, banks need to maintain short-term assets.

Banks have liquidity management strategies that involve using liquid assets, borrowing funds, or a combination of both. Islamic banks focus on asset management strategies that focus on internal liquidity sources. Asset liquidity management involves using liquid assets to cover shortfalls. Internal factors causing liquidity risk include:

1. High sheet exposure, banks have large assets and liabilities, increase liquidity risk.
2. Dependence on short-term financing makes them vulnerable to market changes.
3. Due date gap, increasing the risk of inability to fulfill obligations on time.
4. Rapid asset expansion, creating liquidity imbalance.
5. Concentration of short-term deposits, most of the funds come from deposits futures, which can be withdrawn suddenly
6. Low allocation of government instruments, banks do not invest enough in liquid government instruments, which can be used to cover shortfalls liquidity
7. Low long-term fund placement, banks do not invest enough in long-term deposits, which provide liquidity stability.

In managing liquidity risk, there are indicators for assessing liquidity risk, as follows:

1. Cash Flow Planning: Banks must be able to predict funding needs and manage cash volatility to ensure stable liquidity.
2. Funding Structure: Diversification of funding sources, including non-PLS, helps avoid concentration of risk and maintain liquidity
3. Liquid Assets: Banks must have assets that can be easily converted into cash to meet sudden liquidity needs.
4. Access to Markets: Banks need to have access to interbank markets and sources of funding. alternative funding, including lender of last resort, to maintain liquidity in emergency situations.

The intermediary functions of Islamic banks in managing liquidity risk which aim to encourage bank liquidity include:

1. Accommodate capital market and money market investments that are in accordance with the provisions of the Fatwa of the National Sharia Council of the Indonesian Ulema Council which are in accordance with sharia principles.
2. Sharia banks have a competitive advantage in the form of profit and loss contracts. sharing, which conventional banks do not have. This agreement is a strength main Islamic bank, with more than 80% of its asset portfolio coming from products sharia.
3. A higher equity ratio in Islamic banks is a form of response to sources of financing thereby resulting in additional capital reserves which is used to anticipate the occurrence of default.
4. In murabahah contracts in Islamic banks, generally the time used is short term, This is to meet short term time, it is hoped that Islamic banks are able to find their own sources of reserves and do not depend on depositors only.
5. Sharia banks are able to maximize the use of assets, so that the aim is not to the existence of idle (piled) funds which can increase expenses for the bank sharia.
6. Sharia banks must guarantee that the funds collected are distributed based on analysis carried out by the ALCO team which is channeled through investment and financing.

In managing liquidity risk, Islamic banking focuses on implementing liquidity management. To implement liquidity management, Islamic banks employ approaches using liquid funding instruments, including:

1. Primary Reserve Fund: Consists of minimum reserve requirements (GWM), cash and foreign currency, current accounts at other banks, and other cash in collection form.
2. Secondary Reserve Fund: Consists of Bank Obligations Indonesia (SWBI) and State Sharia Securities (SBSN).
3. Access to Money Market: Includes interbank money market (PUAB), Capital Market Sharia, and short-term financing facilities for Islamic banks (FPJPS).

Sharia banks are expected to be able to compete in secondary markets such as the capital and money markets, which will encourage them to manage their finances. The money market has a significant impact on Sharia banks because it provides them with liquidity. Sharia banks must be able to manage the supply and demand for liquidity. This management must be carried out appropriately and profitably to ensure business operations are carried out smoothly and safely, and to maintain a good relationship with the government as regulator. Liquidity risks arising from improper fund management must be analyzed and monitored to prevent significant losses from affecting banks. Robust liquidity management is a challenge in itself in navigating an open economic system with various external and internal influences. Bank failures in managing liquidity in the global financial environment occur because liquidity management systems are not functioning optimally, especially in resolving detrimental problems (Ismail, 2010).

Factors Affecting the Sustainability of Islamic Banks with regard to Liquidity. Liquidity can arise due to the sudden monetary crisis phenomenon. In early July 1997, it became a benchmark for all banking sectors in maintaining financial stability. This poses a threat to the banking sector because it significantly affects bank resilience and can lead to bank collapse. This phenomenon explains the importance of banks in implementing appropriate liquidity risk management strategies. Monetary crises have a strong relationship with liquidity. If a bank is unable to meet its liquidity obligations, it will have an impact on decreasing trust, thus affecting and threatening the continuity of bank operations.

1. Liquidity Management in Islamic Banks

The main cause of liquidity risk arises from the imbalance between assets and liabilities and the maturity mismatch that occurs due to this imbalance. In the liquidity gap and liquidity need diagram, it can be seen that; (a) existing assets have a larger portion than volatile liabilities or liquidity gap, (b) the amount of liquidity needs funds required must be

higher on the asset side than the estimated funds on liabilities. Liquidity risk management is a challenge for Islamic banks, considering the prohibition of usury-based instruments. Islamic banks are not given the opportunity to manage their finances in sectors prohibited by sharia, for example investments containing usury, ghoror, fraud, elements of gambling and others. Fund management can only be carried out by Islamic banks in halal sectors, so as not to damage the reputation of Islamic banks as an intermediary institution.

In the future, Islamic banks are expected to innovate in various products, institutions, and regulations to open up opportunities for investment. While Islamic banks face limitations in financial management, they also possess advantages that conventional banks lack, namely profit and loss sharing contracts. Despite its challenges, this contract represents a strength that Islamic banks can maximize. This is because the profit-sharing rate for Islamic banks exceeds 80% of the total asset portfolio of Islamic bank products. This is the highest value compared to the portfolio of products available in Islamic banks. Furthermore, this profit-sharing contract also demonstrates a very low level of liquidity risk, compared to the accumulation of other contracts. Furthermore, in Islamic banks, the opportunity for opportunistic behavior, such as moral hazard and hidden actions by market players, is very minimal. This low level of opportunistic behavior results in low liabilities for Islamic banks and maximum profit. This is what differentiates it from conventional banks which have liquidity constraints and high capital costs caused by market segmentation (Alman, 2010).

Islamic banks typically have a higher average equity ratio. Therefore, a high average equity ratio is a response to limited financing sources, which then creates additional capital reserves as a precaution against default. In managing collected funds, Islamic banks must also maximize the utilization of assets, preventing idle funds (accumulation) that could increase expenses. Islamic banks must ensure the distribution of collected funds based on analysis conducted by the ALCO team. Fund distribution can be through investment and financing. Every investment and financing undertaken by Islamic banks must ensure its maturity. The maturity of Islamic bank investments must be studied through the stages of identification, preparation of a maturity ledger, implementation, and so on. Islamic banks also classify behavior and record keeping, taking into account reporting in accordance with proper Islamic banking accounting standards. This category includes murabahah receivables, ijarah receivables, and musyarakah receivables.

2. Sharia Bank Liquidity Risk Management Instruments

The bankruptcy that haunts Islamic banks is not actually caused by losses of Islamic banks themselves, but rather caused by the inability of Islamic banks to meet their liquidity needs. Liquidity can be defined as the fulfillment of Islamic banks to meet immediate funding needs (cash flow). The available bank liquidity must be sufficient, not allowed to be too little or too much, because it will impact efficiency and decrease profitability (Muhammad, 2019). The liquidity risk of Islamic banks is highly dependent on the implementation of liquidity management. The approach in implementing Islamic bank liquidity management is to use liquid funding instruments, including: a) Reserve funds (primary reserves) available through the minimum reserve requirement (GWM), cash and foreign currency, current accounts with other banks, other cash in the form of collections, b) Secondary reserves available in SWBI, and SBSN, c) access to the money market in the form of PUAS, Islamic capital markets, short-term financing facilities for Islamic banks (FPJPS).

Sharia banks that are unable to provide sufficient funds to meet their needs face liquidity risk. The ability of Sharia banks to access secondary markets, such as the capital market and money market, will also support their financial management. The Sharia money market provides a platform for Sharia banks to manage their short-term liquidity needs. Within the money market, Sharia banks seek to obtain liquidity. Sharia banks view the money market

as a source of short-term funds based on market movements that can help meet the bank's liquidity needs (Dusuki, 2001).

3. Implementation of Liquidity Risk Management in Islamic Banks

Referring to Article 3 of Bank Indonesia Regulation (PBI) No. 13/23/PBI/2011 and POJK No.65/POJK.03/2016 concerning the Implementation of Risk Management for Sharia Commercial Banks and Sharia Business Units, the implementation of risk management including liquidity risk in sharia banks and sharia business units includes at least: a) active supervision from the board of commissioners, directors and sharia supervisory board, b) adequacy of risk management policies, procedures and limit determination, c) adequacy of risk identification, measurement, monitoring and control processes as well as risk management information systems, d) a comprehensive internal control system (Bank Indonesia, 2019).

Facing Challenges in Implementing Liquidity Risk Management in Islamic Banks, Islamic banks are banks whose operational systems are based on Islamic principles. Islamic principles are closely related to effective strategic management, as they have limitations such as prohibiting interest or usury, gharar, and maysir. Therefore, Islamic banks focus more on asset liquidity strategies to maintain liquidity stability that is based on internal factors. The objectives of the internal control system are as follows:

1. Protecting company assets from theft or misappropriation.
2. Ensuring the accuracy and reliability of accounting records and information.
3. Encouraging operational efficiency by preventing waste and Minimize unnecessary business activities.
4. Ensure compliance with policies and procedures established by the management, so that the company can achieve its stated goals.

The characteristics of a good internal control system are:

1. A good internal control system should be independent in its processing procedures, meaning that each stage of data or transaction processing is carried out by different individuals. This separation of duties helps minimize the risk of errors or misappropriation committed by a single person.
2. It should also be designed in such a way that it cannot be easily bypassed without collusion between two or more people. This makes fraudulent acts or embezzlement much more difficult to carry out.
3. Furthermore, the personnel responsible for the internal control system (SPI) must possess adequate knowledge, experience, and seniority to perform their duties effectively.

Islamic banks, like conventional banks, face various challenges in maintaining their cybersecurity. These include:

1. Phishing and Social Engineering Attacks: Cybercriminals often use psychological manipulation techniques to trick customers or employees into handing over confidential information through fake emails or websites. These attacks can damage a bank's reputation and cause financial loss to customers.
2. Malware and Ransomware: Viruses and malicious programs such as malware and ransomware can infiltrate bank systems, steal sensitive data, lock systems, and demand a ransom to restore access. This can disrupt bank operations and threaten the security of customer data.
3. Sharia Compliance Challenges: Islamic banks must maintain cybersecurity while adhering to Sharia principles. Violations of Sharia principles can damage the bank's image and threaten customer trust.

4. Legal and Regulatory Uncertainty: Constantly changing cybersecurity regulations can make it difficult for Islamic banks to comply with applicable standards. Delays in complying with regulations can result in legal sanctions and a damaged reputation.
5. Lack of Security Awareness: Both employees and customers who don't understand cybersecurity risks can create opportunities for attacks. A lack of cybersecurity education can increase a bank's vulnerability.
6. Ineffective Identity and Access Management: If identity and access management systems are not properly maintained, unauthorized parties can access critical data and systems. This can lead to identity theft, fraud, and unauthorized access to customer funds. Islamic banks need to address these challenges seriously to maintain the security of customer data, their reputation, and their financial stability.

5. Conclusion

Liquidity risk management is the management of banks to avoid liquidity risk caused by the bank's inability to pay its short-term obligations. This inability is caused by the unavailability of funds within the bank. To avoid liquidity risk, banks must ensure sufficient funds are available, specifically to pay obligations, disburse maturing customer funds, finance operational activities, and cover the possibility of a worsening economy. These adequacies are also necessary to maintain public trust in the bank.

Bank funding adequacy is highly dependent on liquidity management instruments. Liquidity instruments can be obtained from third-party funds (DPK), borrowing on the Islamic money market, purchasing Islamic SBI (Bank Indonesia Certificates), seeking domestic or foreign investors, or from other funding sources. This study aims to analyze the implementation model of liquidity risk management in Islamic banking based on library research and field analysis.

Islamic banking is also able to survive difficult situations, as evidenced by findings that Islamic banks tend to maintain financial stability compared to conventional banks during the monetary crisis. One key factor is the liquidity management system, which serves as a differentiating factor. Islamic banks implement sharia principles in their management systems, which violate the prohibition on usury (riba). Liquidity risk depends on the utilization of available funds; a high level of idle funds can potentially reduce profits. Even if available funds are sufficient, poor funding strategies can result in suboptimal results. Furthermore, by focusing on strategic, low-risk products, such as buying and selling, Islamic banks can maintain liquidity more effectively. This strategy generates relatively stable income and focuses on fixed returns. Islamic banks must also plan for global challenges to liquidity resilience. Therefore, it is crucial for Islamic banks to control internal factors and strengthen their digital systems.

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