

DECISION-MAKING THEORY IN FINANCIAL RISK MANAGEMENT: A CASE STUDY OF THE BANKING INDUSTRY

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Abstract

Decision making in financial risk management is an important element in maintaining financial stability and sustainability of the banking industry. This study aims to analyze relevant decision-making theories and their implementation in financial risk management in the banking sector. Case studies were conducted on several banks in Indonesia to explore the application of quantitative and qualitative methods in identifying, measuring, and managing financial risks. The approach includes analyzing credit risk, market risk, operational risk, and liquidity risk. The results show that data-driven decision-making by considering the theory of bounded rationality, prospect theory, and heuristic approach can improve the effectiveness of risk management. The study also underscores the importance of regulation, technology, and risk culture in supporting better decision-making. The findings provide strategic insights for practitioners and policy makers to optimize risk management in the banking industry.

Keywords: decision making, financial risk management, banking industry, prospect theory, risk regulation

INTRODUCTION

The banking industry has a very important role in a country's economy because banks manage large financial resources and provide various financial services to the public. Along with the development of the banking world, financial risk management has become increasingly important. Banks have to face various types of financial risks, such as changes in interest rates, credit risk, liquidity and market risk, all of which can affect the bank's performance. Therefore, good risk management is necessary to keep the bank running stably.

Decision-making theories in financial risk management help bank managers to make the right decisions in identifying, measuring, and managing these risks. By using these theories, banks can reduce losses and increase profits in a more structured way. This makes it important to understand how decision-making theories are applied in banking practice, especially in addressing various financial risks.

Moreover, decision-making in dealing with financial risks is influenced by many factors, both coming from within the bank itself, such as organisational culture, internal policies, and human resource capabilities, as well as external factors such as economic conditions, government regulations, and technological developments. All these factors must be considered in every decision made by bank managers so that the decisions made can avoid losses and ensure the bank continues to run well.

Furthermore, it is important to know how effective the decision-making strategies implemented to mitigate financial risks are. Through case studies in the banking industry, we can see how decision-making theories are applied in practice, as well as evaluate how well the strategies taken address financial risk. This study aims to analyse how decision-making theories are applied in financial risk management in the banking industry and look at the factors that influence the decisions, as well as how effective the strategies are in addressing financial risks. Factors that influence the decision, as well as how effective the strategy used to manage financial risk in the bank.

THEORETICAL

Decision-making theory plays a central role in financial risk management in the banking industry. The theoretical foundation for this study includes several important approaches:

1. Prospect Theory

According to Kahneman and Tversky (1979), this theory highlights that decision makers tend to be more sensitive to losses than gains in the face of uncertainty. In the context of banking, this theory is relevant to understand how risk preferences influence financial risk mitigation strategies.

2. Bounded Rationality Theory

Simon (1955) argues that decision makers often work with imperfect information and limited time, so the decisions taken are only adequate, not optimal. This is important in the risk evaluation process in the banking sector.

3. Regulation and Risk Framework

Regulations such as Basel III and policies from the Financial Services Authority (OJK) provide guidance for banks in identifying and managing risks. This regulatory approach supports the application of a more structured decision-making theory.

4. Quantitative Approaches to Risk Evaluation

Methods such as Value at Risk (VaR), sensitivity analysis, and Monte Carlo simulation are used to measure financial risk with a statistical approach. These analyses allow banks to make more accurate data-driven decisions.

5. The Role of Technology in Risk Management

Technological advancements such as artificial intelligence (AI) and big data provide opportunities to improve accuracy in risk analysis and support faster decision-making.

6. Internal and External Factors in Decision Making

Factors such as managerial capability, organisational culture, economic conditions, and competition in the banking industry greatly affect the effectiveness of managerial decisions in managing risk.

METHOD

This research uses a descriptive qualitative approach with case studies on several banks in Indonesia. Data was collected through:

1. Semi-structured interviews with risk managers and bank executives to understand the decision-making process.

2. Document analysis of annual reports, internal policies, and regulations related to risk management.

Data was analysed using thematic analysis method, including initial coding, categorisation, and interpretation within the framework of decision-making theory. Validity was assured through source triangulation and member checking, while reliability was ensured by systematic documentation. This method aims to explore the application of decision-making theory in financial risk management in depth.

RESULTS AND DISCUSSION

Application of Decision Theory in the Financial Risk Identification Process in the Banking Industry

The decision-making process in financial risk management in the banking sector begins with the risk identification step. In this regard, decision theory provides an effective framework for analysing various factors, both internal and external, that have the potential to affect a bank's financial stability. For example, a probabilistic analysis-based approach can be used to identify risks such as bad debts, market volatility, and operational risks. Therefore, it is important for banks to understand the sources of these risks and assess their likelihood and impact on their

financial operations.

In practice, data analytics technology has brought significant changes in improving the accuracy of the risk identification process. Systems powered by artificial intelligence (AI) and machine learning have the capability to analyse customer transaction data, market conditions and economic trends, thus providing more accurate risk predictions. By utilising decision-making theory, risk managers can evaluate various scenarios while considering statistical parameters and predictive models, making this approach key to comprehensively understanding risk dynamics.

Recent literature suggests that the integration of decision-making theory with existing regulations, such as Basel III, offers a more structured approach for banks to identify risks. The regulation requires banks to have mechanisms in place that can recognise relevant risks according to the characteristics of each institution. By incorporating decision-making theory decision-making theory, banks can strengthen the risk identification process, which in turn enhances the resilience of the financial system.

Risk Evaluation Strategy Based on Decision Theory in the Banking Sector

Once the risk is recognised, the next step is to evaluate and measure the level of risk. In this process, decision-making theory, particularly utility theory, is often used to assess risks based on the preferences and tolerances of bank management. This evaluation process involves analysing different types of risks, such as liquidity risk, credit risk and market risk, relying on quantitative approaches such as Value at Risk (VaR) or sensitivity analysis.

In practice, banks use various analytical tools, including Monte Carlo simulations and scenario analyses, to assess the likely outcomes of various risk management-related decisions. Decision-making theory plays a crucial role in helping managers determine if the risks faced are within acceptable tolerance limits, or if additional mitigation measures are required. This assessment also considers strategic aspects, including capital and liquidity needs planning.

In addition, a holistic approach to risk evaluation, including reputational risks that are difficult to quantify, is also driven by decision theory. In this case, the bank utilises qualitative data, such as customer surveys and audit reports, to complement the quantitative analysis. By combining both types of data with decision theory, banks can conduct a thorough risk evaluation, resulting in more evidence-based and relevant decisions.

Implementation of Financial Risk Mitigation Decision Based on Risk Analysis in Banking

Decision theory plays a very important role in the risk mitigation process, where banks seek to select the most effective strategies to reduce the impact of the risks that have been analysed. Through decision theory-based approaches, such as cost-benefit analysis, banks can assess the effectiveness and efficiency of the various mitigation options available. Some of these mitigation strategies include portfolio diversification, purchasing risk insurance, and implementing stricter credit policies.

In addition, the bank is also strengthening its risk governance system as a mitigation measure. This includes risk-based pricing for loans and the use of derivative instruments to hedge against market fluctuations. In this process, decision theory is key for managers to formulate strategies that not only optimise added value for the bank, but also keep risk exposure from increasing significantly.

The success of risk mitigation efforts relies heavily on the involvement of all stakeholders, including the board of directors, auditors, and regulators. Decision theory that emphasises collaboration points to the importance of collective decision-making involving multiple perspectives. With this approach, decisions will be more accurate and reflect the interests of all parties involved.

Factors influencing managerial decision-making in the face of financial risk in the banking industry

The banking industry operates in an environment full of uncertainties and financial risks that can affect the performance and stability of banks. Good managerial decision-making is necessary to manage various risks, such as credit risk, liquidity risk, market risk, and operational risk. Managerial decisions taken in dealing with these risks are influenced by various factors, both from within the organisation and from the external environment.

Within the organisation as well as from the external environment. These factors must be carefully considered by managers to ensure that the bank remains solvent and able to survive in the long term.

Internal Factors Affecting Managerial Decision Making

1. Managerial Capability

Managerial capability is a major factor in financial risk-related decision-making. Managers who have a deep understanding of risk management theories, as well as experience in facing dynamic economic challenges, can make more informed and data-based decisions. According to research conducted by Purnamasari (2019), managers' good risk analysis skills greatly affect the effectiveness of decisions in managing financial risks, such as credit and market risks. Decisions based on accurate analyses allow banks to better identify potential risks.

2. Organisational Structure

A clear and efficient organisational structure enables faster and more appropriate decision-making in dealing with financial risks. In a study conducted by Suryadi (2017), it was found that a decentralised organisational structure provides freedom for lower-level managers to make decisions that are more responsive to changing market conditions and emerging risks. In contrast, in centralised organisations, decisions often require approval from multiple parties, which can slow down the decision-making process and increase risk.

3. Organisational Culture

An organisational culture that supports proactive risk management will influence the way managers make decisions. Banks with a culture that prioritises risk management and prudence will be more careful in making decisions related to credit and investment risks. A study by Sari (2018) shows that banks that have an organisational culture that encourages collaboration between departments are better able to manage risk identify risks more holistically and respond to them with better mitigation strategies.

External Factors that Influence Managerial Decision Making

1. Macroeconomic Conditions

Macroeconomic conditions such as interest rates, inflation and value fluctuations influence managerial decisions in managing financial risk. In research conducted by Kurniawan (2016), it was found that economic instability, such as including interest rates and inflation, can increase credit risk and reduce the quality of bank assets. For example, in a situation of high interest rates, customers tend to reduce their credit withdrawals, which has an impact on bank revenues. Therefore, managers must be able to adapt bank policies to changing economic conditions to reduce negative impacts.

2. Government Regulations and Policies

Regulations implemented by supervisory authorities such as the Financial Services Authority (OJK) and Bank Indonesia greatly influence managerial decision making in the banking industry. Research conducted by Nugroho and Raharjo (2019) shows that the minimum capital regulatory policies implemented by regulators play an important role in determining the risk limits that can be accepted by banks. Managers must ensure that the decisions taken remain within the limits set by regulations, especially in relation to capital requirements and risk management.

3. Competition in the Banking Industry

Increasingly tight competition in the banking industry is also an external factor that influences managerial decision making. In a study by Widiastuti (2017), it was found that in an effort to maintain competitiveness, banks often take riskier decisions, such as increasing credit or offering new products. While this may increase short-term profits, it also increases exposure to credit and market risks. Therefore, managers must be careful in balancing the need to compete and careful risk management.

4. Technological Development

Technological advances, particularly in terms of big data and artificial intelligence (AI), are influencing the way banks manage risk. This technology allows banks to analyze large amounts of data more accurately and quickly, so managers can make more data-based decisions. Research by Rini (2020) reveals that the use of technology in risk management can increase the effectiveness of decision making by providing more accurate information regarding potential risks that may arise. Although technology brings many benefits, it also introduces new risks, such as threats to the security of bank data and information systems.

Banking Strategy in Managing and Reducing Financial Risk

Risk management is an important part of bank operations to maintain stability and customer trust. In carrying out this task, there are three main things that bank managers and owners must pay attention to: complete procedures, strong internal controls, and competent human resources. All of this aims to ensure the bank is able to face various risks that arise in its operations.

The biggest risk faced by banks is credit risk, namely the risk that arises from loans that cannot be repaid by the debtor. After that, there are market risks and operational risks. However, there are also transaction risks that are increasingly important in this digital era. Transaction risk is more related to how customer activities, such as transfers or payments, are supported by an adequate security system. This requires technological support, both hardware and software, to prevent fraud.

Bank Indonesia (BI) plays an important role in encouraging the implementation of risk management in banks. One of BI's efforts is to require banks to use Risk Weighted Assets (RWA) calculations, which are the basis for assessing bank risk exposure. Since January 1 2005, BI has implemented strict regulations, including imposing sanctions in the form of a fine of IDR 1 million per day and carrying out business activities if the bank does not comply with the provisions. For example, banks that violate this regulation are not allowed to open new branches.

The implementation of integrated risk management is a necessity in the modern banking industry. Banks must manage all types of risks in one integrated system, with an adequate management structure. However, the success of risk management does not only depend on compliance with the rules, but also on the quality of the human resources who carry it out. The character, attitudes and behavior of bank decision makers influence the way they respond to risk.

Bank directors and management have a big responsibility in implementing effective risk management policies. They must ensure these policies are aligned with the bank's objectives, the level of complexity of the business, and the bank's ability to carry out its operations. Banks that have complex businesses, such as trading foreign exchange, bonds, or securities, require more complex risk management structures than banks that only offer simple services such as savings and loans.

Strategies to reduce financial risk include several things. First, banks must build a sophisticated security system to support customer transactions, so that the risk of fraud can be minimized. Second, there is a need for continuous human resource training to improve their ability to manage risk. Third, banks must implement clear policies and procedures and ensure that internal supervision runs well.

With a planned strategy and technological support, banks can manage financial risks more

effectively. This not only protects bank stability, but also maintains customer trust and supports business desires amidst increasingly fierce competition.

CONCLUSION

Financial risk management is an important element in maintaining the stability and sustainability of the banking industry. Decision-making theory provides a framework that supports the process of systematically identifying, evaluating, and mitigating risks. To identify risks, banks utilize technology and data-based approaches, which are strengthened by regulations such as Basel III, to create a structured process. Risk evaluation is carried out through quantitative tools, such as Value at Risk (VaR), sensitivity analysis, and Monte Carlo simulation, which allows managers to thoroughly understand potential risks.

In risk mitigation efforts, decision theory-based approaches such as cost-benefit analysis provide guidance in selecting the most effective strategy. Portfolio diversification, implementation of risk-based pricing and utilization of modern technology are some of the significant steps that have been taken. In addition, internal factors, such as managerial capability, organizational culture, and organizational structure, also influence the effectiveness of decision making.

SUGGESTION

Increasing bank human resource capabilities requires routinely providing manager and staff training on decision-making theory, risk analysis and the latest technology. This improvement will strengthen their ability to face the complexity of risks in the digital era. Technology boosters should continue to invest in advanced technologies, including big data and artificial intelligence, to improve risk prediction capabilities and operational efficiency. Collaboration with regulators is important for banks to ensure compliance with regulations by involving authorities such as the Financial Services Authority (OJK) and Bank Indonesia in the entire risk management process. This collaboration is important to prevent systemic risks that could disrupt the stability of the financial sector.

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