1 Risk Management in the Era of Financial Innovation: Lessons from the Banking Sector

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ABSTRACT

Risk management is the use of proactive strategies to effectively plan, lead, coordinate, and control the diverse range of hazards that permeate an organisation's daily and long-term operations. Whether one approves or not, risk plays a significant role in the attainment of objectives and the general prosperity of an institution. This article aims to highlight the hazards encountered by the banking industry and examine the risk management method. This study also investigated the various methodologies employed by the banking sector in order to manage risks. In order to fulfil the study's objectives, data has been gathered from secondary sources, including books, journals, and online publications. These sources have been utilised to identify the numerous risks encountered by banks, establish a risk management process, and examine different strategies employed in risk management. In conclusion, it can be inferred that banks should adopt a more cautious approach towards risk-taking, proactively anticipate unfavourable shifts, and implement appropriate hedging strategies. By doing so, banks can gain a competitive edge and effectively manage the operations of the banking sector.

Keywords: *Risk Management, Banking, Credit Risk, Liquidity Risk, Market Risk.*

INTRODUCTION

Risk management is a fundamental subject that is integral to the functioning of every institution, since it comprises all activities that have the potential to influence the institution's risk profile. The prevailing perception of risk management as solely focused on risk reduction is not a true representation. The primary aim of risk management is to optimise the trade-off between risk and return. The achievement of this objective can be accomplished by the implementation of a robust risk management system that is capable of comprehensively identifying and effectively managing all risks faced by an organisation. The increasing prevalence of uncertainty within the business sector, namely in the service and banking industries, has underscored the critical need of risk management for all corporate organisations. The current disruption in the banking and finance sector serves to underscore the importance of having robust risk management protocols.

Risk is commonly understood as any factor or circumstance that has the potential to impede or obstruct the successful attainment of specific goals or objectives. The presence of risk within a given circumstance can be attributed to either internal or external sources, contingent upon the specific type of risk involved. The potential for encountering that danger has the capacity to increase the severity of a given scenario. A more effective approach to addressing such a scenario involves implementing proactive steps to identify potential risks that may lead to unfavourable consequences. In more concise terms, it can be asserted that proactive risk management is more advantageous than reactive risk management. Risk management is a strategic approach employed to systematically identify, analyse, and subsequently address a specific risk. The aforementioned process is characterised by its continual nature and serves as a valuable instrument in the process of making informed decisions.

During the process of financial intermediation, banks encounter various types of risks, both financial and non-financial. These risks include credit risk, interest rate risk, foreign exchange rate risk, liquidity risk, equity price risk, commodity price risk, legal risk, regulatory risk, reputational risk, and operational risk. These hazards demonstrate a strong link, hence events affecting one category of risk can have major consequences for several other classifications of risk. Therefore, it is imperative for the senior management of financial institutions to prioritise the enhancement of their ability to identify, assess, monitor, and control the comprehensive range of risks they undertake.

LITERATURE REVIEW

Risk management serves a crucial and critical role within the banking sector, serving as a vital component in the pursuit of substantial performance outcomes. The establishment of trust among stakeholders is crucial for the advancement of organisations in the broader market. This can only be achieved by effectively managing a range of risks. Afzin, (2010). In their study, Hakim and Neamie (2001) employed a fixed effect vs. random effect model to analyse the impact of risk management on bank performance within the period of 1993-1999. The study's results revealed a significant positive association between credit risk and banks' profitability. In a study conducted by Li Yuqi (2007), an examination was undertaken to assess the correlation between bank risk management techniques and profitability. The findings of the study revealed that there exists a negative association between bank profitability and both credit ratio and liquidity ratio. According to the findings of Fredrick (2014), there exists a noteworthy inverse association between liquidity risk management and the financial performance of commercial banks in Kenya. Numerous corporations encounter challenges with liquidity due to the absence of readily accessible savings instruments and substantial investments in non-income generating assets (Graham, 2007). The study conducted by Anguka (2012) examined the relationship between risk management methods and profitability within the banking sector. The findings indicated a negative correlation between the bank's profitability and both the credit and liquidity ratios. Moreover, the findings of the study revealed that there exists a positive albeit insignificant correlation between the capital adequacy ratio and the financial performance of the organisation. Several other studies (Adebayo et al., 2011; Oluwafemi et al., 2013; Chimkono et al., 2016) have also investigated the relationship between credit risk (CR) and the financial performance (FP) of banks. Some studies have reported a negative association between credit risk and banks' financial performance, while others have found a positive relationship that is not statistically significant. Rehman and Anwar (2019) propose that the implementation of risk management methods serves as an intangible asset that has a substantial impact on the performance of organisations. The study conducted by Malik et al. (2020) demonstrated the efficacy of risk management in relation to its substantial influence on business performance. The study conducted by Illangakoon et al. (2021) demonstrated a strong positive correlation between proficient risk management practices and the appropriateness of the microfinance sector in Sri Lanka.

STATEMENT OF THE PROBLEM

Risk management methods play a vital role in the functioning of businesses, as they are crucial for the continued existence and overall sustainability of any firm. Effectively managing potential financial consequences that have the potential to be catastrophic is of utmost importance. Nevertheless, it is evident that there exists a significant dearth of scholarly material pertaining to the specific domain of risk management methods within the banking industry of India. In order to fill the existing research void, the present study aims to examine the risk management strategies employed by banks in India, specifically emphasising the consequences of loss occurrences on the overall performance of these banks. Furthermore, the research will aim to ascertain the primary determinants that contribute significantly to the effective implementation of risk management strategies in banking institutions. The main aim of this study is to contribute to the current academic literature by conducting a detailed analysis of the many forms of risk encountered by commercial banks in India. Furthermore, this study will also investigate the process and strategies of risk management.

PURPOSE OF THE STUDY

The Indian economy's liberalisation period has made risk analysis and risk management essential. Because of the fundamental basis of its operations, the banking industry must understand and manage risk. Banks' main function is to act as a middleman between people who need resources and others who have them. Credit risk, market risk, and operational risk need to be merged into a single composite metric in order to manage risk at the corporate level. To calculate the necessary composite estimate, it is crucial to match operational risk measurement with credit and market risk data. Thus, it is crucial to look at risk analysis and risk management in the banking industry in compliance with international banking laws (Basel Committee Accords) and RBI standards.

OBJECTIVES THE STUDY

The current study intends:

- To identify the various risks that the banking industry faces;
- To elucidate the intricate framework and process of risk management; and
- To conduct a critical analysis of the methodologies used by the industry in the field of risk management.

RESEARCH METHODOLOGY

The present study proposes a theoretical framework based on extensive research conducted through a diverse range of secondary sources including online publications, books, and journals.

DESCRIPTIVE APPROACH OF RESEARCH ANALYSIS

Risk Types in the Banking Industry

Risk management has grown in significance, especially in the financial industry, due to the changing business climate and the rising complexity of bank operations. Banks are exposed to a variety of hazards that could jeopardise their financial stability, including defaulted loans, asset value fluctuations, and operational interruptions, which are typically included under the umbrella of operational risk:

1. **Credit Risk:** Default risk, another name for credit risk, refers to a counterparty's or customer's incapacity or unwillingness to fulfil commitments pertaining to financial operations like trading and lending. It includes portfolio risk, which is subdivided into intrinsic and concentration risk, as well as transaction risk, sometimes known as default risk. The risk is influenced by a number of internal and external variables, such as the state of the economy, governmental regulations, and shortcomings in the administration and assessment of loans. Top-level management should devote all of its attention to credit risk management. In addition, risk pricing should be based on scientific principles and risk should be controlled through an efficient Loan Review Mechanism and portfolio management. This process should involve a number of measures, such as measuring risk through credit rating/scoring, quantifying risk through the estimation of expected loan losses, or the amount of loan losses that a bank would encounter within a specific time horizon, and more.
2. **Market Risk:** Progressive deregulation has replaced the conventional difficulty of credit risk management in banks with the requirement for competent market risk management. Negative swings in important market variables give birth to market risk, which can have a big effect on bank profits and economic value. Long-term stability and success depend on the management of the various types of market risk, which calls for an extensive and strong framework.
3. **Liquidity Risk:** Since liquidity planning helps banks to effectively manage obligation reductions and finance loan portfolio expansion, it is an essential component of risk management in banks. When enough money can be raised for a fair price through the sale of liquid assets as well as borrowing from capital, money markets, and foreign exchanges, adequate liquidity is attained. This acts as a safety net against losses from asset fire sales. Because long-term assets are financed with short-term liabilities, which exposes those liabilities to rollover and refinancing risk, banks are exposed to liquidity risk.

4. **Operational Risk:** A risk category that does not come under the market or credit domains is generally regarded to be operational risk. It includes the risk of loss resulting from many kinds of technical or human error and is frequently associated with risks related to payments or settlements, business interruption, administrative risks, and legal risks. Because an operational problem with a business transaction has the potential to cause a credit or market risk event, operational risk is inextricably related to credit and market risks.
5. **Interest Rate Risk:** Since interest rates are no longer regulated, banks must manage interest rate risk. Inconsistencies in cash flows or repricing dates can cause changes in Net Interest Income and Margin, which can have an impact on the cost of liabilities and asset earnings. These changes are correlated with changes in market interest rate volatility and could have an impact on NII, NIM, and MVE.
6. **Price Risk:** When assets are liquidated before their planned maturities, price risk results. In the financial market, where bond prices and yields move in opposition to one another, this phenomena is very noticeable. The trading book, which is directly related to price risk, is a tool for profiting from brief changes in interest rates. Establishing criteria to limit the size of portfolios, holding periods, defeasance periods, stop loss limits, and marking-to-market procedures is consequently necessary for banks that use an active trading book.
7. **Forex Risk:** Financial institutions are susceptible to Foreign Exchange (Forex) risk when there are unfavourable fluctuations in the exchange rate during the period that they maintain an open position in a foreign currency, either in the spot or forward market or both. Additionally, banks are exposed to interest rate risk.

PROCESS OF RISK MANAGEMENT

Effective management of a variety of banking risks is essential to the smooth running of financial services. As a result, risk management becomes essential in the banking sector. In order to maintain acceptable risk levels, this entails identifying potential risks and putting control mechanisms in place. It is significant to remember that acceptable risk thresholds differ between organisations and nations. Enhancing stakeholder value through profit maximisation and capital fund optimisation is the main goal of risk management, which also ensures the banking organisation's long-term solvency (Awojobi & Amel, 2011; Singh, 2015; Sutrisno, 2016). Among the tasks associated with risk management are the following:

(a) Risk Origination within the bank
(b) Risk Identification
(c) Risk Assessment and Measurement
(d) Risk Control
(e) Risk Monitoring
(f) Risk-return Trade-off

THE METHODOLOGIES EMPLOYED IN THE PRACTICE OF RISK MANAGEMENT

(a) **Maturity GAP Analysis:** The primary method for assessing interest rate risk (IRR) exposure entails utilising straightforward analytical methods, such as doing a maturity gap study. The approach entails the classification of assets, liabilities, and off-balance sheet positions that are sensitive to interest rates into distinct time intervals, either based on their maturity (for fixed-rate instruments) or the time left until their next repricing (for floating-rate instruments). In situations where certain assets and liabilities lack clearly defined repricing intervals, such as cash credit, overdrafts, loans, refinance from RBI, savings bank, export finance, etc., or when their actual maturities differ from their contractual maturities, as seen in embedded options in bonds with put/call options, loans, cash credit/overdraft, time deposits, etc., these items are categorised into time-bands according to the bank's discretion, informed by empirical studies and historical data.

(b) **Duration-GAP Analysis:** Duration is a metric that quantifies the maturity of cash flows by taking into account the time value of money, indicating the average period required to recoup the initial investment. The concept refers to the sensitivity of an instrument's market value in relation to changes in the interest rate. The duration gap is a metric that captures disparities in the timing of cash flows from assets and liabilities. It may be quantified using the equation DGAP = DA – uDL. This discrepancy has implications for the market valuation of shares and the anticipated net-interest income, particularly in response to fluctuations in interest rates.

(c) **Value at Risk (VaR):** Value at Risk (VaR) is a risk management instrument that condenses the financial risk embedded in portfolios into a singular metric, denoting the potential loss or gain a firm may experience within a specified time frame, with a certain level of probability. Additionally, VaR encompasses various other risks, such as those associated with foreign currency, commodities, and equities.

(d) **Sensitivity Analysis:** When endeavouring to evaluate the impact of a specific variable, it is greatly useful to examine the actual consequences that would ensue if it deviates from the previously assumed value. The objective can be accomplished by generating multiple scenarios, in which the analyst can assess the impact of alterations in one or more independent variables on the dependent variable.

(e) **Risk Adjusted Rate of Return on Capital (RAROC):** Economic capital plays a fundamental role in providing a standardised means of assessing risks and equipping managers with effective decision-making tools related to the balance between risk and return across different assets. The allocation of capital to different risks is of utmost importance for financial institutions, as they face the potential threat of unanticipated losses. The analysis of Risk-Adjusted Rate of Return on Capital (RAROC) enables the assessment of the economic capital necessary for various goods and enterprises, as well as the overall return on capital for a company. While RAROC has the capability to assess the capital needs associated with market, credit, and operational risks, its main purpose lies in serving as a comprehensive tool for managing risks holistically.

(f) **Securitisation:** Securitisation is a financial tactic employed in structured finance or credit-linked notes, with the objective of mitigating risk for banks by transforming their illiquid assets, such as mortgages, into marketable asset-backed securities. The described procedure involves consolidating assets that generate income and issuing securities based on these assets in the public market to get more funds and shift the repayment obligation from the original entity to the consolidated assets. This enables banks to mitigate risk and generate additional revenue streams.

(g) **Internal Rating System:** The implementation of an internal rating system is a crucial mechanism employed by financial organisations, such as banks, to effectively oversee and control credit risks associated with lending activities and other operational processes. This system facilitates the categorisation and administration of the creditworthiness of borrowers and the overall quality of loan transactions.

FINDINGS/CONCLUSIONS

The management of risk is an essential factor in determining the long-term viability of a company. Instead of merely responding to change, it is crucial for an organisation to possess the capability to foresee and make necessary preparations for change. The primary aim of risk management is not to curtail or prohibit the undertaking of risks, but rather to guarantee that risks are assumed with comprehensive awareness and comprehension, with the purpose of assessing and mitigating them. The risk management functions should be customised to suit the unique requirements of the financial institution, considering several aspects such as the scale and integrity of the bank's assets and liabilities, the intricacy of its operations, the availability of skilled personnel, and the effectiveness of its management information system.

The oversight and management of risk within banking organisations are entrusted to committees such as the Risk Management Committee, Credit Policy Committee, and Asset Liability Committee. These committees enhance the capacity of banks to partake in strategic risk-taking, proactively detect probable unfavourable occurrences, and effectively mitigate risks, so bestowing them with a competitive advantage. The effectiveness of risk measurement in banking institutions is contingent upon the successful implementation of robust risk management strategies, which encompass internal rating systems, risk-adjusted rates of return on capital, and a streamlined Management Information System. The primary objective of this study is to offer significant insights that may be utilised by decision makers and senior management within the banking industry. This would empower financial institutions to efficiently oversee critical aspects of banking operations, fortify their policies, and undertake corrective measures to address recognised deficiencies in risk management protocols. The study is also characterised by several limitations, one of which being its dependence on a descriptive research technique. The empirical investigation of the theoretical framework was precluded by temporal limitations. Nevertheless, this study exhibits promise for subsequent empirical investigation concerning the impact of risk variables on several domains of organisational performance.

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