

MONITORING THE PROGRESSION: EVOLVING PERSPECTIVES ON RISK MANAGEMENT IN INDIAN BANKS

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Abstract

The main objective of the study is to provide a comprehensive overview of the role of risk management innovative practices in protecting the integrity and resilience of banks and financial institutions. The study delves into emerging trends, regulatory frameworks and innovative methodologies which are poised to refine the landscape of risk management. There is requirement on part of banks to equip themselves with innovative technologies. The study also focuses on the role of integration of artificial intelligence and Environmental, Social and Governance (ESG) factors into decision-making process. This study will help in illuminating the path for banks to navigate the complexities of risks in future uncertainty and towards a more resilient and sustainable future.

Introduction

India is stepping towards in the direction of “Samrath Bharat” and on transformation from developing country into developed country by year 2047. With the change in international finance, the banking industry has been considered as a haven for stability and innovation. But along with the development aspects, it is not advisable to ignore the known or unknown risks might occur in banks. With the frequent changes in market dynamics, regulatory changes and technology breakthroughs would have a momentous effect on risk management in banking industry.

Unprecedented challenges characterize this era, including the COVID-19 pandemic's aftereffects, the digital transformation's rapid acceleration and the threat of climate change. It is now more important than

ever for banks to implement strong risk management plans. In this lead, “Silicon Valley Bank” including two other major banks in 2023 attracted the attention in area of risk management (Hintze, January 3, 2024). This unexpected collapse exaggerated the analysis made by the investors and regulators of banks leads to reduction in the bank stocks. Along with this, banks are facing different kinds of unavoidable risks such as Cyber-attacks, Fraudulent activities, depositors reallocating funds for better returns and pandemics after-effects on their investments and loan portfolios. The banks are trying to minimise these kinds of risks but they are appearing in a more challenging and complexed ways. These risks are even trending in year 2024, adoption of Artificial Intelligence (AI) particularly “Generative Artificial Intelligence” has increased the cyber security risks. This demands more emphasis on part of Banks to review their risk management strategies and plans in order to adjust in the changing environment to maintain stability and resilience in the face of upcoming difficulties.

In order to mitigate risks, experts and bankers are involved in analysis of potential operational and strategic ramifications of the wave of regulatory changes, which were not expected that they will affect after 2024. The regulatory landscape that is yet to come is the biggest stressor, surpassing the immediate challenges that bankers are facing. The continuous scrutiny emphasizes the need for proactive adaptation and preparedness within the banking industry in order to effectively manage changing risks and regulatory environments. There is requirement on part of Banks to follow regulations which has been prescribed for them. Banks prepare

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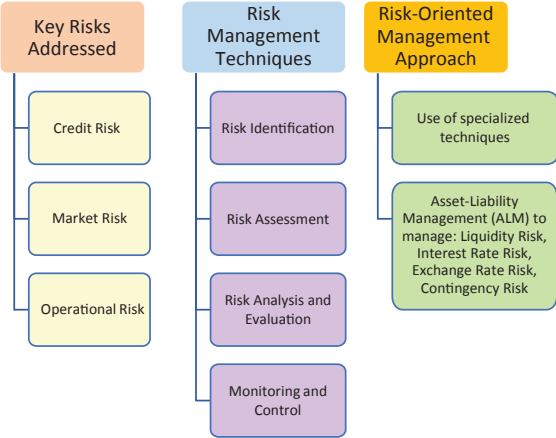
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their system and provide training to the staff to comply with those requirements and regulations. But due to lack of coordination among regulators and complexity of regulations, it appears to be a difficult task to make them effective.

Risk has a wide range of possible difficulties and unpredictable abilities that could negatively impact the operational resilience and financial stability of banks and other financial institutions. One of the prominent risks is “Credit Risk” where borrowers fail to repay their loans to the banks or financial institutions. Beyond this risk, Indian banks include Non-Performing Assets (NPAs), liquidity risk, fluctuations in interest rates risk, solvency risk and asset prices and exposure of banks to potential losses on their investment and trading activities (Banerjee, Gupta & Das, 2022). The NPAs or bad loans have become major problem for Indian banks. It has been evidenced that NPA ratio increased up to 7.5% in 2021 (Santhosh, 2023). The regulators has taken steps to identify and mitigate risks with respect to Indian bank. The operational risks can be termed as risks due to internal processes, systems or human errors as well as external events like cyber attacks and frauds.

Risk Management

Figure 1: Effective Risk Management

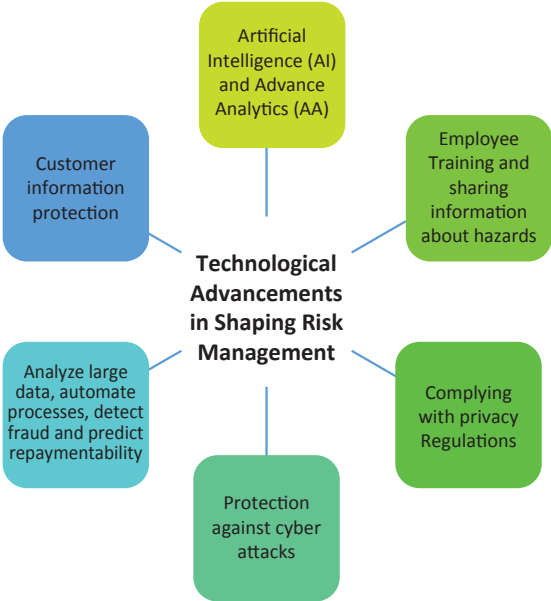


Source: Author’s own work

The effective risk management principle is to ensure banks to identify, assess and mitigate the above-mentioned risks to maintain financial stability and to ensure the safety of depositor’s funds. Indian banks are using techniques like risk identification, level of assessment, analysis, evaluation, monitoring and control to lessen the identified risks like credit risk, market risk and operational risk. Indian banks risk-oriented management approach helps in identifying and assessing risks through special kind of techniques and methods like Asset-Liability Management (ALM) with a focus on liquidity risk, interest rates, exchange rates, contingency risk and corporate governance, risk management process and financial stability. It takes into consideration a comprehensive risk assessment, robust risk management frameworks and regular monitoring and adaptation to shifts in the risk environment to effectively navigate uncertainties.

Technological Advancements shaping Risk Management

Figure 2: Technological Advancements shaping Risk Management



Source: Author’s own work

Artificial Intelligence (AI) and Advance Analytics

(AA): The way banks are managing risks by using Artificial Intelligence (AI) and Advance Analytics (AA) which can easily and quickly analyze large amount of data, can help in identification of potential issues and can also take preventive actions. This has revolutionized the risk management strategies used by banks. In this lead, artificial intelligence applications include automating time-consuming processes such as risk checking, so that staff members can concentrate on more crucial work and also analyze vast data to detect fraud trends or forecast about the loan repayment ability of borrower. These technologies would be more considerable in future for the security and effectiveness of banks.

Customers Information and Protection against

Cyber Attacks: Along with this, new challenge has been raised that protection of customers' information as every information is available online. Financial institutions are investing a large sum of money in advanced defenses against cyber attacks and ongoing operations. Even in addition to this, bank have to put more efforts to comply with the strict regulations regarding privacy of the information. In response, financial institutions are investing heavily in advanced cyber security frameworks, including:

- Multi-layered firewalls.
- AI-powered threat detection systems.
- Incident response plans.
- Staff training in cyber security awareness.

Despite these efforts, there are some challenges too, which are mentioned below:

- *Complying with privacy Regulations:* Banks must now adhere to various national and international data privacy laws, which often have overlapping or conflicting requirements.
- *Climate Risk and Strategic Lending Decisions:* Banks also have serious concern towards climate change and they have to focus on

how their loans might be impacted by things. Regulators are urging banks to consider how climate-related events such as floods, droughts and changing regulations on carbon emissions could impact their loan portfolios. For example, banks with high exposure to industries like fossil fuels or agriculture may face higher risks if those industries suffer from climate-related disruptions or policy shifts. Consequently, banks must:

- Conduct climate stress testing.
- Assess environmental impact before granting loans.
- Develop sustainable finance policies.

Such measures not only fulfil regulatory expectations but also help banks align their operations with broader environmental and social goals. Therefore, it has become more important for the banks to approach risk in the right way. Through providing training and sharing information regarding potential hazards to the employees, it should be ensured that all employees understand the importance of maintaining security.

- *Employee Training and Risk Awareness:* Technology and regulations alone are not enough to ensure robust risk management. A key component of a successful risk strategy is the human element. All employees regardless of department should understand the importance of maintaining risk awareness and following best practices.

To promote a culture of compliance and security, banks are:

- Conducting regular training sessions on risk and cyber security.
- Sharing information about emerging threats and response strategies.
- Encouraging employees to report suspicious activities.

This cultural shift is necessary to build internal resilience against risks and to ensure that risk management becomes an organization-wide responsibility rather than the sole responsibility of a specialized department.

In conclusion, regulatory requirements significantly shape how banks manage risk. Frameworks such as Basel III, Anti-Money Laundering (AML) and data privacy laws set the standards for compliance and sound risk governance. Meanwhile, technological advancements like AI and AA enable banks to meet these standards more efficiently and proactively. However, these benefits come with challenges particularly in cyber security, data privacy and climate-related risks-that require continuous attention and innovation. To navigate this complex environment, banks must adopt a holistic approach to risk management that combines robust regulatory compliance, cutting-edge technology, employee awareness and strategic foresight. Only by doing so, banks can ensure ensure financial stability, protect customer interests and thrive in an increasingly uncertain world.

Regulatory Development and Compliance Challenges

Within the banking industry, regulatory requirements have significant influence on risk management practices. Basel III establishes new standards for liquidity and capital quality including the Net Stable Funding Ratio (NSFR) and the Liquidity Coverage Ratio (LCR), Basel III reforms and data privacy laws. The Basel III reforms were created in 2009 by Basel Committee on Banking Supervision (BCBS) with the purpose of strengthening bank supervision, regulation and risk management. A major area of concentration is operational risk management with aim to enhance data security, reduction in errors and stopping fraudulent activities (Sammer et.al, 2023). The more emphasis is placed on the significance of risk

governance and supervisory standard compliance. Although the Basel III effects on the banking sector has been noted still further empirical research is required. After considering all the things, banks must make efforts to improve their risk management systems in the light if these regulatory changes in order to guarantee both regulatory compliance and efficient financial risk management.

Moreover, regulatory efforts such as “Anti-Money Laundering (AML) guidelines” and “Data privacy laws” further added to the risk management obligations of banks. AML policies are vital in preventing illegal financial activities while data privacy regulations require banks to secure sensitive customer information, adding complexity to their risk systems. Banks must demonstrate a strong internal structure that ensures compliance at all levels. Although Basel III has contributed significantly to improve the banking sector’s resilience, there is still a need for further empirical research to assess its long-term effects. Ultimately, in conclusion, it can be suggested that adapting to regulatory changes are essential not only for compliance but also for maintaining effective financial risk management. Banks must proactively enhance their systems to manage emerging risks and meet evolving regulatory expectations.

Cyber security Risks and Resilience Strategies

The concept of cyber security risks and resilience strategies have become trending concern. The incorporation of digital technologies and internet connectivity has resulted into the increase in cyber threats including malware propagation, data modification, denial of service attacks and information leakage. The cyber resilience strategies are being developed to guarantee “Cyber Physical System (CPS)” (means combining sensing, processing, control, networking and physical objects and infrastructure) survival and essential operations

in the event of extreme events. These tactics seek to foresee, anticipate, mitigate and adjust to the negative consequences of cyber attacks. The concept of cyber resilience is attracting the researcher's attention specially with a focus on techniques applicable to Cyber Physical system (CPS) (Analytica., 2023). The creation of thorough cyber protection systems, well defined policies & procedures, early detection and preventive actions and efficient safeguarding of vital infrastructure components are some tactics to enhance cyber resilience. The resilience of Cyber Physical system (CPS) can also be improved through implementation of risk-control and fault restoration strategies that may consider cyber risk into account.

Environmental, Social and Governance (ESG) Risks

In recent years, Environmental, Social and Governance (ESG) issues have gained substantial attention in the global financial system. Multiple studies have emphasized the growing importance of ESG considerations, especially within the banking industry. As global concerns around climate change, social justice and corporate ethics intensify, regulators, rating agencies, investors and other stakeholders are increasingly demanding that banks align their operations with ESG principles. This shift is transforming how financial institutions operate, monitor risks and report on their performance.

One of the major implications of this ESG movement is the increased compliance burden. Banks are now subject to more complex and evolving reporting requirements. Regulatory bodies are issuing guidelines that mandate disclosures related to carbon emissions, gender diversity, ethical labor practices and governance structures. International frameworks like the Task Force on Climate-related Financial Disclosures (TCFD) and the EU Taxonomy for Sustainable activities have made it clear that banks must integrate ESG risks into their traditional risk assessment models.

In response to these growing expectations, financial institutions are beginning to recognize the economic and existential implications of ESG-related risks. These include physical risks from climate change (like floods and wildfires), transition risks from shifts in regulations and market preferences and reputational risks that may arise from poor social or governance practices. A bank's failure to address ESG issues adequately can lead to reduced investor confidence, legal liabilities and even withdrawal of customers and partners. As a result, banks are working to incorporate ESG risk assessments into their risk management frameworks. This integration is crucial for aligning their operations with the Sustainable Development Goals (SDGs) and ensuring long-term resilience. Financial institutions are also moving beyond compliance and viewing ESG as an opportunity to innovate, attract sustainable investments and contribute to the broader goal of building a green and inclusive economy. Even multinational enterprises and healthcare organizations are also acknowledging the value of ESG-oriented investments. ESG rating and metrics are increasingly used in decision-making process, helping these organizations in identifying ethical, resilient and forward-thinking business partners and investment opportunities.

Previous studies have gone further to classify and identify ESG risks specific to the banking industry. These studies not only consider the impact of ESG risks on financial performance but also highlighted the responsibility of banks to foster sustainable economic growth. There is growing consensus that banks must act as enablers of a "Green Economy", channeling funds towards renewable energy, sustainable infrastructure and socially responsible enterprises. In summary, ESG considerations have evolved from being optional concerns to becoming strategic imperatives in the banking sector. By proactively managing ESG risks and embracing sustainability principles, banks not only comply with regulations but also play a central role in driving positive environmental and social change.

Future Outlook and Strategic Implications

The expected developments that will shape the practice of risk management in the future such as the need for banks to integrate risk management into their organizational culture and on the ongoing adoption of cutting-edge technologies. There are number of factors that might have impact on risk management in banking. It is imperative for banking institutions to possess effective risk management to be successful in the long run. The operational risk management is crucial which includes strengthening data security and preventing fraudulent activities (Sobanova & Kudinska, 2022). The landscape of risk management in banking will be shaped by regulatory intervention, technological developments and the globalization of financial markets. The tools of risk management equip identification, evaluation and addressing risks and managing risks promotes assets security and sound decision-making. But it is important to take comprehensive and adaptable approach to risk management’s qualitative components. Additionally, banks can improve their risk management procedures by taking into consideration more comprehensive stance, recognizing inherent uncertainty and accounting for increment in complexity which will help in effectively navigating the changing landscape and preserving a competitive edge.

Figure 3: Future Outlook and Strategic Implications

Future Outlook and Strategic Implications		
Long-term vision and objectives	Strategic planning process	Implementation and adaptation

Source: Author's own work

Conclusion

The objective of the study was to sightsee the future risk management in banking industry at the time when India is moving towards “Developed Nation by 2047”. The technological innovation, shifting of regulatory dynamics and new risks will define the future of risk management in banking sector. In order to cope with these upcoming and existing risks, banks need

to embrace the digital transformation, improvement in the ability to comply with regulations, fortifying the cyber security defenses and incorporating ESG factors into their risk management systems. Banks can maintain the long-term success in a constantly changing environment by remaining ahead of the curve and taking a proactive approach for risk management. This will help the banks and financial institutions to capitalize on emerging opportunities and mitigate potential threats. The training and development programmes to increase the risk awareness can play a crucial role in forming the future risk culture.

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