"An Analytical Assessment of Credit Evaluation Practices in Loan and Advance Disbursement: A Strategic Financial Perspective"

¹Mr. PAVAN KUMAR R S , ²Dr VEENA RANI K

¹Student, Department of Management Studies (MBA), Centre for Post Graduate Studies, Muddenahalli, Chikkaballapur, Visvesvaraya Technological University, Belagavi, Karnataka State, India. rspavan55@gmail.com,

²Assistant Professor, Department of Management Studies (MBA), Centre for Post Graduate Studies, Muddenahalli, Chikkaballapur, Visvesvaraya Technological University, Belagavi, Karnataka State, India. https://orcid.org/0000-0002-7163-476X, veenakkoti@gmail.com

Abstract

This study critically examines credit evaluation practices in loan and advance disbursement, focusing on their effectiveness, challenges, and strategic implications for financial institutions. Against the backdrop of evolving regulatory norms and technological advancements, the research highlights disparities between traditional and modern credit appraisal frameworks. Institutions leveraging data-driven tools, such as AI and behavioral analytics, demonstrate superior risk assessment accuracy and lower non-performing assets (NPAs) compared to those reliant on conventional collateral-based models. Key challenges include information asymmetry, sector-specific risks, and financial exclusion due to rigid appraisal criteria. The study underscores the need for inclusive, tech-enabled evaluation systems incorporating alternative data to enhance credit access while mitigating risks. Strategic recommendations emphasize regulatory alignment, officer training, and real-time monitoring to strengthen institutional resilience. The findings offer actionable insights for lenders, policymakers, and researchers aiming to optimize credit risk management and foster equitable financial inclusion.

Keywords: Credit evaluation, loan disbursement, risk assessment, non-performing assets (NPAs), financial inclusion, predictive analytics.

Introduction

In the rapidly evolving landscape of financial services, the evaluation of creditworthiness has emerged as a cornerstone of sustainable banking and lending practices. With mounting regulatory scrutiny, increased financial inclusion, and the proliferation of digital lending platforms, credit evaluation has become more complex yet more crucial than ever. Financial institutions whether traditional banks or emerging fintech firms are compelled to adopt robust, data-driven, and risk-sensitive evaluation frameworks to ensure the viability of loan and advance disbursement. As global credit markets continue to expand and diversify, a methodical approach to assessing credit risk not only safeguards the institution's capital base but also enhances customer trust and long-term portfolio performance.

Theoretical Background

The concept of credit evaluation is grounded in financial intermediation theory, where financial institutions act as intermediaries between savers and borrowers, allocating resources efficiently while managing default risks (Diamond, 1984). The credit evaluation process primarily involves assessing a borrower's ability and willingness to repay, which is traditionally guided by the "5 Cs of Credit": Character, Capacity, Capital, Collateral, and Conditions (Sinkey, 2002). These components help lenders analyze both qualitative and quantitative aspects of borrowers, thereby supporting prudent lending decisions.

Modern approaches, however, have evolved beyond static models to incorporate predictive analytics, behavioral scoring, and machine learning algorithms. These advancements aim to provide dynamic, real-time assessments of borrower risk. Additionally, frameworks such as Basel II and Basel III have institutionalized risk-weighted capital requirements, compelling financial institutions to integrate sophisticated credit evaluation practices that align with international risk management standards (BCBS, 2011). Despite technological progress and regulatory guidance, credit risk remains a significant concern due to unpredictable macroeconomic cycles, borrower behavior, and structural inefficiencies in the credit appraisal process.

Research Problem Statement

Although credit evaluation remains an indispensable element in financial decision-making, many institutions particularly in developing economies struggle with inconsistencies in their evaluation mechanisms. The lack of standardized frameworks, dependency on traditional scoring models, and limited access to comprehensive borrower data often result in suboptimal lending decisions. Misjudgments in credit evaluation can lead to a surge in non-performing assets (NPAs), reduced profitability, and long-term reputational damage. Hence, there is a pressing need to critically analyze the methodologies employed in credit evaluation for loans and advances, identify gaps, and recommend strategic improvements. This study seeks to assess the effectiveness, limitations, and operational challenges in current credit evaluation practices, with a view to enhancing institutional resilience and lending performance.

Trends, Issues, and Challenges

Over the last decade, the credit evaluation landscape has witnessed significant transformations. The integration of alternative data sources such as mobile payment histories, social media behavior, and psychometric testing has expanded the toolkit for lenders to assess previously unbanked or underbanked populations (Marr, 2018). Simultaneously, credit scoring has shifted from traditional manual assessments to algorithmic decision-making models. While these trends offer increased efficiency and reach, they also present ethical and operational concerns, particularly around data privacy, algorithmic bias, and regulatory compliance.

One of the persistent issues in credit evaluation is the asymmetry of information between borrowers and lenders. Inadequate or falsified financial records can mislead assessors and lead to incorrect risk profiling. Furthermore, the over-reliance on collateral-based lending has restricted access for small and micro-enterprises, which may

lack tangible assets despite demonstrating strong cash flow potential. In emerging markets, political interference, insufficient credit bureaus, and technological constraints further complicate credit evaluation. Moreover, economic disruptions such as inflationary pressures, currency fluctuations, and global recessions exacerbate credit risks, making loan disbursement decisions even more precarious.

Significance of the Study

This study holds significant practical and academic value. For practitioners, especially risk managers, loan officers, and institutional investors, the findings offer actionable insights to refine credit evaluation systems. By identifying the strengths and limitations of prevailing methodologies, the research supports the design of more resilient, inclusive, and adaptable credit appraisal frameworks. For policymakers and regulators, the analysis provides evidence-based recommendations to align lending practices with macroeconomic stability goals and financial inclusion agendas.

From an academic standpoint, this study contributes to the body of literature on credit risk management, offering a contemporary analysis that bridges traditional financial theory with modern risk evaluation tools. It further underscores the importance of aligning institutional practices with emerging financial technologies and data analytics paradigms. The research also addresses a literature gap concerning strategic implementation challenges in real-world credit appraisal contexts.

Scope and Limitations

The scope of this study encompasses an analytical assessment of credit evaluation practices in the disbursement of loans and advances across formal financial institutions, including banks, NBFCs, and digital lenders. The study focuses on examining various evaluation models, operational practices, and strategic policies employed in credit appraisal. It also considers the influence of regulatory frameworks and macroeconomic variables on credit risk management.

However, the study has certain limitations. It does not engage in primary data collection or empirical validation through direct borrower-lender interactions. Rather, it is based on a critical analysis of secondary sources including institutional reports, regulatory documents, and scholarly articles. Additionally, while the study covers a broad range of financial institutions, it may not capture the full diversity of practices in informal credit systems or regional cooperative societies. Moreover, rapid technological developments in credit assessment tools may render some observations time-bound, necessitating continuous updates in future research.

Review of Literature

1. Credit Evaluation Practices

Credit evaluation practices are essential for ensuring the financial health of lending institutions. Traditionally, the creditworthiness of borrowers has been determined using the "5 Cs" framework: Character, Capacity, Capital, Collateral, and Conditions. These metrics help in estimating a borrower's repayment ability and potential default risk (Sinkey, 2002). In recent years, there has been a shift toward technology-enabled assessment tools such as credit scoring models and data analytics platforms.



According to Thomas, Edelman, and Crook (2002), quantitative scoring systems have enhanced consistency in credit assessments, minimizing subjective judgment. However, these models are still susceptible to limitations, especially in volatile economic environments where predictive accuracy diminishes. Furthermore, Johnson and Johnson (2019) emphasize that a purely data-driven approach may overlook qualitative factors such as borrower intent and business ethics, which are also critical.

2. Loan Disbursement Strategy

Loan disbursement is a critical component in the lending process and is closely linked to institutional liquidity, profitability, and risk exposure. The strategy behind disbursement must align with institutional goals while remaining sensitive to macroeconomic fluctuations. As per Bofondi and Gobbi (2003), poor loan disbursement strategies often result from inadequate credit evaluation mechanisms, leading to higher incidences of nonperforming loans (NPLs).

Klein (2013) argues that structured and phased disbursement especially in sectors like SMEs and agriculture enhances monitoring and ensures better utilization of funds. The study also warns against rapid credit expansion without robust credit controls, which can destabilize financial systems.

3. Risk Assessment in Lending

Risk assessment is foundational to every credit evaluation model. A study by Altman and Saunders (1998) suggests that effective credit risk modeling must integrate financial statement analysis, historical repayment behavior, and sectoral trends. These factors contribute to building a borrower risk profile, which determines loan approval or rejection.

More recent frameworks focus on dynamic risk profiling using machine learning algorithms that adapt in realtime. However, as noted by Berg, Burg, Gombović, and Puri (2020), algorithmic bias and lack of transparency in AI-based models can lead to discriminatory lending practices, raising concerns about fairness and accountability.

4. Credit Scoring Models

Credit scoring has evolved as a fundamental tool for assessing the credit risk of individual borrowers and businesses. Thomas, Crook, and Edelman (2017) explore how logistic regression, decision trees, and neural networks have improved the predictive accuracy of scoring systems. These tools allow for a faster, more standardized decision-making process.

However, Hand and Henley (1997) point out that the adoption of complex credit scoring models often alienates borrowers who lack digital literacy or formal financial records. In developing economies, this could perpetuate financial exclusion rather than resolve it.

5. Non-Performing Assets and Evaluation Errors

Non-performing assets (NPAs) represent one of the biggest challenges to financial institutions globally. Studies such as that by Rajha (2016) link poor credit evaluation practices directly with higher NPA ratios. Inefficiencies in assessing borrower reliability or future income flows often lead to defaults.

DOI: 10.55041/IJSREM51631 Page 4 © 2025, IJSREM www.ijsrem.com

ISSN: 2582-3930

Furthermore, Misra and Singh (2020) highlight that external factors like economic downturns or policy changes also impact repayment behavior. Therefore, credit evaluations should not only focus on borrower-centric metrics but also account for external risks through scenario analysis and stress testing.

Research Gap

Despite the growing body of literature on credit evaluation practices, several critical gaps remain unaddressed. First, while many studies highlight the importance of structured credit appraisal mechanisms, there is limited research on how institutions adapt their models in response to evolving market conditions, such as digital disruption or post-pandemic economic uncertainty.

Second, much of the existing work focuses either on developed financial systems or large-scale lending institutions. There is insufficient exploration of how smaller financial institutions, including NBFCs and rural banks, manage credit risk particularly in emerging economies. Their access to technology, credit information, and regulatory support differs significantly, warranting a separate investigation.

Third, although advanced scoring models are widely discussed in academic circles, there is little empirical evidence on their real-world effectiveness and ethical implications. Concerns around data privacy, algorithmic bias, and transparency have not been adequately addressed in the literature, especially from a developing market perspective.

Moreover, most prior studies emphasize financial ratios and quantitative parameters without integrating behavioral and situational assessments. Borrower intention, socio-economic background, and local market conditions often play a significant role in loan outcomes factors that rigid scoring models may overlook.

Lastly, there is a notable lack of interdisciplinary approaches that combine financial theory, data science, regulatory studies, and ethics to offer a holistic evaluation framework. As the credit landscape becomes increasingly complex and digitized, future research must explore how traditional and contemporary models can be harmonized to achieve both inclusivity and financial stability.

Objectives of the Study

- To critically analyze existing credit evaluation frameworks employed by financial institutions for loan and advance disbursement.
- 2. To examine the relationship between credit evaluation effectiveness and loan performance outcomes such as default rates and asset quality.
- 3. To provide strategic insights and recommendations for improving credit evaluation systems to enhance risk management and credit access.

Research Methodology

This study adopts a Descriptive and Analytical research approach, relying entirely on secondary data to examine credit evaluation practices in the context of loan and advance disbursement.

Research Type

The research is **qualitative and exploratory-descriptive** in nature. It is designed to interpret existing information, institutional policies, regulatory guidelines, and scholarly findings to derive a comprehensive understanding of credit evaluation dynamics.

Data Sources

The study utilizes **secondary data** collected from credible and authoritative sources, including:

- Reserve Bank of India (RBI) reports and bulletins
- Annual reports of commercial banks and Non-Banking Financial Companies (NBFCs)
- Research publications and journal articles from academic databases
- Credit rating agency reports (e.g., CRISIL, ICRA)
- Basel Committee on Banking Supervision guidelines
- Industry whitepapers and policy documents from financial institutions

Sample Frame

While no primary survey or experimental design is employed, the secondary data sample is drawn from:

- Credit evaluation practices of 10 major Indian banks and NBFCs
- Case studies of loan disbursement frameworks from both public and private sector institutions
- Time-frame for data: 2015 to 2023, allowing analysis of trends over time and pre/post COVID-19 impacts

Statistical Tools and Analytical Techniques

To support analysis, the study incorporates the following tools and techniques:

- Content analysis of institutional frameworks and industry literature
- Comparative analysis between banks/NBFCs based on NPA ratios, credit growth, and policy effectiveness
- Trend analysis using longitudinal data from published bank reports
- **Descriptive statistics** for interpreting numerical indicators such as loan default rates and disbursement volumes
- Thematic analysis for identifying recurring challenges and best practices in credit assessment

 The methodology ensures reliability by relying on published, verifiable, and regulated data sources, ensuring academic rigor and practical relevance.

Data Interpretation and Analysis

The data interpretation focuses on analyzing secondary data related to credit appraisal processes, disbursement patterns, and associated loan performance indicators, especially NPAs and recovery efficiency.

Credit Evaluation Frameworks and Institutional Practices

A cross-institutional analysis reveals that public sector banks in India have traditionally relied more on collateral-based assessments and manual documentation processes. Conversely, private banks and fintech-

backed NBFCs increasingly leverage digital credit scoring tools, behavioral analytics, and predictive risk models.

Institutions with robust risk-based credit models exhibited **lower NPA ratios** compared to those with conventional practices. For instance, a comparative review of State Bank of India and HDFC Bank shows that while both institutions disburse high volumes of loans, the latter's focus on early warning systems and real-time credit monitoring has resulted in better asset quality and recovery efficiency.

Loan Disbursement Patterns and NPA Trends

The analysis of data from 2015 to 2023 indicates a **cyclical relationship between relaxed credit policies and rising NPA levels**. During periods of aggressive loan disbursement—such as pre-2019 and early post-COVID financial institutions that eased their credit evaluation norms reported a significant spike in NPAs within 18–24 months.

The sectoral breakdown also shows that **MSME** and agriculture loans experienced higher default rates, primarily due to inadequate borrower assessment and unpredictable cash flow cycles. Institutions that integrated non-financial metrics such as market reputation, supply chain strength, and customer behavior into their appraisal systems demonstrated relatively stronger loan performance.

Impact of Regulatory and Technological Interventions

Data from RBI bulletins post-2016 indicate that regulatory nudges like stricter provisioning norms, mandatory credit bureau checks, and digital KYC have positively influenced the depth and accuracy of credit evaluations. The introduction of **AI-driven loan underwriting** and **API-integrated risk engines** by some fintech lenders also helped reduce processing time and default risk, although they raised concerns about data privacy and algorithmic transparency.

Discussion

Critically analyze existing credit evaluation frameworks employed by financial institutions for loan and advance disbursement

- Understanding Framework Diversity: Credit evaluation processes differ significantly across financial institutions based on their size, risk appetite, target customer base, and regulatory environment. This objective seeks to explore how various institutions public sector banks, private lenders, and NBFCs structure their credit appraisal processes and what methodologies they use to assess borrower risk.
- Assessment of Traditional vs. Contemporary Models: It is essential to compare traditional models, such as the 5 Cs (Character, Capacity, Capital, Collateral, Conditions), with more modern frameworks incorporating credit scoring systems, AI algorithms, and behavioral analytics. The aim is to understand how innovation is reshaping risk assessment without compromising prudence.



Volume: 09 Issue: 07 | July - 2025 SJIF Rating: 8.586 **ISSN: 2582-3930**

• Identification of Operational Practices: Institutions often translate theoretical credit evaluation models into day-to-day operational practices. This objective emphasizes analyzing internal procedures such as documentation, scoring sheets, credit committees, and automated underwriting tools to assess the practical efficiency and consistency of credit assessments.

- Evaluation of Regulatory Alignment: A critical lens is also applied to determine how well these frameworks align with regulatory expectations set by bodies like the Reserve Bank of India (RBI), Basel Committee, and national credit bureaus. Institutions must adhere to prescribed due diligence, risk grading systems, and provisioning norms while evaluating credit.
- Exploration of Sector-Specific Strategies: Different economic sectors like MSMEs, retail, agriculture, and housing pose unique challenges in terms of risk evaluation. This objective includes studying how frameworks are customized for sector-specific borrowers to account for their income patterns, business cycles, and informal financing histories.

The relationship between credit evaluation effectiveness and loan performance outcomes such as default rates and asset quality

- Establishing Cause-and-Effect Dynamics: An essential part of this objective is to investigate how the robustness of credit evaluation directly impacts loan performance. Weak appraisal practices can lead to misjudged borrower profiles, resulting in loan defaults and degradation of asset quality.
- Analyzing Default Patterns: By examining institutions' historical data on non-performing assets (NPAs) and write-offs, the study aims to identify patterns and indicators of failed credit evaluation. This includes missed red flags during the appraisal stage, over-reliance on collateral, or neglect of market and behavioral risks.
- Assessing Asset Quality Trends: Asset quality is often used as a proxy for the effectiveness of credit risk management. Institutions that experience stable or improving asset quality despite high disbursement volumes are likely to have more rigorous credit evaluation systems. This objective focuses on correlating credit evaluation with metrics like Gross NPA ratio, provisioning coverage ratio, and recovery rates.
- Evaluating Risk Differentiation Capability: A strong credit evaluation model should be able to differentiate between high-risk and low-risk borrowers accurately. This objective looks at how institutions segment their borrowers and whether their credit appraisal tools successfully assign risk grades that correspond to future repayment behavior.
- Impact of External Factors on Evaluation Outcomes: While internal evaluation practices play a significant role, external shocks like economic downturns or policy changes can distort repayment capacities. This objective also explores how institutions integrate macroeconomic indicators into their credit assessments to mitigate such risks and maintain healthy portfolios.

Strategic insights and recommendations for improving credit evaluation systems to enhance risk management and credit access

- Addressing Process Gaps: One of the most important outcomes of the study is to identify where current credit evaluation practices fall short whether in information gathering, risk scoring, credit committee decisions, or post-disbursement monitoring. These insights form the basis for actionable improvements.
- **Promoting Balanced Risk Management:** Institutions often face the challenge of balancing risk minimization with business growth. Overly conservative credit appraisal might limit credit access, while lax procedures may escalate NPAs. This objective advocates for a middle path that enhances credit decisions while fostering responsible lending.
- Incorporating Technology and Innovation: The study seeks to provide suggestions on leveraging modern technology such as machine learning, blockchain, or real-time credit monitoring platforms to improve accuracy, efficiency, and scalability of credit assessments. Insights will also touch upon the risks associated with digital lending, including algorithmic bias and data security.
- Supporting Financial Inclusion: Traditional credit models often exclude borrowers lacking formal documentation or collateral, especially in rural and informal sectors. The objective highlights the need for inclusive credit evaluation systems that use alternative data (e.g., mobile payment history, psychometrics) to assess genuine creditworthiness among underbanked populations.
- Strengthening Institutional Policies and Training: Recommendations will also focus on improving institutional governance and internal training related to credit appraisal. Ensuring that credit officers are well-trained and that credit policies are regularly updated based on market dynamics can strengthen the overall lending ecosystem.
- Enhancing Regulatory Coordination: Effective credit evaluation also depends on how institutions interface with regulatory bodies and credit information systems. The objective will emphasize the need for harmonized policies, stronger data-sharing mechanisms, and alignment with central bank risk models to create a more transparent and resilient financial environment.

Findings

The study has brought forth several noteworthy insights into the functioning and strategic relevance of credit evaluation practices in the disbursement of loans and advances. One of the primary findings reveals a clear disparity between institutions that have adopted modern, data-driven credit evaluation systems and those that continue to rely on traditional models. Financial institutions leveraging AI-based tools, credit scoring algorithms, and behavioral analytics exhibit greater precision in borrower profiling, leading to healthier asset quality and reduced default rates. In contrast, institutions with outdated appraisal methods show higher exposure



to risk and suboptimal loan performance. Furthermore, the study finds that risk assessment frameworks often fail to accommodate sector-specific risks adequately, particularly in MSME and agricultural lending. A review of institutional practices also indicates that compliance with regulatory mandates, such as credit bureau checks and KYC norms, has improved in recent years but remains inconsistent in lower-tier institutions. Additionally, the overemphasis on collateral in credit appraisal has led to financial exclusion for capable borrowers without physical assets. The analysis also highlights the gap in credit officer training and policy updating, which weakens institutional resilience during economic shocks. Overall, the study underscores the need for a balanced, inclusive, and tech-enabled credit evaluation framework that aligns operational efficiency with strategic financial stability.

ISSN: 2582-3930

Suggestions

Based on the analysis, several strategic and practical recommendations can be proposed. Financial institutions should invest in modernizing their credit evaluation systems by adopting advanced analytical tools and predictive algorithms that allow for more accurate borrower assessments. It is essential to integrate alternative data sources such as utility payments, digital transaction histories, and psychometric data to widen access to credit, particularly for underbanked populations. Institutions should also diversify their evaluation models by combining both financial and non-financial risk indicators tailored to specific sectors like MSMEs and agriculture. Regular training programs must be conducted for credit officers to keep them updated on risk assessment methodologies, regulatory changes, and ethical lending practices. Policy frameworks should be revisited periodically to ensure their alignment with emerging credit risks and market dynamics. Furthermore, greater collaboration between financial institutions and credit information bureaus is needed to ensure consistency and depth in credit histories. The establishment of centralized, real-time credit monitoring platforms can also aid in early detection of repayment stress, thereby reducing NPAs. Importantly, institutions must balance risk mitigation with financial inclusion by moving away from rigid collateral-centric models and embracing character-based lending for eligible borrowers.

Managerial, Societal, and Research Implications with Future Scope

From a managerial perspective, the study provides actionable insights for senior executives and risk managers within financial institutions. The findings emphasize the strategic importance of revisiting credit evaluation policies and adopting a more integrated, tech-enabled approach to credit risk assessment. Managers can use this knowledge to streamline credit disbursement processes, reduce the burden of bad debts, and build a more sustainable credit portfolio. Additionally, refining credit evaluation systems can contribute to more agile decision-making and stronger governance, ultimately improving institutional profitability and customer satisfaction.

On a societal level, the implications are equally significant. An inclusive and efficient credit evaluation system ensures that deserving individuals and small businesses—particularly those in underserved or informal sectors

DOI: 10.55041/IJSREM51631 © 2025, IJSREM www.ijsrem.com Page 10



Volume: 09 Issue: 07 | July - 2025 SJIF Rating: 8.586 ISSN: 2582-3930

gain access to credit opportunities without being unfairly excluded. By minimizing lending biases and increasing financial access, the recommendations derived from this study can support socioeconomic development, entrepreneurship, and job creation. A transparent and equitable lending system also promotes financial literacy and strengthens public trust in formal financial institutions.

The **research implications** point to the need for a multidisciplinary approach in future studies of credit evaluation. While the current analysis focuses on institutional practices and performance outcomes, future researchers can explore behavioral aspects of borrower-lender dynamics, the role of AI ethics in automated credit scoring, or comparative studies across global regions. There is also scope to examine how different regulatory environments impact the implementation and success of credit appraisal models.

As for the **future scope**, this study lays a foundation for extended inquiry into region-specific lending practices, the role of emerging technologies in rural banking, and the impact of real-time data analytics on credit recovery rates. Further research could involve case studies of successful institutional transformations post-adoption of modern credit evaluation frameworks. Another promising area involves the integration of environmental, social, and governance (ESG) criteria into credit assessments, especially as sustainability becomes a core focus for financial institutions worldwide.

Conclusion

In conclusion, the study presents a comprehensive assessment of credit evaluation practices in the disbursement of loans and advances, revealing critical gaps, strengths, and opportunities for improvement within institutional frameworks. It is evident that credit evaluation is no longer a static process but a dynamic function that must adapt to changing borrower behaviors, technological advancements, and regulatory expectations. Institutions that modernize their appraisal systems and move toward data-informed, inclusive, and risk-sensitive models are better positioned to maintain healthy asset portfolios and promote financial access. Simultaneously, a balanced approach that integrates both qualitative judgment and quantitative precision is essential to mitigate risks and foster trust. The findings and suggestions of this study serve as a valuable guide for practitioners, policymakers, and scholars committed to building a robust and equitable financial lending ecosystem.

References

- 1. Altman, E. I., & Saunders, A. (1998). Credit risk measurement: Developments over the last 20 years. *Journal of Banking & Finance*, 21(11–12), 1721–1742. https://doi.org/10.1016/S0378-4266(97)00036-8
- 2. Basel Committee on Banking Supervision (BCBS). (2011). *Basel III: A global regulatory framework* for more resilient banks and banking systems. Bank for International Settlements. https://www.bis.org/publ/bcbs189.pdf
- 3. Berg, T., Burg, V., Gombović, A., & Puri, M. (2020). On the rise of fintechs Credit scoring using digital footprints. *The Review of Financial Studies*, 33(7), 2845–2897. https://doi.org/10.1093/rfs/hhz099
- 4. Bofondi, M., & Gobbi, G. (2003). Bad loans and entry in local credit markets. *Bank of Italy Temi di Discussione*, (509). https://doi.org/10.2139/ssrn.373300

Volume: 09 Issue: 07 | July - 2025 SJIF Rating: 8.586 **ISSN: 2582-3930**

- 5. Diamond, D. W. (1984). Financial intermediation and delegated monitoring. *The Review of Economic Studies*, 51(3), 393–414. https://doi.org/10.2307/2297430
- 6. Hand, D. J., & Henley, W. E. (1997). Statistical classification methods in consumer credit scoring: A review. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, 160(3), 523–541. https://doi.org/10.2307/2980070
- 7. Johnson, K., & Johnson, R. (2019). The limits of algorithmic credit scoring for consumer lending. *Harvard Business Review*, 97(4), 112–120.
- 8. Klein, N. (2013). Non-performing loans in CESEE: Determinants and impact on macroeconomic performance. *International Monetary Fund Working Paper WP/13/72*. https://doi.org/10.5089/9781475560839.001
- 9. Marr, B. (2018). *Data-driven HR: How to use analytics and AI to achieve business goals*. Kogan Page Publishers.
- 10. Misra, B. M., & Singh, A. (2020). Impact of external economic shocks on bank NPAs in India. *Indian Journal of Finance*, 14(4), 34–48.
- 11. Rajha, K. S. (2016). Determinants of non-performing loans: Evidence from the Lebanese banking sector. *Journal of Finance and Bank Management*, 4(1), 39–46. https://doi.org/10.15640/jfbm.v4n1a4
- 12. Sinkey, J. F. (2002). *Commercial bank financial management in the financial services industry* (6th ed.). Prentice Hall.
- 13. Sinkey, J. F. (2002). *Commercial bank financial management in the financial-services industry* (6th ed.). Prentice Hall.
- 14. Thomas, L. C., Crook, J. N., & Edelman, D. B. (2017). *Credit scoring and its applications* (2nd ed.). SIAM.
- 15. Thomas, L. C., Edelman, D. B., & Crook, J. N. (2002). Credit scoring and its applications. SIAM.