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"Determinants of Loan Processing Effectiveness and Non-Performing Assets in Shaping Customer Satisfaction: Evidence from Private Banks"

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***Abstract*--The study explores the relationships among loan processing factors, Non-Performing Assets (NPAs),and customer satisfaction in private banks. Loan processing efficiency is directly linked to both customer experience and bank financial stability. The research aims to evaluate existing loan procedures, identify key factors affecting processing efficiency, and analyse how these factors relate to NPA levels.**

Primary data were collected from 84 respondents in a selected private bank. Pearson's Correlation and Chi-Square tests were used to examine the relations between loan processing time, the time taken to verify documents, customer satisfaction, and the NPA level associated. The results showed that increased digitalisation and shorter loan processing times significantly enhance customer satisfaction, while stronger documentation is associated with lower NPA levels. The results highlight that enhanced technical integration, timely loan processing, and accurate verification are essential to achieve higher efficiency, improved customer satisfaction, and lower NPAs in private banking operations.

***Keywords*-- Loan Processing, Customer Satisfaction, Digitalisation, Document Verification, Loan Efficiency, Non-Performing Assets (NPAs), Private Banks.**

I. INTRODUCTION

Efficient banking operations and the quality of assets are key indicators of a bank's performance. Among the various functions, loan processing plays a major role in determining the bank's financial stability and customer satisfaction levels. Efficient loan processing and accurate documentation help in timely approvals and risk assessment, while delays and procedural gaps can lead to dissatisfied customers and an increase in Non-Performing Assets (NPAs).

Private banks are struggling to maintain equal efficiency across all branches despite their technological advancements. Varying levels of digitalisation, staff competence, and document verification methods can influence the speed and accuracy of loan approvals. Inadequate verification and delays in processing often lead to poor credit quality, which in turn negatively affects the NPA ratio.

The quality and timeliness of loan services have a direct impact on customer satisfaction. Swift processing and clear communication increase satisfaction, whereas procedural delays reduce trust. Similarly, weak documentation and ineffective monitoring heighten the risk of default. Therefore, investing in and improving loan processing systems not only enhances the customer experience but also strengthens the overall asset quality of banks.

This study examines how various loan processing factors—such as digitalisation status, average processing time, and document verification quality—influence customer satisfaction and loan performance in a private bank. Using statistical tools like correlation and Chi-square analysis, the research examines the relationships between these variables to determine how efficiency improvements can reduce NPAs.

II. OBJECTIVES

- To evaluate the current loan processing procedures followed in a private bank.
- To identify factors affecting the efficiency of loan processing.
- To analyse the relationship between loan processing and Non-Performing Assets (NPAs).

III. REVIEW OF LITERATURE

- *Dhanalakshmi C (2024)* studied the Non-Performing Assets (NPAs) in Cooperative Societies in India, focusing on their impact on profitability and growth of the bank. The study found that NPAs severely slow down lending capacity and overall economic development. The author emphasised effective NPA management and highlighted the government's "4R Strategy"—Recognising, Resolution and Recovery, Recapitalising, and Reforms—as key to improving credit discipline and governance.

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- *G. Prasanna Kumar and K.S.V.G.K. Murthy (2024)* analysed NPAs and their effect on the long-term sustainability of Indian banks using data from 2010–2023. The study revealed that increasing NPAs, especially in public banks, lowers profitability and asset quality.
- *Dr Nirmesh Sharma, Ayush Yadav, and Anant Chauhan (2024) examined* the relationship between NPAs and profitability in selected Indian banks (2018–2024). Results showed a negative correlation between NPAs and profits, except for HDFC Bank, which showed a slight positive trend. Public sector banks recorded higher NPAs than private banks.
- *Madhusmita Ronghangpi and Naveen Kumar (2023)* explored NPAs and the effectiveness of recovery channels in Indian banks using data from 2016–2021. The study found that NPAs adversely affect bank profitability and stability.
- *Tanvir Hasan Anik, Nandan Kumar Das, and Md. Jahangir Alam (2019)* analysed non-performing loans and profitability in state-owned banks in Bangladesh (2005–2016).
- Regression results showed that NPL growth negatively affects Return on Equity (ROE), while capital adequacy has a positive impact.

IV. Research Design

Research design serves as a framework for systematically gathering, measuring, and analysing data. For this study, a descriptive research design has been used. The primary aim of this research is to provide an accurate representation of the current situation, focusing on the loan processing efficiency, NPA and customer satisfaction.The study is based on a sample size of 84 respondents, selected using the convenience sampling technique. The data collected were analyzed using statistical tools such as Correlation analysis and the Chi-square test, with the assistance of SPSS software.

V. Data Analysis

H_0 (Null Hypothesis): There is no significant relationship between the digitalisation status of loan processing and customer satisfaction with the loan processing time.

TABLE 1:
DIGITALIZATION STATUS OF LOAN PROCESSING AND CUSTOMER SATISFACTION WITH LOAN PROCESSING TIME

		Digitalisation Status of Loan Processing	**Customer Satisfaction with Loan Processing Time**
Digitalisation Status of Loan Processing	Pearson Correlation	1	.480”
	Sig.(2-tailed)		<.001
	N	84	84
Customer Satisfaction with Loan Processing Time	Pearson Correlation	.480”	1
	Sig.(2-tailed)	<.001	
	N	84	84
Correlation is significant at the 0.01 level (2-tailed).			

Interpretation:

The Pearson correlation analysis shows a moderate positive relationship between digitalisation of the loan process and customer satisfaction with loan processing time ($r = 0.480$), with a significance value of $p < 0.001$.

Since the p-value is less than 0.01, the correlation is statistically significant at the 1% level, indicating that the observed relationship is unlikely due to chance. This indicates that digital loan processing improves efficiency and customer satisfaction.

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Banks that delay digital adoption may face lower satisfaction, emphasising the need for technology investment and staff training. Hence, the null hypothesis is rejected.

H_0 (Null Hypothesis): There is no significant relationship between the average time taken to process a loan application and customer satisfaction with the loan processing time.

TABLE 2:
AVERAGE TIME TAKEN TO PROCESS A LOAN APPLICATION AND CUSTOMER SATISFACTION WITH LOAN PROCESSING TIME

		Average time taken to process a loan application	**Customer Satisfaction with Loan Processing Time**
Average time taken to process a loan application	Pearson Correlation	1	.244”
	Sig.(2-tailed)		.025
	N	84	84
Customer Satisfaction with Loan Processing Time	Pearson Correlation	.244”	1
	Sig.(2-tailed)	.025	
	N	84	84
Correlation is significant at the 0.05 level (2-tailed).			

Interpretation

The Pearson correlation analysis also reveals a weak positive relationship between the average loan processing time and customer satisfaction with loan processing time ($r = 0.244$, $p = 0.025$). Given that the p-value is less than 0.05, the correlation is statistically significant at the 5% level, meaning the relationship is real, though weak.

While faster loan processing contributes to satisfaction, it is not the only determinant. Customer experience depends more on communication, staff behaviour, and accuracy. Therefore, both efficiency and service quality are essential. Hence, the null hypothesis is rejected.

H_0 (Null Hypothesis): There is no significant relationship between the status of document verification in loan processing and the percentage of NPAs.

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TABLE 3:
STATUS OF DOCUMENT VERIFICATION IN LOAN PROCESSING AND PERCENTAGE OF NPA'S

		Status of Document Verification in Loan Processing	Percentage of NPAs
Status of Document Verification in Loan Processing	Pearson Correlation	1	.547"
	Sig.(2-tailed)		<.001
	N	84	84
Percentage of NPAs	Pearson Correlation	.547"	1
	Sig.(2-tailed)	<.001	
	N	84	84
Correlation is significant at the 0.01 level (2-tailed)			

Interpretation

Pearson's correlation analysis reflects a moderate to strong positive relationship between document verification status in loan processing and the percentage of NPAs ($r = 0.547$, $p < 0.001$). Because the p-value is lower than 0.01, the correlation is highly significant at the 1% level, meaning the relationship is not random but genuine.

Rigorous borrower validation correlates with low NPAs, as stringent documentation processes ensure better loan performance and fewer defaults. The strong correlation suggests that effective verification enhances efficiency and stability. Hence, the null hypothesis is rejected.

Null Hypothesis (H_0): There is no significant association between the average time taken to process a loan application and the percentage of NPAs.

TABLE 4:
AVERAGE TIME TAKEN TO PROCESS A LOAN APPLICATION AND PERCENTAGE OF NPA'S

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	11.238[a]	1	<.001		
Continuity Correlation	9.450	1	.002		
Likelihood Ratio	16.844	1	<.001		
Fisher's Exact Test				<.001	<.001
Linear-by-Linear Association	11.105	1	<.001		
N of Valid Cases	84				

Interpretation

The Chi-Square value ($\chi^2 = 11.238$, $p < 0.001$) indicates a very significant association between loan processing time and the proportion of NPAs. This means that the p-value is significantly below 0.05 and the null hypothesis is rejected.

Longer processing periods have resulted in higher NPAs, while quicker durations correspond to lower NPAs. In a nutshell, when loan processing is effective and efficient, it reduces the likelihood of loans turning into NPAs. Hence, the null hypothesis is not supported.

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VI. FINDINGS

- *Digitalisation and Customer Satisfaction:* There was a positive moderate relationship between the extent of digitalised processes in loan processing and customer satisfaction. This means that the higher the digital penetration of banks and automated solutions, the faster the processing time, the fewer human errors and the greater customer satisfaction.
- *Turnaround Time Versus Client Satisfaction:* There is a feeble, but significant relationship between the average number of days required to process loans and client satisfaction. While speed of processing added to satisfaction, other elements – including staff attitude, accuracy and communication – also contributed.
- *Quality of Document Verification Vs NPAs:* The correlation between the quality of document verification and the percentage of NPAs is moderate to strong. Higher verification is linked to the lowering of NPAs, which means if good scrutiny is taking place, customers are less likely to default on loans.
- *Processing Time and NPAs:* The Chi-Square test indicates a relationship between loan-processing time and NPAs. Higher processing turnaround time increases NPAs, and conversely, decreasing the time taken would increase efficiency would reduce bad loans.
- *Aggregate Relationship:* Analyses support that technology, efficiency and documentation positively impact customer satisfaction as well as loan quality. Ineffectiveness or tardiness in any of these variables is linked to the rise of NPAs.

VII. SUGGESTIONS

- Private banks need to rely more on digital solutions and automated processes while appraising and tracking the loan to reduce human errors.
- Use of a standardised checklist and multi-step validation process to ensure that all borrower information is accurate and complete.
- Provision for time-bound sanctioning, online filing, and tracking of applications to expedite the loan sanction process.
- Organise regular training programmes for credit analysis, documentation and risk management to enhance the level of employee productivity and responsibility.
- Communicate frequently and use digital notifications to build trust with customers.
- Set up early warning systems and post-disbursement monitoring to flag possible defaults, keep NPAs at a minimum.

VIII. CONCLUSION

It is found that the efficiency of loan processing in private banks significantly affects both customer satisfaction and asset quality, as one would also expect. The findings validate the fact that with a higher level of digitalisation, less time-consuming processes and strict documentation are the key enablers for enhanced operational performance and lower NPA ratios. With increased technological integration, strict verification formalities and a customer-first approach, banks can improve loan management to a great extent. Private banks that invest in continuous process improvement and maintain a proactive approach to risk management can focus on sustainable profitability and develop better customer relationships in a competitive financial environment

REFERENCES

[1] Divya, D., Dhanushita, S. G., & Sharmila, C. S. (2025). A study on non-performing assets with reference to Axis Bank (Podanur Branch). International Journal of Analytical and Experimental Modal Analysis, 17(4), 23–29.

[2] Kumar, G. P., & Murthy, K. S. V. G. K. (2024). Impact of NPAs on Long-Term Sustainability of Banks in the Economy: An Overview. International Education and Research Journal, 10(3), 11–18.

[3] Sharma, N., Yadav, A., & Chauhan, A. (2024). Impact of NPA on the Profitability of Banks. Madhya Pradesh Journal of Social Sciences, 29(1), 64–71.

[4] D Suganya. Essential Factors Influencing Better CRM Practices in selected Public and Private Sector Banks in Coimbatore Asian and Pacific Economic Review ISSN:1000-6052 VOl 17.No.1 2024

[5] Ronghangpi, M., & Kumar, N. (2023). Efficiency of Non-Performing Assets (NPA) Recovery Channels in Indian Banks: A Study. ILI Law Review, Winter Issue 2023, 189–208.

[6] Anik, T. H., Das, N. K., & Alam, M. (2019). Non-Performing Loans and Their Impact on Profitability: An Empirical Study on State-Owned Commercial Banks in Bangladesh. Journal of Advances in Economics and Finance, 4(4), 123-136.

[7] Katti, J. B., & Motilal, R. (2017). Management of Loan and Advance of Cooperative Banks- A Special Reference in Uttar Kannada District. SSRG International Journal of Economics and Management Studies (SSRG–IJEMS), 4(5), 68–76.

[8] Singh, V. R. (2016). A Study of Non-Performing Assets of Commercial Banks and Its Recovery in India. Annual Research Journal of Symbiosis Centre for Management Studies, Pune, 4, 110–125.

[9] Dr.N.Amsaveni,Risk of E-Banking Operations in Banking Sector, Rabindra Bharati Journal of Philosophy, 0973-0087, Volume XXXI, Issue 16, 100-106

[10] Dr. Jayashree R. (2025), A Study on Financial Performance Analysis of United Tyres with Reference to Coimbatore City, International Journal of Research in Management, ISSN: 2664-8806, Volume 7, Issue 1, February 2025, Page No: 604–607.

[11] Ms. C. Ranganayaki, (2024).A study on analyzing the financial performance and Conducting ratio analysis of the company "Voith", Journal of The Oriental Institute, Pg. No: 86-92.

[12] Dr. B. Merceline Anitha, (2025), Comparative Analysis Of Top 5 Indian It Stocks: Performance Trends From 2019 To 2024, International Journal of Management Research & Review, 2249-7196, Volume 15, 18-23