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Factors affecting non-performing assets in Indian banking system: An analysis of employee's perception

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***Abstract**: The presence of non-performing assets (NPAs) has a significant impact on a bank's solvency, profitability, and liquidity. This research paper aims to investigate the perception of bank employees regarding the factors such as risk, challenges, reforms in efficiencies and incentives in relation to NPAs in public sector banks (SBI and PNB) and private sector banks (ICICI and HDFC) in India. A structured questionnaire was administered to bank employees to gauge their perception of NPA occurrence. The study also identifies various variables influencing NPAs and provide suggestions for expediting their recovery. The paper identifies and analyzes the causes influencing non-performing assets) and suggests appropriate strategies for monitoring and control. The study analyzes the factors influencing NPAs in both sectors. Some identified reasons for NPAs include siphoning of funds for other purposes, ineffective monitoring, lack in credit appraisal, economic downturn political pressure etc.*

***Keywords**: Banks, Non-Performing Assets, Bank employees, Risk, Public sector banks, Private sector banks*.

Faktori koji utiču na problematičnu aktivu u indijskom bankarskom sistemu: Analiza percepcije zaposlenih

***Apstrakt**: Prisustvo neizvršnih sredstava (NIS) ima značajan uticaj na solventnost, profitabilnost i likvidnost banke. Ovo istraživanje ima za cilj da ispita percepciju zaposlenih u bankama o pojavljivanju NIS-a u SBI, ICICI,*

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HDFC i PNB. Strukturirana anketa sprovedena je među zaposlenima u bankama kako bi se procenila njihova perspektiva o pojavljivanju NIS-a. Studija takođe identifikuje različite varijable koje utiču na NIS i pruža sugestije za ubrzanje njihove naplate. Rad identifikuje i analizira uzroke koji utiču na neizvršna sredstva (NIS) i predlaže odgovarajuće strategije za monitoring i kontrolu. Statistički alat SPSS korišćen je za testiranje faktorske analize. Studija upoređuje i analizira faktore koji utiču na NIS u oba sektora. Neki od identifikovanih razloga za NIS uključuju preusmeravanje sredstava u druge svrhe, neefikasno praćenje, nedostatak procene kreditnog rejtinga, ekonomska recesija, politički pritisak, itd.

***Ključne reči**: Banke, Neizvršna sredstva (NIS), Zaposleni u bankama, Nedostatak iskusnog osoblja, Nedostatak informacija o zajmoprimcima.*

1. Introduction

India wises to grow its gross domestic product (GDP) to $5 trillion by 2024–2025, and to do this, it will need to increase the capacity of its infrastructure significantly. The expansion of the infrastructure requires a strong banking industry, to finance the expansion (Puri (2024). With a view to achieve this objective the Indian banking sector banking had observed many changes in its structure starting with nationalization of banking industry in 1969, entry of private and foreign banks, banking sector reforms, diffusion of banking technology, financial inclusion, and merger & consolidation. These changes are brought in by the trends of liberalization, privatization, and globalization. These changes in Indian banking industry were influenced by the Narasimhan Committee's recommendations in 1991 (Masand and Chadda 2023). The purpose of these reforms was to enhance the efficiency of the banking system by addressing various issues that affected bank performance including the management of non-performing assets (NPAs). These reforms emphasized effectiveness, accountability, profitability, and financial viability of banks that will result in overall growth. To add further, the development of the financial sector can either be a driving force behind economic development, or it can respond to growing economic demands by taking on a more passive role (Liang and Reichert (2006); Sharma, et al (2019)).

The growing proportions of nonperforming loans or advances have a negative effect on banks' performance by grabbing their revenue and lowering their profitability (Das and Uppal, 2021). The additional factors such as rising operational expenses and shrinking interest margins further impact banks' profitability (Berger and Deyoung, 1997). Researchers have concluded that banks with high NPA levels typically have "carrying costs" associated with these

assets, which lowers their profitability (Batra 2003). In addition, a significant portion of operating profits must be set aside for provisioning, for an increase in NPAs.

In case of Indian banks NPAs almost doubled in 2015-16 compared to previous years. To arrest the increase in NPAs, Reserve Bank of India (RBI), the Indian banking regulator, introduced stricter norms under the Asset Quality Review to address these issues. As a result of these measures, on September 30, 2023, the net non-performing asset (NNPA) ratio was at a historic low of 0.8% (PIB, 2023). Since Public sector banks continue to report better asset quality numbers, the ratio is expected to trend even lower over the coming quarters. For the previous two years, Public Sector Banks have been maintaining sizable buffers for provisions. This, together with ongoing improvements in asset quality, has allowed for a reduction in the level of incremental provisioning, which has decreased the cost of credit to the beneficiaries or industry (ETBFSI, 2024).

Many researchers have mentioned that there is a need for more studies to understand the puzzle “why Non-Performing Assets (NPAs) happen in India's banks” and to find ways to manage this risk efficiently without impacting profitability. While NPAs can't be eliminated, steps like usage of the Bankruptcy Code could help in reducing NPAs and recover bad loans. These studies collectively shed light on the causes and implications of NPAs in the banking sector, emphasizing the need for careful lending practices and prompt actions to address the issue. Though studies in the context of NPAs are conducted on regular basis but still there is a need to conduct studies on regular interval to gauge the impact of political and economic scenario on NPAs in Indian context. Most of the studies are based on secondary data and views expressed by banking experts. The main aim of this research study is to understand and compare perception of employees of the public sector and private sector banks about factors responsible for the rising Non-Performing Assets (NPAs). In addition, it suggests ways to manage NPA levels in public and private banks. This study will fill the gap of the knowledge with respect to employee perspectives about the causes of NPAs, resolution techniques, and negative impacts of NPAs on the performance of the Indian banks.

1.1 Objectives of the study

Based on the gap analysis from review of analysis following research objectives are identified:

Research Objective 1: To assess bank employees' perception on the reasons for the increasing NPAs in both private sector banks (Housing Development Finance Corporation [HDFC], Industrial Credit and Investment Corporation of

India [ICICI] and public sector banks (State Bank of India [SBI], Punjab National Bank [PNB]).

Research Objective 2: To analyze trends in NPAs and suggest possible remedial measures for an efficient management of non-performing assets in line with policy decisions by RBI.

Keeping in view the importance of NPA's to the banking system of a country, this research paper attempted to analyze the perception of employees of banks about NPAs in banks in the context of five dimensions which are accountable for the NPAs. The research paper is divided into seven sections. A brief introduction is presented in Section 1. A review of literature related to NPA's perception of employees of banks is presented in Section 2. Research methodology of the study, including research questions, objectives, and hypotheses are discussed in Section 3. The analysis and interpretation of the secondary data collected from different sources are presented in Section 4. Section 4 also presents the analysis and interpretation of primary data collected from the employees including frequency distribution of the respondents, analysis of variance, factor analysis etc. It is followed by a summary of key findings, concluding remarks, and suggestions in Section 5, 6 & 7.

2. Review of literature

This section represents review of literature in relation to factors affecting non-performing assets (NPAs) from a primary data perspective. The objective is to identify any existing gaps in literature with a view to identifying research objectives, outline the methodology for data collection, including the development of a questionnaire and the subsequent data analysis.

Sharma and Mathur (2020) compared the financial performance, non-performing assets (NPAs), and employee morale in public and private sector banks. Their research serves as a foundational framework for understanding the intricate relationship between financial health, asset quality, and employee satisfaction in different banking environments. Similarly, Kandpal (2020) investigated NPAs across both public and private sector banks, revealing the common challenges and potential solutions faced by the banking and financial institutions in India. Gaba and Kumar (2018) analyzed the correlation between NPAs and profitability within private sector banks. They found a negative relationship between both NPAs and profitability. They also observed that NPAs have been reduced in the previous years in private sector banks, which demonstrate better management practices are adopted by the banks.

Bhargava and Khan (2019) investigated the impact of NPAs on the financial performance of Indian commercial banks. Based on empirical evidence and analytical rigor, they found a significant impact of NPAs on the performance of the Indian banks. Meanwhile, Das and Dash (2018) looked deeply into causes of increasing Non-Performing Assets (NPAs) in Indian banks. They explored various aspects such as process of decision making to sanction loans, how banks assess credit worthiness of customers, how the economic changes will impact the recovery, and how the banks are managing underline risks of the credit. By studying past data and real-life examples, they highlighted how handling the loans and creating new NPAs can hurt a bank's finances. They highlighted the importance of taking action to reduce NPAs and make banks stronger and more stable in the future.

Gupta and Sharma (2017) reported the consequences of NPAs on profitability and capital adequacy of Indian banks which will deteriorate the quality of assets of the banks. Khanna (2017) argued that the effective NPA management strategies offer practical guidance for banks in navigating the challenges in today's dynamic financial landscape. Sett, and Mukhopadhyay (2022) revealed that the gross non-performing assets (GNPAs) ratio of banks is constantly impacted by the rate of return on the total investment made by borrowers, the rate of economic growth, the pace of expansion of bank credit, and the average interest rate offered by banks to their borrowers. They further emphasized that lending to the priority sector, lending without security, investing in corporate debt instruments, market valuation per employee, and employee motivation have an impact on the gross NPA ratio of banks.

Chakraborty (2012) reported that NPAs posed significant threat to the Indian banking sector. NPAs affect banks' profitability, liquidity, and solvency, impacting credit delivery and expansion. Public sector banks bear the brunt more in comparison to private sector banks (Selvarajan and Vadivalagan, 2013). Naveenan, et al (2016) mentioned that NPAs disrupt credit rotations that in turn affect economic growth. According to them, early warning signals are crucial to control NPAs. Irregularities in accounts, working capital deterioration, nonpayment of utility bills, and fund diversion also cause NPAs. Naveenan, et al (2020) studied the internal and external factors contributing to NPA growth. They considered internal factors such as faulty projects, willful defaulters, and appraisal deficiencies. External factors included in their study were natural calamities, recession, and technical issues. They also mentioned that improper selection of borrowers, and lack of monitoring, contribute to NPA growth. To have a better understanding of the non-performing assets, the classifications NPA is given in the following.

2.1 NPA (Non-Performing Asset)

Non-performing assets are loans or advances made by banks or financial institutions that no longer generate income for the lender. NPA has significant impact on the country's banking sector and financial institutions. In a developing country like India, it's a serious issue as it can slow down bank operations and hinder economic growth. The recent slowdown (impacted with Covid-19) in India's growth has contributed to profit erosion in the banking sector (Das, 2023).

2.2 Asset Classification and NPAs

Banks need to classify their loan and advance assets into four categories:

Standard assets: These are assets without any associated problems. They're considered performing assets with only normal business-related risks. (RBI, 2025).

Sub-standard assets: A sub-standard asset is one that has been classified as an NPA for a period of not more than two years. After March 31, 2001, this duration is changed to a period of up to 12 months. In this case, the borrower's current net worth or the security's current market value isn't sufficient to ensure full recovery of the dues to the banks (RBI, 2025).

Doubtful assets: A doubtful asset is one that has remained an NPA for more than two years. After March 31, 2001, this period was adjusted to more than 12 months. An asset is classified as doubtful if it has been an NPA for this extended period (RBI, 2025).

Loss assets: A loss asset is identified when a bank's internal or external auditors, or the RBI inspection team, confirm a loss, but the amount hasn't been written off entirely (RBI, 2025).

A number of issues, including loan non-performance that can have an impact on bank profitability are broadly divided into two categories i.e., bank-specific and macroeconomic issues. The bank-specific issues are payments of interest to the depositors on non-performing advances, return on assets, return on equity ((Chawla & Rani (2021); Berger and DeYoung (1997); Bawa et.al., (2019); Al-Homaidi et.al., (2018); Berger (1995); Demirguc and Huizinga (1999); Masood, and Ashraf (2012); Menicucci, and Paolucci (2016); Saona (2016); Sufian and Habibullah (2010)) and operational efficiency [Al-Homaidi et.al., (2018); Kohlscheen et.al.,(2018)]. The microeconomic issues such as GDP growth, inflation rate, Private Sector Lending Rate, Repo Rate and interest rate, FDI inflows these factors are studied by Sufian and Habibullah (2010); Staikouras and Wood (2004); Demirguc, and Huizinga (1999);

Chowdhury and Rasid (2017); Bourke (1989); Kumar (2021); Chawla & Rani (2021).

Pradhan (2012) concluded that despite nationalization, Indian banks face issues such as inefficient structure, declining profitability, and high NPA. Diversion of funds, willful defaults, and system flaws contribute to NPA growth. He suggested that careful loan processing, robust recovery efforts and monitoring of performing assets may arrest the share of NPAs in Indian Banks. Ravikumar, et al (2018) reported that Indian banks face NPAs due to indiscriminate lending, Industrial sickness, policy changes, defective lending processes, and absence of regular industrial health assessments. Agarwala and Agarwala (2019) concluded that NPAs grow more slowly in private banks compared to nationalized banks, including the State Bank of India (SBI). They discovered that nationalized banks including SBI and PNB struggled to handle bad loans, leading to a high increase in NPAs. Sharma, et al (2019) highlighted that banks are giving money to businesses or people who want to invest or grow, not keeping in view credit worthiness of these business or individuals.

Collectively, the above referenced research works offer a multifaceted perspective of NPAs in the Indian banking sector, encompassing empirical studies, trend analysis, and strategic recommendations to arrest volume of NPAs. These studies have enriched the understanding of the complex phenomenon and its implications for the industry and economy. Following research questions are phrases for the discussion of the study.

2.2. Research Questions

Based on the research objectives listed in earlier section and empirical evidence collected and analyzed, this study is an attempt to find answer to the followings research questions.

Research Question 1: What are the perceptions (in the context of 32 statements) of the employees for increasing NPAs in public sector banks (State Bank of India [SBI], Punjab National Bank [PNB])?

Research Questions 2: What are the perceptions (in the context of 32 statements) of the employees for increasing NPAs in private sector banks (Housing Development Finance Corporation [HDFC], Industrial Credit and Investment Corporation of India [ICICI]?

Research Questions 3: What are the inherent / latent factors accountable for NPAs in Indian Public and private banks?

Research Question 4: What are the changes in NPAs values for the selected four banks in the last decade?

Research Question 5: What are the possible remedial measures for efficient management of non-performing assets in line with the policy decisions of RBI?

2.3. Research hypotheses

As per the questionnaire given at Appendix-1, there are 32 statements representing five latent factors with respect to the perception of employees with respect to NPAs in Indian Banks. In addition, there are six demographics of the respondents, i.e., gender, age, education qualification, monthly income, levels of management and types of banks. Following sample hypotheses are developed for analysis purpose:

H1: There are significant differences in mean perceptions related to S1-S32 statements between employees at various levels of management.

H2: Male and female bank employees significantly differ in their perceptions of S1 to S32 statements.

H3: Employees at various levels of education significantly differ in their perceptions of S1 to S32 statements.

H4: Employees at various levels of monthly income significantly differ in their perceptions of S1 to S32 statements.

H5: Various age groups of employees significantly differ in their perceptions related to S1 to S32 statements.

3. Methodology of the study

3.1 Research Design

This study is an exploratory and descriptive research approach used to examine the factors impacting NPAs in the Indian banking sector from employees' perspective. The study seeks to comprehend the root causes of NPAs and their influence on banking operations. This study used a mixed approach, including quantitative and qualitative data. Quantitative data is collected via a structured survey while qualitative data is collected through interviews with banking professionals from their perspective.

3.2. Research Framework

NPAs continue to pose serious challenges to the financial and operational performance of the Indian banks. The research framework of the study can be termed as mixed approach based on primary as well as secondary data. The major focus of the research is the perception employees about NPAs who are directly involved in credit appraisal, dispersal, monitoring and recovery.

3.3. Target Population

Target population is the employees of the four banks, i.e., two largest public sector banks (State Bank of India and Punjab National Bank) and two largest private sector banks (ICICI Bank and HDFC Bank). The responding employees are selected from the National Capital Region (NCR), New Delhi. They are from different segments, making it a representative sample of bank employes.

3.3 Sample size

A stratified random sampling method is used to ensure representation from different banks (SBI, PNB, HDFC, ICICI). Therefore, sample size of 300 is considered sufficient. But only 200 respondents from the target population have responded to fill in the questionnaire. After a critical evaluation, having no missing values and no inconsistency in answers, only 119 responses were considered for study.

3.4 Data Collection

This study is based on both primary and secondary data. Primary data was collected through a structured questionnaire using different techniques of contacting respondents (employees of the selected four banks) such as emails, direct interviews, and telephonic calls in New Delhi-NCR. The questionnaire consists of mainly two parts. Part 1 consists of demographics of the respondents. The second part consists of perception of the employees on 32 statements which converge to five dimensions accountable for NPAs. Secondary data were gathered from reports of the banks under study, reports of RBI, research reports, articles on internet, and research papers/articles.

3.5 Methods of Data Analysis

Primary data that are categorical / nominal in nature are subjected to descriptive analytics and frequency analysis. Likert scale-ordered data on 32 statements first subjected to reliability analysis. Then scaled ordered data is subjected to test various hypotheses using Analysis of Variance (ANOVA) in relation to categories of various demographics of the respondents. To identify inherent factors/dimension factor analysis is carried out. To carry out factor analysis, the reliability coefficient (Cronbach's Alpha), KMO and Bartlett test were also calculated. The primary data analysis was done on the 32 statements. All the statements are represented like S1, S2, S3, till S32 due to paucity of the space.

Secondary data collected for NPA values for the last 10 years is subjected to trend analysis. In addition, data of factors responsible is taken from the research papers & other sources including review of literature were subjected to content analysis.

4. Results and discussion

This section presents the analysis and interpretation of secondary and primary data collected to achieve the objectives of the study in the subsequent sections. The first section 4.1 presents factor's affecting the NPAs and statistics of NPAs in selected four banks. Section 4.2 embodies descriptive statistics of demographics. The next subsection 4.3 presents inferential statistics that represent the results of testing various hypotheses with respect to demographics. Factor analysis, KMO, and Bartlett test of sphericity are given in section 4.4. Last section 4.5 represents descriptive analysis of five latent factors extracted as a result of factor analyses with respect to different demographics.

4.1 Statistics for Factor's affecting

From the perspective of banks, the determinants of NPAs are divided into two categories: internal and external factors. The internal factors are those that are exclusive to the banking operation. External factors, on the other hand, are those that are not related to the bank's operations yet can have an impact on loan outcomes. These key factors as identified by researchers are summarized in table 1.

Table 1: Factors Affecting NPAs

Factors responsible for NPAs		Source
Internal Factors (Bank specific factors	External factors (Macro economic factors)	
Operational (in)Efficiency (OC), Non-Interest Income (NII), Interest Income (II), Profitability (ROA), Capital Adequacy (CAR), Loan to sensitive sectors (LSS) and Secured Lending (SL)	Not Mentioned	Das (2023)
Adequacy of the loan policy, absence of adequate financial analysis, over lending, lack of market intelligence, lack of proper monitoring of loans etc.	Increase in interest rate on loan, competitive pressure in the industry, Macroeconomic policies, lack of proper legislation for recovery of NPA	Treesa (2019)
Unfaithful staff of banks, irresponsible lending scheme, Weak credit analysis, Rate of interest, repayment periods, lack of reliable borrowers' information	GDP, per capita, value will increase, interest rates, business cycles	Prasanth et.al., (2020)
Net Non-Performing Advances, Deposits, Non-interest	GDP Growth rate, Inflation, low interest rate	Das and Uppal (2021)

income, Net Interest Margin, Capital adequacy, operating cost		
Operational inefficiency, quality of lending, earning management and capital adequacy	Adverse economic conditions, weak banking regulations and supervision, inadequate corporate governance and weak market monitoring	Keetons and Morris (1987); Salas and Saurina (2002)
Non-performing advances, return on assets, return on equity	GDP growth, inflation rate, Private Sector Lending Rate, Repo Rate and interest rate, FDI inflows	Chawla & Rani (2021); Sufian, and Habibullah (2010); Demirguc, and Huizinga (1999).

Source: Compiled by author(s)

Statistics of NPAs: Net NPAs are given in table 2. It can be seen from table 2 that PNB & SBI (Public sector banks) have higher percentage of Net non-performing assets (NNPA) in comparison to private sector banks (HDFC & ICICI). The NNPA proportion for PNB peaked at 22.6% in 2021-22, whereas SBI had the highest NNPA percentage in 2010-11 at 58.1%. The percentage of NNPA for SBI has been steadily dropping over the past years. The coefficient of variance indicates that NNPA percentages vary significantly across banks.

Table 2: Net non-performing assets of selected banks during period of 2010-22 (In ₹ millions)

Bank/ Year	PNB[6]	% NNPA in PSB	SBI[2]	% NNPA in PSB	HDFC[3]	% NNPA in Pvt.SB	ICICI [5]	% NNPA in Pvt.SB
2010-11	20,386.3	9.6	123,468.9	58.1	2,964.1	6.7	24,073.6	54.3
2011-12	44,542.3	11.4	158,188.5	40.4	352.3	0.8	18,608.4	42.3
2012-13	72,365.0	11.7	219,564.8	35.5	4,689.5	7.8	22,305.6	37.2
2013-14	72,365.0	8.1	310,960.0	35.0	8,200.3	9.3	22,305.6	25.2
2014-15	99,169.9	8.1	275,905.0	22.5	8,962.8	6.3	32,979.6	23.3
2015-16	153,965.0	6.1	558,070.0	22.2	13,203.7	4.9	62,555.3	23.4
2016-17	354,225.6	12.4	582,773.0	20.4	18,439.9	3.9	129,630.8	27.1
2017-18	327,021.0	7.2	1,108,540.0	24.4	26,010.2	4.0	252,168.1	39.2
2018-19	300,376.6	10.5	658,947.4	23.1	32,145.2	4.8	135,774.3	20.2
2019-20	272,188.9	11.8	518,713.0	22.5	35,423.6	6.4	101,138.6	18.2
2020-21	385,757.0	19.6	368,097.2	18.7	45,548.2	8.2	91,802.0	16.6
2021-22	349,087.3	22.6	279,657.1	18.1	44,076.8	10.1	69,608.9	15.9
Mean	204,287.0	12.0	430,240.0	28.0	20,001.0	6.0	80,246.0	29.0

SOURCE:1.https://dbie.rbi.org.in
2. https://www.moneycontrol.com/financials/statebankofindia/results/yearly/SBI/1#SBI3.
3.https://www.moneycontrol.com/financials/hdfcbank/results/yearly/HDF01
4.https://www.moneycontrol.com/financials/punjabnationalbank/results/yearly/PNB05/3#PNB05
5.https://www.moneycontrol.com/financials/icicibank/results/yearly/ICI02
6.https://www.pnbindia.in/

Source: Computed by author(s)

Table 3 focuses on the trends in Non-Performing Assets (NPAs) for Public Sector Banks (PSUs) and Private Sector Banks (Pvt SBs) from 2010-11 to 2021-22. It can be inferred from table 3 that NPAs for PSU banks declined drastically from 2010-11 to 2014-15, with a spike of 100.3% in NPAs during the financial year 2015-16. However, in 2021-22, the NPA of PSUs fell by 21.2%. The NPAs follows a different pattern in private sector banks. In 2010-11, the NPA of private sector banks was relatively low compared to PSUs. However, the NPA of private sector banks has steadily climbed over the years, with the highest growth of 88.8% from 2014-15 to 2015-16. Over the time, the average changes of NPAs for private sector banks is 28.3%, while for public sector banks it is 20.95%.

Table 3: Percentage change in non-performing assets of public and private banks during a period of 2010-22 (in ₹ millions)

Years	Private Sector Bank NPA[4,6]	% change	Public Sector Bank NPA[3,5]	% change
2010-11	44320	.....	360550	.....
2011-12	44010	-0.7	593910	64.7
2012-13	59940	36.2	900370	51.6
2013-14	88615	47.8	1306350	45.1
2014-15	141283	59.4	1599510	22.4
2015-16	266770	88.8	3203760	100.3
2016-17	477800	79.1	3830890	19.6
2017-18	643804	34.7	4544730	18.6
2018-19	673088	4.5	2851230	-37.3
2019-20	556,834	-17.3	2309176	-19.0
2020-21	553765[1]	-0.6	1964508[1]	-14.9
2021-22	437332[1]	-21.0	1547453.9[1]	-21.2
Average trends (In Percentage)		28.3		20.9

1.https://www.statista.com/statistics/1064657/india-gross-npa-public-sector-banks-india/
2.www.moneycontrol.com/
3.https://www.moneycontrol.com/financials/statebankofindia/results/yearly/SBI/1#SBI
4.https://www.moneycontrol.com/financials/hdfcbank/results/yearly/HDF01
5.https://www.moneycontrol.com/financials/punjabnationalbank/results/yearly/PNB05/3#PNB05
6.https://www.moneycontrol.com/financials/icicibank/results/yearly/ICI02

Source: Calculated by author(s)

4.2 Descriptive statistics of demographics

This section presents the descriptive statistics of demographics of respondents with respect to gender, age, monthly salary, educational qualification, level in management, number of years' experience in banking sector and in loan management, and types of banks.

Table 4: Frequency distribution of respondents as per their gender and Level of management.

Gender	Frequency (%)	Level of management	Frequency (%)
Male	81 (68.1)	Senior level	43 (36.1)
Female	38 (31.9)	Middle level	51 (42.8)
Total	119 (100)	Lower level	25 (21.1)
		Total	119 (100)
*Values in bracket showing the percentage.			

Source: Calculated by author(s) from primary data

From the table 4 it can be observed that majority (68.1%) of the respondents are male, while the remaining 31.9% employees are female. It can also be observed that maximum (42.8%) of the respondents is in middle-level positions, 36.1% of employees are in senior-level management roles, and the remaining 21.1% of employees are in lower-level management positions.

Table 5: Frequency distribution of respondents as per their Level of higher education and age group.

Level of higher education	Frequency (%)	Age group	Frequency (%)
Graduate	20 (16.8)	Less <30 Yr.	13 (10.9)
Post-graduate	77 (64.7)	30-40 Yr.	54 (45.4)
Professional	22 (18.5)	40-50 Yr.	30 (25.2)
Total	119 (100)	Above 50 Yr.	22 (18.5)
		Total	119 (100)
*Values in bracket showing the percentage.			

Source: Calculated by author(s) from primary data

It can be inferred from table 5 that majority (64.7%) of the respondents have post-graduate degrees, followed by professionals (18.5%) and remaining (16.8%) are graduate respondents. Further, maximum number of respondents (45.4%) fall within the age group 30-40 years, 25.2% in the age group 40-50 years, and remaining 10.9% belongs to less than 30 years age category.

Table 6: Frequency distribution of respondents as per their monthly salary and banks.

Type of Banks	Frequency (%)	Monthly Income (₹) (US $) (1$ = 83.568)	Frequency (%)
Public sector banks (SBI and PNB)	44 (37)	Up to ₹ 30000 (US$ 358.99)	16 (13.4)
		₹ 30001-50000 (US$ 359.00 -598.33)	44 (36.9)
Private sector banks (HDFC and ICICI)	75 (63)	₹ 50001-80000 (US$ 598.34 -957.33)	24 (20.1)
		₹ 80001 above (US$ 957.34)	35 (29.4)
Total	119 (100)	Total	119 (100)
*Values in bracket showing the percentage.			

Source: Calculated by author(s) from primary data

The results presented in table 6 indicate that 37% of respondents are from public sector banks (SBI and PNB), and 63% are from Private sector banks (HDFC and ICICI). Table 6 also revealed that most (36.9%) of the employees belong to category of monthly income ₹ 30001 - 50000 (US$ 358.99 - 598.30). 29.4% belongs income groups More than ₹ 80001 (US$ 957.29), 20.1% belongs to ₹ 50001- 80000 (US$ 598.31 - 957.28), and the remaining 13.4 % belongs to ₹ 30000 (Up to US$ 358.98).

Table 7: Frequency distribution of respondents as per their experience in banking sector and in loan products

Experience in banking sector (In Years)	Frequency (%)	Experience in loan products (In Years)	Frequency (%)
0-5	32 (26.9)	0-5	28 (23.5)
5-10	40 (33.6)	5-10	32 (26.9)
10-15	34 (28.6)	10-15	28 (23.5)
15-20	13 (10.9)	15-20	31 (26.1)
Total	119 (100)	Total	119 (100)
*Values in bracket showing the percentage.			

Source: Calculated by author(s) from primary data

It can be inferred from table 7 that majority of respondents (33.6%) have 5-10 years of experience in banking sector followed by 28.6% respondents having experience of 10 to 15 years and 26.9% for 0-5 years. The remaining respondents (10.9 %) have experience of 15-20 years. This breakdown helps us understand the level of experience among the respondents surveyed. The distribution of respondents based on their experience in the loan product is also given in table 7. It is evident from the distribution that 23.5% have 0-5 years of experience, 26.9% have 5-10 years, 23.5% have 10-15 years, and 26.1% have

15-20 years. All the respondent employees have experience in loan products; therefore, they are well aware of the causes of NPAs in banking sector.

4.3 Inferential statistics

This section represents mean perception scores of respondents and testing of hypothesis in relation to differences in mean perception score with respect to different categories of respondents as per their gender, age, educational qualification, occupation, residing area, monthly income, and type of banks where they are working. The results are presented from table 8 to table 13.

Table 8 presents the mean perception scores of respondents for 32 statements along with standard error of the mean, median and corresponding p-values to test the hypotheses of differences in mean perception score in the context of levels in management of the sampled respondents. The mean perception score is maximum (4.20) for senior level management for the statement S16 (Lack of process transparency on part of lenders) and mean perception score is minimum (2.53) for the statement of S1 (Wilful default of client or customer). The mean perception score is maximum (4.07) for middle level management of statement S1 (Wilful default of client or customer) and mean perception score is minimum (2.41) for statement S9 (Lack of motivation of employees in recovery). The mean perception score is maximum (4.20) for lower-level management of S16 (Lack of process transparency on part of lenders) and mean perception score is minimum (2.72) for S7 (Unrealistic Feasibility studies before disbursement of loan). It can also observe that mean perception score for all three levels is greater than 2.41. Median values for all statements is also either three or four except two statements, i.e., S7 and S9 for middle level respondents.

The p-values in table 8 show that there is significant difference between mean perception score of the statement S11 (Weak management for industrial dispute resolution), S18 (Disclosure of wilful defaulter to all lenders), S31 (Sharing of credit information among all stakeholders), and S32 (Proper assessment and management of risk by employees). For the remaining statements the difference is non-significant.

Table 8: Mean perception score of respondents as per their age Level of management and p-value.

	Mean perception score			
Statements	Senior level	Middle level	Lower level	P-value
S1	**2.53±0.14 (2)**	2.82±0.11 (3)	2.92±0.19(3)	0.164
S2	2.76±0.15 (3)	2.80±0.13(3)	2.84±0.18(3)	0.965
S3	2.67±0.14 (3)	2.76±0.13(3)	2.76±0.18(3)	0.893
S4	2.95±0.14 (3)	2.98±0.12(3)	3.16±0.18(3)	0.652
S5	2.95±0.16(3)	3.02±0.12(3)	3.08±0.19(3)	0.874
S6	2.97±0.16(3)	3.02±0.12(3)	3.20±0.19(3)	0.652
S7	2.69±0.16(3)	2.64±0.13(2)	**2.72±0.22(3)**	0.953
S8	3.37±0.14(4)	3.13±0.12(3)	3.24±0.20(4)	0.495
S9	2.72±0.16(3)	**2.41±0.14(2)**	**2.72±0.21(3)**	0.286
S10	4.09±0.10(4)	4.05±0.08(4)	3.96±0.15(4)	0.743
S11	4.14±0.10(4)	**4.07±0.08(4)**	3.72±0.17(4)	0.043*
S12	4.11±0.08(4)	4.00±0.09(4)	3.92±0.17(4)	0.494
S13	4.09±0.08(4)	4.03±0.09(4)	3.84±0.17(4)	0.325
S14	4.04±0.09(4)	4.03±0.08(4)	3.88±0.16(4)	0.573
S15	4.16±0.09(4)	4.05±0.09(4)	4.00±0.16(4)	0.632
S16	**4.20±0.09(4**)	4.03±0.09(4)	**4.20±0.11(4)**	0.393
S17	3.79±0.13(4)	3.92±0.08(4)	3.60±0.20(4)	0.273
S18	3.48±0.13(4)	3.82±0.10(4)	3.48±0.16(4)	0.043*
S19	3.51±0.16(4)	3.39±0.16(4)	3.48±0.23(4)	0.874
S20	3.60±0.14(4)	3.49±.016(4)	3.64±0.23(4)	0.825
S21	3.37±0.16(3)	3.21±0.15(3)	3.40±0.17(4)	0.703
S22	3.37±0.17(3)	3.31±0.17(4)	3.48±0.24(3)	0.861
S23	3.30±0.19(3)	3.13±0.19(3)	3.56±0.27(4)	0.440
S24	3.62±0.15(4)	3.31±0.15(4)	3.52±0.20(4)	0.353
S25	3.55±0.17(4)	3.43±0.15(3)	3.64±0.20(4)	0.712
S26	3.34±0.16(4)	3.27±0.16(3)	3.56±0.21(4)	0.582
S27	3.34±0.14(4)	3.15±0.15(3)	3.28±0.22(3)	0.672
S28	3.67±0.16(4)	3.39±0.14(3)	3.88±0.24(4)	0.163
S29	2.74±0.14(3)	3.09±0.14(3)	3.20±0.28(3)	0.172
S30	3.65±0.16(4)	3.19±0.13(3)	3.56±0.25(4)	0.111
S31	3.79±0.15(4)	3.33±0.13(3)	3.72±0.22(4)	0.043*
S32	3.74±0.13(4)	3.37±0.13(3)	4.04±0.21(4)	0.021*
Values in parenthesis are median values. * Significant at 5% level of significance				

Source: Analysis of primary data collected by authors.

Therefore, it can be inferred that null hypothesis (H0: There is no significant difference between mean perception score for 32 statements with respect to three levels of management) is rejected for these 4 statements. For the remaining 28 statements there is no evidence against null hypothesis.

Table 9 presents the mean perception scores of respondents for 32 statements along with standard error of the mean, median and p-values to test the null hypothesis i.e., no difference between mean perception score of 32 statements for male and female. The mean perception score is maximum (4.21) for male

of the statement S16 (Lack of process transparency on part of lenders) and minimum (2.59) for the statement of S9 (Lack of motivation of employees in recovery). The mean perception score is maximum (4.07) for female of the statement S12 (Natural calamities and other uncertainties) and minimum (2.60) for the statement of S1 (Wilful default of client or customer). It can also observe that mean perception scores for 32 statements are greater than 2.59. Median values for all statements for male and female are also either three or four except two statements.

Table 9: Mean perception score of respondents as per gender

Statements	Mean perception score		
	Male	Female	P-value
S1	2.80±0.10 (3)	**2.60±0.13(2.5)**	0.276
S2	2.76±0.10 (3)	2.86±0.16(3)	0.588
S3	2.70±0.10(3)	2.78±0.16(3)	0.643
S4	2.98±0.09(3)	3.05±0.16(3)	0.723
S5	3.03±0.10(3)	2.94±0.16(3)	0.643
S6	3.07±0.10(3)	2.97±0.16(3)	0.600
S7	2.63±0.11(2)	2.78±0.16(3)	0.426
S8	3.29±0.10(4)	3.13±0.15(3)	0.379
S9	**2.54±0.11(4)**	2.68±0.16(3)	0.491
S10	4.07±0.07(4)	4.00±0.10(4)	0.586
S11	4.03±0.08(4)	4.00±0.10(4)	0.794
S12	4.00±0.08(4)	**4.07±0.09(4)**	0.558
S13	4.00±0.07(4)	4.05±0.09(4)	0.694
S14	4.00±0.07(4)	4.02±0.10(4)	0.846
S15	4.09±0.07(4)	4.05±0.13(4)	0.742
S16	**4.21±0.06(4)**	3.97±0.12(4)	0.064
S17	3.74±0.09(4)	3.94±0.09(4)	0.199
S18	3.59±0.09(4)	3.71±0.12(4)	0.246
S19	3.37±0.13(4)	3.63±0.17(4)	0.128
S20	3.45±0.13(4)	3.78±0.14(4)	0.182
S21	3.22±0.12(3)	3.50±0.15(4)	0.034*
S22	3.21±0.13(3)	3.71±0.17(4)	0.054
S23	3.12±0.15(3)	3.63±0.18(4)	0.567
S24	3.43±0.12(4)	3.55±0.14(4)	0.349
S25	3.45±0.15(4)	3.65±0.16(4)	0.029*
S26	3.21±0.12(3)	3.68±0.16(4)	0.937
S27	3.24±0.11(3)	3.26±0.16(3)	0.095
S28	3.48±0.12(4)	3.84±0.15(4)	0.331
S29	2.91±0.12(3)	3.15±0.16(3)	0.089
S30	3.30±0.12(4)	3.57±0.15(4)	0.390
S31	3.46±0.12(4)	3.81±0.14(4)	0.580
S32	3.59±0.11(4)	3.76±0.15(4)	0.647
Values in parenthesis are median values. * Significant at 5% level of significance			

Source: Analysis of primary data collected by authors.

From the p-values given in Table 9, it is evident that there is a significant difference in mean perception scores between male and female respondents for two statements, i.e., S21 (Proper reporting of frauds by borrowers) and S25 (Better restructuring schemes). For the remaining 30 statements the difference in mean perception score for male and female is not significant. Therefore, it can be said that male and female employees perceive reason of NPAs in similar way.

Table 10 presents the mean perception scores of 32 statements along with standard error of the mean, median and p-values to test the null hypothesis corresponding to 32 statements for three education groups i.e., graduates, postgraduates, professionals. The mean perception score is maximum (4.15) for the graduate category for the statement S16 (Lack of process transparency on part of lenders) and minimum (2.45) for the statement of S9 (Lack of motivation of employees in recovery). The mean perception score is maximum (4.11) for postgraduates' category for the statement S16 (Lack of process transparency on part of lenders) and minimum (2.62) for the statement of S9 (Lack of motivation of employees in recovery). However, the mean perception score is maximum (4.19) for professionals of the statement S16 & S13 (Lack of process transparency on part of lenders & Recession in the market) and minimum (2.40) for the statement of S1 (Wilful default of client or customer). It can also observe that mean perception score of respondents for 32 statement v/s three levels of education is greater than 2.40. Median values for all statements for educational groups are either three or four except few statements.

From the p-values of table 10, it is evident that there is a significant difference in the mean perception scores of respondents for education background i.e., graduates, postgraduates, professional qualification for seven statements. These seven statements are S1 (Wilful default of client or customer), S22 (Granting only loans link to collateral/ guarantees), S23 (Better communications with till the full payment of credit), S27 (Regular training programs for bank employees), S28 (Incentives for additional qualification to employees), S30 (Performance based pay to the employees), and S32 (Proper assessment and management of risk by employees). For the remaining 25 statements there is no significance difference in the mean perception score of the respondents for their educational background. This indicates that education level has an impact on understanding of the 32 statements causing NPAs.

Table 10: Mean perception score of respondents as per their level of education and p-value.

	Level of education			
Statements	Graduate	Post-Graduate	Professional	P-Value
S1	3.10±0.22(3)	2.70±0.10(3)	**2.40±0.12(2)**	0.046*
S2	3.05±0.22(3)	2.79±0.11(3)	2.59±0.12(3)	0.304
S3	3.05±0.22(3)	2.67±0.11(3)	2.63±0.12(3)	0.246
S4	3.25±0.19(3)	2.94±0.11(3)	3.00±0.14(3)	0.432
S5	3.15±0.24(3.5)	2.97±0.11(3)	3.00±0.16(3)	0.776
S6	3.25±0.22(3.5)	3.00±0.11(3)	3.00±0.16(3)	0.579
S7	2.55±0.18(2)	2.72±0.12(3)	2.63±0.22(2.5)	0.769
S8	3.45±0.19(4)	3.16±0.11(3)	3.38±0.20(3.5)	0.461
S9	**2.45±0.23(2)**	**2.62±0.11(3)**	2.59±0.22(2)	0.804
S10	3.95±0.19(4)	4.06±0.07(4)	4.09±0.15(4)	0.767
S11	4.00±0.22(4)	4.01±0.07(4)	4.09±0.14(4)	0.893
S12	3.95±0.23(4)	4.01±0.06(4)	4.13±0.13(4)	0.657
S13	3.85±0.22(4)	4.01±0.06(4)	**4.18±0.12(4)**	0.285
S14	3.90±0.20(4)	4.01±0.07(4)	4.09±0.11(4)	0.664
S15	4.10±0.20(4)	4.10±0.07(4)	4.00±0.17(4)	0.829
S16	**4.15±0.16(4)**	**4.11±0.07(4)**	**4.18±0.12(4)**	0.913
S17	3.70±0.19(4)	3.76±0.09(4)	4.04±0.12(4)	0.301
S18	3.45±0.23(3.5)	3.58±0.09(4)	3.95±0.12(4)	0.104
S19	3.35±0.26(3.5)	3.54±0.12(4)	3.22±0.24(3)	0.469
S20	3.33±0.27(4)	3.70±0.11(4)	3.27±0.25(3)	0.181
S21	3.24±0.23(3.5)	3.41±0.11(3)	3.00±0.23(3)	0.257
S22	3.55±0.24(3)	3.57±0.12(4)	2.95±0.32(2.5)	0.045*
S23	2.56±0.32(3)	3.53±0.14(4)	2.90±0.30(3)	0.022*
S24	3.25±0.26(3)	3.61±0.11(4)	3.18±0.24(3)	0.149
S25	3.20±0.25(3)	3.64±0.11(4)	3.36±0.25(3.5)	0.196
S26	3.40±0.22(3.5)	3.46±0.13(4)	2.95±0.22(3)	0.159
S27	3.23±0.21(3)	3.39±0.12(4)	2.77±0.20(3)	0.049*
S28	3.52±0.28(4)	3.75±0.11(4)	3.13±0.23(3)	0.049*
S29	2.73±0.21(2.5)	3.01±0.13(3)	3.13±0.22(3)	0.502
S30	3.33±0.25(3.5)	3.59±0.11(4)	3.00±0.24(3)	0.048*
S31	3.43±0.22(3.5)	3.72±0.10(4)	3.18±0.26(3)	0.077
S32	3.35±0.24(4)	3.84±0.10(4)	3.22±0.21(3)	0.013*
*Values in parenthesis is median.				

It can be stated further that null hypothesis (H0: There is no significant difference between mean perception score for 32 statements with respect to graduates, postgraduates, professionals) is rejected for 7 statements. It means education levels have impact on the perception of many facets of NPAs.

Table 11 presents the mean perception scores of 32 statements along with standard error of the mean, median and p-values for testing 32 statements null hypothesis i.e., there is no significance difference between mean perception score of respondents in the context of their monthly income groups i.e., Up to ₹ 30000 (US$358.99), ₹ 30001-50000 (US$359.01-598.33), ₹ 50001-80000

(US$598.34-957.33), Above ₹ 80001 (US$957.34). The mean perception score is maximum (4.37) for the monthly income of up to ₹ 30000 (US$358.99) of the statement S16 (Lack of process transparency on part of lenders) and minimum (2.51) for the statement of S3 & S9 (Ineffective monitoring by Lenders & Lack of motivation of employees in recovery). The mean perception score is maximum (4.09) for monthly income group ₹ 30001-50000 (US$359.01-598.33) of the statement S15 (NPAs arise from loan disbursement delays) and minimum (2.56) for the statement of S9. However, the mean perception score is maximum (4.12) for ₹ 50001-80000 (US$598.34-957.33) of the statement S16 (Lack of process transparency on part of lenders) and minimum (2.66) for the statement of S7 & S29 (Unrealistic Feasibility studies before disbursement of loan & more exposure to information technology for effective appraisal & risk Management). The mean perception score is maximum (4.12) for monthly income group above ₹ 80001 (US$957.34) of the statement S16 (Lack of process transparency on part of lenders) and minimum (2.42) for the statement of S2 (Siphoning of funds for other purposes). It can also observe that mean perception score of respondents for 32 statements v/s. four levels of monthly income are greater than 2.42. Median values for all statements for monthly income groups are either three or four except nine statements.

From the p-values of table 11, it is evident that there is a significant difference in mean perception scores of respondents for four monthly income groups i.e., Up to ₹ 30000 (US$358.99), ₹ 30001-50000 (US$359.01-598.33), ₹ 50001-80000 (US$598.34-957.33), above ₹ 80001 (US$957.34) for 1 statement i.e., S29 (More exposure to information technology for effective appraisal & risk management). For the remaining 31 statements the difference in mean perception score for four monthly income groups is not significant. This indicates income level did not impact perception of the respondents in the present case.

Table 11: Mean perception score of respondents as per their Monthly income and p-value.

	Mean perception score				
Statements	Up to ₹ 30000 (US$358.99)	₹ 30001-50000 (US$359.01 - 598.33)	₹ 50001-80000 (US$598.34-957.33)	Above ₹ 80001 (US$957.34)	P-value
S1	2.93±0.26(3)	2.77±0.14(2)	2.70±0.15(3)	2.62±0.14(3)	0.712
S2	2.80±0.29(3)	2.72±0.15(2)	2.87±0.17(3)	**2.42±0.15(3)**	0.933
S3	**2.51±0.25(2)**	2.61±0.15(2)	2.87±0.13(3)	2.85±0.15(3)	0.494
S4	3.02±0.28(3)	2.93±0.14(2.5)	3.08±0.15(3)	3.05±0.14(3)	0.902
S5	3.18±0.29(3)	2.90±0.15(3)	3.12±0.16(3)	2.97±0.15(3)	0.711
S6	3.38±0.28(4)	2.86±0.15(2)	3.16±0.16(3)	3.02±0.15(3)	0.283
S7	2.92±0.29(3)	2.65±0.15(4)	**2.66±0.21(2)**	2.63±0.15(2)	0.742
S8	3.32±0.22(4)	3.25±0.13(4)	3.25±0.21(3.5)	3.17±0.16(3)	0.911

S9	**2.51±0.24(2)**	**2.56±0.16(2.5)**	2.70±0.23(3)	2.54±0.16(2)	0.923
S10	4.12±0.22(4)	4.04±0.0(4)	3.95±0.16(4)	4.08±0.12(4)	0.876
S11	4.02±0.25(4)	4.02±0.07(4)	4.00±0.19(4)	4.05±0.10(4)	0.994
S12	4.18±0.18(4)	4.02±0.07(4)	4.00±0.17(4)	3.97±0.12(4)	0.768
S13	4.12±0.20(4)	4.04±0.08(4)	3.95±0.16(4)	3.99±0.11(4)	0.845
S14	3.93±0.17(4)	4.06±0.09(4)	3.83±0.17(4)	4.07±0.10(4)	0.474
S15	4.12±0.12(4)	**4.09±0.10(4)**	4.04±0.15(4)	4.08±0.13(4)	0.983
S16	**4.37±0.15(4)**	4.02±0.10(4)	**4.12±0.10(4)**	**4.17±0.11(4)**	0.302
S17	3.81±0.18(4)	3.65±0.13(4)	3.83±0.16(4)	3.97±0.12(4)	0.413
S18	3.754±0.19(4)	3.70±0.13(4)	3.62±0.13(4)	3.48±0.15(4)	0.634
S19	3.370.32(3)	3.56±0.17(4)	3.29±0.23 (3)	3.45±0.18(4)	0.804
S20	3.53±0.31(4)	3.70±0.15(4)	3.16±0.23(3)	3.68±0.18(4)	0.236
S21	3.31±0.21(3)	3.29±0.17(3)	3.08±0.20(3)	3.48±0.17(4)	0.564
S22	3.37±0.31(3)	3.43±0.18(3.5)	3.04±0.25(3)	3.51±0.19(4)	0.523
S23	3.56±0.35(4)	3.34±0.20(3.5)	3.16±0.24(3)	3.17±0.24(3)	0.758
S24	3.68±0.25(4)	3.45±0.16(3)	3.33±0.21(4)	3.48±0.16(4)	0.786
S25	3.81±0.27(4)	3.47±0.16(3)	3.24±0.26(3)	3.62±0.15(4)	0.388
S26	3.58±0.25(4)	3.29±0.17(3)	3.04±0.25(3)	3.68±0.17(4)	0.262
S27	3.06±0.24(4)	3.27±0.17(3)	3.04±0.21(3)	3.40±0.14(4)	0.416
S28	3.75±0.33(4)	3.70±0.16(4)	3.16±0.21(3)	3.68±0.17(4)	0.201
S29	3.06±0.28(3)	2.84±0.17(4)	**2.66±0.16(3)**	3.38±0.18(3)	0.042*
S30	3.67±0.32(4)	3.29±0.17(3)	3.12±0.20(3)	3.71±0.10(4)	0.118
S31	3.93±0.2(4)	3.54±0.16(4)	3.41±0.23(3)	3.57±0.16(4)	0.472
S32	3.86±0.30(4)	3.65±0.14(4)	3.41±0.20(3.5)	3.71±0.16(4)	0.608
*Values in parenthesis is median.					

Source: Analysis of primary data collected by authors.

Table 12 presents the mean perception scores of 32 statements along with standard error of the mean, median and p-values for testing 32 statements null hypothesis i.e., there is no significance difference between mean perception score of respondents in the context of their four age groups i.e., less than 30 years, 30-40 years, 40-50 years, and above 51 years. The mean perception score is maximum (4.46) for the age group less than 30 years of the statement S16 (Lack of process transparency on part of lenders) and minimum (2.69) for the statement of S9 (Lack of motivation of employees in recovery). The mean perception score is maximum (4.07) for age group of 30- 40 years of the statement S11 (Weak management for industrial dispute resolution) and minimum (2.74) for the statement of S3 (Ineffective monitoring by Lenders). However, the mean perception score is maximum (4.23) for age group of 40-50 years of the statement S16 (Lack of process transparency on part of lenders) and minimum (2.36) for the statement of S29 (More exposure to information technology for effective appraisal & risk management). The mean perception score is maximum (4.04) for age group of above 51 years of the statement S16 (Lack of process transparency on part of lenders) and minimum (2.22) for the statement of S7 (Unrealistic Feasibility studies before disbursement of loan). It can also observe that mean perception score of 32 statements of respondents

for all four levels is greater than 2.22. Median values for all statements for age groups are either three or four except for a few statements.

Table 12: Mean perception score of respondents as per their age groups and p-value

	Mean perception score				
Statements	Less than 30 years	30-40 years	40-50 years	Above 51 years	P-Value
S1	3.30±0.28(3)	2.75±0.12(3)	2.56±0.15(3)	2.51±0.18(2)	0.046*
S2	3.23±0.30(3)	2.79±0.13(3)	2.73±0.14(3)	2.63±0.22(2)	0.339
S3	3.00±0.27(3)	**2.74±0.13(2)**	2.67±0.14(3)	2.63±0.21(2)	0.732
S4	3.23±0.28(3)	3.01±0.13(3)	3.03±0.13(3)	2.88±0.22(3)	0.644
S5	3.30±0.30(4)	3.01±0.13(3)	2.86±0.16(3)	3.00±0.21(3)	0.609
S6	3.38±0.28(4)	3.01±0.13(3)	2.96±0.15(3)	3.00±0.21(3)	0.603
S7	3.00±0.25(3)	2.88±0.13(3)	2.50±0.17(4)	**2.22±0.20(3)**	0.029*
S8	3.69±0.13(2)	3.48±0.11(4)	2.93±0.17(3)	2.81±0.23(2)	0.002*
S9	**2.69±0.26(3)**	2.77±0.14(3)	**2.36±0.17(2)**	2.36±0.23(2)	0.228
S10	4.38±0.18(4)	4.01±0.09(4)	4.03±0.13(4)	3.95±0.12(4)	0.306
S11	4.23±0.20(4)	**4.07±0.10(4)**	4.00±0.10(4)	3.81±0.15(4)	0.369
S12	4.30±0.20(4)	3.98±0.09(4)	4.03±0.11(4)	3.95±0.13(4)	0.446
S13	4.30±0.20(4)	3.98±0.10(4)	4.06±0.09(4)	3.86±0.13(4)	0.281
S14	4.07±0.17(4)	4.00±0.10(4)	4.06±0.10(4)	3.90±0.13(4)	0.847
S15	4.07±0.17(4)	**4.07±0.09(4)**	4.16±0.14(4)	4.00±0.14(4)	0.869
S16	**4.46±0.18(5)**	4.03±0.09(4)	**4.23±0.11(4)**	**4.04±0.12(4)**	0.131
S17	3.92±0.23(4)	3.83±0.10(4)	3.83±0.14(4)	3.63±0.19(4)	0.731
S18	3.76±0.20(4)	3.75±0.11(4)	3.60±0.15(4)	3.27±0.17(3)	0.123
S19	3.92±0.28(4)	3.53±0.13(4)	3.06±0.24(3)	3.53±0.26(4)	0.111
S20	4.15±0.22(4)	3.63±0.14(4)	3.33±0.22(3.5)	3.36±0.23(3.5)	0.117
S21	3.46±0.14(3)	3.48±0.15(4)	3.06±0.16(3)	3.13±0.26(3)	0.277
S22	3.53±0.21(3)	3.40±0.17(4)	3.36±0.22(4)	3.18±0.27(3)	0.843
S23	3.69±0.41(4)	3.16±0.17(3)	3.53±0.22(4)	3.56±0.30(3)	0.306
S24	3.76±0.25(4)	3.48±0.13(4)	3.26±0.21(4)	3.54±0.25(4)	0.529
S25	4.07±0.21(4)	3.44±0.14(3)	3.63±0.21(4)	3.22±0.21(3)	0.133
S26	3.61±0.31(4)	3.51±0.15(4)	3.16±0.20(3)	3.09±0.19(3)	0.264
S27	3.53±0.21(4)	3.07±0.13(3)	3.43±0.21(4)	3.27±0.22(3.5)	0.328
S28	4.07±0.23(4)	3.57±0.15(4)	3.50±0.22(3)	3.55±0.21(3.5)	0.411
S29	2.92±0.32(3)	3.03±0.15(3)	2.83±0.17(3)	3.13±0.23(3)	0.767
S30	3.61±0.33(4)	3.42±0.15(3)	3.23±0.16(3.5)	3.63±0.24(4)	0.547
S31	4.00±0.22(4)	3.74±0.13(4)	3.06±0.19(3)	3.63±0.22(3.5)	0.011*
S32	4.15±0.27(4)	3.70±0.13(4)	3.54±0.19(4)	3.40±0.20(3)	0.147
*Values in parenthesis is median.					

Source: Analysis of primary data collected by authors.

From the p-values of table 12, it is evident that there is a significant difference in mean perception scores of respondents for four age group i.e., less than 30 years, 30-40 years, 40-50 years, and above 51 years for 4 statements i.e., S1 (Wilful default of client or customer), S7 (Unrealistic Feasibility studies before

disbursement of loan), S8 (Changes in government policy during payment period), S31 (Sharing of credit information among all stakeholder). For the remaining 28 statements the difference in mean perception score for four age groups is not significant. This suggests perception varies only to some extent.

Table 13 presents the mean perception scores of respondents for 32 statements along with standard error of the mean, median and corresponding p-values to test the hypotheses of differences in mean perception scores in the context of categories of banks of the sampled respondents.

Table 13: Mean perception score of respondents as per categories of banks and p-value

Statements	Mean perception score		
	Public sector banks	Private sector banks	P-value
S1	2.73+0.11 (3)	2.75+0.12 (3)	0.892
S2	2.82+0.12(3)	2.78+0.13(3)	0.836
S3	2.76+0.12(3)	2.70+0.12(2.5)	0.727
S4	3.00+0.11(3)	3.02+0.13(3)	0.927
S5	2.98+0.13(3)	3.03+0.13(3)	0.785
S6	3.05+0.13(3)	3.03+0.13(3)	0.897
S7	2.53+0.13(2)	2.81+0.13(3)	0.127
S8	3.09+0.13(3)	3.38+0.11(4)	0.003*
S9	**2.47+0.13(2)**	**2.69+0.13(3)**	0.262
S10	4.02+0.08(4)	4.08+0.09(4)	0.637
S11	3.95+0.10(4)	4.09+0.09(4)	0.263
S12	3.96+0.10(4)	4.08+0.08(4)	0.364
S13	3.89+0.09(4)	**4.12+0.08(4)**	0.039*
S14	3.93+0.10(4)	4.08+0.08(4)	0.231
S15	4.04+0.10(4)	**4.12+0.08(4)**	0.498
S16	**4.16+0.08(4)**	4.11+0.08(4)	0.652
S17	3.69+0.11(4)	3.91+0.10(4)	0.152
S18	3.78+0.08(4)	3.69+0.09(4)	0.472
S19	3.91+0.09(4)	3.91+0.09(4)	0.983
S20	3.80+0.10(4)	3.94+0.09(4)	0.316
S21	3.56+0.12(4)	3.77+0.09(4)	0.167
S22	3.65+0.10(4)	3.78+0.09(4)	0.343
S23	3.85+0.10(4)	3.87+0.10(4)	0.887
S24	3.71+0.09(4)	3.86+0.10(4)	0.268
S25	3.38+0.13(3)	3.50+0.12(4)	0.499
S26	3.42+0.14(4)	3.48+0.10(4)	0.697
S27	3.40+0.13(3)	3.67+0.11(4)	0.008*
S28	3.71+0.12(4)	3.80+0.09(4)	0.549
S29	3.45+0.12(4)	3.47+0.10(4)	0.929
S30	3.69+0.11(4)	3.64+0.10(4)	0.742
S31	3.84+0.12(4)	3.69+0.10(4)	0.333
S32	3.56+0.10(4)	3.69+0.11(4)	0.421
*Values in parenthesis are medians.			

It can be inferred from table 13 that the mean perception score is maximum (4.16) for statement S16 (Lack of process transparency on part of lenders) and minimum (2.47) for statement S9 (Lack of motivation of employees in recovery) in case of public sector banks. The mean perception score is maximum (4.12) for private sector banks of statement S13 & S15 (Recession in the market & NPAs arise from loan disbursement delays) and minimum (2.69) for statement S9 (Lack of motivation of employees in recovery). It can also be observed that mean perception score for all three levels is greater than 2.47. Median values for all statements are either three or four except for two statements, i.e., S9 for public sector bank respondents and S2 for private sector bank respondents. For three statements, i.e., S8, S13, and S27, the difference in mean perception score is significant. For the remaining 29 statements it is not significant. It means employees of two categories of banks perceive the reasons for NPAs as same with only few differences.

4.4 Data reduction/ Factor analysis

This section presents the results of factor analysis of 32 statements along with reliability coefficient, KMO, Bartlett test of sphericity, and descriptive analysis of latent factors in table 14 to table 17.

4.4.1 Reliability coefficient, KMO and Bartlett test of spericity

Before initiating the process of extracting factors, few tests are performed to evaluate whether the sample data is suitable for exploratory factor analysis or not. These are the Kaiser-Meyer-Olkin (KMO), Bartlett's Test of Sphericity, and Cronbach's Alpha (reliability coefficient). Kaiser-Meyer-Olkin (KMO) is used to assess the suitability of sample data. At the same time, Bartlett's Test of Sphericity is performed prior to extraction or factor construction to assurance that the data is suitable for exploratory factor analysis. For the data set utilized in this study, the Kaiser-Meyer-Olkin (KMO) value is 0.884, and Bartlett's test of sphericity was also significant. Cronbach's alpha values exceed 0.70. Table 14 shows the Cronbach's alpha (reliability coefficient), Kaiser-Mayor-Olkin (KMO), the sampling adequacy measure, and the chi-square value of Bartlett's test of sphericity. The value of KMO indicates that the degree of common variance is meritorious. According to Bartlett's test, the sample inter-correlation matrix was not obtained from a population in which the inter-correlation matrix is an identity matrix (Goyal and Singh, 2007).

Table 14: Reliability coefficient, KMO Bartlett test of Sphericity

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.884
Bartlett's Test of Sphericity	Approx. Chi-Square	2910.026
	df	496
	sig	0.000
Cronbach's Alpha		0.937

4.4.2 Total variance explained

This section presents factor analysis of 32 statements. Table 15 shows results of factors analysis based on Principal Component Analysis with VARIMAX rotation technique. The criteria for extracting latent factors were the number of fixed factors (5 in this case), not the eigenvalues (>=1). Total variance explained by the five factors is given in table 15.

Table 15: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	11.919	37.248	37.248	11.919	37.248	37.248	5.610	17.532	17.532
2	3.690	11.530	48.779	3.690	11.530	48.779	4.874	15.231	32.763
3	2.378	7.431	56.209	2.378	7.431	56.209	4.813	15.039	47.802
4	2.010	6.280	62.489	2.010	6.280	62.489	4.289	13.404	61.206
5	1.808	5.649	68.138	1.808	5.649	68.138	2.218	6.932	68.138
6	1.173	3.665	71.804						
7	0.936	2.926	74.729						
8	0.791	2.471	77.200						
9	0.669	2.091	79.291						
10	0.609	1.904	81.195						
11	0.583	1.822	83.017						
12	0.528	1.649	84.666						
13	0.522	1.630	86.296						
14	0.471	1.473	87.769						
15	0.442	1.382	89.151						
16	0.382	1.195	90.346						
17	0.349	1.089	91.435						
18	0.319	0.997	92.432						
19	0.284	0.886	93.318						
20	0.262	0.818	94.136						
21	0.246	0.768	94.904						
22	0.222	0.693	95.597						
23	0.210	0.657	96.255						
24	0.191	0.596	96.851						

25	0.183	0.572	97.423						
26	0.163	0.509	97.932						
27	0.147	0.458	98.390						
28	0.143	0.447	98.837						
29	0.120	0.373	99.210						
30	0.096	0.299	99.509						
31	0.085	0.265	99.774						
32	0.072	0.226	100.00						
Extraction Method: Principal Component Analysis.									

Source: Analysis of primary data collected by authors.

4.4.3 Factor analysis- Rotational component matrix

Rotated component matrix was used for extracting factors and loading of statements / items is given table 16 along with values of commonalities. The values of communalities are above the threshold level except for two statements, i.e., S17 & S32.

Table 16: Factor analysis–Rotational component matrix and Commonalities

	Component					
Statements	1	2	3	4	5	**Commonalities**
S1	0.110	0.181	0.253	**0.692**	0.161	0.614
S2	0.161	0.159	0.242	**0.790**	0.219	0.783
S3	0.098	0.168	0.271	**0.778**	0.086	0.724
S4	0.113	0.204	0.355	**0.728**	0.111	0.723
S5	0.109	0.149	0.186	**0.825**	0.043	0.751
S6	0.028	0.130	0.190	**0.829**	0.079	0.748
S7	-0.020	0.040	0.127	0.042	**0.772**	0.616
S8	0.125	-0.020	0.074	0.110	**0.866**	0.784
S9	0.145	0.100	0.070	0.150	**0.755**	0.629
S10	**0.776**	0.267	0.133	0.127	0.047	0.710
S11	**0.715**	0.392	0.143	0.132	0.114	0.716
S12	**0.852**	0.182	0.152	0.088	-0.035	0.791
S13	**0.872**	0.262	0.106	0.071	0.030	0.847
S14	**0.841**	0.088	0.171	-0.002	0.119	0.758
S15	**0.753**	0.161	0.187	-0.014	-0.010	0.629
S16	**0.707**	0.119	0.115	0.197	0.014	0.567
S17	**0.562**	0.132	0.216	0.116	0.224	0.444
S18	0.138	**0.648**	0.173	0.347	0.053	0.592
S19	0.171	**0.819**	0.147	0.095	-0.102	0.740
S20	0.255	**0.826**	0.176	0.029	0.019	0.779
S21	0.139	**0.815**	0.083	0.081	0.141	0.717
S22	0.276	**0.782**	0.202	0.082	0.077	0.741
S23	0.417	**0.617**	0.115	0.129	-0.005	0.584
S24	0.203	**0.713**	0.174	0.157	0.077	0.610
S25	0.350	0.273	**0.616**	0.235	0.007	0.631
S26	0.181	0.187	**0.797**	0.179	0.045	0.738
S27	0.299	0.388	**0.694**	0.133	0.092	0.748
S28	0.285	0.271	**0.771**	0.164	0.088	0.783

S29	0.205	0.038	**0.787**	0.260	0.057	0.735
S30	0.062	0.098	**0.783**	0.270	0.078	0.706
S31	0.108	0.107	**0.832**	0.143	0.158	0.760
S32	-0.023	0.103	0.086	**-0.564**	0.136	0.427
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.						
a. Rotation converged in 5 iterations.						

Source: Analysis of primary data collected by authors.

The latent factors extracted are named as Risk Management (Risk), Challenges of Managing NPAs (Challenges), Inefficiencies in operations (inefficiencies), reforms by regulators/ government (Reforms), and Incentives to employees for performance (Incentives).

4.5 Descriptive analysis of factors

This section presents a descriptive analysis of five latent factors extracted as a result of factor analyses with respect to different demographics, along with p-values of testing of hypotheses. P-values are calculated using a t-test and Analysis of Variance (ANOVA) depending on the number of categories of the demographic variables. The analysis is presented in table 17.

The analysis presented in the table 17 reveals that there is no significance in overall score of inherent factors for male and female. It means NPA risk, NPA Challenges, Inefficiency of employees, Reforms by regulators and Incentives by banks for better management of NPA are perceived equal by male and female.

Similar results are obtained for other demographics of respondents, i.e., age, education, monthly income, level of management except a significant difference in perception of incentive in age groups and two categories of banks.

Table 17: Mean perception score value of respondents as per their gender, age group, level of education, monthly Income, and type of banks.

Demographic: Gender				
Factors	**Male**	**Female**	**P-value**	
Risk	0.007±0.12	-0.015±0.14	0.913	
Challenges	-0.023±0.11	0.049±0.15	0.714	
Inefficiencies	0.019±0.12	-0.040±0.15	0.764	
Reforms	0.024±0.11	-0.052±0.18	0.698	
Incentives	-0.037±0.11	0.078±0.15	0.562	
Demographic: Age group				
Factors	**<30 years**	**30-40 years**	**40-50 years**	**> 51 years**	**P-value**
Risk	0.367±0.25	-0.089±0.16	0.084±0.16	-0.112±0.16	0.451
Challenges	-0.113±0.47	0.112±0.12	-0.037±0.16	-0.159±0.20	0.699
Inefficiencies	-0.093±0.26	-0.010±0.13	0.006±0.17	0.071±0.26	0.974

Reforms	0.414±0.28	-0.054±0.15	-0.074±0.17	-0.010±0.19	0.471
Incentives	0.313±0.18	0.29±0.12	-0.283±0.18	-0.506±0.25	0.002*
Demographic: Level of Higher Education					
Factors	**Graduate**	**Post –Graduate**	**Professional**		**P-value**
Risk	-0.157±0.33	0.030±0.10	0.247±0.22		0.389
Challenges	-0.171±0.17	0.108±0.12	-0.314±0.19		0.206
Inefficiencies	-0.050±0.21	0.042±0.12	-0.101±0.18		0.816
Reforms	-0.028±0.16	-0.075±0.12	-0.122±0.14		0.114
Incentives	-0.123±0.26	-0.009±0.12	0..069±0.22		0.932
Levels of management					
Factors	**Lower level**	**Middle level**	**Upper level**		**P-Value**
Risk	0.152±0.14	-0.039±0.12	-0.181±0.25		0.393
Challenges	0.031±0.15	0.083±0.133	-0.223±0.23		0.444
Inefficiencies	-0.124±0.14	0.0144±0.15	-0.081±0.19		0.392
Reforms	-0.093±0.17	-0.058±0.13	0.279±0.19		0.291
Incentives	0.102±0.17	-0.090±0.13	0.009±0.20		0.654
Demographic: Monthly Income (₹/US$)					
Factors	**Up to ₹30000 (US$358.99)**	**₹30001-₹50000 (US$359.01 - 598.33)**	**₹50001-₹80000 (US$598.34-957.33)**	**Above ₹80001 (US$957.34)**	**P- value**
Risk	0.177±0.23	-0.019±0.12	-0.169±0.26	0.060±0.18	0.727
Challenges	-0.121±0.39	0.142±0.14	-0.044±0.19	-0.093±0.19	0.692
Inefficiencies	-0.199±0.35	-0.122±0.15	0.250±0.18	0.073±0.15	0.397
Reforms	0.171±0.23	-0.125±0.17	0.077±0.18	0.026±0.16	0.727
Incentives	0.082±0.24	0.020±0.14	0.011±0.25	-0.070±0.16	0.691
Demographic: Type of Bank					
Factors	**Public sector banks**		**Private sector banks**		**P-value**
Risk	-0.099±0.14		0.085±0.12		0.318
Challenges	-0.068±0.13		0.059±0.13		0.491
Inefficiencies	0.010±0.14		-0.009±0.12		0.916
Reforms	0.074±0.12		-0.063±0.14		0.459
Incentives	-0.183±0.13		0.157±0.12		0.043*

Source: Analysis of primary data collected by authors.

5. Findings

The majority of employees included in the study hold positions as middle level managers. The public sector banks Non-Performing Assets (NPAs) are higher than private sector banks. It is inferred from the analysis of primary data that the most important reason for NPAs in banks is lack of process transparency on part of lenders. It is followed by delays in disbursement of loans. Borrowed funds are diversified for other purposes/needs. There is an absence of a centralized market intelligence system to assess the credit worthiness of borrowers. The effective recovery of NPAs is hindered due to inadequate legal

provisions on foreclosure and bankruptcy. It was suggested in many research articles that to improve efficiency of public sector banks, board members should be empowered to make decisions and free from government meddling (Mishra et.al, 2020) but during data collection it was communicated that it has become ritual to blame government for wrong decisions of collective bank leadership. The mean perception score of responding employees is more than average value, therefore it is suggested that management of management must devise decentralized processes to enhance decision making abilities at all levels in banking hierarchies. In addition, employees of landing, risk and recovery departments are exposed to new banking business models in relation to NPAs. The banks must be in constant touch with key accounts to monitor risk of recovery of loans (Pradhan (2012). Differences of opinion exist between employees of public sector banks and private sector banks regarding the increase and occurrence of NPAs but majority of them have similar views.

6. Recommendations

Non-performing assets (NPAs) present a significant challenge to Indian bank's profitability. However, the issue of NPAs can be mitigated through continuous recovery of loans and advances. To address the NPA situation in the Indian banks are advised to consider the following recommendations.

(i) Banks should implement well-defined credit policies by ensuring clear communication with all bank employees. Credit appraisal should be carried out by officials without any bias, considering the loan portfolio policies. Similar suggestions are offered by Samir and Kamra (2013).

(ii) Regular reviews of all loan accounts should be conducted at frequent intervals by bank officials and rating reports of these accounts in terms of repayment must be prepared for internal decision making.

(iii) Banks must provide frequent and intensive training to bank employees to thoroughly check applicant details before loan disbursal.

(iv) The central government should make top management more accountable for their decisions.

(v) Banks employees must be given incentives timely resolution of insolvency and bankruptcy proceedings, better credit appraisal and monitoring.

(vi) Bank employees should maintain constant communication with borrowers to assess their financial position at every stage. Identify and eliminate loopholes in the banking system and establish an

effective recovery mechanism. Similar views are echoed by Sharma et al (2019a).

(vii) There is a need to strengthen the Debt Recovery Tribunal, empowering appropriate actions so that recovery is made in prescribed period.

(viii) With each loan's level of risk, the banks must assess its impact on profitability of banks. Similar views are expressed by Manu and Maheshwari (2018).

7. Conclusion

India's banking system is dominated by public sector banks, which hold 2/3 of total assets. Customers across the country prefer public sector banks, even though these banks are marginally less efficient than private sector banks. Additionally, costs of services are less in public sector banks in comparison to private sector banks. To improve financial positions and operating costs, the government merged banks and implemented technologies to make banks more efficient (Saraswati & Singh, 2024) It is suggested by Sarkar and Sarkar (2018)) that internal governance practices could be effective for private banks including board composition but dual role at the top may not be a good idea.

Non-performing assets (NPAs) pose a significant challenge to a bank's profitability, impacting credit institutions both financially and psychologically in both sectors of Indian banks. Repayment issues within the stipulated time frame have become a prevalent concern for banks. In the current banking landscape, it is uncommon to find a bank that does not grapple with the issue of nonperforming loans. Recently established banks may not have encountered this situation initially but in long run these banks will not be exceptions. For mature banks (Public & Private) NPA is a prevalent issue due to inadequate processes of credit policies. Inadequate credit policies have many facets such as lack of data of financial and operating performance of the companies, ignorance of measures on part of employees of the banks, proximity of banking leadership to select firms, lack of adequate training of employees, lack of knowledge about features and usage of banking technologies, too many big tickets, etc.

The Indian banking industry has implemented diverse strategies to mitigate the NPA problem and prevent further additions soon. Monitoring exposure levels of a given segment of industry, assessing individual firms in view internal & external economic and political scenarios, and taking timely action in troubled industries have become imperative. Effectively managing NPAs involves employing strategies such as negotiated settlement, forming advisory

committees, restructuring, and rehabilitation, coupled with appropriate legal reforms. These measures are essential for enhancing the financial soundness of banks but policy implementing wings of banking industry must take care of the willful defaulters in case they take advantage of these policies.

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APPENDIX-1

Nomenclature of statements/Variables/Parameters

	Statements	Loaded on
S1	Willful default of client or customer	Risk
S2	Siphoning of funds for other purposes.	Risk
S3	Ineffective monitoring by Lenders.	Risk
S4	Lack in credit appraisal by bank managers.	Risk
S5	Economic downturn and Political pressures.	Risk
S6	Improper technology for appraisal and monitoring.	Risk
S7	Unrealistic Feasibility studies before disbursement of loan.	Challenges
S8	Changes in government policy during payment period.	Challenges
S9	Lack of motivation of employees in recovery	Challenges
S10	Inadequate working capital with banks	Inefficiencies
S11	Weak management for industrial dispute resolution.	Inefficiencies
S12	Natural calamities and other uncertainties.	Inefficiencies
S13	Recession in the market.	Inefficiencies
S14	Lack of supervision and follow-up by banks	Inefficiencies
S15	NPAs arise from loan disbursement delays.	Inefficiencies
S16	Lack of process transparency on part of lenders.	Inefficiencies
S17	Lack of business skills among bank Employees	Inefficiencies
S18	Disclosure of willful defaulter to all lenders	Reforms

S19	Better collateral norms by lenders	Reforms
S20	No compromise with borrower on processes	Reforms
S21	Proper reporting of fraud by borrowers	Reforms
S22	Granting only loans link to collateral/ guarantees.	Reforms
S23	Better communications with till the full payment of credit.	Reforms
S24	Amendment in banking law to give Bank more powers	Reforms
S25	Better restructuring schemes	Reforms
S26	Recruitment of personnel with specialized skills.	Reforms
S27	Regular training programs for bank employees.	Reforms
S28	Incentives for additional qualification for employees.	Incentives
S29	More exposure to information technology for effective appraisal & Risk Management	Incentives
S30	Performance based pay to the employees	Incentives
S31	Sharing of credit information among all stakeholder	Incentives
S32	Proper assessment and management of risk by employees	Risk