



An Effectiveness Assessment of Preventive Management Strategies in order to Manage Non Performing Assets in Indian banks: A Case Study

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Abstract

There are two kinds of strategies to control Non Performing Assets i.e. curative and preventive. The paper is an attempt to focus on the effectiveness of various preventive strategies in controlling NPA in future. For this study primary data have been collected from 82 branches out of 138 branches of Sagar District in Madhya Pradesh of India. The respondents are the branch managers or recovery officer of each branch. The primary data are related to the causes of NPA, actual usage of preventive measures and effectiveness of each preventive strategy. It highlights few new causes which are barely covered by the earlier researches. The study also represents the actual usage of various preventive measures along with the effectiveness of preventive measures in averting NPA to be occurred in future. The outcome of this study could provide a valuable insight about which strategy is more effective to prevent these stressed assets. Besides that, it could aware the banking authorities regarding the problems faced by the managers in using the preventive measures.

Keywords: Non-Performing Assets (NPA), Preventive Management Strategies, Non-Parametric Tests, Early Warning Signals (EWS), Demonstration Effect on NPA.

JEL classification: G21; G23, G24.

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1. INTRODUCTION

Since 2008 the whole banking sector of India is under deep stress due to the problem of Non-Performing Assets (NPA). NPA is solely responsible for reducing the profits of Banks. India's non-performing assets are growing rapidly and the country is at fifth spot in terms of high NPAs across the world, says a research note. [Spulbär *et al.* \(2019\)](#) investigated the issue of sustainable investing on Bombay Stock Exchange (BSE) of India and suggested that emerging markets are characterized by rather unstable economic and financial structure. "Management of NPAs begins with the consciousness of a good portfolio, which warrants a better understanding of risks in leading. The management has to decide a strategy keeping in view the regulatory norms, the business environment, its market share, the risk profile, the available resources etc." ([Bhakare, 2017](#)). Many strategies have been imposed to manage these Non-Performing Assets but still the problem exists. An effective pill has not yet been developed or invented either by Reserve of India or by any bank or by Government of India to cure the problem of NPAs completely. The strategies that have been developed are curative in nature and can be used only after the account becomes NPA. The strategies are One Time Settlement Scheme, SARFAESI Act, Debt Recovery Tribunal, Strategic Debt Restructuring and Scheme for Sustainable Structuring of Stressed Assets (S4A). These strategies help banks in making recoveries of these NPA. One of the major issues that should be considered is that once the account becomes NPA then only a part of the whole loan could be recovered through curative management strategies and the unpaid amount would become the loss of the lender i.e. the banks. So the RBI had decided to make some policies so that prior steps can be taken before any account turns into NPA. "It is high time the banks should be more proactive to adopt a pragmatic and structured NPAs management policy where prevention of non-performance assets receive priority." ([Bhaskaran *et al.*, 2016](#)) These prior steps are known as Preventive Management Strategies.

The effectiveness of preventive management strategies is solely dependent on its implementation. The branch managers and the staff concerned with dealing NPA should have to implement the preventive measures so that the account should not get converted into NPA. Though the Reserve Bank of India has made it mandatory for all the branches of banks to follow the preventive measures still the level of NPA is quite high. Hence it is necessary to analyze whether the branches are properly following the preventive steps. Are these preventive steps truly effective to manage NPA? Are the bank branches facing any difficulty in implementing these preventive strategies? This paper is an attempt to answer these aforesaid questions. Moreover this paper also covered few untouched causes due to which the sensible accounts are becoming doubtful.

2. LITERATURE REVIEW

A comparative study has been done between the level of non-performing assets of Indian Bank with that of Public Sector Banks in Tamil Nadu, taking into consideration the priority sector lending only ([Selvarajan and Vadivalagan, 2013](#)). Taking preventive steps like proper project appraisal, proper follow up and supervision, creation of Special Mention Accounts (SMA), use of early warning signals and fixation of realistic repayment schedule by considering the gestation period, harvesting and income generation, is the better way to manage NPAs. Two face of credit risk are also introduced i.e. quantity of risk and quality of

risk and few curative measures are also mentioned by classifying the measures into general mechanism which includes writing letters, upgradation of assets, cash recovery, etc. and legal mechanism like One Time Settlement, DRT, SARFAESI and LokAdalats (Bhakare, 2017). A study on various types of banking risks in which the Credit Risk of bank has been explained in detailed, impact of NPA on banking operations and the assessment of five C's to assess the credit default risk. Moreover, using preventive measures is a lasting solution to the problem of NPAs which can be achieved only with proper credit assessment and risk management mechanism (Karunakar *et al.*, 2008). There are numerous research studies that address the issue of lending and the consequences of poor banking management, such as: Spulbăr and Birau (2019); Spulbăr and Nitoi (2012); Spulbăr and Nițoi (2013); Spulbăr *et al.* (2012).

A limited number of researches are there in area of preventive management strategies and none of the research is based on assessing the extent to which various causes are responsible for NPA. In addition to that none of the researcher has tried to determine the effectiveness of preventive management strategies. This research gap is properly covered in this paper.

A. Objectives of the Study

- To determine thecauses of NPA in and the extent to which these causes are responsible for increasing NPAs in Sagar District.
- To analyze the frequency of using the various preventive steps by the commercial banks in Sagar District.
- To compare the efficacyin using Preventive Management Strategies by Public and Private Sector Banks in Sagar District.

B. Hypothesis of the Study

- H_{0A} : All the causes of NPA are equally responsible for increasing NPA in Sagar District.
- H_{0B} :The Effectiveness of all Preventive Management Strategies used by Branch Managers in Sagar District of Madhya Pradesh are equal.

C. Research Methodology

The study is analytical in its nature. The data used in this study are basically from primary source which have been collected with the help of questionnaire method. A questionnaire was designed and collected data by visiting the bank branches during a period from November, 2017 to June, 2018. The area of study is limited to Sagar District in the State of Madhya Pradesh. The district is divided into 11 tehsils, viz, Banda, Sagar, Khurai, Garhakota, Bina, Deori, Rehli, Rahatgarh and Kesli each in the charge of a Tehsildar or a Sub Divisional Officer Commissioner. There are 11 blocks, 05 Nagar Palika, 11 Janpadpanchayats, 01 JilaPanchayat, 753 Village Panchayats, 2076 Villages, 2059 Revenue Villages, & 1901 Developed Villages in whole district. Sagar District is primarily an agriculture oriented district of Sagar Division in Madhya Pradesh. Besides agriculture there is also a great possibility of development of entrepreneurs in the district.From each tehsil 50% of the total number of State Bank of India Branches, 50% of the total number of Other Nationalized Branches and 50% of the total number of private sector banks (if any) are targeted for data collection. The size of the population is 138 (excluding MadhyanchalGramin, Ratnakar and Kotak Mahindra Bank). A Sample Size of 82 branches

have been covered with the help of Stratified Sampling Technique. The respondents include Branch Managers and Section officer of Recovery Department in both Private and Public Sector Banks in Sagar District. The data collected have been presented with the help of tables and pie-charts. For hypothesis testing, Friedman Test has been used.

D. Significance of the Study

Due to these NPAs the capitals of Indian banks have been eroding since 2008. “The government had in October announced aRs 2.11-lakh crore capital infusion into state-run banks, funded through bonds, budget support and direct capital raising by lenders.” (Bureau, 2017). As due to rising of NPA in state owned banks in India there is huge amount of erosion of capital, so the government of India has decided to engrain more capital into public sector banks in order to avoid bank crisis in future. Though “the bank employee’s unions have welcomed the government’s decision to infuse additional capital in public sector banks but termed it as a short term relief but not as a long term cure.” (PTI, 2017). If proper steps are not taken in due time to control this rising NPAs there will be further erosion of capitals of banks. Apart from that such infusion also contributes to fiscal deficit of India. Hence preventive measures are much needed to control these NPAs. The study has focused on how efficiently the preventive measures are being followed by banks. The preventive and corrective measures suggested under the framework of recommendations are Early Recognition of NPA through various signals, identifying borrowers with genuine intent, Timeliness and adequacy of response, Focus on Cash Flows, Management effectiveness, Consortium/multiple financing, Legal and related issues, Auditor’s Responsibility and Government relief (Subba Rao, 2003). Though the banks are using preventive strategies but still the branch managers are facing few hurdles that restrict them in using the preventive measures. The study would aware not only to the scholars but also to the policy makers regarding the hurdles and stressed faced by branch managers of banks in taking appropriate decision relating to credit policies and credit risks. Moreover, a sound and unstressed environment is needed for branch managers of banks to handle the banking activities properly.

E. Limitations of the Study

1. The Targeted Sample was 82 branches out of 138 bank branches in Sagar District but the required primary data have been collected from 82 branches only due to limited time.
2. The paper is only a qualitative approach to measure the effectiveness of preventive strategy to manage NPA. There is no use of any metric data related to NPA in this paper.
3. The number of preventive management strategies mentioned in the paper may not be limited. Day by day new preventive measures are developed by the branches of bank which are not covered in this paper.

F. About the Problem

It is a wise policy for banks to take preventive measures rather than applying much more efforts in making recoveries from substandard, doubtful or loss assets. The banks should take preventive measures during both the period i.e. before sanctioning a loan and after sanction the loan. “Pre-sanction and post sanction credit monitoring has a major role in reducing NPAs. Qualitative appraisal of Financial statements understanding the

unhealthy developments in accounts and working of the company, examination of the viability of the project before providing financial assistance to a borrowing unit are the essential aspects in reducing NPAs.” (Naik, 2017). Improving the credit appraisal standards is the key to a healthy credit portfolio and consequent prevention of NPAs. In the past, reckless lending by banks without appropriate credit appraisal of the project and its financial needs has been one of the significant reasons for the present state of NPAs. Projected expansion plan is to be compared with growth in industrial production of peers. As per the direction of Board for Financial Supervision (BFS) a study was conducted by an in-house group that recommends various preventive measures like Early Recognition of NPA through various signals, identifying borrowers with genuine intent, Timeliness and adequacy of response, Focus on Cash Flows, Management effectiveness, Consortium/multiple financing, Legal and related issues, Auditor’s Responsibility and Government relief. Stock-audit by external professionals like chartered accountants, at least once a year for large borrower accounts is also essential. Recalling the advance is vital when it appears that borrower is diverting the bank finance to some other purpose or diluting the security offered.

Though the bankers have been using these preventive management strategies for many years but still the level of NPA is too high. The problem is due to some reasons the banks are incapable to use those strategies frequently and effectively. The primary data have been collected and analyzed to present a picture of this problem.

3. ANALYSIS OF PRIMARY DATA AND EMPIRICAL RESULTS

A survey has been conducted by preparing a questionnaire and visited 82 bank branches in Sagar District from every tehsil in the district in order to take opinion of either Branch Manager or Section officer dealing with Recovering NPA regarding the causes of NPA, frequency of using preventive measures and its effectiveness. The detailed analysis of that primary data is mentioned below:

Table no. 1 – Sector Wise Advances in Selected Banks

Type of Bank	Major Part of Advances in Various Branches				Total
	Agricultural Sector	MSMEs	Housing Loan	Car & Other personal loan	
State Bank of India	17	2	1	0	20
Other Nationalized Banks	46	5	1	0	52
Private Sector Bank	6	2	2	0	10
Total	69	9	4	0	82

Source: Authors’ Computation based on collected Primary Data

The above table represents the major part of advances given by the various branches to different sectors like Agricultural, MSMEs, Housing Loan and Car & Other Personal Loan. There are 69 branches out of 82 branches whose major part of advances are Agricultural Sector of which 17 are the branches of State Bank of India, 46 are the branches of Other Nationalized Banks and 6 are Private Sector Banks. Similarly there are 9 branches whose major part of advances is advances to MSMEs out of which 2 are State Bank of India Branches, 5 are the branches of Other Nationalized Banks and 2 are Private Sector Branches. None of the branches are advances their major part to Car and other personal loan. This table also clarifies that Sagar District is Agricultural dominated and most of the advances are given to the agricultural sector.

Major Causes of NPA:

There are various reasons due to which the NPAs of Indian banks are increasing day by day. The various reasons are Lending to priority sector, willful defaulters, government policies, natural calamities, economy slow down, political interference and weak project appraisal. Though the previous researches, conducted in the area of NPA, were limited only to identify the causes or reasons of NPA but this paper is an attempt to assess the extent to which each cause is responsible for NPA on a likert scale.

We analyzed the following significant issues:

a) Lending to Priority Sector:

“Provision of credit by the commercial banks to the priority sector can break the vicious circle of poverty and hence can contribute to rapid growth with social justice. Therefore, the priority sector lending by the commercial bank can contribute to economic development in a variety of ways.” (Naruka and Yadav, 2017) But on the other hand the compulsion of making such provision compelled the bankers to lend money to those too like Agriculturist and Small Entrepreneurs who do not have capability to pay it back and hence such loans become stressed assets in future. “The banks end up with higher incidence of bad loans in bank’s balance sheet subsequently. This typically happens in case of PSBs because market discipline is poorly exercised in these banks and there is an expectation that government will bail out in case of bank.” (Bardhan *et al.*, 2019)

Table no. 2 – Lending to Priority Sector and its relation with NPA

		Degrees					Total
		Not Responsible (0%)	Least Responsible (Less than 25%)	Less Responsible (25% - 50%)	Moderately Responsible (50% - 75%)	Highly Responsible (Above 75%)	
Type of Bank	State Bank of India	0	6	8	6	0	20
	Other Nationalized Banks	1	9	27	8	7	52
	Private Sector Bank	1	0	7	0	2	10
	Total	2	15	42	14	9	82

Source: Researchers' Computation from collected Primary Data

The above table reveals the opinion of 82 bank managers regarding the degree to which the Lending to priority sector is responsible for NPA. According to the 6 branch managers of State Bank of India, Lending to Priority Sector is Moderately Responsible for NPA, 8 branch managers of considered this cause as less responsible and the remaining 6 branch managers considered it out of 40 other nationalized banks opined that lending to priority sector is least responsible for NPA, 11 opined lending to priority sector is less responsible, another 11 opined lending to priority sector is moderately responsible and the remaining 11 branches opined that lending to priority sector is highly responsible for NPA. The 2 private sector banks out of 8 considered lending to priority sector is not responsible for NPA. According to few branch managers if the amount of NPA at national is considered then the amount of NPA involved in priority sector is too low as compared to non-priority sector.

b) Willful Defaulters

As per Reserve Bank of India a 'wilful default' would be deemed to have occurred if any of the following events is noted:

- The unit has defaulted in meeting its payment/repayment obligations to the lender even when it has the capacity to honour the said obligations.
- The unit has defaulted in meeting its payment/repayment obligations to the lender and has not utilised the finance from the lender for the specific purposes for which finance was availed of but has diverted the funds for other purposes.
- The unit has defaulted in meeting its payment/repayment obligations to the lender and has siphoned off the funds so that the funds have not been utilised for the specific purpose for which finance was availed of, nor are the funds available with the unit in the form of other assets.
- The unit has defaulted in meeting its payment/repayment obligations to the lender and has also disposed off or removed the movable fixed assets or immovable property given for the purpose of securing a term loan without the knowledge of the bank/lender.
- The identification of the willful default should be made keeping in view the track record of the borrowers and should not be decided on the basis of isolated transactions/incidents. The default to be categorised as willful must be intentional, deliberate and calculated.

Table no. 3 – Willful Defaulters and its relation with NPA

		Degrees					Total
		Not Responsible (0%)	Least Responsible (Less than 25%)	Less Responsible (25% - 50%)	Moderately Responsible (50%-75%)	Highly Responsible (Above 75%)	
Type of Bank	State Bank of India	0	0	2	2	16	20
	Other Nationalized Banks	0	0	5	8	39	52
	Private Sector Bank	0	1	0	0	9	10
	Total	0	1	7	10	64	82

Source: Researchers' Computation from collected Primary Data

The above table reveals the opinion of 82 bank managers regarding the degree to which the willful defaulters are responsible for NPA. According to the 16 branch managers out of 20 of State Bank of India, 39 out of 52 branch managers of other nationalized banks and 9 out of 10 branch managers of private sector banks consider that willful defaulters are highly responsible for NPA. On the other hand 2 branch managers of State Bank of India and 8 branch managers of other nationalized banks consider willful defaulters are moderately responsible and the remaining 2 branch managers of State Bank of India and 5 managers of other nationalized banks consider willful defaulters as less responsible for NPA. This clarifies that around 78% of the total branch managers consider willful defaulters as highly responsible for increasing NPA in Sagar District.

Table no. 4 – Government Schemes and Policies and its relation with NPA

		Degrees					Total
		Not Responsible (0%)	Least Responsible (Less than 25%)	Less Responsible (25% - 50%)	Moderately Responsible (50%-75%)	Highly Responsible (Above 75%)	
Type of Bank	State Bank of India	0	1	6	2	11	20
	Other Nationalized Banks	0	4	5	8	35	52
	Private Sector Bank	5	0	3	0	2	10
	Total	5	5	14	10	48	82

Source: Researchers' Computation from collected Primary Data

Table no. 5 – Natural Calamities and its relation with NPA

		Degrees					Total
		Not Responsible (0%)	Least Responsible (Less than 25%)	Less Responsible (25% - 50%)	Moderately Responsible (50%-75%)	Highly Responsible (Above 75%)	
Type of Bank	State Bank of India	0	9	9	1	1	20
	Other Nationalized Banks	2	10	20	17	3	52
	Private Sector Bank	1	4	2	3	0	10
	Total	3	23	31	21	4	82

Source: Researchers' Computation from collected Primary Data

The above table reveals the opinion of 82 bank managers regarding the degree to which the Government Schemes and Policies are responsible for NPA. According to the 11 branch managers out of 20 of State Bank of India, 35 out of 52 branch managers of other nationalized banks and 2 out of 10 private sector banks consider that Government Schemes and Policies are highly responsible for NPA. Again according to 2 branch managers of State Bank of India, 8 managers of other nationalized banks and 2 manager of private sector banks consider this cause is moderately responsible for increasing NPA. Whereas total of 5 managers out of 82 opined that this cause is least responsible and remaining 5 managers from private sector do not even consider this a cause for increasing NPA in the district. The managers of SBI and other nationalized banks stated that most of the loans sanctioned under government schemes are without collateral due to which more NPAs are rising from such loans. "PSBs are involved in the government's credit related welfare schemes and various priority sector lending schemes. Political parties are observed to waive-off loans, debatably to garner votes" (Rizvi *et al.*, 2019).

The above table reveals the opinion of 82 bank managers regarding the degree to which the natural calamities are responsible for NPA. According to the opinion of 31 branch managers out of 82, the natural calamities are less responsible and 23 respondents opined that this cause is least responsible for NPA. On the other hand according to 4 branch managers natural calamities are highly responsible and 21 opined that it is moderately responsible for NPA. 3 managers do not even consider this a cause for increasing NPA. Overall it is clear that natural calamities are not a big cause for such increasing NPA.

Table no. 6 – Degree to which Economy Slow Down is responsible for NPA

	Type of Bank	Degrees					Total
		Not Responsible (0%)	Least Responsible (Less than 25%)	Less Responsible (25% - 50%)	Moderately Responsible (50%-75%)	Highly Responsible (Above 75%)	
	State Bank of India	8	10	1	1	0	20
	Other Nationalized Banks	20	26	5	1	0	52
	Private Sector Bank	8	2	0	0	0	10
	Total	36	38	6	2	0	82

Source: Researchers' Computation from collected Primary Data

Table no. 7 – Degree to which Political Interference is responsible for NPA

	Type of Bank	Degrees					Total
		Not Responsible (0%)	Least Responsible (Less than 25%)	Less Responsible (25% - 50%)	Moderately Responsible (50%-75%)	Highly Responsible (Above 75%)	
	State Bank of India	0	1	6	6	7	20
	Other Nationalized Banks	4	4	11	20	13	52
	Private Sector Bank	6	0	2	2	0	10
	Total	10	5	19	28	20	82

Source: Researchers' Computation from collected Primary Data

The above table reveals the opinion of 82 bank managers regarding the degree to which the economy slowdown is responsible for NPA. "Banks are said to behave in a pro-cyclical manner when the lending activities, profitability etc. move in correlation with the economy's short-term business cycles." (Bardhan and Mukherjee, 2016). But according to 38 branch managers i.e. 10 managers of State Bank of India, 26 managers of Other Nationalized Banks and 2 managers of Private Sector Banks, consider Economy slowdown is least responsible for increasing NPA and 8 branches out of 20 of State Bank of India, 20 out of 52 branches of Other Nationalized Banks and 8 out of 10 branches of Private Sector Banks, do not even consider economy slowdown a cause for increasing NPA in Sagar District. A total of only 6 out of 82 branches consider this cause as moderately responsible and remaining 2 branches only consider it as highly responsible for NPA in the district.

The above table reveals the opinion of 82 bank managers regarding the degree to which the Lending to priority sector is responsible for NPA. The branch managers of 7 SBI branches has accepted that the inference of the Political leaders is highly responsible for increasing NPA, 6 branches of SBI consider this cause as moderately responsible, 6 other consider it less responsible and only one branch consider this cause as least responsible for NPA. Similarly 13 branches of Other Nationalized Banks has accepted that political interference is highly responsible for increasing NPA, 20 branches of Other Nationalized Banks consider this cause as moderately responsible, 11 branches consider this less responsible, 4 consider this least responsible and remaining 4 branches do not even consider this as a cause for NPA. It can be seen that there is very less political interference in private

sector banks as 6 out of 10 private sector banks do not consider political interference as a cause for NPA.

Table no. 8 – Degree to which Weak Project Appraisal is responsible for NPA

		Degrees					Total
		Not Responsible	Least Responsible	Less Responsible	Moderately Responsible	Highly Responsible	
		(0%)	(Less than 25%)	(25% - 50%)	(50%-75%)	(Above 75%)	
Type of Bank	State Bank of India	0	1	1	5	13	20
	Other Nationalized Banks	0	0	4	8	40	52
	Private Sector Bank	0	1	0	0	9	10
	Total	0	2	5	13	62	82

Source: Researchers' Computation from collected Primary Data

The above table reveals the opinion of 82 bank managers regarding the degree to which weak project appraisal is responsible for NPA. About 75% of total respondents believe that weak project appraisal is highly responsible for NPA and about 16% of the total respondents opined that weak project appraisal is moderately responsible for NPA. The branch managers stated few reasons behind weak project appraisal like lack of staff and lack of training and experience among field officer. "Loans granted to borrowers should be adequately reviewed regularly to assess the credit risk level and each loan should be secured with high valued collateral." (Koju *et al.*, 2018)

c) Other Reasons:

- **Demonstration Effect:** One of the biggest reasons which was not mentioned in the questionnaire, is Demonstration Effect. This cause was totally ignored by all the previous study. When government declares subsidies for those who are not able to repay their loan due to natural calamities, the borrowers who repay their debt regularly and at appropriate time, are discouraged and makes default in future intentionally in order to avail the benefits of subsidies.
- **Bossing around by Borrowers:** According to two branch managers, bossing around by few borrowers is also a reason behind NPA. Even the high authorities could not take proper action against those persons. The recovery officers of banks are threatened to life as the officer tried to take action to make recovery of loan.

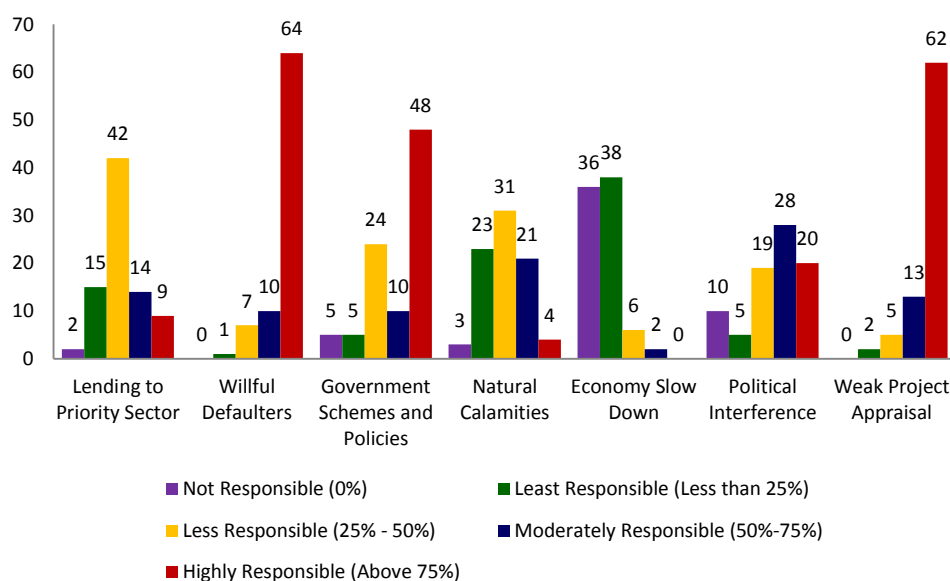


Figure no. 1 – Degrees to which Various Causes are responsible for Increasing NPAs

The above multiple bar diagram reveals the extent to which various causes are responsible for NPA. It is found that 64 branches out of 82, indicated willful defaulters as highly responsible cause in raising NPA, followed by weak project appraisal opined by 62 branches and government schemes and policies opined by 48 branches. A major fact is also disclosed by the survey is that many banks have accepted political interference is also one major cause for increasing NPA in the district. It is clear from the chart that Willful Defaulters, Government Schemes and Weak Project Appraisal are the major causes for increasing NPA. Apart from that certain branch managers accept that political pressure is also one the reason due to which NPA is increasing even 12 branch managers consider political pressure as a highly responsible cause for NPA in Sagar District.

H₀: All the causes are equally responsible for increasing NPA in Sagar District.

The data related to the causes that are responsible for increasing NPA in Sagar District of Madhya Pradesh are collected in Likert Scale at 5 point rating scale where the rating of 5 is representing the most responsible cause. To check whether all factors are equally responsible for increasing NPA in Sagar District, ANOVA with Repeated Measures can be used. Though the data are qualitative in nature but these data have been quantified with the help of 5 Point Likert Scale. Hence, parametric test can be applied after examining whether the data is normally distributed or not. In order to apply ANOVA with Repeated Measures it is necessary to check whether the data collected related to the rating of causes with are responsible for NPA are normally distributed or not.

Table no. 9 – Results of Kolmogorov-Smirnov and Shapiro-Wilk Test, applied to test the Normal Distribution of Data

	Tests of Normality					
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
(i). Lending to Priority Sector	0.287	82	0.000	0.872	82	0.000
(ii). Wilful Defaulters	0.465	82	0.000	0.539	82	0.000
(iii). Government Schemes and Policies	0.321	82	0.000	0.645	82	0.000
(iv). Natural Calamities in Agricultural Sector	0.195	82	0.000	0.899	82	0.000
(v) . Economy Slow Down	0.268	82	0.000	0.766	82	0.000
(vii). Political Interference	0.231	82	0.000	0.862	82	0.000
(vi). Weak Project Appraisal	0.447	82	0.000	0.561	82	0.000

a. Lilliefors Significance Correction

Source: Researchers' Computation

From the above Results of and Kolmogorov-Smirnov and Shapiro-Wilk Tests it is found that the data related to the causes responsible for NPA in Sagar District is not normally distributed. Therefore ANOVA with Repeated Measures (a parametric test) cannot be applied. Here, in order to check whether the causes considered in the study are equally Responsible for increasing NPA in Sagar District, **Friedman Test** which is the non-parametric version of **ANOVA with Repeated Measures** has been applied.

Table no. 10 – Application of Friedman Test

Causes	Ranks	Mean Rank
(i). Lending to Priority Sector		3.20
(ii). Wilful Defaulters		5.77
(iii). Government Schemes and Policies		5.23
(iv). Natural Calamities in Agricultural Sector		2.99
(v) . Economy Slow Down		1.35
(vii). Political Interference		3.82
(vi). Weak Project Appraisal		5.65

*Source: Researchers' Computation***Table no. 11 – Results of Friedman Test**

Test Statistics ^a	
N	82
Chi-Square	314.975
df	6
Asymp. Sig.	.000
a. Friedman Test	

Source: Researchers' Computation

The application of Friedman Test shows that the Significance value is less than 0.05 so it can be inferred that all the factors are not equally responsible for increasing NPA in Sagar District.

Preventive Management Strategies

There are three major preventive management strategies are there namely Early Warning Signals (EWS), Project Appraisal of Borrowers and creation of Special Mention Accounts (SMA). These strategies are explained below in detail.

Table no. 12 – Whether Banks follow Preventive Management Strategies

		Yes	No	Total
Type of Bank	State Bank of India	20	0	20
	Other Nationalized Banks	52	0	52
	Private Sector Bank	10	0	10
Total		82	0	82

Source: Researchers' Computation from collected Primary Data

From the above table it is clear that all the banks taken into study follow the preventive management strategies irrespective of type of bank.

Early Warning Signals (EWS)

“The Reserve Bank of India (RBI) has issued an illustrative list of features for loan accounts being classified as potential non-performing accounts. This is to ensure that banks pay special attention to prevent slippages in sub-standard accounts into the doubtful category.” (Financial Express, 2002) This can be done with the help of early warning signals which would alert the branch managers that certain particular account(s) may be converted into NPA in future. The branch managers in Sagar district are well known about these Early Warning Signals and even using these signals. The frequency in which these branch managers are using early warning signals namely Non-Payment of Initial Installment, Current Ratio of Borrowers, Payment of Less Amount of Installment, Initiation of Winding Up of Business, Submission of Stock Statement, Pre-Examination of External Non-Controllable factors, Business is not Running as per Project Plan, Customer is not Traceable, Problem between Partners and changes in government policies, are represented in the following Tables from no. 13 to 20.

Table no. 13 – Frequency of Examining the Non-Payment of Initial Installment by Banks

		Frequency					Total
		Never	Rarely	Sometimes	Often	Very Often	
Type of Bank	State Bank of India	0	0	0	2	18	20
	Other Nationalized Banks	0	1	0	6	45	52
	Private Sector Bank	0	0	0	0	10	10
Total		0	1	0	8	73	82

Source: Researchers' Computation from collected Primary Data

The above table shows the frequency of examining the non-payment of initial installment by banks. The table clearly specifies that almost all the banks considered in the study, always examine whether the borrower is paying its initial installment in time. All the banks except one branch of other nationalized bank, are always worried that whether the borrower is capable enough to pay the initial installment of loan.

Table no. 14 – Frequency of Examining the Current Ratio of the Businesses by Banks

Type of Bank	Frequency					Total
	Never	Rarely	Sometimes	Often	Very Often	
State Bank of India	1	5	12	2	0	20
Other Nationalized Banks	11	19	15	5	2	52
Private Sector Bank	4	1	2	2	1	10
Total	16	25	29	9	3	82

Source: Researchers' Computation from collected Primary Data

The above table explains the frequency of examining the current ratio of the businesses by the lender banks. About 16 bank branches i.e. 1 State Bank of India Branch, 11 Other Nationalized Branches and 4 private sector branches, taken into study stated that they never examine the current ratio of the businesses. About 30% of the total number of branches in the study, rarely examines the current ratio of borrowers, about 35% of the total number of branches i.e. 29 branches examine it sometimes, 9 branches oftenly check it and only 3 of the total number of branches examine the ratio very often. As per many branches examining the current ratio is not important if the borrower is paying the installment within a stipulated time.

Table no. 15 – Frequency of Examining the Payment of Less Amount of Installment by Borrowers

Type of Bank	Frequency					Total
	Never	Rarely	Sometimes	Often	Very Often	
State Bank of India	0	1	0	5	14	20
Other Nationalized Banks	0	0	1	14	37	52
Private Sector Bank	0	0	0	0	10	10
Total	0	1	1	19	61	82

Source: Researchers' Computation from collected Primary Data

The above table shows the frequency of examining the less amount installment by banks. The table clearly specifies that almost all the banks considered in the study, oftenly and very oftenly examine that whether the borrower is paying less amount of installment expect one branch who check it sometimes and one other who does it rarely. Most of the banks are always worried because as per most of the banks in the study, less payment of installment will lead to conversion of such account into NPA in future.

Table no. 16 – Frequency of Examining the Initiation Process of Winding Up of Business

Type of Bank	Frequency					Total
	Never	Rarely	Sometimes	Often	Very Often	
State Bank of India	0	0	1	4	15	20
Other Nationalized Banks	0	0	0	10	42	52
Private Sector Bank	0	0	0	1	9	10
Total	0	0	1	15	66	82

Source : Researchers' Computation from collected Primary Data

The above table shows the frequency of examining the less amount installment by banks. The table clearly specifies that almost all the banks considered in the study, oftenly and very oftenly examine that whether the borrower is paying less amount of installment expect one branch who check it sometimes and one other who does it rarely. Most of the

banks are always worried because as per most of the banks in the study, less payment of installment will lead to conversion of such account into NPA in future.

Table no. 17 – Frequency of Examining the Submission of Stock Statement

Type of Bank	Frequency					Total
	Never	Rarely	Sometimes	Often	Very Often	
State Bank of India	0	2	7	4	7	20
Other Nationalized Banks	0	7	15	19	11	52
Private Sector Bank	0	2	2	3	3	10
Total	0	11	24	26	21	82

Source : Researchers' Computation from collected Primary Data

The above table depicts the frequency of examining the submission of stock statement by the borrowers. Out of 82 branches, 21 branches i.e. 7 State Bank of India Branch, 11 branches of other nationalized banks and 3 branches of private sector banks, always check the submission of stock statement by the borrowers. On the other hand, about 32% of the total branches i.e. 26 branches out of 82 examine the submission of stock statement most of the time. 24 branches examine this thing sometimes and remaining 11 branches opined that they rarely check this statement of borrower. As per these 11 branches, Stock Statement cannot indicate the creditability of the borrowers. Such statement submitted by the borrowers may be false. They strictly advised to use the physical verification method in order the check their stock position, without prior intimation to the borrower.

Table no. 18 – Frequency of Examining the External Non-Controllable Factor like Natural Calamities

Type of Bank	Frequency					Total
	Never	Rarely	Sometimes	Often	Very Often	
State Bank of India	1	10	7	1	1	20
Other Nationalized Banks	0	20	19	11	2	52
Private Sector Bank	2	5	2	1	0	10
Total	3	35	28	13	3	82

Source: Researchers' Computation from collected Primary Data

The above table reveals the frequency of examining the external non-controllable factors by the bankers. Out of 82 branches, only 3 branches i.e. 1 State Bank of India Branch and 2 branches of other nationalized banks, always check the external non-controllable factors like natural calamities. 13 branches out of 82, examine most of the times, the external non-controllable factors which affects the paying capacity of the borrowers. 28 branches examine this thing sometimes, 35 branches opined that they rarely check these factors and the remaining 3 branches i.e. 1 State Bank of India branch and 2 private sector branch, stated that they never examine these non-controllable factors in terms of early warning signal. This table clearly stated that the banks do not emphasize more on examining the non-controllable factors.

Table no. 19 – Frequency of Examining whether the Business is running as Per the Project Plan

Type of Bank	Frequency					Total
	Never	Rarely	Sometimes	Often	Very Often	
State Bank of India	0	1	7	10	2	20
Other Nationalized Banks	0	4	11	26	11	52
Private Sector Bank	0	1	2	2	5	10
Total	0	6	20	38	18	82

Source: Researchers' Computation from collected Primary Data

The above table reveals the frequency of examining the business for which the loan has been lent is running as per project plan. Out of 82 branches, only 18 branches i.e. 2 State Bank of India Branches and 11 branches of other nationalized banks and 5 branches of private sectors always examine whether the business is running as per the project plan given by the borrowers at the time of applying the loan. 38 branches out of 82 i.e. around 46% of the total branches taken into study which includes 2 branches of State Bank of India, 11 branches of Other Nationalized banks and 5 branches of private sector, examine most of the times, whether the business is running as per the project plan. 20 branches examine this signal sometimes and remaining 6 branches rarely check this signal.

Table no. 20 – Frequency of Examining whether the Customer is Traceable

Type of Bank	Frequency					Total
	Never	Rarely	Sometimes	Often	Very Often	
State Bank of India	0	0	2	6	12	20
Other Nationalized Banks	0	0	0	8	44	52
Private Sector Bank	0	0	0	0	10	10
Total	0	0	2	14	66	82

Source: Researchers' Computation from collected Primary Data

The above table reveals the frequency of examining whether the customer is traceable by the bankers. Some branch managers stated that few times the borrowers are untraceable and apart from that they cannot even take any measure in unofficial hour to trace the borrower. Out of 82 branches, 66 branches i.e. 12 State Bank of India Branches, 44 branches of other nationalized banks and 10 branches of private sectors always examine whether the customer is traceable when the due date of payment of loan installment is near. 14 branches out of 82 i.e. 6 branches of State Bank of India, 8 branches of Other Nationalized banks examine most of the times, whether the borrower is traceable. Through this signal the banks are able to detect the defaulter in advance. As per some branch managers some borrowers intentionally try to hide themselves in order to avoid the repayment of loan installment. Moreover, in such cases though the branch managers tried to take many steps to trace the borrowers, but they are abide by some rules and law which restrict them to take appropriate step in appropriate time.

Table no. 21 – Frequency of Examining Problem between Partners

Type of Bank	Frequency					Total
	Never	Rarely	Sometimes	Often	Very Often	
State Bank of India	6	8	4	1	1	20
Other Nationalized Banks	17	15	15	0	3	52
Private Sector Bank	3	2	1	0	4	10
Total	26	25	20	1	8	82

Source: Researchers' Computation from collected Primary Data

The above table reveals the frequency of examining the rising of any conflict between the partners by the bankers. Out of 82 branches, only 8 branches i.e. 1 State Bank of India Branches and 3 branches of other nationalized banks and 4 branches of private sectors always examine whether the relationship between the partners is stable and there is no chance of arising any conflict between them. 26 branches out of 82 i.e. around 32% of the total branches taken into study which includes 6 branches of State Bank of India, 17 branches of Other Nationalized banks and 3 branches of private sector, never examine this signal. Most of the branch managers do not consider this signal as an effective early warning signal on the other hand few managers have stated that following or examining this signal is very difficult.

Table no. 22 – Frequency of Examining Changes in Government Policies by Banks

Type of Bank	Frequency					Total
	Never	Rarely	Sometimes	Often	Very Often	
State Bank of India	0	1	7	6	6	20
Other Nationalized Banks	0	3	13	20	16	52
Private Sector Bank	9	0	1	0	0	10
Total	9	4	21	26	22	82

Source: Researchers' Computation from collected Primary Data

The above table reveals the frequency of examining the changes in Government Policies by the bankers. Every bank knows that changes in the policies of government also affect the banking industry severely. Out of 82 branches, 22 branches i.e. 6 State Bank of India Branch and 16 branches of other nationalized banks, always check the policies of government related to banking which could affect the credit risk of the banks. 26 branches out of 82, examine most of the times, the changes in government policies. 21 branches examine this thing sometimes, 4 branches opined that they rarely check these factors and the remaining 9 branches i.e. all private sector banks, stated that they never examine the changing policies of government. As per many branch managers the policies relating to declaration of waiving loans by the Ministers severely increases the credit risks as it discourages the good borrowers to repay the loan in due time.

Table no. 23 – Frequency of Examining Death of Borrower

Type of Bank	Frequency					Total
	Never	Rarely	Sometimes	Often	Very Often	
State Bank of India	0	0	0	2	18	20
Other Nationalized Banks	0	0	1	5	46	52
Private Sector Bank	0	0	0	0	10	10
Total	0	0	1	7	74	82

Source: Researchers' Computation from collected Primary Data

The above table reveals the frequency of examining the death of borrowers by the bankers. This signal is quite oldest and common as all the banks follows this signal. Out of 82 branches, 74 branches i.e. 18 State Bank of India Branches, 46 branches of other nationalized banks and 10 private sector banks always check this signal. In this study of 82 branches one branches has reported that due to the negligence of field officer one borrower had died and after 3 months the branches could know about it.

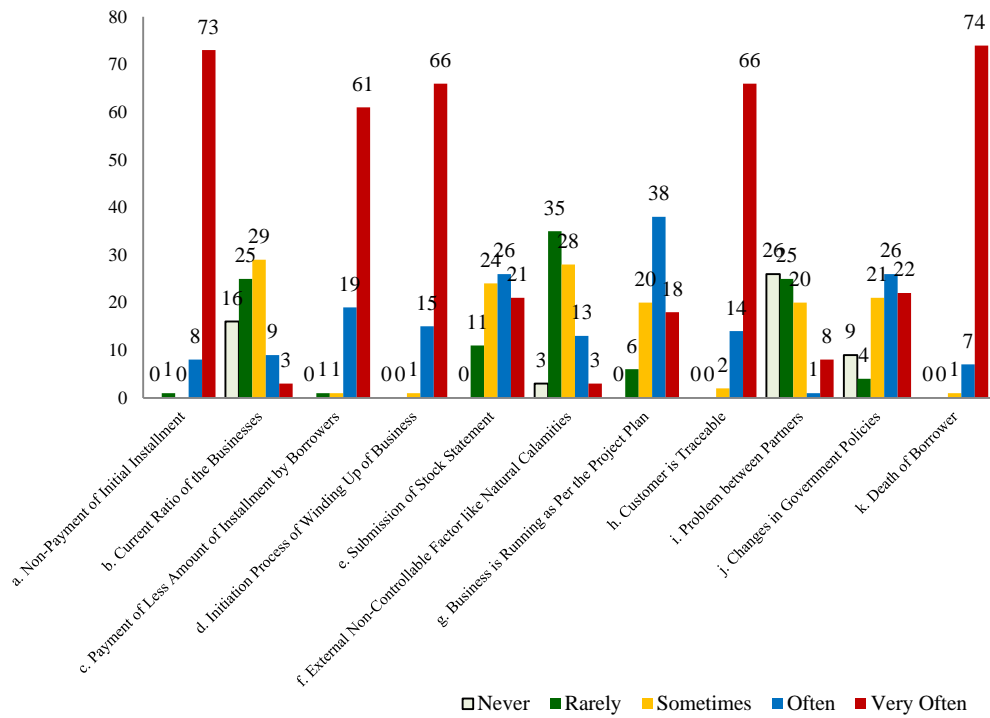


Figure no. 2 – Multiple Bar Diagram

The above multiple bar diagram reveals the frequency of using various Early Warning Signals by the bank managers in Sagar District. It is clear that the managers are not always using all the early warning signals. Few EWS like Non Payment of Initial Installment, Payment of Less Amount of Installment, Initiation of Winding Process and Death of Borrower are basically studied by the branch managers. But the EWS like examining the current ratio of borrower, stock statement, pre-examination of external non controllable factors, problem between partners and changes in government policies are not much considered by many branch managers.

I.2.(ii). Preparation of Special Mention Accounts (SMA)

“The Special Mention Account identification is an effort for early stress discovery of bank loans. It was introduced as a corrective action plan to contain stress. As per the SMA regulations, banks should identify potential stress in the account by creating a new sub-asset category viz. ‘Special Mention Accounts’ (SMA)” (Indian Economy, 2017).

Table no. 24 – Frequency of Preparing Special Mention Accounts (SMA)

Type of Bank	Frequency					Total
	Never	Rarely	Sometimes	Often	Very Often	
State Bank of India	0	0	0	0	20	20
Other Nationalized Banks	0	0	0	1	51	52
Private Sector Bank	0	0	0	0	10	10
Total	0	0	0	1	81	82

Source: Researchers' Computation from collected Primary Data

The above table depicts the frequency of preparing Special Mention Accounts (SMA) by the banks in Sagar District. Out of 82 branches, 81 branches in Sagar District prepares the Special Mention Accounts (SMA). Even all the branches use such SMA accounts to detect the defaulters. They classify the SMA into three parts i.e. SMA0, SMA1 and SMA2.

Table no. 25 – Frequency of Appraising Borrowers' Accounts

Type of Bank	Frequency					Total
	Never	Rarely	Sometimes	Often	Very Often	
State Bank of India	0	0	0	10	10	20
Other Nationalized Banks	0	0	0	21	31	52
Private Sector Bank	0	0	0	0	10	10
Total	0	0	0	31	51	82

Source: Researchers' Computation from collected Primary Data

The above table depicts the frequency of appraising borrowers' accounts by the banks in Sagar District. Out of 82 branches, 51 branches in Sagar District i.e. 10 branches of State Bank of India, 31 branches of Other Nationalized Banks and 10 branches always examine the borrowers' account before sanctioning the loans. On the other hand remaining 38% of the total branches which includes 10 branches of State Bank of India and 21 Nationalized Banks examine the borrowers' accounts most of the times before sanctioning the loans.

Effectiveness of Various Preventive Strategies

Opinion regarding the effectiveness of various preventive management strategies for managing NPAs from 82 branches of Sagar District has been

Table no. 26 – Effectiveness of Early Warning Signals (EWS)

Type of Bank	Level of Effectiveness					Total
	Least Effective	Less Effective	Fairly Effective	More Effective	Most Effective	
State Bank of India	0	0	0	11	9	20
Other Nationalized Banks	0	1	7	14	30	52
Private Sector Bank	0	0	0	0	10	10
Total	0	1	7	25	49	82

Source: Researchers' Computation from collected Primary Data

Table no. 27 – Effectiveness of Special Mention Accounts (SMAs)

Type of Bank	Level of Effectiveness					Total
	Least Effective	Less Effective	Fairly Effective	More Effective	Most Effective	
State Bank of India	0	0	3	10	7	20
Other Nationalized Banks	2	2	7	14	27	52
Private Sector Bank	1	2	2	0	5	10
Total	3	4	12	24	39	82

Source: Researchers' Computation from collected Primary Data

Table no. 28 – Effectiveness of Appraisal of Borrowers' Accounts

Type of Bank	Level of Effectiveness					Total
	Least Effective	Less Effective	Fairly Effective	More Effective	Most Effective	
State Bank of India	0	0	2	2	16	20
Other Nationalized Banks	0	3	2	17	30	52
Private Sector Bank	0	0	0	0	10	10
Total	0	3	4	19	56	82

Source: Researcher's Computation through SPSS 25

Hypothesis Validation and Testing

H_{0B}: The Effectiveness of all Preventive Management Strategies used by branch managers in Sagar District in the State of Madhya Pradesh are equal.

Weights assigned to various level of Effectiveness

Least Effective = 1 Less Effective = 2 Fairly Effective = 3 More Effective = 4 Most Effective = 5

Application of Friedman Test

Table no. 29 – Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
(i). Identification of Early Warning Signals	.363	82	.000	.709	82	.000
(ii). Introduction of Special Mention Accounts	.270	82	.000	.781	82	.000
(iii). Appraisal of Borrowers' Accounts	.402	82	.000	.624	82	.000

a. Lilliefors Significance Correction

Source: Researchers' Computation from collected Primary Data

Table no. 30 – Mean Ranks

Preventive Management Strategies	Mean Rank
(i). Identification of Early Warning Signals	2.05
(ii). Introduction of Special Mention Accounts	1.79
(iii). Appraisal of Borrowers' Accounts	2.16

Source: Researchers' Computation

Table no. 31 – Value of Friedman Test

Test Statistics ^a	
• N	82
• Chi-Square	12.624
• df	2
• Asymp. Sig.	.002

a. Friedman Test

Source: Researchers' Computation

The application of Friedman Test shows that the Significance value is less than 0.05 so it can be inferred that all the preventive strategies are not equally effective in controlling NPA. The most effective preventive measure is Appraisal of Borrowers' Accounts followed by Early Warning Signals.

I.2. (iv) Other Preventive Strategies

- **Banker-Customer Relationship:** According to few managers maintaining banker-customer relationship is also a preventive measure to avoid NPA. The reason being is that it would create trust customer for banks and the customer would regard the bankers as a well-wisher. Such bonding would encourage the borrowers to repay their loan on loan. The bank would also facilitate the customers in case of any need or help required by the customers.
- **Linking Customer through Social Networking Site:** One of the manager has suggested to have a monitor on few borrowers through social networking site. A borrower would never want to lose his/her status in social sites. Apart from that it will help to track the borrowers if the borrowers are untraceable over phone or personal visit.

I.6. Problems in Using Preventive Management Strategies

- i. **Political Interference:** Due to political interference the banks in Sagar District are unable to take proper decision relating to sanctioning of loans. The managers are forced to lend money even to those persons whose project is not viable or who is even incapable to pay back the loan.
- ii. **No Punishment to the Bank Officials in Case of Negligence:** In certain cases some negligence is also found among bank officials in the appraisal of loans but there is no strict punishment for them due to which they are only trying to fulfill the loan targets rather than on finding authentic and needy customers.
- iii. **Lack of Staff:** In some cases the bank managers are overburden with all types of work like operations, field visit, selling third party products, sanctioning loans under government schemes, fulfilling loan targets. In many branches there is shortage of staff due to which preventive strategies are not followed properly.
- iv. **Women as Field Officer:** In certain case if the field officer is women then the branch managers has to face many excuses of not visiting the field properly before sanctioning a loan.
- v. **Lack of Training among Banking Staff related to Handling SMA Accounts:** Many officials in the branches of Sagar District are untrained and semi-skilled due to which they cannot monitor the SMA accounts properly and cannot even take appropriate steps and decisions to stop those accounts in becoming NPA in future

4. CONCLUSIONS

From the above observation it is clear that the bank managers are well aware about all the causes of NPA in Sagar District but from those causes of NPA, willful defaulters, weak project appraisal, government schemes and policies and political interference are the most responsible causes for NPA in the district. The respondents also added the other causes i.e. Demonstration Effect and Bossing around by borrowers. The bank managers have suggested a strong judiciary system which is much needed in order to deal with willful defaulters, political interference and bossing around by borrowers. Similarly, the compulsion of achieving lending targets should not be there so that bankers could follow a strong project appraisal before sanctioning any loan. In order to reduce the demonstration effect reward and appreciation system is required for good borrowers. Moreover, the declaration of subsidies by the ministers should also be avoided because such declaration discourages even to the capable borrowers to pay their debt within stipulated time. All the banks are using preventive management strategies in order to avoid NPA in future. "We are in the process of introducing a system which would generate Early Warning Signals in the form of actionable alerts that would help the bank to identify assets at the incipient stage of stress and facilitate their early resolution," SBI said in its annual report 2014-15. (PTI, 2015) This implies that though the preventive measures had been prescribed by RBI in the year 2003 but its implementation has been started from the year 2015.

All the branch managers in the district know that the preventive management strategies are highly effective in order to prevent the NPA from occurring in future but the managers are unable to use those strategies frequently and effectively. It can be observed that some early warning signals like non-payment of initial installment, payment of less amount, initiation of winding process, intractability of customers and death of borrowers are being followed by the banks but the other early warning signals are being ignored. As per some of the branch managers there are certain problems like Political Interference, lack of staff, lack of training among field officer, etc. which created obstacles for the managers in using preventive measures. Apart from that loan targets also creates more burden for bank branches which lead to sanctioning of loans to unauthentic borrowers too which ultimately responsible for increasing NPA. Hence sensible steps should be taken as soon as possible so that the managers should not face any political pressure and could take proper decision in order to sanction appropriate loans to appropriate customers. Besides that, a strong policy is the need of the hour for India in order to strengthen the implementation of preventive strategies to restraint the occurring of NPA in future. "Effective systems should be in place to identify credit risk through an independent evaluation of bank's strategies, policies, procedures, and practices related to the sanctioning of credit and management of the portfolio" (Sharifi *et al.*, 2019).

All the branch managers, whether belonging to SBI Group or other nationalized banks or private sector, should take preventive measures effectively so that there will be least possibility of any account to be converted into NPA and only authentic customers could avail the financial assistance of banks. There should not be any negligence in making correct appraisal of borrowers before sanctioning a loan. The field officer should be well trained so that a proper and accurate report regarding the project and borrowers position can be submitted to the managers in due time. The branch managers should not be forced to achieve the loan targets within a stipulated time. Such compulsion makes faulty evaluation of borrowers and hence there are more chances of default in repayment of loans by those

borrowers. Declaration of subsidies even discourages those borrowers who are making regular repayment of loans. A proper system is also required in order to detect only those needy and rightful victims of natural calamities so that subsidies could be provided only to those persons. Apart from that there should also be a reward system for those who are repaying the loans at appropriate time, either in the form of tax deduction or certain additional facilities. This study has proved that though the banks are autonomous bodies but still there is existence of political interference and even up to a certain extent the political interference are also responsible for in increasing NPAs.

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