

Exploratory Factor Analysis for the Identification of Dimensions Which Cause Non-Performing Assets in Non-Banking Financial Institutions

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Abstract:

According to Reserve Bank of India (RBI) Governor, public sector banks are having stressed accounts equivalent to over Rs.7 lakh Crores including non-performing assets (NPA) and restructured loans (News Asia, 2016). RBI has also pointed out that gross NPA of public sector banks has risen to 6.03% during June 2015 from 5.20% during March 2015. As banks have growing huge bad debts, steps are being laid down by the RBI and the government to help lending banks clean up their balance sheet by 2017. NPAs impact bank growth/stability and deteriorate profits, increase provisions, reduce reserves, affect capital adequacy, increase market borrowings, drop share values, build negative image about the economy and high interest rates. In order to compensate for the money lost in the form of interest in NPAs, banks have to charge high interest rate from other borrowers. This will have indirect impact on inflation and results in negative impact on development. Overall development of the country will also get affected due to NPA by way of unemployment, business exit due to inability to meet its loan repayment obligations, instability of the banking system, and liquidity crisis. A detailed analysis on the factors which cause NPA has become a high priority research agenda in the present day context. A questionnaire is developed for the purpose to acquire and analyse data to identify factors which cause NPA. Also, an exploratory factor analysis has been carried out to identify factors which contribute to growing NPA in financial institutions.

Purpose:

The purpose of this paper is to identify factors which cause non-performing assets in non-banking financial institutions.

Design/methodology/approach:

A questionnaire has been developed to gather data from 120

professionals who are involved in the process of granting or recovering loans in non-banking financial institutions in India and appropriate statistical techniques have been used to test for statistical significance.

Findings:

As a result of exploratory factor analysis, three components with corresponding factors are identified for the cause of non-performing assets in non-banking financial institutions. These are component 1 which is professional incapability of the borrower in running the firm leading to NPA, component 2 related to borrower nature in wilful default and his/her influential nature on financial institution and government resulting in NPA and, component 3 due to weak internal policy of the firm or external environment which aid non-repayment of loan. Component 1, component 2, and component 3 have nine factors, seven factors, and six factors associated with them, respectively, as explained in the paper.

Research limitations/implications:

The study identified the factors which are to be critically analysed prior to granting loan so that chance of the loan becoming NPA can be minimised. The success of this finding depends on suitably designed electronic credit worthiness evaluation system that evaluate the borrower.

Originality/value:

The identification of various factors which contribute to non-performing assets and to take suitable measures to control them is a high priority agenda for any financial institution and this research is directly oriented towards that direction.

Keywords: NPA, RBI, Exploratory Factor Analysis, Causes

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Introduction

Non-performing assets (NPA) is a major problem which plagues the Indian banking industry for very long time. NPA is a main indicator for analysing the health of the banking industry. It is a burning subject as far as banks and financial institutions are concerned. Management of NPA is a major hurdle for the institutions to survive. Its impact is a matter of concern for the banking Industry as well as financial institutions. Increasing NPA leads to erosion of net worth and high provisioning which in turn decrease the profitability, losing confidence of shareholders. The problem of NPA is not limited to any particular banks or financial institution but it prevails in all the banking industry including public sector, private sector, foreign banks, and other financial institutions including state financial corporations and non-banking financial companies in India. The impact of NPA will affect not only the banking industry but also the whole economic development of the country as banks are major driving force to sustain the economy of the country.

According to Dr Raghuram Rajan, former RBI Governor, in India public sector banks are having over Rs.7 lakhcrores stressed accounts including NPAs and restructured loans (News Asia, 2016). Dr Raghuram pointed out that the gross NPA of public sector banks rose to 6.03% as on June 2015 from 5.20% in March 2015. It is said that as banks reel under huge bad debts, steps taken by the Reserve Bank of India and government should help lenders clean up their balance sheet by 2017. He also said that banks were given power and flexibility to clear the bad loans (The Economic Times, 2015a). It is said that action will be taken against the banks which hide the NPA numbers (The Financial Express, 2015). It is also said that RBI and the Government are very concerned over bad loans (The Economic Times, 2013). The Chief of SBI in a press release said, "It will be very difficult to give fresh loan to NPA accounts" (The Economic Times, 2015b). Chairman and Managing Director of Corporation Bank said that an increase in provision for non-performing assets brought down bank's net profit by 11.50% during first quarter of 2015-2016. It is also said that the net provisions for NPA is at Rs. 604.23 crore against Rs.466.06 crore earlier (Business Line, 2015). Minister of State for Finance informed the Parliament that bad loans at public sector banks have increased to Rs.2.67lakh crores as compared to last year. He also said that big NPA case are being recovered through Debt Recovery Tribunal (DRT), Board for Industrial and Financial Reconstruction (BIFR), Central Registry of Secularisation Asset Reconstruction and Security interest

of India (CERSAI) and Central Repository of Information of Large Credit (CRILC) (Times of India, 2015). Finance Minister of India said that efforts are to be taken by the Banks to tackle the Non-Performing Assets (The New Indian Express 2015). IFCI Executive Director said that they would bring down NPA level to comfortable zone using restructuring tool and CDR mechanism that includes one-time settlement, sale of assets to asset restructuring companies (Business Standard, 2014).

As part of financial sector reforms, banks show major positive changes in their operational areas especially in management of non-performing assets. Financial health of banks in respect of capital adequacy, asset quality, and profitability has started improving, since Indian banking industry were suffering from chronic problem of NPA prior to the introduction of financial sector reforms. A number of papers written by various authors regarding causes prevention, reduction and impact of rising non-performing assets and risk mitigation measures to prevent fresh and reduce NPA in banking industry including banks in co-operative sectors are available. So, the management of NPA of banks and financial institutions has got vital role that evaluates the performance of these financial institutions. Rihana and Santhiyavalli (2016) said that the NPA of scheduled commercial banks in India was going up with high risk on their assets. Gupta and Aslam (2015) conducted a study on J & K, Grameena Bank and pointed out that NPA could be reduced by introduction of proper credit appraisal system and risk management system.

According to Madan (2015), management of NPA in banks is a major hurdle. The banks should be equipped with a system having prudential norms adopted by RBI for management of NPA as it will have a negative impact on the performance. Rasika (2014) opined that lack of follow up and monitoring, mismanaged credit policy system will lead to rising of NPA level in banks and among the Indian banking industry, bulk NPAs of 84.80% is contributed by public sector banks.

Kartikey (2013) in his study on NPA management of Krishna Grameena Bank stated that borrower related reasons such as mis-utilisation of funds, lack of technical and managerial skills, wilful default are responsible for the causes of NPA. Balasubramoniam (2012) in his study states that lot of transformation has taken place in Indian banking industry with the introduction of prudential norms by the Reserve Bank of India. The prudential norms such as categorisation of assets, provisioning norms and income recognition which helped the banks to improve

their performance by reducing NPA level to certain extent. Pradhan (2012) says that mismanagement/ diversion of funds is the one of the main reason for the cause of NPA.

Mohan kumar and Singh (2012) in their study state that there are number of factors which are responsible for weak recovery performance of banks. These include low priority to up gradation of technology, research development and inefficient management, and weak credit appraisal system. Krishna and Rao (2007) made a study about the problem of non-performing assets in banking sector in the new millennium and evaluated its intensity and it is also done in different bank groups and reviewed the strategies and policies adopted by the banks to manage NPA and suggest remedial measures. They studied the financial soundness of UCO Bank, Indian Bank and United Bank of India using composite index rating which includes analysis of adequacy, asset quality, management efficiency, earning quality, and liquidity ratio. Based on the above, strategies were planned as part of their internal restructuring programme. Jain (2007) pointed out that problem of NPA is more acute in public sector banks (PSB) than scheduled commercial banks (SCB). An attempt was made to find out the causes for rising trend of NPA and examine the occurrence of NPA in different sectors, time periods and efficiency of banks through univariate analysis of variance (ANOVA) technique. Panda (2006) stated that fresh NPA is significantly increasing. Due to this, NPA to total assets are also in a rising trend which shows the inefficiency of management. The study reveals that the method of classification of assets as per the prudential norms introduced by Government of India reflects more persistent irregularities at the time of converting the category of assets. It was also pointed out that recovery of loans through legal process is time consuming. Singh (2006) pointed out that in order to maintain the liquidity and profitability, NPA level should be kept low as minimum. Proper monitoring has to be done before the account becoming bad debt. SARFAESI Act and Asset Reconstruction Companies (ARC) can play vital role in the management of NPA of Indian banking.

Sanjeev (2006) conducted a study about the technical efficiency of public, private and foreign banks operating in India using a non-parametric liner programming based techniques known as Data Envelopment Analysis (DEA). The study focuses on the relationship between the efficiency and the percentage of non-performing assets (NPA) of the commercial banks operating in India. Sharma (2005) conducted a study about the problem of non-performing assets in public sector banks and its

impact on the performance. Analysis is also made to know the impact of NPA on profitability, productivity, capital adequacy, fund mobilization, and deployment policy of banks. Pandey and Ghosh (2005) examined the NPA management policies in several Asian countries. The study revealed that whether Indian institutes should emulate these. It aimed at for several innovations in NPA and formulation of risk mitigation techniques at banks and financial Institutions in the last decade.

Earlier research on this topic has concentrated on non-performing assets (NPA) related to banks on aspects like composition of NPA (Vidula, 2015; Ibrahim & Thangavelu, 2014). One of the studies concluded that refining the accounting norms can lead to reduction in bad debts leading to NPA in banks (Meenakshi & Mahesh, 2010). Main causes of NPAs in banks are due to falling revenues in certain sectors (Bhavani & Veena, 2011). Some strategies identified for the reduction of NPAs in banks are also available in the literature (Kaveri, 2001). Another study focused on comparative study on NPA in India in the global context (Prashanth, 2002). Another research has concluded that earning capacity and profitability of banks are proportional to level of NPAs (Ahmed, 2011). Faster recovery of good loans and bad loans through various modes help decelerate growth of NPA (Veerakumar, 2012). It is pointed out that NPA poses a major threat to Indian banking Industry in India (Siraj & Sundarsan Pillai, 2012; Zahoor and Jagadeeshwaran, 2013). Sector-wise NPAs have also been analysed in one of the earlier studies and concluded that wilful defaults, over estimation of proposals and poor monitoring can lead to NPA (Zahoor & Jagadeeshwaran, 2013).

Problem Statement

Prior research is concentrated on the cause and prevention of NPA in banks and limited or no research is available on the application of exploratory factor analysis (EFA) for identifying factors that cause NPA in non-banking financial sector. This stresses the need for the present research centered around identification of factors which cause NPA in non-banking financial institutions in India.

Research Objectives

The main objectives are:

- (i) To come up with an instrument, based on literature review, having items that appear to be relevant in

causing NPA in non-banking financial institutions in the country.

- (ii) To conduct an exploratory factor analysis (EFA) to identify the factors which cause NPA in the non-banking financial institutions in India.

Methodology

The study is carried out to conduct exploratory factor analysis for the purpose of identifying of dimension which cause NPA and list out the main causes of NPA in financial institutions and also to suggest suitable remedial measures for financial productivity improvement. Ishikawa diagram has been used to present the causes of NPA. Also, the above tool has been used to detect signals that lead to NPA for its early detection and prevention.

In India, the magnitude of provisioning for bad debt caught attention only in 90s in commercial banks and subsequently, Narasimham Committees of 1991 & 1998 appointed by the Government of India have given recommendation to solve the problem of NPAs. The concept of NPA in the Indian banking industry for the first time is introduced during the year 1992-93 (Reddy, 2004). Due to the launch of economic liberalisation and financial sector reforms, banks and financial institutions are forced to bring down their NPA at par with international standards and to improve their profitability. The concept of NPA introduced by Reserve Bank of India (RBI) for implementation in banks is in the year 1993 on the basis of recommendations of Narasimham Committee on "Financial System Reforms". The meaning of NPA is that an asset which is not contributing to the income of bank or it does not generate income for the bank. The NPA have been defined by various committees and financial institutions and legislation interpreted NPAs in different ways to define NPA in respective terms. Definition as per Narasimham Committee is that an asset may be treated as NPA if interest or installment of principal or both remain unpaid for a period of more than 180 days. As per NPA definition which came into effect from March 2004 states that if dues are not paid for a period of 90 days it can be termed as NPA account. NPA (RBI, 2003-04) is defined as follows:

- (i) an advance where interest and/or installment of principal remains overdue for a period of more than 90 days in respect of a term loan;
- (ii) the account-remains "out of order" for a period more

than 90 days in respect of an overdraft/cash credit;

- (iii) the bill remains overdue for a period of more than 90 days in the case of bills purchased and discounted;
- (iv) interest and/or installment of principal remains overdue for two harvest seasons for short term and one harvest season for long term crop loan in the case of an advance granted for agricultural purpose from 05.04.2004;
- (v) any amount to be received that remains overdue for a period of more than 90 days in respect of other accounts.

NPA has been affecting the profitability, liquidity and competitive functioning of banks and financial institutions as ever (Chandramohan, Satpathy, & Mohapatre, 2011). But it is to be noted that the borrowed funds by the financial institution have to earn a minimum return to service the same. On the other hand, NPA does not earn income and at the same time it drains the profit of performing asset through claim of provisioning requirement. NPA has direct impact on return on asset and return on equity. The NPA also affects capital adequacy, capital market perceptions and some costs. If the bank is required to provide for the entire outstanding NPAs, it could affect their net worth and reduce their capital adequacy. As the income earned on performing assets nullify the effect of NPAs to a certain extent, the ability of banks to offer finer spreads to good customer comes down which in turn make best customer choose other cheaper financing options and bank asset portfolio quality deteriorates. Thus, NPA brings down the profit which affects the shareholder value and adversely affects the investor confidence. The financial companies and institution are facing major problem for managing NPA and therefore these become a major setback for the growth of economy in the country (Kaur & Saddy, 2011). The profit of banks also would improve when provisions are added back. Narasimham Committee observed that the genesis of the problem is in the laxity of the prudential norms relating to income recognition, asset classification and provisioning as explained below.

As part of income recognition, assets are classified into performing assets and non-performing assets. Performing assets are standard assets in which income is recognised on an accrual basis whereas in case of non-performing asset income is recognised only on cash basis. Non-performing assets are categorised into substandard, doubtful, and lost assets. Doubtful assets are classified as Doubtful 1, Doubtful 2, & Doubtful 3. Standard asset

is a performing asset which does not carry more than the normal risk and are regular in all respects. Substandard assets are those assets where assets remain in substandard category for period of 12 months. The period of Doubtful 1 category (D1) is 12 months and that of a Doubtful 2 (D2) is 24 months and thereafter, the period of Doubtful 3 (D3) assets sets in.

In case of standard assets, banks provide general provision of minimum 0.25 percentage. Ten percentage of total principal outstanding is provided as general provision for substandard portion. In doubtful assets are divided into secured and unsecured portion. For D1 category of assets,

20% is given as provision for secured portion and 80% for unsecured portion. In the case of D2 category of assets, 30% provision is given for secured portion and 70% for unsecured portion. As regards to D3 category of assets, 100% provision is given for both secured and unsecured portion.

Fig. 1 shows Ishikawa diagram consisting the causes of NPA, Fig. 2 shows the impact of NPA which is divided into four heads such as profit based, capital adequacy based, capital market based, and other costs based, and Fig. 3 also shows Ishikawa diagram consisting signals which lead to detection and prevention of NPA.

Financial Institution Related Problems

- Improper appraisal of proposal
- Sanction based unscientific estimate
- Lack of follow up
- Disbursement delay
- Delay in sick units revival
- Sanction of loan to non-deserving cases.

General Causes

- Change in Government Policy
- Natural calamities
- Lack of infrastructure facilities.
- Lack of adequate working capital.
- Lack of support by Central / State Government
- Liberalisation in the economy.
- Implementation of pollution control measures
- Time consuming and slow legal processing
- Recovery of bank dues.
- Slow functioning of judiciary including DRT and BIFR

- Lack of planning and management.
- Conflict among Promoters.
- In proportionate diversion of fund
- Internal liquidity problems.
- Low priority given for up-gradation of technology
- Lack of close monitoring during implementation.
- Exchange rate fluctuation
- Strained labour relations resulting in strikes and lockouts.
- Delay on the part of the borrowers to bring margin money.
- Location related problems.
- Wilful defaulters.
- Fraud.

Borrower related problems

- Appraisal quality
- Market appraisal inputs
- Follow-up and monitoring
- Delay in taking decisions
- Stipulation of impractical terms and conditions of sanction.
- Improper application of recovery tools

Human related problems

Results in NPA

Fig. 1: Ishikawa diagram showing the causes of NPA

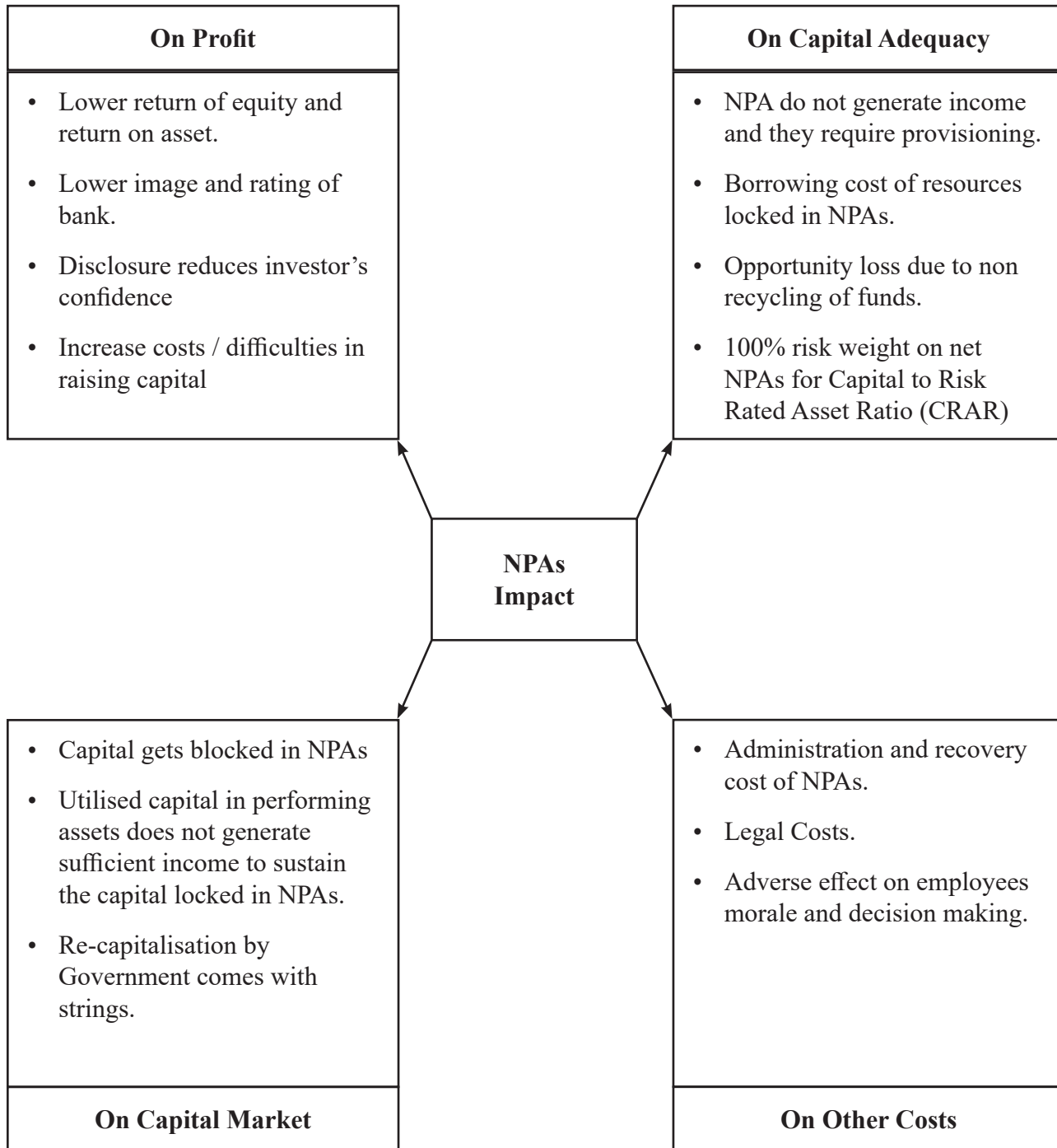


Fig. 2: Impact of NPA (Adapted from Jain, 2007)

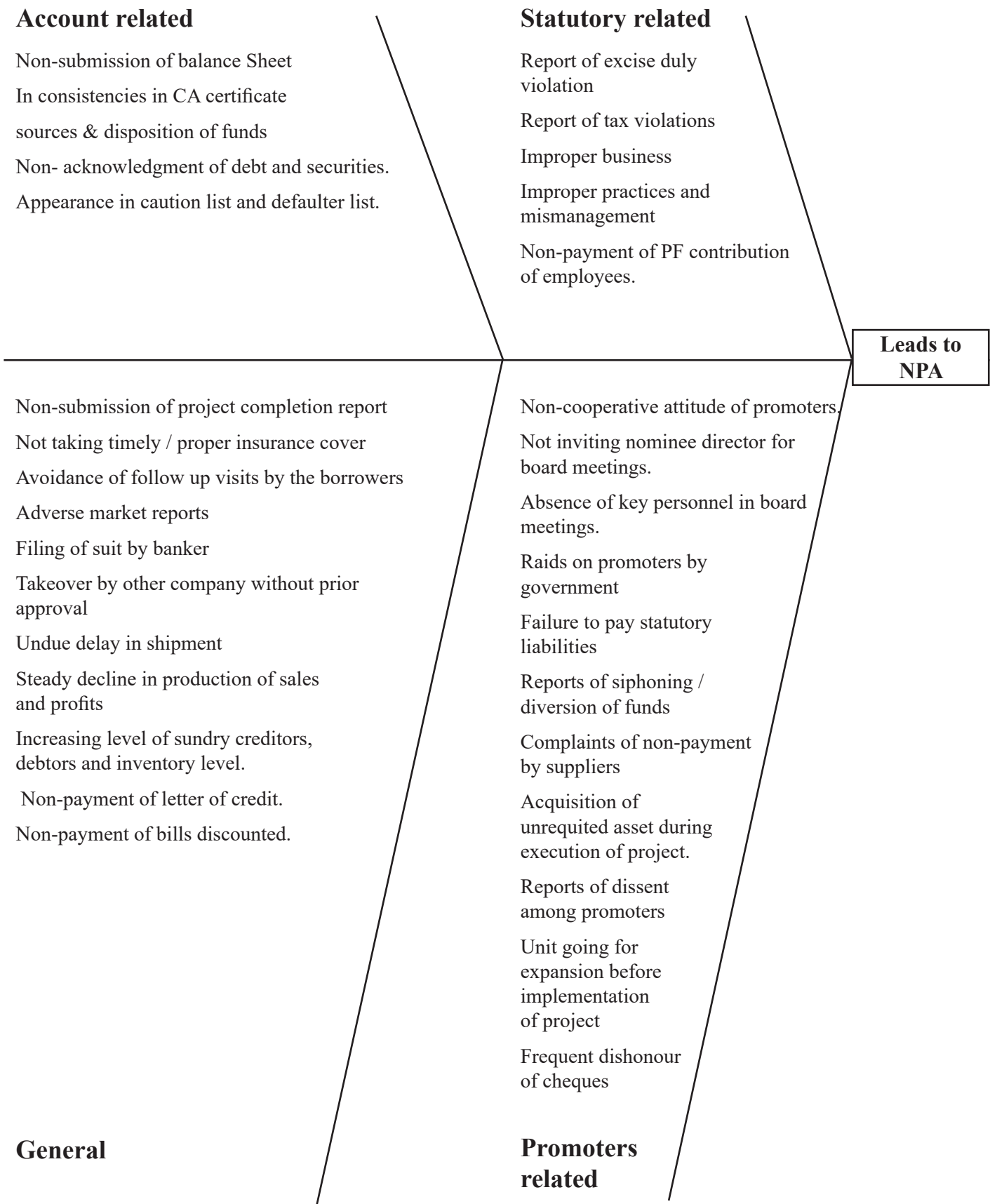


Fig. 3: Ishikawa Diagram Showing Signals Which Lead to Detection and Prevention of NPA

Methodology

The causes and prevention of NPA are identified and listed using Ishikawa diagram in Fig. 1 and Fig. 3. Factor analysis can be classified as exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). EFA is heuristic in nature and the investigator has no expectations of the number or nature of the variables and truly exploratory in nature. EFA explores the main dimensions to generate a theory, or model from a relatively large set of latent constructs often represented by a set of items. CFA is used to test a proposed theory using structural equation modeling and has assumptions and expectations based on priori theory regarding the number of factors, and which factor theories or models best fit (Williams, Brown, & Onsmann, 2012). In this research, EFA is used to come out with dimensions responsible for the cause of NPA in the non-banking financing institutions in the country. Though limited research have been carried out to find out the dimensions of NPA in banks, a similar study on non-banking financing institutions is absent in the literature. A 22-item instrument is developed for the purpose by the authors to carry out the EFA. Major limitation of the study is that decisions about number of factors and rotational scheme are based on pragmatic rather than theoretical criteria (Tabachnick & Fidell, 2007).

Reliability of the Instrument

Table 1: Reliability of the Instrument
Reliability Statistics

Cronbach's Alpha
.844

The reliability of the questionnaire is measured based on Cronbach Alpha. The value for the present study is 0.844 as per Table 1 which is well above 0.7. Thus, the instrument developed is found to be acceptable from the reliability point of view as suggested by Nunnally (1978).

Sample Size

There are varying opinions, and several guiding rules of thumb are cited in the literature about the number of samples required for conducting EFA for data reduction. A sample size of 120 is taken in this study which is well above the criteria of number of items multiplied by five which is 110, as there are five options per item in the

questionnaire. This is also above the sample size of 100 as stated by Hair, Anderson, Tatham and Black (1995).

Kaiser-Meyer-Olkin(KMO) Measure of Sampling Adequacy/Bartlett's Test of Sphericity

According to Kaiser-Meyer-Olkin measure of sampling adequacy, KMO measure above 0.6 decides the acceptability of the sample for conducting factor analysis. KMO measure of the sample is 0.796 for this research as seen in Table 2 and is acceptable to carry out factor analysis. Also as Bartlett's test of sphericity is significant at $p < 0.05$, it also confirms the suitability of the sample for factor analysis as per Table 2 (Bartlett, 1950).

Table 2: KMO Measure of Sampling Adequacy and Bartlett's Test of Sphericity

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.796
Approx. Chi-Square	953.576
Bartlett's Test of Sphericitydf	231
Sig.	.000

Factor Extraction Method

Principal components analysis (PCA) and principal axis factoring (PAF) are used most commonly in the published literature as factor extraction methods (Henson & Roberts, 2006; Tabachnick & Fidell, 2007). According to Thompson and Daniel (1996), the practical differences between PCA and PFA are often insignificant, when variables have high reliability or where there are 30 or more variables. They also noted that PCA is the default method in many statistical programs and PCA is also recommended when no priori theory or model exists. Pett, Lackey, and Sullivan (2003) recommend PCA for establishing preliminary solutions in EFA. Hence, PCA is used in this research for EFA on finding NPA dimensions. Oblimin rotation technique is chosen for the extraction of factors.

A correlation matrix displays the relationships between individual variables and must be at least over 0.30 whether positive or negative for practically significant (Hair et al., 1995, Tabachnick & Fidell, 2007). A factor correlation of 0.30 indicates approximately 30% relationship between variables. As many correlations goes beyond 0.30, data is found suitable for factor analysis in the present study.

Table 3: Total Variance Explained by the Inclusion of Components

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.113	27.787	27.787	6.113	27.787	27.787
2	2.239	10.179	37.966	2.239	10.179	37.966
3	1.660	7.545	45.511	1.660	7.545	45.511
4	1.585	7.205	52.716			
5	1.108	5.034	57.750			
6	1.091	4.959	62.709			
7	.998	4.535	67.245			
8	.852	3.874	71.118			
9	.783	3.559	74.677			
10	.678	3.081	77.759			
11	.652	2.963	80.722			
12	.631	2.868	83.590			
13	.541	2.457	86.047			
14	.486	2.208	88.255			
15	.455	2.068	90.323			
16	.426	1.936	92.258			
17	.385	1.748	94.007			
18	.337	1.530	95.537			
19	.294	1.339	96.875			
20	.258	1.175	98.050			
21	.241	1.097	99.147			
22	.188	.853	100.000			

Extraction Method: Principal Component Analysis

When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Earlier references point out that the majority of factor analysts typically use criteria like: Kaiser's criteria (eigenvalue > 1 rule) as in Table 3 (Kaiser, 1960; Kaiser, Jiffy, & Mark, 1974; Thompson & Daniel, 1996 ; Hair et al., 1995; Cattell, 1966, 1973, 1976).

Table 4: Pattern Matrix, Structure Matrix and Communalities for the Exploratory Factor Analysis

Item	Pattern Matrixa			Structure Matrix		
	Component			Component		
	1	2	3	1	2	3
Qn_20	.883	-.083	-.064	.851	.118	.081
Qn_19	.724	-.100	.007	.701	.077	.119
Qn_17	.702	.222	-.104	.737	.371	.073
Qn_18	.657	.110	-.081	.668	.252	.064
Qn_21	.600	.030	.064	.619	.190	.181
Qn_22	.595	.122	.088	.641	.286	.224
Qn_9	.514	.010	.276	.568	.195	.374
Qn_11	.422	.139	.335	.518	.314	.443
Qn_12	.404	.210	.391	.528	.393	.511
Qn_13	.123	.665	.100	.304	.717	.266
Qn_5	-.494	.644	.055	-.327	.535	.102
Qn_15	.206	.638	-.162	.332	.653	.013
Qn_14	.333	.590	-.029	.471	.665	.160
Qn_10	-.022	.556	.269	.163	.609	.385
Qn_4	.041	.395	.059	.148	.417	.152
Qn_16	.310	.314	-.069	.374	.375	.056
Qn_2	-.149	.031	.678	-.016	.141	.657
Qn_6	.208	.060	.620	.337	.244	.671
Qn_3	.169	-.363	.597	.191	-.193	.550
Qn_1	-.295	.127	.580	-.157	.180	.553
Qn_7	.262	.209	.435	.393	.367	.528
Qn_8	.278	.286	.433	.428	.447	.546

Extraction Method: Principal Component Analysis.
 Rotation Method: Oblimin with Kaiser Normalisation.
 a. Rotation converged in 22 iterations.

Three components from the pattern matrix show that each have three or more variables in each component with ten variables, seven variables and six variables in Component 1, Component 2, and Component 3, respectively. Component 1, Component 2, and Component 3 are explained for a cumulative variance of 45.51% as seen in Table 4. The rotated solution revealed the presence of a structure with three components showing a good number of strong loadings on each component. Table 5 shows weak correlation between the components in the component correlation matrix.

Table 5: Component Correlation Matrix

Component Correlation Matrix		
Component	1	2
1	1.000	.243
2	.243	1.000
3	.185	.215
Extraction Method: Principal Component Analysis.		
Rotation Method: Oblimin with Kaiser Normalisation.		

Conclusion

Table 5 leads to the conclusion that the three components identified are quite different from each other (Pallant, 2007). Nine items, with serial numbers 9, 11, 12, 17, 18, 19, 20, 21, and 22 representing change in government/governmental policies, trade union activities, and lock out in the borrowing company, natural calamity in the region where the company is located, conflict among promoters, improper liquidity management and resulting debt, dispute within the members of business family and handing over of business to incapable legal heirs due to succession, as given in Appendix belonging to Component 1, are mainly related to professional incapability of the borrower in running the firm leading to NPA. Seven items, with serial numbers 4, 5, 10, 13, 14, 15, and 16 representing borrowers thinking that change in policies of institution will help the loan being written off in future, liberalisation of policies by the reduction in collateral, reduction in promoter's contribution, relaxation of bench mark norms and the like, practical difficulties in recovery due to legal environment, wilful defaulters, diversion/misappropriation of funds, habitual nature of borrower, and, promoter's inability to take right decision at appropriate time as given in Appendix belonging to Component 2, are mainly related to borrower nature in wilful default and his/her influential nature on financial institution and government resulting in NPA. Six items, with serial numbers 1, 2, 3, 6, 7, and 8 representing improper appraisal of proposal, are due to lack of follow-up and monitoring, delay in project resulting from delayed disbursement of loan, industrial recession in the country, technological obsolescence and exchange rate fluctuation as given in the Appendix belonging to Component 3, are mainly due to weak internal policy of the firm and external environment which aid non-repayment of loan.

Managerial Implications

The study has shed light on factors which are to be critically analysed prior to granting loan so that chance of the loan becoming NPA can be minimised. This can be achieved using suitably designed electronic credit worthiness evaluation of the borrower. Three major factors identified as above contribute to nearly 46% of the total variance

i. Items in Component 1, are mainly related to professional incapability of the borrower in running the firm leading to NPA except for two items which

are governmental rules and regulations and effects of natural calamity which belong to environmental factor.

- ii. Items in Component 2, are related to borrower nature in wilful default and his/her influential nature on financial institution and government resulting in NPA.
- iii. Items in Component 3, are due to weak internal policy of the firm and external environment which aid non-repayment of loan which results in NPA.

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Appendix

Survey Instrument

Part I. Demography

1. Gender (select one) Male Female

1. Age (select one)
 Up to 30 years
 31 - 40 Years
 41 - 50 Years
 51 - 60 Years

2. What is the highest level of education completed? (select one)
 Bachelors
 Masters
 Ph. D

3. How long you have been working in the current Institution where you work now? (select one)
 Up to 5 years
 6 - 10 Years
 11 - 15 Years
 More than 15 years

4. Monthly Income (select one)
 Less than Rs. 25,000
 Rs. 25000 – Rs. 40000
 Rs. 40000 – Rs. 50000
 Rs. 50000 – Rs. 60000
 Rs. 60000 above

5. What is your designation
 Assistant / Junior Executive
 Asst. Manager
 Deputy Manager
 Assistant General Manager
 Deputy General Manager
 General Manager



Part II. Factors that Lead to NPA

Each of the following statements represents the probable cause for an asset becoming NPA. Respondents are expected to indicate one choice for each row from the five alternatives provided by putting (√) mark.

Table A1: Factors that Lead to NPA

Strongly disagree		Disagree		No Opinion		Agree		Strongly Agree				
1		2		3		4		5				
Sl. No.	Item						Degree of Importance					
							1	2	3	4	5	
I	Financial Institution Related											
1.	NPA is due to improper appraisal of proposal.											
2	Main causes of NPA are due to lack of follow-up and monitoring.											
3	NPA is due to delay in project resulting from delayed disbursement of loan.											
4	NPA is due to borrowers thinking that change in policies of institution will help the loan being written off in future.											
5	NPA is due to liberalisation of policies by the reduction in collateral, reduction in promoter's contribution, relaxation of benchmark norms and the like.											
II	General Causes											
6	NPA is due to industrial recession in the country.											
7	NPA is due to technological obsolescence											
8	NPA is due to exchange rate fluctuation											
9	NPA is due to change in government/ governmental policies.											
10	NPA is due to practical difficulties in recovery due to legal environment.											
11	NPA is due to trade union activities and lock out in the borrowing company.											
12	NPA is due to natural calamity in the region where the company is located.											
III	Borrower Related.											
13	NPA is due to wilful defaulters											
14	NPA is due to diversion/ misappropriation of funds.											
15	NPA is due to habitual nature of borrower.											
16	NPA is due to promoter's inability to take right decision at appropriate time.											
17	NPA is due to conflict among promoters.											
18	NPA is due to improper liquidity management and resulting debt.											
IV	Human Related											
19	NPA is due to death of the promoter in sole proprietorship.											
20	NPA is due to dispute within the members of business family.											
21	NPA is due to handing over of business to incapable legal heirs due to succession.											
22	NPA is due to promoters taking enormous risk which is disproportionate to what is stated in project report while sanctioning the loan.											