Chapter-3

RESEARCH METHODOLOGY
Research Methodology

The theories of the exploration which will be tried over the span of research are as under:

(a) Hypothesis: Certain suspicions have been made which are under test in his review. These speculations are:

(i) The issue of NPA is all the more articulating in Industrial and horticultural parts.
(ii) The most unmistakable reason for NPA is high information cost in Industrial and horticulture segments.
(iii) Defective government approaches of giving advance and its recuperation frameworks.

(b) Database and Methodology

The audit is build both in light of basic and discretionary data. The helper data relating to the branch spread; stores; impels and nonperforming assets have been accumulated from the nearby working environments of SBI bank. The data has moreover been assembled from the RBI Announcements; Report on example and propel; Annual Report of RBI and distinctive conveyances on national level from doing relative examination of aggregate data with data of neighborhood workplaces of banks. To find the specific explanations behind NPA in Pune fundamental data has been used. From the preliminary examination of the assistant data open it has been found that each one of the advances/NPA records can be assembled into three estimations -

(i) Industrial and Agricultural fields estimate insightful.
(ii) Loan sum estimate insightful.
(iii) Area astute.

The overview has been led to cover all the above measurements and classes of borrowers. Aside from the borrowers, facilitators, for example, contracted bookkeepers and bank administrators have additionally been secured for understanding the issue of frequency of NPA and its recuperation in an extensive way. State Bank of India has been canvassed in the present field of study. The region of
operation of the banks has incomprehensible assets of minerals and backwoods items. The economy is dominatingly agrarian and of subsistence sort, that excessively shaken by and large by the characteristic cataclysms like dry season, hailstorms, surges and so forth. Undulating uneven geology with Major range under flooded development, poor framework and nonattendance of venture linkages makes method based agro-financial operations troublesome.

**Plan of Study:** The research work will be covered under the following heads:

- **Chapter-I** Introduction
- **Chapter-II** Review of literature.
- **Chapter-III** Research Methodology
- **Chapter-IV** Overview of Indian Banking Sectors
- **Chapter-V** Data Analysis and Interpretation
- **Chapter-VI** Non-Performing Assets in Public sectors
- **Chapter-VII** Findings, Problems and Suggestions
- **Chapter-VIII** Conclusion

**Bibliography**

**Expected Outcome of the Proposed Work:** The expected findings from the research work are as under:

(a) The level of NPA (Loans) in SBI bank.

(b) The government policy of granting easy loans to Businessman and farmers to appease them for the electoral gains is the main reason for the high NPA in industrial and agriculture sectors.

(c) The NPA is higher in the rustic area in contrast with the urban division.

(d) The NPA is higher in the little advances when contrasted with the long haul credits.

(e) The lawful framework is wasteful with respect to the recuperation of credits.
Methodology of the Research

There is no one of a kind technique which can dispense with all vulnerabilities in any exploration. However, a legitimate research philosophy can wipe out or limit the level of instability, in this way decreasing the likelihood of settling on a wrong decision among option course of activities. Along these lines extensive thought has been given at the arranging stage itself as to fulfill the necessities of the exploration. Advertising research has turned out to be extremely pivotal in taking sound promoting choices. It includes the procedure of methodical accumulation, gathering, investigation and understanding of significant information for promoting choices. The review has been construct both with respect to essential and in addition auxiliary information.

Primary Data - "The essential information depends on the direct information gathered once again and surprisingly through an organized poll by the analyst himself to concentrate a specific problem." Its unique in character. There exists a large group of option strategies for information accumulation, extending from refined electro-mechanical recording gadgets to cutting edge mental systems. Such investigations of customer qualities, dispositions, conduct, and so on are exorbitant and tedious. They are attempted when different less exorbitant methodologies don't yield the vital data for successful basic leadership. Essential information has certain focal points over the optional information. The focal points are that essential information is more adaptable in managing the issue and its exactness is known to the analyst. In the present case an example size of four hundred has been taken for the examination in which two hundred has been taken in the provincial regions and the adjust of two hundred from the urban territories. The number taken was accordingly partitioned between the different regions. Different territories were canvassed in the locale to show signs of improvement judgment and result after the overview. Contingent on the prerequisite of the examination the essential information has been gathered both through the perception strategy and furthermore through the survey technique.

(a) Observation Method - As per Concise Oxford Dictionary, observation method is defined as 'Accurate watching and noting of phenomenon as they occur in nature with regard to cause and effect and/or mutual relation.' The requisite information has been
collected personally through observation. This method has been used in situations like checking the status and conditions of the tractors confiscated from the farmer, etc. Since I am solely responsible for collection of the data, my skill, training and knowledge may have an impact on the quality of primary data. During the research I have even used the oral investigation method wherein I have spoken to various customers and sought their views. I have taken precaution in using such data and have taken efforts to select such persons carefully. It has been used where respondents have answered to a question using open ended option.

(b) Questionnaire Method - The research is mainly based on the first hand data that has been procured through a structured questionnaire and personal interviews. The questionnaire was prepared after personally interviewing individuals and by recording their answers in a structured questionnaire. I visited dwellings of individuals or even met them in the market and by putting questions or speaking to them I elicited the relevant information about the subject of inquiry and thereafter the information was tabulated into a questionnaire. While designing the questionnaire the following points were kept in mind: -

(i) Number of questions has been kept to the minimum to ensure a greater chance of getting a better response.

(ii) Questions have been kept short, simple and unambiguous to get a clear response from the respondents.

(iii) Questions of sensitive and personal nature have been avoided to illicit a positive response from the respondents.

(iv) The questionnaire have been logically arranged and cross checked to ensure that the response of the respondents are in conformity to their response in the connected questions in the questionnaire.

(v) Questions where the responses could be many have been left with an option of open ended question to illicit specific answer from the respondent.

(vi) The introduction to the questionnaire has been kept short and simple to establish a good rapport with the respondent in addition to making the interview possible.
(vii) Questions which put a strain on the memory or the intellect have been reserved till later. Even the awkward questions which create the risk that the respondent may discontinue the interview have been relegated towards the end.

(viii) The wordings of the question have been kept impartial so as not to get a biased picture of the individual.

(ix) Open ended questions have also been used to get a complete picture of the respondent's feelings and attitudes. It has been to record the diversity of replies.3

**Editing of Primary Data** - The data so collected by me was edited to ensure completeness, consistency, accuracy and homogeneity so that it facilitates coding and tabulation of data. While doing the field editing I have checked the legibility of the response and any where if not clear the respondent were told to rewrite the answer. I also ensured that all the questions have been answered and the respondent if hesitant has been convinced in other way to respond to the question. In such cases it may be that the response may be not the actual ones of the respondent. Efforts have also been made to ensure consistency in the answers of the respondents: While doing the central editing obvious errors have been corrected and incorrect replies have been deleted.

**Secondary Data** - Auxiliary information is the information gathered by somebody for some other review might be inside or outside the firm. This sort of source speaks to a clearly alluring beginning spot since it is moderately cheap when contrasted with social affair the data specifically. On the off chance that optional information is promptly accessible it might serve to help in the distinguishing proof of the issue or the foundation of the speculation to be tried. Optional information has some huge points of interest when contrasted with essential information. Auxiliary information all in all is generally less costly, sets aside moderately less opportunity to gather and gives data which might be exceptionally troublesome or unfeasible for the normal individual/organization to gather, e.g. evaluation information. The auxiliary information identifying with the deals has been gathered from the different organizations promoting in the area under overview. Other significant data for
research reason has been gathered from related books, reports, productions, periodicals and daily paper conferring data regarding the matter under research. The auxiliary information gathered has been both from the distributed and unpublished sources. The information so gathered has been examined for its reasonableness, dependability, ampleness and exactness. The wellsprings of distributed data are as under:

(a) **Books** - The information utilized as a part of the books has been from some distributed books.

(b) **Internet** - The official sites of government and non government associations which have given information from any known source has likewise been in incorporated into my examination work.

(c) **Magazines** - The different magazines being distributed every once in a while has likewise been alluded to get optional information for use in my exploration work.

(d) **Newspapers** - Various articles distributed in different daily papers by surely understood identities and settled daily paper has been utilized and in taking such information mind has been taken to check whether the information specified has been from any verified source as it were.

(e) **Organizations** - Statistical information with respect to the financial foundation of Pune has been gotten from the District Statistical Officer of Pune region and the yearly journal distributed by the State Government.

**Unpublished Sources** - Any unpublished source whose realness is dicey has additionally been utilized however since the information would not roll out extreme improvements in the investigation and translation it has been reflected in the examination work. It just fills in as a rule and its appropriateness, unwavering quality and sufficiency has been remembered while drawing investigation from such statistical data points.

**Pilot Survey** - Once the poll was readied, pre-testing was done on 15 respondents to clear the issues, irregularities, redundancies, erasures of individual inquiries, and so forth. The alterations required were done and most extreme care was taken to expel
undesirable information from the survey. The pre-testing was led in a casual way to evoke a superior reaction.

**Sampling** - In the exploration bunch examining was depended on while choosing the respondents from the Pune locale. At that point from the chose tests, single stage arbitrary examining was turned to find the solution to the poll from the respondents. A portion of the respondents were by and by met to show signs of improvement knowledge regarding the matter under research.

**Sample Size** - The example study was taken as 400 which were isolated between the different pieces to unlawful better reaction and reaction from every one of the ranges concerned. The survey was additionally given to the banks from every one of the squares to have a fluctuated reaction for better outcomes.

**Coding of Data** - Since coding of information is basic for proficient examination of information, the classes were comprehensive and totally unrelated so that the appropriate responses could be put in one and just a single cell in a given classification. The measurable information has been exhibited as tables and chart.

**Measurable Analysis and Interpretation of Data** - For dissecting the exploration essential information and for testing the invalid speculation, the scientist has utilized the accompanying factual parameters:-

(a) **Arithmetic Mean** - According to WI King, "The math normal is the amount acquired by partitioning the whole of the qualities or their things in a variable however their number."\(^5\) It is the most ordinarily utilized and effortlessly figured and promptly comprehended measure of focal propensity. For ungrouped information it is characterized as being equivalent to the aggregate of the numerical estimations of every last perception isolated by the aggregate number of perceptions. Typically it is spoken to as: -

\[
\bar{A} = \frac{\Sigma X}{N}
\]

Where,

\[\Sigma X\] indicates the sum of the values of all the observations and, \(N\) is the total number of observations.
When the observations are classified into a frequency distribution, the midpoint of the class interval would be treated as the representative average value of that class. Therefore for grouped data, the arithmetic mean is defined as:

\[ \bar{A} = \frac{\Sigma fX}{N} \]

Where,

- \( X \) is the midpoint of various classes,
- \( f \) is the frequency of the corresponding classes
- And, \( N \) is the total number of observations i.e. \( N = \Sigma f \).

This formula makes the computation very simple and takes less time.

(b) **Standard Deviation** - It is the most widely used and important measure of variation. It is the only measure possessing the necessary mathematical properties to make it useful for advanced statistical work. It is also known as root mean square deviation and is denoted by the lower Greek letter \( \sigma \) (sigma). It is expressed as:

\[ \sigma = \sqrt{\frac{\Sigma d^2}{N}} \]

Where,

- \( \Sigma d^2 \) is the total of squares of deviation from arithmetic mean
  - \( \Sigma d^2 = \Sigma (A - \bar{A})^2 \)
- And, \( N \) is the total number of observations.

The square of the standard deviation is called variance. The greater the standard deviation, the greater is the variability and Variance = \( \sigma^2 \)

(c) **Hypothesis Testing Procedure** - There are two phases in testing of hypothesis - in the first phase we design the test and set up the conditions under which we shall reject the null hypothesis. In the second phase, we use the test based on the sample evidence and draw our conclusions as to whether the null hypothesis can be rejected.

The steps involved in hypothesis testing procedure are as under:

Step 1: State the Null and the Alternate hypothesis.

Step 2: Chose the test statistics i.e. the sample statistics that will define the critical region.

Step 3: Specify a level of significance of \( \alpha \).
Step 4: Define the critical region in terms of the test statistics.

Step 5: Compare the observed values of the test statistics with the cut off value or the critical value and decide to accept or reject the Null hypothesis.

(d) Chi-Square test - In certain market research field studies, we have responses which can be classified into two mutually exclusive classes, such as like-dislike, favour-not favour, etc. The chi square test of goodness of fit used here tests whether a significant difference exists between the observed number of responses and an expected number based on the null hypothesis in each category or class. The test statistics used here is:

\[ X^2 = \sum_{i=1}^{k} \frac{(O_i - E_i)^2}{E_i} \]

Where, \( O \) and \( E \) are the observed and expected frequencies in the \( X \) class, there being \( k \) classes. For a given level of significance (\( \alpha \)), if the calculated value of \( X^2 \) is greater than the critical value, the null hypothesis is rejected.

Limitations - The limitations of the research are as under:

(a) Un-Trained Investigator - The researcher since is not a trained personal in the research investigation, the result of the investigator may not be the best in the possible field but all efforts have been made to get the best results from the survey.

(b) Lack of Money - Any investigation or research will fetch a better result if the time and efforts spent on it is adequate. Any new researcher may put in all his time but there are constraints of money which limit his research to the level that he can afford. Though efforts have been made to ensure that the sample survey is large enough but a larger sample could result in more fine tuned results which would be more accurate and more reliable.

(c) Lack of Adequate Time - The investigation done by the researcher is time based and since the research has been done by a single person the result could be biased. The same research if done by more number of persons may have a slight difference in results.
(d) **Overall Quality** - The researcher has since does not have a formal training at the time of doing the research the overall quality may be not very good. But all efforts have been made to do justice with the research undertaken.

(e) **Reluctance to respond** - During the survey it was seen that the persons whom you were questioning or trying to seek information were reluctant to talk to you. They took a lot of time to get convinced that the research being done was by a student and not by a law enforcing person. They thought that I was either a police chap or someone who could harm them in some way. There were instances that when I wanted to take photographs of personals/things they did not permit me in the first go but permitted only after a lot of persuasion.

(f) **Illiteracy** - During the survey it was seen that the questionnaire made by me could not be just given to the persons to illicit a reply. The illiteracy being there the questionnaire was covered in a manner that the answers could be got from the persons by actually not handing him over the questionnaire. It took time to get the answers from persons as you had to explain the question in a manner he willingly responds to the question. This problem was more faced in the rural areas and the village than in the urban areas or urbanites.

**Questionnaire**

The questionnaire for the consumers and the bank staff used for the survey is attached as Appendix 'A' and 'B' respectively to this research work.
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