CHAPTER - IV

PROBLEM, METHODOLOGY AND PROCEDURE
4.1. STATEMENT OF THE PROBLEM:

Commercial banks have been mainly providing working capital credit in addition to term loans to the industrial borrowers. Lending is a dynamic process, it is only the efficient personnel who can make credit decisions more productive to the banking system. It is to be ensured that their decisions are not influenced by extraneous pressures but are based on sound commercial judgement. Objective criteria for risk assessment and a measure of judgemental evaluation based on experience are the special skills required of a manager in the banking system.

While making a lending decision the manager needs to evaluate financial, economic, technical, marketing and management aspects of a project. The other and equally important function is to follow-up and supervise the end use of the fund. Such follow-up and monitoring effect is again dependent on the quality and effectiveness of the credit decision initially taken. Thus rational credit decisions are pre-condition for quality loan portfolio.

Therefore, ability to make rational decisions with the innate desire to lend with a standard of excellence having involved with the job determines the overall success of the managers ensuring safety of the funds of the banking system.

Due to individual differences, two persons perceive similar information differently as the access to information of different individuals differ. This influences the cognitive processing leading to difference in decision-making. The consequence is that some managers are more successful than the others.
Psychological factors while influence the decision-making process, determine the extent of risk the individuals will take in the decisions involved. Qualities of the successful managers are to some extent innate, though not entirely, may be enhanced by appropriate training.

In fact, the endogenous psychological factors of the manager as an individual interact reciprocally with the exogenous instrumental and societal factors to determine varied degrees of cognitive judgements which in their turns facilitate the formulation of quality decisions in valid extent relating to credit dynamics.

In brief, implicit to the credit decisions are the underlying cognitive evaluations by the personnel operating within the particular role-set, whereby productive or beneficial decisions are the outcomes of efficient reciprocal determinism of endogenous and exogenous factors operating within the managers as human being whatsoever.

The present study, therefore, attempts to measure some of the endogenous non-cognitive factors affecting the cognitive domain of credit decision-making with a view to establish the relationship between these factors and decisions. Here emphasis is not only given on the psychological factors manifesting individual differences but also on the identification of the contributions of these factors over decision outcomes. In the process, the present study also tries to identify the impact of two-most very prominent exogenous factors i.e. instrumental and social factors interacting altogether with the cognitive domain to decision vis-a-vis decision outcomes.
4.2. SPECIFIC OBJECTIVE OF THE STUDY:

The study has the following specific objectives in terms of credit decision-makers i.e. the branch managers of a nationalised bank in India:

(1) Construction of a ‘Decision Performance Index Scale’, (DPIS) in terms of recovery in order to assess ‘Decision Performance’, objectively.

(2) Categorisation in terms of ‘Decision Performance’.

(3) Construction of a Scale to measure ‘Perceived Instrumental Factors’ (IFAC) affecting decision-making from the standard indicators, if any.

(4) Construction of a scale to measure ‘Perceived Social Influence’ (PSIF) affecting decision-making.

(5) A comparative study of the managers, categorised in terms of DPIS scores with respect to:
   (i) Perceived Instrumental Factors;
   (ii) Perceived Social Influence Factors; and
   (iii) Psychological Factors such as;
       (a) Risk
       (b) Anxiety
       (c) Job Involvement
       (d) Assertiveness
       (e) Need for Achievement.

(6) A model will be evolved to identify the factors affecting decision-making by the bank managers for the purpose of ‘credit process’ which in its turn will ascertain the relative contributory effects of the aforesaid factors on the decision performance relating to DPIS score.
4.3. HYPOTHESES:

In the light of the above mentioned objectives the following null hypotheses have been examined.

4.3.1. Hypotheses relating to Decision Performance of the Branch Managers of a Nationalised Bank.

There is no difference among Highly Successful (HS), Moderately Successful (MS) and Less Successful (LS) Managers on the basis of Decision Performance Index Scores (DPIS). ...... (HY-1).

4.3.2. Hypotheses relating to Perceived Instrumental Factors.

HS, MS and LS Managers categorised in terms of DPIS do not differ with respect to Perceived Instrumental Factors (IFAC) scores ... (HY-2).

4.3.3. Hypotheses relating to Perceived Social Influence.

HS, MS and LS Managers categorised in terms of DPIS do not differ with respect to Perceived Social Influence (PSIF) scores...(HY-3).

4.3.4. Hypotheses relating to Job Involvement.

There is no difference among HS, MS and LS Managers, categorised in terms of DPIS, with respect to Job Involvement (JNVL) scores... (HY-4).

4.3.5. Hypotheses relating to n-Ach.

There is no difference among HS, MS and LS Managers, categorised in terms of DPIS, with respect to n-Ach (NACH) scores...(HY-5).

4.3.6. Hypotheses relating to Anxiety.

There is no difference among HS, MS and LS Managers, categorised in terms of DPIS, with respect to Anxiety (ANXT) scores...(HY-6).
4.3.7. Hypotheses relating to Assertiveness.

There is no difference among HS, MS and LS Managers, categorised in terms of DPIS, with respect to Assertiveness (ASRT) scores... (HY-7).

4.3.8. Hypotheses relating to Risk.

No difference exists among HS, MS and LS Managers, categorised in terms of DPIS with respect to Risk (RISK) scores... (HY-8).

Null Hypothesis.
Statistically,
\[ H_0 : \mu_1 = \mu_2 = \ldots = \mu_k \]
Alternative Hypothesis i.e.
\[ H_1 : \mu_i \neq \mu_j \]

4.3.9. Hypotheses relating to contribution made by the Independent Variables over the Dependent Variable.

Perceived Instrumental Factors (IFAC), Perceived Social Influence (PSIF), Job Involvement (JNVL), n-Ach (NACH), Anxiety (ANXT), Assertiveness (ASRT) and Risk (RISK) do not contribute significantly toward explaining the variations in the Decision Performance (DPIS) of the Managers. .......... (HY-9).

The general linear model is a mathematical equation of the form:
\[ Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \ldots + \beta_k x_k + \Sigma_i \]

Where \( i = 1, \ldots, n \). The model describes the relationship between dependent variable \( Y \) and \( k \) independent variables i.e. \( X_1, \ldots, X_k \).

The parameter \( \beta_0 \) is the intercept and other parameters \( \beta_1 \) to \( \beta_k \) are the slopes associated with each independent variable. In all the above cases, statistically, the null hypothesis may be stated as:

\[ H_0 : \beta_1 = \ldots = \beta_k = 0 \quad \& \quad \beta_0 \neq 0 \]

Alternative Hypothesis
\[ H_1 : \beta_1 = \ldots \beta_k \neq 0 \]

4.4. METHODS:

4.4.1. Sampling

In the present study, stratified random sampling technique has been used for the selection of Branches of a Nationalised Bank.

4.4.2. Sampling Procedure

In this particular Nationalised Bank there were altogether 1407 Branches as on 31st March, 1994. The Branches were distributed on the following fashion as per the Reserve Bank of India (RBI) guidelines:
<table>
<thead>
<tr>
<th>Category</th>
<th>No. of Branches</th>
<th>Advances made</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>558</td>
<td></td>
</tr>
<tr>
<td>Semi Urban</td>
<td>356</td>
<td>914</td>
</tr>
<tr>
<td>Urban</td>
<td>279</td>
<td>493</td>
</tr>
<tr>
<td>Metropolitan</td>
<td>214</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1407</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Of these, Rural and Semi-Urban Branches totalling 914 were altogether eliminated for the study because these Branches represented only 24.6% of total Advances (Domestic Gross Credit) of the Bank, in the rural sector where industrial borrowing was appreciably minimum compared to Urban and Metropolitan branches.

Hence, the study was confined to Urban and Metropolitan Branches (two feasible Strata i.e. Urban Stratum and Metropolitan Stratum for the purpose of this study) totalling 493, which covered 75.4% of the Urban and Metropolitan industrial borrowers. These branches, categorised within the above mentioned strata, distributed all over India.

Disproportionate stratified sampling technique was used. Thus, irrespective of the size of each stratum equal number of branches were taken randomly from each of the stratum.

So, 54 Branches were selected randomly from each of the Urban and Metropolitan stratum. In fact 54 branches from the Urban stratum constituted 56.6% of the stratum size. Similarly, 54 branches from the Metropolitan stratum made 43.4% of the stratum size. Disproportionate sampling technique has been used because there was negligible variation in the stratum sizes of the respective
Urban and Metropolitan branches. Therefore, altogether 108 branches were selected whose credit decision-making Managers constituted the effective sample size.

These 108 managers of the target group were the chief executives of the respective branches covered under this study. their age range was 48 to 55 years with a mean of 52.85 and SD of 2.58. Their job experience lied between 23 to 30 years with a mean of 26.69 and SD of 2.26. All the managers of the target group were male who worked as chief executives in the respective capacity for period of 3 to 7 years with a mean of 4.67 and SD of 1.20.

Hence, the target sample size was 108 Credit Decision-Making Managers of 108 Branches of the nationalised bank spread over whole of India.

4.5. Justification for the selection of a nationalised bank and its managers as chief executives.

For the purpose of this study, the branch managers of a nationalised bank were selected for the following reasons:


Of the above, the nationalised banks played a key role for the acceleration of Indian economy. The nationalised banks so far dominated the Indian banking industry both in terms of geographical spread and functional reach. (Reserve Bank of India, 1997).
2. While the head office of a bank functions mainly as an administrative and controlling office, the actual banking operations are carried by or through its branches where branch managers as chief executives of the respective branches play the most vital role as decision-makers. (Bedi & Hardikar, 1979; Narasimham, 1991; Roy, 1993; ICAI, 1998).

3. No or little efforts have so far been made in formulating a standard yardstick for the measurement of the factors affecting the decision-making process of the branch managers and the contributory effects of such factors on decisions made.

4. Systematic study in the aforesaid area, it is reasonably assumed, would be useful to the banking industry as well as to the regulatory authorities for bringing down the non-performing assets.

4.6. TOOLS USED

In this study the following tools have been used:

(1) Decision Performance Index Scale (DPIS). This is constructed on the basis of the movement of Non-Performing Advances of the respective branches of a nationalised bank, over a period of two consecutive years as percentage of total advances of the respective branches.

(2) Perceived Instrumental Factors Scale (IFAC). This is developed on the basis of common norms adopted by all banks and financial institutions, in India, for credit decision-making as per guideline of the Reserve Bank of India.
(3) Perceived Social Influence Scale (PSIF). This is also developed on the basis of the traditional custom as perceived and followed by the banking industry. Reliability and validity were examined using test-retest method and inter-judge correlate. (Gruilford & Frutcher, 1973).

(4) Risk Scale (Kogan & Wallach, 1964).

(5) Anxiety Scale (Taylor, 1953).

(6) Job Involvement Scale (Lodahl & Kejner, 1965).

(7) Assertiveness (Rathus, 1973).

(8) N-Ach Scale (Smith, 1973).

4.7. BRIEF DESCRIPTION OF THE TOOLS

4.7.1. Decision Performance Index Scale (DPIS) in respect of financial data relating to Non-Perfming Assets of the respective Branches of a Nationalised Bank.

Non-Performing Assets from the respective Branches were collected. Two columns were provided to collect data for each of the successive two years. Columns indicated the date of the close of the years (i.e. as on 31-03-94 and on 31-03-95).

4.7.2. Perceived Instrumental Factor Scale (PFIS) in respect of information required to be submitted for credit proposals by the borrowers, as basic norms adopted for Banks and Financial Institutions in India in terms of the Reserve Bank of India guidelines.

The scale contains 14 items i.e. background of the promoters, constitution of the project, particulars of the products to be manufactured, marketability of the products, availability of raw materials, availability of personnel/power/water/transport,
effluent disposal, technical feasibility, commercial viability, economic consideration, means of finance, projected profitability/balance sheet/fund flow, and ratio analysis. The items were supplemented by short particulars for better understanding, wherever necessary. Column was provided against each item to obtain the priority given by the respective branch managers as credit decision-maker.

4.7.3. Perceived Social Influence Scale (PSIF) in respect of the information relating to socio-economic factors of the borrowers as perceived by the branch managers.

The factors were selected from the study of relevant subject and validated on test retest, reliability and inter-judge ranking basis. The scale contains 8 items concerning the promoters/borrowers i.e. social status, economic status, group affiliation, trustworthiness, familiarity, level of education, attitude and socio-personal factors. The items were supplemented by short particulars for better understanding, wherever necessary. Column was provided against each item to obtain the priority given by the respective branch managers as credit decision-maker.

Reliability and Validity of PSIF

Reliability was examined by test-retest method which was 0.61. The predictive validity was proportional to its reliability. (Gruilford & Frutcher, 1973).

4.7.4. Risk Scale (Kogan & Wallach, 1964).

This is in the form of questionnaire relating to choice dilemma procedure. The questionnaire include 12 unique imaginary situations whereby the respondents are asked to identify the
chance they consider best out of six alternative chances in all 12 situations. Higher the score, the individuals are more conservative.

Reliability and Validity

Kogan & Wallach made a study of 140 males and 103 females by using this choice dilemma instrument with an aim to measure risk-taking propensities. Based on odd-even method and using Spearmen-Brown formula they reported the reliabilities as 0.53 for male subjects and 0.62 for female subjects. Validity of the test was considered to be proportional to its reliability.

4.7.5. Manifest Anxiety Scale (Taylor, 1953).

The scale was originally constructed by Taylor with 65 items supplemented by 135 additional buffer. Subsequently the scale was modified to have 50 items. The present scale was further modified by Taylor wherein 28 items selected, which was judged simpler with a 'True/False' type questionnaire. The scale has been designed to show individuals having low anxiety with low score as less achiever, having high anxiety with high score as lesser achiever, and individuals having moderate anxiety with moderate score as best achiever.

Reliability and Validity

The 28 items of the scale were selected for revision and rewritten in two alternative forms. Each such set was ranked by a different set of judges for understanding and reliability. For most of the items, the alternative was adjudged to be simplest and closest to the original items.

The correlation obtained, as reported, was .83 as compared to .81 for the old version. Product-moment correlation found was .88.
The difference between means was significant at .01 level by t test.

4.7.6 Job Involvement Scale (Lodahl & Kejner, 1965).
This is a 20 items questionnaire with four types of response pattern, to measure the degree to which an individual's work performance affects his self-esteem. The scale with six reverse items has been designed to show low scorers as having high job involvement, and high scorers with lower job involvement.

Reliability and validity
------------------------
The reported reliability of the whole test is 0.87 (split half). The validity of the scale was established in terms of its application on different occupation. The degree of validity of the measure of this scale was justified by factor analysis of the data.

This is a 30-Item schedule for assessing assertive behaviour having six response pattern. The schedule with 17 reverse items measures the degree of assertiveness of an individual, has been designed in a fashion to denote high scorer as better achiever compared to low scorer.

Reliability and Validity
------------------------
The schedule was reported to have moderate to high test-retest reliability yielding an r of .78 at .01 level and split-half reliability with r of .77 at .01 level. Validity in terms of the impressions made by the respondents on other people yielded .33 ≤ r's ≤ .62 at .01 level; and in terms of their rational behaviour in specific situations yielded r of .70 at .01 level.
4.7.8. n-Ach Scale (Smith, 1973).

This is a 17-Item scale with 'True/False' type questionnaire for assessing the need for achievement. The construction consists of a 10-item scale of achievement motivation and a 7-item scale of carelessness. The scale has been designed to denote individuals with high score as better achiever compared to low scorers.

Reliability and Validity

The coefficient reported was 0.56 computing a split-half, odd/even reliability. A correlation of .48 (at .01 level) was obtained by administering McClelland's projective test, in case of 10-item need for achievement scale.

4.8. SCORING TECHNIQUE


Non-Performing Assets (NPAs) as on the last date of successive two years i.e. 1993-94 and 1994-95 from each of the 108 branches of a nationalised bank spreaded all over India, were obtained.

At first for a particular branch the NPAs of 1994-95 was deducted from that of 1993-94. The deducted value i.e. increment or decrement or no-difference was represented as a percentage of the NPA values of 1993-94, used as frame of reference. In this manner percentage increments or decrements or no-difference of NPAs in relation to 1993-94 were noted for 108 branches altogether. Thus, a second distribution was obtained which gave a matrix of the order 108 x 1.

Since such percentage consisted of positive, negative and zero values, these values were transformed into standard scores with a known mean and standard deviation (M' =100, $\sigma'$ =20). The nature
and characteristics of the values remained the same because of the linear transformation.

A new matrix of the order 108 x 1 was formed with the standard scores of 108 branches, revealing the health of the loan and advances portfolio of the respective branches by simultaneously indicating the status of a particular branch within 108 branches of the target group.

These standard scores were considered as the final values and for the purpose of the study, these scores were taken as the decision performance index scores (DPIS) of the individual managers of the respective branches.

Here, one interesting point was that more the score value of DPIS of a particular branch would be relatively small compared to others, more there was the likelihood that the decision taken by the managers would be relatively better, showing healthy financial consequences of the decisions. So smaller values of DPIS would be considered relatively better than that of the larger values. The distribution of the standard scores of DPIS, therefore, reflected the reversed trend of the scores.

The scores were then arranged in a frequency distribution to calculate certain percentiles i.e. $P_{33.33}$ and $P_{66.66}$. It may be noted that $P_0$, which marked the exact lower limit of the first interval (namely, 20.5) remained at the beginning of the distribution. $P_{100}$ marked the exact upper limit of the last interval (namely, 170.5) remained at the end of the distribution. These two percentile points were the limiting points and their principal values indicated the boundaries of the percentile scale.
In essence, therefore, two percentile points \( P_{33.33} \) and \( P_{66.66} \) have been computed, as shown in the table below for the distribution of DPIS scores made by the decision-making managers of the target group covered in the study.

Allocation of scale value of standard score of each dimension on a three point scale for DPIS is appended in the table below:

```
<table>
<thead>
<tr>
<th>Percentile cut-off points</th>
<th>Standard scores corresponding to cut-off points</th>
<th>Categories of Managers in terms of DPIS Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below ( P_{33.33} )</td>
<td>Below 93.99</td>
<td>HS</td>
</tr>
<tr>
<td>( P_{33.33} ) to ( P_{66.66} )</td>
<td>94 to 105.99</td>
<td>MS</td>
</tr>
<tr>
<td>Above ( P_{66.66} )</td>
<td>Above 105.99</td>
<td>LS</td>
</tr>
</tbody>
</table>
```

In the above scale, success scores of the branch managers below \( P_{33.33} \) were considered as highly successful (HS), in between \( P_{33.33} \) and \( P_{66.66} \) as moderately successful (MS), and above \( P_{66.66} \) percentile points were considered as less successful (LS) because it has been stated earlier that DPIS indicated reversed trend in depicting the success of the managers.

4.8.2. Construction and Scoring of Perceived Instrumental Factors Scale (IFAC).

This was a fourteen-item scale. The individual branch managers were asked to put their ranks from 1 to 14 against each of the
items presented in the scale where 1 stood for the highest and 14 for the lowest rank.

The managers were asked to assign the ranks of the 14 items on the basis of the respective psychological miningsfulness of an instrumental factor compared to others. In fact, matrix of 14 x 1 for 108 branch managers were obtained by this way, showing the ranks in order of their perceived preferences.

Each of these ranks were converted into rank scores in a reversed way whereby a score value of 14 was assigned to highest rank 1, indicating the maximum perceived weightage score given to a particular item by a particular branch manager. The lowest score value of 1 was given to rank 14, describing the minimum perceived weightage score of a particular item. Thus, the weighted score value of IFAC remained between 1 and 14 whereby score 1 showed the minimum weighted score value and 14 the maximum weighted score value.

In the process, a matrix of the order 108 x 14 was obtained with the weighted score values of the PSIF by the 108 branch managers. Using expert "judgement method" as the basis of finding composite score of IFAC the following steps were followed (Ghiselli, 1954; Blum & Naylor, 1968).

The basic equation for the composite score became

\[ C = W_1 C_1 + W_2 C_2 + W_3 C_3 + \ldots + W_{14} C_{14} \]

(assuming a linear model).

Step 1:

Mean values of each of the 14 columns of the 108 x 14 matrix were obtained. These mean values were then considered as the respective weightage of the factors of IFAC bearing the respective 14 columns. It is assumed that 108 branch managers
were the experts who examined the significance of the factors by giving objective weightage of the factors in accordance with their own perceptions of the respective importance of individual factors within the total set.

Step 2:
A new matrix of the order 108 x 14 was formed by multiplying the mean values (i.e. \( w_1, w_2, w_3, \ldots, w_{14} \)) with the respective rank scores (i.e. \( c_1, c_2, c_3, \ldots, c_{14} \)).

Step 3:
All the 14 factors of IFAC were combined into composite score of IFAC by using the above basic equation. Finally, a new matrix of the order 108 x 1 was obtained with the composite scores of IFAC.

Step 4:
Each of the composite values of the columns of 108 x 1 matrix was divided by 14 to get the final average composite value which in other way gave a new matrix (108 x 1), depicting the final value of IFAC of the target group. The IFAC scores so obtained remained between 58 to 71 where 58 represented the lowest and 71 the highest value.

4.8.3. Construction and Scoring of Perceived Social Influence Scale (PSIF).

This was an eight-item scale. The individual branch managers, as in the case of IFAC ranking stated above, were asked to assign their ranks from 1 to 8 against each of the items shown in the scale where 1 stood for the highest rank and 8 for the lowest rank.

The managers were asked to assign the ranks of these 8 items on the basis of the respective psychological meaningfulness of an
instrumental factor compared to others. Thus, a matrix of the order $8 \times 1$ for 108 branch managers were obtained revealing the ranks in order of their perceived preferences.

Each of these ranks were then converted into rank scores in the reversed way whereby a score value of 8 was assigned to the highest rank 1, indicating the maximum perceived weightage score assigned to a particular item by a respective branch manager; and the lowest score of 1 was assigned to rank 8, as the minimum perceived weightage score of a particular item of the scale. In the process, the weighted score value of IFAC remained between 1 and 8 where score 1 was the minimum weighted score value and 8 was the maximum weighted score value.

Thus, a new matrix of the order $108 \times 8$ was obtained with the weighted score values of the PSIF by 108 branch managers. Then, as in the case of IFAC above, using expert "judgement method" as the basis of getting composite score of PSIF, the undernoted steps were followed.

The basic equation for the composite score became

$$C = W_1 C_1 + W_2 C_2 + W_3 C_3 + \ldots, \ldots, \ldots, \ldots, W_8 C_8$$

(assuming a linear model).

Step 1:
Mean values of each of the 8 columns of the matrix of the order $108 \times 8$ were obtained. These mean values were then taken as the respective weightage of the factors of PSIF showing the respective 8 columns. It was assumed that 108 branch managers were the experts who examined the significance of the factors by assigning objective weightage of the factors in accordance with their perceptions of the respective importance of individual
factors within the total set.

Step 2:
A new matrix of the order 108 x 8 was obtained by multiplying the mean values (i.e. $w_1, w_2, w_3, \ldots, w_8$) with the respective rank scores (i.e. $c_1, c_2, c_3, \ldots, c_8$).

Step 3:
All the 8 items of PSIF were then combined into composite score with the help of the above basic equation. Ultimately, a new matrix of the order 108 x 1 was obtained with the composite scores of PSIF.

Step 4:
Each of the composite scores of the columns of 108 x 1 matrix was divided by 8 to obtain the final average composite score which resulted in a new matrix of the order 108 x 1, showing the final score of PSIF of the target group. The PSIF scores thus obtained remainwd between 17 to 24 where 17 represented the lowest score and 24 the highest score.

The scale consisted of 12 situations. Each situation had six alternative courses of action. Individual branch managers were asked to indicate the minimum odds of success in all the 12 situations. Probabilities of success of the risky alternatives for each of the items covered in the questionnaire were 1 in 10, 3 in 10, 5 in 10, 7 in 10 and 9 in 10. The corresponding score values i.e. 1, 3, 5, 7 and 9 were assigned for the respective probabilities of success as noted above. However, selection of non-risky alternatives were assigned with a score value of 11.
The sum total of the scores for 12 situations was the Risk score of the individual branch managers. The range of the scale was 12 to 132, where 12 was the minimum and 132 was the maximum score. The managers with high scores were considered more conservative than with the low scores, and the managers with moderate scores were considered to be more rational.

4.8.5. Scoring of Anxiety (Taylor, 1953).

The scale consisted of 28 items. Each item of the scale had two points response pattern i.e. 'True' and 'False'. For item nos. 2, 4, 8, 20 and 28 the correct answers were 'False', and for other items the correct answers were 'True'.

For correct answers the score value was 1, and for incorrect answers the score value was 0. The sum total of the scores of 28 items as aforesaid was the risk score of the individual branch managers. The range of the scale was 0 to 28, where 0 was the minimum and 28 was the maximum score. The individuals with high score were considered more anxious than with low scores. Individuals scoring moderately were considered more rational.


The scale consisted of 20 items. Each item of the scale had four points Likert type response i.e. 'strongly agree', 'agree', 'disagree' and 'strongly disagree', against which score value of 1, 2, 3 and 4 respectively were assigned except in reverse items i.e. 10, 13, 14, 16, 18 and 19 in which cases scoring was in the order of 4, 3, 2 and 1 respectively.

The sum total of the scores for 20 items was the Job Involvement score of the individual branch managers. The range of the scale was 20 to 80, where 20 was the minimum and 80 was the maximum
score. Lower the score, more was the job involvement.

The scale had 30 items out of which reverse items were 1, 2, 4, 5, 9, 11, 12, 13, 14, 15, 16, 17, 19, 23, 24, 26 and 30. Each item of the scale had six points response pattern i.e. "very characteristic, extremely descriptive", "rather characteristic, quite descriptive", "somewhat characteristic, slightly descriptive", "somewhat uncharacteristic, slightly nondescriptive", "rather uncharacteristic, quite nondescriptive", and "very uncharacteristic, extremely nondescriptive". Score assigned against each response pattern was +3, +2, +1, -1, -2 and -3 respectively.

The sum total of the scores of 30 items as aforesaid was the assertiveness score of the individual branch managers. The range of the scale was -30 to +90, where -30 was the minimum and +90 was the maximum score.

Since such scoring consisted of both positive and negative values, the standard scores were obtained by linear transformation with the help of the values of a predetermined mean and standard deviation (M' = 100; O' = 20). Higher the score, the managers were considered as better achievers.

The scale consisted of 17 items. For item nos. 4,5,8,12,14,16 and 17, the correct answers were 'False'. For item nos. 9,13 and 15, the correct answers were 'True'. Seven other items having nos. 1,2,3,6,7,10 and 11 were not considered for the purpose of scoring.
For correct answers the score value was 1, and for incorrect answers the score value was 0. The sum total of the scores of 10 items as aforesaid was the achievement motivation score of the individual branch managers. The range of the scale was 0 to 10, where 0 was the minimum and 10 was the maximum score. Higher the score, more was the achievement motivation.

4.9. STATISTICAL MEASURES

In the present study, the following statistical techniques have been adopted:

i) Analysis of Variance (One way analysis - the F-Ratio).
   (Gravetter & Wallnau, 1987; Iman & Conover, 1983).

ii) t test - Fisher’s t- Statistic (Garret & Woodworth, 1973).


4.10. GENERAL PROCEDURE IN BRIEF

Step - I
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A pilot survey was conducted with 10 branch managers of a nationalised bank who were interviewed in depth to gather preliminary information about the decision-making process of the managers, official guidelines for making loans and advances and the causes and the characteristics of non-performing assets. Such endeavour helped as guidelines for selecting the relevant items of the structured interview schedules, financial data as well as the various scales to measure the psychological factors.
Step - II
---------
The various financial and economic norms adopted by the bank for project appraisal, follow-up procedure during disbursement and post disbursement supervision were reviewed.

Step - III
---------
The conceptual approach of the bank to the project proposals both for term loans and working capitals loans as well as quantitative and qualitative analysis pursued in terms of financial, economic, technical, marketing and managerial rationality, were examined for understanding.

Step - IV
---------
The branch managers of the nationalised banks in the sample drawn were personally approached for the purpose of collecting data.

Step - V
---------
Data were collected by self-administration of the tests and interview schedules. Steps were taken to establish good rapports with the branch managers while collecting data.

Step - VI
---------
Scoring was done on the basis of scoring manuals and techniques stated hereinbefore.