CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

Research refers to a search for knowledge. It is a scientific and systematic search for pertinent information on a specific topic. Research is a careful investigation or inquiry especially through search for new facts in any branch of knowledge. Research comprises defining and redefining problems, formulating hypothesis or suggested solutions; collecting, organizing and evaluating data; making deductions and reaching conclusions; and at last carefully testing the conclusions to determine whether they fit the formulating hypothesis. It is the manipulation of things, concepts or symbols for the purpose of generalizing to extend, correct or verify knowledge, whether that knowledge aids in construction of theory or in the practice of an art. Hence this chapter covers research design, determination of sample size, sampling design, questionnaire design, administration and structure of the questionnaire, scoring of the questionnaire, psychometric checks, reliability, validity, primary data, secondary data, period of the study, frame work of analysis ratio and statistical tools used for the data analysis are presented here.

3.2 STATEMENT OF THE PROBLEM

The nature of banking business is so risky and sensitive and banks are about risk management because most of banks’ money is shareholders and
depositors’ money. Banks use the deposits to create credit for their borrowers. This intermediation process is in fact a revenue-generating activity for most banks. The credit creation activity performed by banks ordeal them to high default risk that may lead to financial problems including bankruptcy. The significance of these problems arises from the risk of credit portfolio which is considered the major and crucial risk affect the bank’s financial performance.

**Table 3.1 Gross Non-Performance Asset comparison (Year-wise)**

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>YEAR</th>
<th>Gross Non-Performance Asset (NPA) Rs. In crores</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2010-11</td>
<td>74,600</td>
</tr>
<tr>
<td>2</td>
<td>2011-12</td>
<td>1,12,489</td>
</tr>
<tr>
<td>3</td>
<td>2012-13</td>
<td>1,64,462</td>
</tr>
<tr>
<td>4</td>
<td>2013-14</td>
<td>2,27,264</td>
</tr>
<tr>
<td>5</td>
<td>2014-15</td>
<td>2,78,874</td>
</tr>
<tr>
<td>6</td>
<td>31-12-2015</td>
<td>3,61,000</td>
</tr>
</tbody>
</table>

(Source: http://aibea.in/upload/flashnews/Letter%20to%20RBI.pdf)

The Table 3.1 presents the growth of bad loans (Gross Non-Performance assets) from 2010-2011 to 31st Dec 2015. From the Table 3.1, it is clearly understood that the every year the amount of bad loan is increases, which demands the key executives, government officials, and policy makers’ attention to take the appropriate initiatives to curtail the growth of bad loans.
Table 3.2 The top 10 defaulters in India and their key creditors

<table>
<thead>
<tr>
<th>S.No</th>
<th>Company Name</th>
<th>Industry</th>
<th>Outstanding amount in Rs. Crores</th>
<th>Willful Default in RS. Crores</th>
<th>Key Creditor (Amount in Crores)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Usha Ispat</td>
<td>Metals &amp; Mining</td>
<td>16,911</td>
<td>5,093</td>
<td>Life Insurance Corporation (8,619)</td>
</tr>
<tr>
<td>2</td>
<td>Lloyds Steel</td>
<td>Steel</td>
<td>9,478</td>
<td>6,309</td>
<td>Bank of India (6,724)</td>
</tr>
<tr>
<td>3</td>
<td>Hindustan Cables Ltd</td>
<td>Telecom cables</td>
<td>4,917</td>
<td>0</td>
<td>Bank of India (2,439)</td>
</tr>
<tr>
<td>4</td>
<td>Hindustan Photofilms Mfg. Co</td>
<td>Photofilms</td>
<td>3,929</td>
<td>0</td>
<td>Life Insurance Corporation (1,781)</td>
</tr>
<tr>
<td>5</td>
<td>Zoom Developers</td>
<td>Real Estate</td>
<td>3,843</td>
<td>137</td>
<td>Oriental Bank of Commerce (524)</td>
</tr>
<tr>
<td>6</td>
<td>Prakash Industries</td>
<td>Mining, Steel and Power</td>
<td>3,665</td>
<td>2,233</td>
<td>Life Insurance Corporation (2,171)</td>
</tr>
<tr>
<td>7</td>
<td>Cranes Software International</td>
<td>Information Technology</td>
<td>3,580</td>
<td>2505</td>
<td>Bank of India (3443)</td>
</tr>
<tr>
<td>8</td>
<td>Prag Bosimi Synthetics</td>
<td>Textile</td>
<td>3,558</td>
<td>0</td>
<td>IDBI (848)</td>
</tr>
<tr>
<td>9</td>
<td>Kingfisher</td>
<td>Aviation</td>
<td>3,259</td>
<td>0</td>
<td>Punjab National Bank (672)</td>
</tr>
<tr>
<td>10</td>
<td>Malvika Steel</td>
<td>Steel</td>
<td>3,057</td>
<td>0</td>
<td>GIC (2490)</td>
</tr>
</tbody>
</table>

(Source: http://www.newslaundry.com/2016/04/26/rbi-default-list-meet-top-10/)
The Table 3.2 gives the alarming signals about the willful default by the big corporates, which means there is a big flaw in credit approval and management policy of the public sector banks. From the Table 3.2, it is also identified that the IDBI bank is also one of the key creditor, which lend money of Rs.848 crore to Prag Bosimi synthetics. Moreover the Parliamentary Standing Committee on Infrastructure Lending (Presented to the Rajya Sabha on 10th August, 2016) stated that 4129.66 NPA (Crore) of IDBI bank. The Committee observes that for IDBI the NPA percentage is as high as 52% of total loan disbursed for Infrastructure sector to a single concessionaire i.e. Jaypee Infratech Ltd. The facts and figures collected through the literature survey indicates that there is a problem with the present credit operations and risk management policies of the IDBI bank and other public sector banks, hence through this study the researcher attempted to reveal the new insights and facts about the credit operations and risk management strategies of the IDBI bank and its impact on organizational performance.

The fact is that banks are keen in updating their present systems and execution of new risk operation and management methods and mechanisms. But still the problem of poor quality of credit persists, bad loans recur and recovery is slow and delayed. Whereas credit granting and loan recovery suffer from more inefficiencies with regard to credit operation and risk management. Therefore it has become necessary to analyse whether IDBI banks has an robust credit operation and risk management practices installed in their system and if so, to find out the reasons why the credit operation and risk management practices are not helpful in reducing NPAs and preventing further generation of NPAs in IDBI bank.

The following are the question that the researcher wants to probe and find the answers:
1. What extent the bank employees are satisfied with the prevailing credit approval, monitoring and risk management processes?

2. Does the bank employees are satisfied with the organizational performance?

3. What extent demographic variables have impact towards prevailing credit approval, monitoring and risk management processes followed in IDBI bank?

4. Which are the key factors that visualize credit operation and risk management of the IDBI bank?

5. What extent the credit operation and risk management strategies have impact on organizational performance of the IDBI bank?

6. Calculate various credit operation and risk management ratios in order to find effectiveness of Credit Risk Management strategies to be adopted by the IDBI bank?

7. How to sketch a model integrating the factors of organizational performance and portray its relationship between Credit operations and Risk management strategies?

3.3 OBJECTIVES OF THE STUDY

The following are the objectives of the research

1. To study the growth and trends of banking sector in India.

2. To assess the demographic profile of bank employees.
3. To evaluate the impact on prevailing credit approval, monitoring and risk management process followed in IDBI bank.

4. To ascertain the key factors which has major influence in credit operation and risk management of the IDBI bank.

5. To compute the various credit risk management ratios based on the financial statement, in order to reveal the effectiveness of credit risk management strategies adopted by the IDBI bank.

6. To measure the impact of the credit operation and risk management strategies on organizational performances of the IDBI bank.

7. To sketch the model to portray the relationship between credit operation and risk management strategies on organizational performance of the IDBI bank.

8. To suggest various measures to overcome the problems of various risk faced by IDBI bank.

3.4 PERIOD OF THE STUDY

The period of the researcher study was allocated into four phases in the period of four years. In the first stage, the collection of literature review form various researcher journal were collected. In the second stage, the preparation of the survey instrument questioner and tools related to the study was prepared and pre-tested with selected bank and its employees. In the third stage, the data collection, analysis and interpretation of data was done, whereas in the final stage the preparation of the thesis was carried out.
3.5 RESEARCH DESIGN

Research design is a road map used to guide the implementation of the study (David 1980). This research is exploratory and descriptive research in nature, because this research attempts to explore the reasons for non-performance of loans, and wilful default of the creditors. The research may also describe the perception of performing creditors’, non-performing creditors’ and bank employees’ opinion towards the credit operations and risk management strategies, policies and procedures adopted by the bank.

3.5.1 Data Collection Methods

For the purpose of this study, both primary and secondary data are used. Survey method and interview method of data collection was adopted in this study. Semi-structured interviews and structured questionnaires/schedules are used to collect primary data. Semi-structured interview is prepared and administered to the staff working in the loan/advance sections and branch managers and assistant branch managers of the Bank. This helped to address the research questions more specifically or to concentrate more on the topic itself. Interview is undertaken by the researcher in order to effectively gather pertinent information to the study. Secondary data is collected from financial statements, clients’ files, reports, directives, manuals, bulletins and the information from web portals of Reserve bank of India, All India Bank Employees Association (AIBEA) and IDBI bank.

3.5.2 Target Population

According to Sekaran & Bougie (2010), population is the entire group of people, events or things that researchers wish to investigate on. For the present study encompasses the 123 IDBI branches located in Tamilnadu State So in this research, target group of this study are the bank employees
who are directly involved in credit processing and administering. This means, senior bank professionals, Department heads, Branch managers, Assistant branch managers, Loan section heads, Loan officers, Loan clerk, and Loan Committee members of all selected branches of IDBI bank are included in the target group.

Human resource officers, Branch managers, chief risk officer, insurance officer, legal officer, IT officer, and compliance officer

### 3.5.3 Sampling Design

The universe of the study is any who are working related to Credit Operations having at least 3 years of experience in handling the processing, approval, monitoring and management of loans in any of the IDBI branches in Tamil Nadu state. This research followed stratified random sampling design to choose the samples from the population. The total population is divided into 123 strata (i.e. 123 branches). The sampling area of the study encompasses of all the IDBI branches located in Tamil Nadu. Hence the data was collected from 5 bank employees from each IDBI branch located in Tamil Nadu state.

**Table 5.1 Sample size composition**

<table>
<thead>
<tr>
<th>No. of Samples/Branch</th>
<th>Total No. of Branches in Tamil Nadu</th>
<th>Total no. of samples for the study</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>123</td>
<td>615</td>
</tr>
</tbody>
</table>

### 3.5.3.1 Sampling technique

There are two types of sampling methods which are probability sampling and non-probability sampling. For probability sampling, each of the
elements in the target population has an equal probability of being chosen as the sample for the survey conducted. Probability sampling is scientific, operationally convenient and simple in theory, and the results obtained from this method are more generalizable toward the target population. For non-probability sampling, each of the elements in the sampling frame does not have an equal chance to be chosen as the sample. Admittedly this method is simpler and convenient to operate however the results obtained cannot be confidently generalized to the population. Six hundred fifteen sample respondents have been selected by using stratified random sampling method from Tamil Nadu where (n) 615 samples have been collected for conducting the study.

3.5.3.2 Determination of sampling size

A number of formulae have been formulated for determining the sample size depending upon the availability of information. The researcher has used the below mentioned formulae for calculation of sample size for an unknown population.

\[
\text{Sample size } n = \left( \frac{ZS}{E} \right)^2
\]

where,

\[Z = \text{Standardized value corresponding to a confidence level of 95\% = 1.96}\]

\[S = \text{Sample SD from pilot study of 50 sample = 0.8066}\]

\[E = \text{Acceptable error 5 \% = 0.05}\]
Hence

\[
\text{Sample size } n = \frac{(1.96 \times 0.8066)^2}{0.05} = 999.7435 \sim 1000
\]

where \( n = 1000 \)

3.5.4 Questionnaire Design

The questionnaires was framed to collect the primary data from the respondents, which has three sections i.e. demographic details, credit operation and risk management, and organizational performance. The first section has questions related to demographic profile of the respondents such as name, age group, gender, occupation, monthly income, marital status etc. (10 items), the second section deals with the questions related to the credit operations and risk management strategies (50 items), and the third section encompasses the questions related to the impact of credit operations and risk management on organizational performance (15 items). During the development of the questionnaire, the researcher has taken the opinion of eminent researchers, academicians, industry experts in each and every stage to ensure the appropriateness of the questionnaire in measuring the intended research objectives with the required level of reliability and validity.

3.5.5 Pilot Study

The pilot study was conducted among 50 bank employees (i.e. 5 from each branch) from ten different branches of IDBI bank branches in Chennai city. Hence the total sample size of the pilot study is 50 respondents. The questionnaire used in this study was tested against its reliability and validity through the analysis of data collected in pilot study. The Cronbach alpha coefficient for credit operations and risk management scale is 0.926 and
organizational performance is 0.958. The results of the KMO sampling adequacy test are also satisfactory. The results of the analysis also indicates the data collection instrument has acceptable level of composite, discriminant and convergent validity through the Composite Reliability (CR), Average Variance Extracted (AVE), Maximum Shared Variance (MSV), Average Shared variance (ASV) indices.

3.6 TOOLS FOR DATA ANALYSIS

The requirement and importance of statistics is escalating, especially in social sciences and management research. It is important to recognize an appropriate statistical design which brings solutions to the entire research hypotheses. Statistics are the tools used to check our facts about the data. In this research, two set of tools have been used for the analysis, such as

- Statistical tools
- Credit Risk Management Ratio analysis tools

3.6.1 Statistical Tools for Data Analysis Includes

- Frequency distribution
- Chi square
- Independent Sample ‘t’ test
- One way ANOVA
- Friedman test
- Correlation
- Multiple regression analysis
- Factor analysis
- Structural Equation Modeling (SEM)
3.6.1.1 Frequency distribution

A frequency table is a simple way to display the number of occurrences of a particular value or characteristic.

3.6.1.2 Chi-square

A Chi-square is a statistical measure used in the context of sampling analysis for comparing a variance to a theoretical variance. As a non-parametric test, it can be used to determine if categorical data shows dependency or the two classifications are independent. It can also be used to make comparisons between theoretical populations and actual data when categories are used. Thus, the chi-square test is applicable in large number of problems. The test is, in fact, a technique through the use of which it is possible for all researchers to (1) test the goodness of fit (2) test the significance of association between two attributes, and (3) test the homogeneity or the significance of population variance.

3.6.1.3 Independent samples t test

The independent samples t test allows the researcher to evaluate the mean difference between two populations using the data from two samples. This test is used in situations where a researcher has no prior knowledge about either of the two populations being compared. The general purpose of the independent samples t test is to determine whether the sample mean difference obtained is a real difference between the two populations or simply the result of sampling error.

3.6.1.4 One-way ANOVA

Analysis of variance procedures are powerful parametric methods for testing the significance of differences between sample means where more
than two conditions are used, or even when several independent variables are involved. ANOVA makes it feasible to appraise the separate or combined influences of several independent variables on the experimental criterion (Mouton & Marais 1990). ANOVA test has been therefore used to identify whether there is a statistical significant difference between the demographical variables and impact of health and safety training programme, employees work related attitude.

3.6.1.5 The Friedman test

The Friedman test is a test for comparing three or more related samples and which makes no assumptions about the underlying distribution of the data. The data are set out in a table comprising n rows by k columns. The data are then ranked across the rows and the mean rank for each column is compared.

3.6.1.6 Correlation

Degree and type of relationship between any two or more quantities (variables) in which they vary together over a period; for example, variation in the level of expenditure or savings with variation in the level of income. A positive correlation exists where the high values of one variable are associated with the high values of the other variable(s). A 'negative correlation' means association of high values of one with the low values of the other(s). Correlation can vary from +1 to -1. Values close to +1 indicate a high-degree of positive correlation, and values close to -1 indicate a high degree of negative correlation. Values close to zero indicate poor correlation of either kind, and 0 indicates no correlation at all. While correlation is useful in discovering possible connections between variables, it does not prove or disprove any cause-and-effect (causal) relationships between them.
3.6.1.7 Multiple regression analysis

Multiple regression analysis the common and separate influences of two or more variables on a dependent variable (Kerlinger 1986), and it is used to establish the extent to which various differing variables add to predict another variable (Guyatt et al. 1995). Multiple regression has been therefore used to study the dependent variable (Employee’s Performance) is statistically significant on the variance in independent variables such as organizational commitment, overall impact of health and safety training and job satisfaction.

3.6.1.8 Factor analysis

A factor is an underlying dimension that accounts for several observed variables. There can be one or more factors, depending upon the nature of the study and the number of variables involved in it. Factor analysis involves many terminologies which are presented in this subsection for better understanding of the related techniques.

Correlation coefficients matrix is the original observations between different pairs of input variables. Factor loadings matrix representing the correlation between different combinations of variables and factors. Communality is the sum of squares of the factor loadings of the variable ‘i’ on all factors. Eigen value is the sum of squares of the factor loadings of all variables on a factor.

After obtaining factor loadings, one should examine whether the factor loading matrix possesses a simple structure. If a factor loading matrix has a simple structure, it is easy to make interpretations about the factors. If there is no simple structure, then the n – dimensional space of the factors should be rotated by an angle such that the factor loadings are revised to have a simple structure which will simplify the process of interpretation of the
factors. Such rotation is called rotation of factors. A simple structure means that each variable has a very high factor loading (as high as 1) on one of the factors and very low factor loading (as low as 0) on other factors. The communalities of each variable before and after factor rotation will be the same. The popular methods of rotation of factors are varimax method and promax method. Varimax method of factor rotation employs orthogonality between different pairs of factors axes. This means that the angles between different pairs of factors axes are 90° even after rotation. The promax method employs oblique rotation. This means that the angles between different pairs of factors axes are not 90° after rotation. Both the techniques aim at better interpretations.

3.6.1.9 Structural equation modeling (SEM)

An explanation for the use of Structural equation modeling with AMOS and methods to assess construct validity and reliability for all measures is addressed in this study. The research or model describes the causal relationship among reaction to training programme, skills acquisition, behavioural change, effect of training, organizational commitment, employee’s performance and job satisfaction. These paths are related to causal processes. Thus the Structural Equation Modeling (SEM) approach is necessary in order to examine these variables. The data analysis has been carried out by means of SPSS (statistical package for the social science, version 20) and AMOS 20 (analysis of movement structure, version 20) software packages for windows.

Structural Equation Model (SEM) with IBM AMOS 23.0 software provided several indicators to assess fit. The confirmatory factor analysis has showed the acceptable model fit by including the Normal Fit Index (NFI), the Comparative Fit Index (CFI), the Root Mean Square Error of Approximation
(RMSEA), hypothesis model (Research model) based on the research hypothesis and review of the theoretical and empirical literature, the hypothesis model has been examined in this study. There are two latent variables; impact of health and safety training programme and employees’ work related attitude to explore the cause and effect relationship among these variables in the hypothesized model.

SEM is a statistical methodology with a confirmatory approach to analyze multi-variate data (Byrne 2001). The general SEM model is composed of two sub models; a measurement model and a structural model. James et al. (1982) recommended the measurement model testing first, followed by full structural model testing.

Statistical significance for all analysis has been set at less than 0.05. The measurement model identifies relationships between the observed and latent variables. By means of CFA, the measurement model provides the link between scores on an instrument and the constructs that they are designed to measure. Hence structural model identifies the causal relationships among the latent variables and specify that particular latent variables directly or indirectly influence certain other latent variables in the model (Byrne 2001).

3.6.2 Credit Risk Management Ratio Analysis Tools

- Net loans by total deposits
- Loan loss by Net loans
- Loan loss by Gross loan average
- Net loans by total deposits
- Total equity by net loans
- Cost-to-Income ratio
• Credit to deposit ratio
• Capital adequacy ratio
• Non-Performing asset ratio
• Provision coverage ratio
• Return on asset rate
• Gross NPA ratio
• Net NPA ratio
• Depositors’ Safety ratio
• Share Holders Risk ratio

**Credit to deposit ratio (CD ratio)**

This ratio indicates how much of the advances lent by banks is done through deposits. It is the proportion of loan-assets created by banks from the deposits received. The higher the ratio, the higher the loan-assets created from deposits. Deposits would be in the form of current and saving account as well as term deposits. The outcome of this ratio reflects the ability of the bank to make optimal use of the available resources.

**Capital adequacy ratio (CAR)**

A bank's capital ratio is the ratio of qualifying capital to risk adjusted (or weighted) assets. The RBI has set the minimum capital adequacy ratio at 9% for all banks. A ratio below the minimum indicates that the bank is not adequately capitalized to expand its operations. The ratio ensures that the bank do not expand their business without having adequate capital.

\[
\text{CAR} = \frac{\text{Tier I capital} + \text{Tier II capital}}{\text{Risk weighted assets}}
\]
It must be noted that it would be difficult for an investor to calculate this ratio as banks do not disclose the details required for calculating the denominator (risk weighted average) of this ratio in detail. As such, banks provide their CAR from time to time. Tier I Capital funds include paid-up equity capital, statutory and capital reserves, and perpetual debt instruments eligible for inclusion in Tier I capital. Tier II capital is the secondary bank capital which includes items such as undisclosed reserves, general loss reserves, subordinated term debt, amongst others.

**Non-performing asset (NPA) ratio**

The net NPA to loans (advances) ratio is used as a measure of the overall quality of the bank's loan book. An NPA are those assets for which interest is overdue for more than 90 days (or 3 months). Net NPAs are calculated by reducing cumulative balance of provisions outstanding at a period end from gross NPAs. Higher ratio reflects rising bad quality of loans.

\[
\text{NPA ratio} = \frac{\text{Net non-performing assets}}{\text{Loans given}}
\]

**Provision coverage ratio**

The key relationship in analysing asset quality of the bank is between the cumulative provision balances of the bank as on a particular date to gross NPAs. It is a measure that indicates the extent to which the bank has provided against the troubled part of its loan portfolio. A high ratio suggests that additional provisions to be made by the bank in the coming years would be relatively low (if gross non-performing assets do not rise at a faster clip).

\[
\text{Provision coverage ratio} = \frac{\text{Cumulative provisions}}{\text{Gross NPAs}}
\]
Return on assets (ROA)

Returns on asset ratio is the net income (profits) generated by the bank on its total assets (including fixed assets). The higher the proportion of average earnings assets, the better would be the resulting returns on total assets. Similarly, ROE (Returns On Equity) indicates returns earned by the bank on its total net worth.

\[
\text{ROA} = \frac{\text{Net profits}}{\text{Avg. total assets}}
\]

3.7 INTERVIEWS

There were a variety of options available for collecting research information. However, due to the fact that there was little pre-existing theory on the phenomena being studied and as the researcher needed to focus on a qualitative methodology, the data collection technique needs to “emphasise meanings and experiences related to the phenomena” under investigation (Collis & Hussey 2003). To obtain a more comprehensive picture about the credit risk management in China’s RCBs, it is necessary to learn from the professionals about the bank’s use and motivation for the use of existing credit risk management approaches and factors that they consider when they evaluate credit of a client. This can best be done by conducting semi-structured interviews. This is underlined by Saunders, Lewis & Thornhill (2009), “Where it is necessary for you to understand the reasons for the decision that your research participants have taken, or to understand the reasons for their attitudes and opinions, you are likely to need to conduct a qualitative interview.”

Semi-structured interviews are non-standardised and allow to directly reacting to the answers given. Even if a guideline with subjects and questions that have to be covered exists, the interviewer is free to change the
order of questions asked, broach a subject again, and add or omit questions depending on the interview situation (Saunders et al. 2009; Bryman & Bell 2007). The interviews were carefully prepared. After an appointment was fixed, every participant received a short list of the main interview subjects as well as a short description of the research aim. This was something most participants expressly asked for when they were invited for an interview. The short description gave the participants the opportunity to prepare for the interview and collect useful information in advance if necessary. An interview guide was prepared to facilitate the interview for the interviewer and to reduce the risk of forgetting subjects. The interview guide followed a logical order beginning with general questions that were considered to be easy to answer. Nevertheless, it was not considered as mandatory order to ask these questions. The order of subjects discussed with the participants varies according to the individual process of every interview. The translated interview questions of this research project are attached in Appendix II.

3.8 VALIDITY AND RELIABILITY

Validity and reliability of a research is a key determinant of the true value of this research in the practical working life. While reliability is concerned with the result consistency (Proctor 2005, Saunders et al. 2009), validity is about the “honest” nature of the research conclusion and applicability (Ghauri & Gronhaug 2010). Certain obstacles, either subjective or objective, may hinder a research study’s reliability or validity.

Data Analysis

For data analysis we used rating method for investigation of risk and statistic method for testing hypotheses. For Reliability analysis of Scale we used ALPHA Reliability Coefficients. Also we used t-test analysis for testing equality of means and Levene’s Test for testing of equality of
Variance within banks and risk factors. Analysis of variance, or ANOVA, is used for testing differences within and between several group means of risk in selected banks and differences within and between means in risk factors. For determination of differences exist among the means, we used Post Hoc Range tests and pair wise multiple comparisons. It can determine which means differ. Range tests identify homogeneous subsets of means that are not different from each other. Pair wise multiple comparisons test the difference between each pair of means, and yield a matrix where asterisks indicate significantly different group means at an alpha level of 0.05.