CHAPTER- 3

RESEARCH METHODOLOGY
### CHAPTER- 3
**RESEARCH METHODOLOGY**

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Introduction</td>
</tr>
<tr>
<td>3.2</td>
<td>Area of the study</td>
</tr>
<tr>
<td>3.3</td>
<td>Research Methodology</td>
</tr>
<tr>
<td>3.4</td>
<td>Research Design</td>
</tr>
<tr>
<td>3.5</td>
<td>Scope of the study</td>
</tr>
</tbody>
</table>
CHAPTER- 3
RESEARCH METHODOLOGY

3.1 INTRODUCTION:
There is close relation between the term research and scientific method. As research is an enquiry keen on the motive, or various grounds or consequences of any meticulous group of situation, whether such situations are circumstances are investigational inhibited or showed as the way it is occurred. In addition to this, the research also entails the researcher is keen to get more exact and specific results; he is more concerned in getting reiterate of the outcome and its applicability in most difficult situation or even in wide-ranging circumstances. It is said that scientific method is a kind of method which is applied in the research problem and so to prove it in such way so that we can reach certain goal. Also it is important to notice that scientific method is from the same branch of science, where it is clearly understood through the trained minds of researcher. This is an agreement of all disciplines which includes all its techniques in it, it is classify in such a way that who-so-ever sees the common relation and define their succession is in implying the scientific method.

Research methodology is a way to systematically solve the problem of research or research problem. Here, the researcher is basically extending the suitable process of research and also the appropriate tactic to be used. The academicians not necessarily extend the examination or analysis, but also to compute mean, median, mode or standard deviation or chi-square tests and to apply the particular research technique. It is very important to understand the relevant methods or techniques, which has to be applied in the research work according to its importance.

In this chapter, the researcher focuses on research methodology for the systematic and theoretical analysis for the present study. The main objective of the study were to measure and to evaluate the financial performance of manufacturing firm by using both traditional method i.e. PB period & Average rate of return and modern method i.e. Excess present value, IRR and PI. The chapter focal point is on the effects of long-term investments planning techniques on the financial performance and also
explored the association between the long term investments techniques and financial occurrence of manufacturing companies in Mumbai.

3.2 AREA OF THE STUDY:
The scope of the universe of the research study was limited to the manufacturing companies of Mumbai and western suburbs as Mumbai is the capital city of Maharashtra and having maximum of industries in the hub. The study here is selected industries on random basis. The population was selected from the manufacturing companies specifically from Mumbai and Mumbai western suburbs only for the purpose of the study.

3.3 RESEARCH DESIGN:
Research design is chosen for the study is exploratory in nature. The study involved survey and literature foundation by the researcher in the study area. Here, the universe consists in the study for the survey was manufacturing companies working in Mumbai and Mumbai suburbs. Since, the information of manufacturing companies working in Mumbai suburbs were not available, the researcher considered Mumbai as a universe and therefore selected companies from Mumbai itself. There were 3150 companies working in Mumbai, however it was not possible for researcher to select all the companies, therefore, the researcher of the study selected 10 percent of the companies working in metropolitan city i.e. Mumbai and Mumbai suburbs.

3.4 RESEARCH METHODOLOGY:
Research in widespread phraseology refers to a explore data’s or information. It can be called as efficient and methodical investigation for significant data on a detailed topic. According to Redman Mory research is a “systematized effort to gain new knowledge.” Therefore, a research is meant to a vigilant exploration or examination particularly in the hunt for innovative reality or actuality in the branch of new knowledge. Here, research methodology focused on the sample size of the study, sources of data collection, methods of data collection, pilot study, statistical tools and techniques, data analysis and data interpretation. The information discussed here used is to achieve the objectives of the study in Mumbai.
3.4.1 Sample size of the Study: The selection of universe of the study is Mumbai, which consist two distinct regions i.e. Mumbai city and Mumbai suburbs. The population of the study comprises from the selected manufacturing firms from the Mumbai and Mumbai western suburbs. The table below depicts the three years of information on industries working in Mumbai city and Mumbai suburbs. Therefore, the yellow mark indicated in the study shows the universe of the study selected for the sample size.

**Universe of the study (Number of industries in Mumbai):**

<table>
<thead>
<tr>
<th>Year</th>
<th>Mumbai</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>2158</td>
</tr>
<tr>
<td>2012</td>
<td>2327</td>
</tr>
<tr>
<td>2013</td>
<td>3150</td>
</tr>
</tbody>
</table>

Source: Adopted model from Directorate of Industries, Mumbai 2013

As per the census branch directorate of Industries, Mumbai 2013, the total number of industries in Mumbai is 3150. In this manner the total population is considered in the study is the sum-up of Mumbai city and Mumbai suburbs is 3150 manufacturing firms. To fulfill the objective in the study area, the researcher considered 10% of the universe i.e. 315.

Sample size = 3150 x 10/100
= 315

In this way, it is rounded upto 300. A total of 300 questionnaires were distributed out of which 225 valid and reliable questionnaire were received by the researcher. For the study, one respondent from each 225 manufacturing companies i.e. 225 respondents selected for the analysis purpose.

3.4.2 Sources of Data Collection: For the purpose of the study, a combination of research tools were used i.e. Primary data and Secondary data to achieve the objective of the study.

3.4.2.1 Primary data: Primary data was collected on the basis of survey method and was collected from the manufacturing firm managers, Chief Executive officers, Chief
Financial Officers, Financial Advisors, Investment managers, Corporate Accountants through the structured questionnaires for the purpose of measuring & to evaluate the performance of capital budgeting techniques from Mumbai. For this study random sampling methods were used and accordingly 225 financial decision making authorities were selected to collect the sample for the study to measure & evaluate the financial performance of capital budgeting techniques.

3.4.2.2 Secondary Data were collected from published annual reports of companies, Reports on Ministry of Micro, small & medium Enterprises (MSMEs), Directorate of Industries, and other selected companies of their official websites, Books, Magazines, Journals, Newspapers, Published/Unpublished articles. For the study, various other websites were also used.

3.4.3 Sample Size: The primary data was collected from the manufacturing company’s managers from Mumbai and Mumbai suburbs. For collecting primary data a set of questionnaire was used. The questionnaire was in the form of close ended questions. The questionnaire was collected from the respondents working with the respective companies selected for the research work. Out of 300 respondents, 225 respondents revert with the filled questionnaire and were collected by the researcher for the study. For the purpose of the study, the researcher has chosen convenient sampling method, so that the sample size of the study should look evocative and representative.

3.4.4 Methods of Data Collection: For the collection of the primary data, a structured questionnaire was prepared. The questions were close ended questions in the questionnaire. The questionnaire was based on the selected objectives and hypotheses, so to measure and evaluate the financial performance of manufacturing firms by using capital techniques in Mumbai. The questionnaire is framed with 3 sections, in which the first section was the profile of the respondents, where the background of the respondents were asked i.e. Educational qualification, work experience and position hold in the company. The second section of the questionnaire was related with the information about the organisation in which
questions were related to age of the company, annual turnover of the company, volume of capital budget and value of total assets.

And the third part of the questionnaire was the questions related to the capital budgeting techniques used by the company i.e. name of the capital budgeting techniques used by your company for the evaluation of major investment, the reason of using the selection of techniques, how often the capital budgeting technique use by the company, the technique is used by the company for the stated level of investment, the technique used to evaluate the operations in the company, the question related to the extent of non-financial factors considered while evaluating the projects and the last question was related to whether the company conducts post audit of capital investment. The overall 14 questions were included in the questionnaire for the data collection and data analysis purpose in the area of the study.

3.4.4.1 Pilot Study: The researcher chosen 20 people randomly as sample for the testing of questionnaire. In order to collect the samples, 20 respondents were provided with the draft of questionnaire in the study area. The given draft was filled by the respondents and therefore it is given to the experts for their suggestions. After the necessary inputs provided by the professionals and specialists, there is appropriate changes were made in order to finalize the questionnaire for the purpose of the study.

3.4.4.2 Statistical Tools Techniques: For the research work, the researcher has used Statistical package for the social sciences (SPSS) technique for the area of the study. Chi-square tests, Directional Measure and symmetric measure were used for the analysis of study. For better understanding of the study, the researcher has also used presentation and various charts and tables were also used.

3.4.4.3 Data analysis and data Interpretation: The research is focused on the various capital budgeting techniques, which is used by the manufacturing companies from Mumbai city and Mumbai suburbs. For the data analysis, the data was collected from structured questionnaire from the respondents. The collected data was coded into Microsoft excel sheet for the tabulation purpose. The Analysis of data was done
with the help of Statistical package for the social sciences (SPSS) technique, which is considered to be the standard application for the analysis.

The SPSS analyzed the close ended questions. It is also used to determine, mean, frequencies, valid percentage and cumulative percentage, to analyse the number of the respondents belongs to the manufacturing companies. For the study, chi-square test was mostly used to get the results. Symmetric measure and directional measures were also used to understand the degree of relationship between two variables i.e. dependent and independent variables.

The hypotheses testing are conducted with the help of chi square test. The test proved the significant association between two variables for the purpose of the study. The data collected from each respondents from the companies selected was properly tabulated, well analyzed and interpreted. After the analysis and interpretation the appropriate conclusions were drawn for the purpose of the study.

3.5 SCOPE OF THE STUDY:
Capital budgeting techniques are important tools to measure and evaluate the financial performance in the manufacturing companies in Mumbai. The present study would help the top level managers to evaluate the best & appropriate capital budgeting techniques in the manufacturing firm. Through this study, it is convenient for the various other manufacturing firms to take decision making on the capital investments & to improve the wealth by applying the appropriate method. The study is strictly restricted to Manufacturing companies working in Mumbai and its suburbs.