CHAPTER – III

Research Methodology

3.1 Introduction
3.2 Research Problem and Research Questions
  3.2.1 Problem Identification
  3.2.2 Research Question and its context
3.3 Research Objectives
3.4 Hypothesis
3.5 Research Design
  3.5.1 Sample Size and Sampling Method
  3.5.2 Sampling Size Formula
  3.5.3 Bifurcation of sample
  3.5.4 Sampling Method
  3.5.5 Data collection and data analysis
3.6 Scope and limitation of the Study
3.7 Chapterisation
3.1 Introduction

Research in common parlance refers to a search for knowledge. One can also define research as a scientific and systematic search for pertinent information on a specific topic. In fact, research is an art of scientific investigation. Dictionary definition of research is a careful investigation or inquiry especially through search for new facts in any branch of knowledge. Some people consider research as a movement from the known to the unknown. Research is actually a voyage of discovery. The inquisitiveness is the mother of all knowledge and the method, which one employs for obtaining the knowledge of whatever the unknown, can be termed as research.

Research is an academic activity and as such the term should be used in a technical sense, 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. Encyclopaedia of Social Science defines research as 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.

Research is, thus an original contribution to the existing stock of knowledge making for its advancement. It is the pursuit of truth with the help of study observation, comparison and experiment. In short, the search for knowledge through objective and systematic method of finding solution to a problem is research. The systematic approach concerning generalization and the formulation of a theory is also research. In this research also efforts have made to study and evaluate the growth and performance of SMEs in India and China and find out the reasons of success or failure in achieving the desired performance in terms of production, employment, export and number of units under SMEs in selected sectors of India and China.

3.2 Research Problem and Research Questions

The SME sector in India as well as in China plays dominant role in the economic development of India and China. The textile SMEs, pharmaceutical SMEs and chemical SMEs account about 40 to 50 percent of India as well as China’s total exports and are
therefore, a very important for both economies. These three sectors are growing by 5 to 7% in India and 3 to 5% in China and the forecast is that these three sectors will grow by 5 to 8% per annum in the next ten years. To sustain this growth, it is imperative that, these sectors produces goods of high quality at reasonable prices. This means that these three sectors must continuously moderate its technology and increase the production and export. Therefore, these three sectors have an integral role to play in the growth of India’s production, employment as well as export. Analysts note that textile, chemical and pharma sector are becoming more and more competitive worldwide as more and more developing countries enter the global trade. To maintain if not increase, its global market share, the Indian SMEs must procure modern, low-cost, machinery and technology so that it can produce high quality goods for export at competitive prices.

3.2.1 Problem Identification

This thesis is grounded in the practical question, ‘Whether the SME sector of India is more effective than China? What are the determining factors for faster growth of SME sector in China? Whether the government policies have played important role in the growth and development of SME sector in India and China? What are the problems of SME sector in India and China? What are the remedial measures for development of SME sector? How can government policies, be better which will improve the SME sector?’ Discussion of these practical problem leads into the realms of design theory where the problem must be expressed in theoretical terms and concepts. It is this theoretical aspect of the practical problem on which this research is focused.

The literature as well as various researches on the subject related to the SME sector, its development and its problems are reviewed in relation to the research problem, and from this review emerge four research questions that represent the essence of the research problem and which must be satisfactorily addressed for its resolution:

- In what manner the SMEs, especially Textile, Chemical and Pharmaceutical sectors have played roles in economic development of India and China?

- Which factors contributed for the development of SMEs in terms of production, employment and export in India as well as China?
- What are the different facilitating factors of growth and development of SMEs in India and China?

- How the government policies played role in the growth and development of SMEs in India and China?

After understood the need for the research, it is derived the following research questions. The context which inspires the research questions along with the specific research questions are given below.

### 3.2.2 Research Questions and its Context

<table>
<thead>
<tr>
<th>Context</th>
<th>Research questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMEs help in the development of the country.</td>
<td>What is SMEs? (Chapter.1) What is SMEs contribution in India’s and China’s economic development? (Chapter-2)</td>
</tr>
<tr>
<td>Sector specific growth and development of SMEs are different.</td>
<td>What is the growth of SMEs in Chemical, Pharmaceutical and Textile Sector of India as well as China? (Chapter. 4)</td>
</tr>
<tr>
<td>SMEs often face facilitating and hindrance from the external environment.</td>
<td>Which are the facilitating and limiting factors for the growth of SMEs in India and China? (Chapter.5)</td>
</tr>
<tr>
<td>SMEs contribute in the economy through production of items and generate employment.</td>
<td>What is the status of sector specific SMEs in terms of numbers of units, production level, employment generation and export contribution? (Chapter.5 &amp; 6)</td>
</tr>
<tr>
<td>Government plays a vital role in framing policies and programmes for SMEs.</td>
<td>What are the government policies and programmes that support SMEs in India and China? (Chapter. 5 &amp; 6)</td>
</tr>
<tr>
<td>Major study on SMEs reveals various possibilities for development.</td>
<td>Which are the thrust areas to develop SMEs? (Chapter.7)</td>
</tr>
</tbody>
</table>

### 3.3. Research Objectives:

The Objectives of this research is to analyze and interpret three major issues:

- To evaluate & compare the performance of Chemical Sector, Pharmaceutical Sector and Textile Sector SMEs in India & China.
• To study the policy matters related to SMEs under Chemical Sector, Pharmaceutical Sector and Textile Sector in India and China and their impact on the performance of SMEs of these sectors.

• To find out problems, issues & prospects of SMEs under Chemical Sector, Pharmaceutical Sector and Textile Sector in India & China.

3.4 Hypothesis

A hypothesis is a special proposition, formulated to be tested in a certain given situation as a part of research which states what the researcher is looking for. In the research study, one important hypotheses has been tested, which is as under:

\[ H_{10} = \text{Within the given legal & policy framework, there is no difference between the performance of Chemical SME sectors in India and China} \]

\[ H_{11} = \text{Within the given legal & policy framework Chemical SME sectors in China are performing well as compared to India} \]

\[ H_{20} = \text{Within the given legal & policy framework there is no significant difference in Pharma industries in SME sectors between India and China} \]

\[ H_{21} = \text{Within the given legal & policy framework Pharmaceutical SME sectors in China are performing well as compared to India} \]

\[ H_{30} = \text{Within the given legal & policy framework, there is no significant difference between the performance of Textile SME sectors in India and China} \]

\[ H_{31} = \text{Within the given legal & policy framework performance of Textile industries in SME sector in China is doing better than India} \]

\[ H_{40}: \text{There is no significant difference between the Government Policies and related issues which make impact on growth and development of SMEs in India and China.} \]

\[ H_{41}: \text{SMEs of India and China significantly differ in the opinion of SMEs on various issues due to government policies”}. \]
3.5 Research Design

This research aims at studying the growth and performance of SMEs of selected three sectors and identifying their problems and finding a solution for an immediate problem facing the SME sector in large. In order to accomplish the objective, this research will be considered as exploratory as well as applied Research. The study is concentrated to evaluate the financial performance of SMEs in selected sectors in India and China. The research is mainly based on secondary data related to the financial performance of the SMEs in selected sector. The data related to the growth and performance related to number of SME units, production, employment generation and exports by the SMEs from the selected sector have been collected from the annual reports of business organizations like Chamber of Commerce, FICCI, Government Publications, and other published reports and authentic records of individual SMEs. The primary data related to the government support, policy implications and problems of SMEs have been collected through personal interviews and structured questionnaire from the representatives of selected SMEs and government officials.

3.5.1 Sample Size and Sampling Method

As per the report of Ministry of MSME, Government of India, 2013, there are around 1,66,653 Chemical SMEs, Pharma SMEs and Textile SMEs in India. As per the industrial census of China, 2013, there are around 1,92,184 Chemical, Pharma and Textile Enterprises in SMEs in China. Thus there are 3,58,837 SMEs in these three sectors in India as well as China taken together.

**Sampling Size Formula**

Confidence Level: 95% for the worst case scenario (+/- 50%)
Confidence Interval: 4
Respondents: 3,58,837
Sample size: 400

Considering the respondents of number of SMEs in India and China, Researcher have taken sample of 450 as against required 400 as per the Slovin’s formula. But to give more representation to respondents & coverage the samples size taken is 450 from India & China.
The sample will be selected on random basis from cities like Mumbai, Hyderabad, Lucknow, Chennai, Bangalore & Ahmedabad, in India as well as Chengdu, Shenzhen, Wuhan, Guangzhou and Shenyang in China.

3.5.2 Bifurcation of sample

Out of the total respondents select randomly 75 samples from Chemical sector, 75 samples from Pharmaceutical sector & 75 samples from Textile sector i.e. 225 samples from India as well 75 samples from Chemical sector, 75 samples from Pharmaceutical sector & 75 samples from Textile sector i.e 225 samples from China therefore total sample size will be 450.

3.5.3 Sampling Method

For sampling Stratified/clustered and convenient sampling method is used. Ratio Analysis, Trend Analysis, T-test and ANOVA (Analysis of Variance) like Statistical methods are used for Samples testing.

3.5.4 Data collection and data analysis

“Research is a process of a systematic and in-depth study or search of any particular topic, subject or area of investigation, backed by the collection, compilation, presentation and interpretation of relevant details or data. It is a careful search or inquiry into any subject or subject matter, which is an endeavour to discover or find out valuable facts, which would be useful for further application or utilization” researchers and analysis of management problems would result in certain conclusions by means of logical analysis.

For the purpose of the Comparative Study of SMEs’ Contribution in India and China: A Study of Selected Sectors of chemical, Pharma & Textile SME sectors the primary and secondary data are used.

The Primary data shall be collected from various selected Chemical, Textile & Pharmaceutical SME segment by personal visits for administrating the structured questionnaire and unstructured interview. Accordingly a filed survey will be conducted to obtain primary data adopting a sampling design of “two stage purposive sampling” with the selection of industries at the first stage and industrial units at the second stage. The
questionnaires already designed for the entrepreneurs. Majority of the units do not maintain proper and uniform records or accounts of their business. Moreover the sector is unorganized and disclosure of accurate information by entrepreneurs left doubt. However, efforts on the part of the researcher managed to gather the adequate information as much as possible for the purpose of data analysis.

As definition point of view “the term secondary data refers to the statistical material which is not originated by investigator himself but which he obtains from some one’s records” Secondary data, which were not gathered specially to meet the needs of the problem at hand. For the study, data have been collected for the period twenty four years from 1990-91 to 2013-14 from published reports from various SMEs as well as various chamber of commerce associations in different parts of India and China by visiting personally or by post. Other publications have also been used such as R.B.I. Bulletin, Other periodicals Journals. Personal interviewing of various Small and Medium Entrepreneurs in India and China to collect some keynote information of the different Companies in Chemical, Pharma & Textiles SME sectors in India and China.

The figure contained in the annual reports and accounts have been rounded off to two decimal points. All the collected data have been presented and formulating in the form of condensed balance sheet and income statement. All the ratios and mentioned statement have been analyzed and interpreted.

As conclusion point of view inter firm comparison has been made for analysis of performance of selected sectors. Various techniques of analysis used e.g. Ratio analysis, Trend analysis, Graphs, Means and Diagrams. Percentage and simple average methods have been used for the presentation and interpretation of the data. At the end on thesis the conclusion and several thought provoking suggestions have been made for the sustainable growth and development of SMEs under Chemical, Pharma and Textile sectors in India and China. For the study, statistical tools like Means, trend analysis, T-Test and ANOVA have been used for analysis of data.
3.6 Scope and limitation of the study

Scope of this research is limited to the financial Performance as well as impact of Government policies of Chemical, Pharmaceutical and Textile Sectors in India and China. The scope of research is significant to identify the problems and find out solutions to improve the performance of Chemicals, Pharmaceuticals and Textiles in SME sector in India & China

Scope of our study is limited to make micro level comparative analysis of unit, employment, production,& export of SME sector in India and China with special reference to Chemical Sector, Pharmaceutical Sector and Textile Sector.

Study is restricted to the Registered SMEs under three sectors of Chemical Sector, Pharmaceutical Sector and Textile Sector. Study mainly depending upon the secondary data and hence secondary data will have all the limitations in analysis.

3.7 Chapterisation Scheme

The outcome of the current study is presented in the form of a thesis which is divided into the following chapters.

Chapter –I: Introduction
Chapter –II: Review of Literature
Chapter –III Research Methodology
Chapter –IV: Growth & Development of SMEs’ special reference to selected sectors in India & China
Chapter – V: Facilitating & Limiting Factors for the growth of SMEs in India& China With special reference to Government policies
Chapter –VI Data Analysis & Interpretation
Chapter –VII: Findings, Suggestions and Conclusions
Reference
Appendices

Chapter-I: Introduction:
This chapter basically deal with a brief introduction on the topics, importance of the study. It also reviewed a number of literatures on the subject at local, regional, national, and
international level. Apart from these, objectives of the study, hypothesis and the
chapterization scheme are also incorporated in this chapter.

Chapter-II: Review of Literature
This chapter contents the review of literatures related to evaluation, growth and development
and other issues related to MSMEs in India as well as China.

Chapter – III: Research Methodology:
This chapter explains the methodology applied and limitations of the study in this research.
The research methodology aims to finalize the activities of research design and data
collection procedure which are as listed below:

- Design of sampling plan
- Design of experiment
- Design of questionnaire
- Determination of sample size
- Design of sampling frame
- Execution of survey

Chapter-IV: Growth & Development of SME’s with special reference to selected sectors
in India & China:
This chapter mainly deals with the brief history of SMEs in India & China also Growth &
Development of SMEs’ special reference to selected sectors in India & China.

Chapter-V: Facilitating & Limiting Factors for the growth of SMEs in India & China
with special reference to Government Policies:
This chapter mainly discusses the various aspects of Government policies pertaining to
SMEs announced at the central and state level from time to time in India as well as in China.

Chapter-VI: Data Analysis & Interpretation:
This chapter covers the Data Analysis & Interpretation, which mainly explains the
preliminary analysis; the data are presented in the form of charts and graphs to have insight
into the research problem. This chapter will have a major subsection on results and
discussions. Also after designing the questionnaire and explain the data collection activity with the help of interviewers as per the assumed sampling plan and experimental design.

Chapter-VII: Findings, Suggestions & Conclusions
In this chapter the researcher has made an attempt to present the summary of major findings, suggestions based on the observation and response received and placed suitable suggestions for the growth and development of Chemical, Pharma and Textile Enterprises in SME sector in India and China and concluded overall study.

Bibliography
Bibliography presented in the thesis on the basis of alphabetical catalogue of different literatures used in this research.