CHAPTER 4
RESEARCH METHODOLOGY

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4.1 INTRODUCTION
The work research is derived from the middle French “recherche” which means “to go about seeking”.

Research in common manner of speaking refers to a search for knowledge. Research simply put, is an attempt to discover answer to problem through the application of scientific method to the predictable universe.

Research essentially a regular inquiry seeking facts through objective certifiable methods in order to discover the relationship among them and to deduce from broad principles or laws. It is really a method of critical thinking. It comprises defining and redefining problems, formulating hypothesis or suggested solution, collecting, organizing and evaluating data, making deductions and making conclusion, and at last carefully testing the conclusions to determine whether they fit the formulated hypothesis.

Thus, the term research refers to a critical, careful and exhaustive investigation or inquiry or experimentation or examination having as its aim the revision of accepted conclusions. In the light of newly discovered facts.

4.2 DEFINITION
Generally, the research is considered as an endeavour to arrive at answers to intellectual and practical through the application of scientific methods to the knowable universe. It is the movement from the known to the unknown. Research is defined by different authors. Some of the definitions given by well-known authors are as follows:

The Webster’s International Dictionary gives a very inclusive definition of research as “a careful critical inquiry or examination in seeking facts or principles; diligent investigation in order to ascertain something”.

According to Clifford Woddy (Kothari, 1998), 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.”

According to Robert Ross, “research is essentially an investigation, a recording and an analysis of evidence for the purpose of gaining knowledge.”

According to John W. Best, “Research may be defined as the systematic and objective analysis and recording of controlled observations that may lead to the developments of generalizations, principles, or theories, resulting in prediction and possibly ultimate control of events”.

Kerlinger defines research as a “systematic, controlled empirical and critical investigation of hypothesis propositions about the presumed relations among natural phenomena”. The term “systematic, controlled, empirical and critical” describe the characteristic of scientific method. Whether research needs to be an “investigation of hypothetical propositions about presumed relations” is debatable.

According to Redman and Mory (1923), research is a “systematized efforts to gain new knowledge”.

Research does not always call for a hypothesis. It may also be carried out for the discovery of hypothesis. It may also be designed together descriptive information on a phenomenon.

4.3 MEANING OF RESEARCH METHODOLOGY
Methodology is defined as “the study of methods by which we gain knowledge… it deals with the cognitive processes imposed on research by the problems arising from the nature of its subject matter”. The motive of the social investigator is to uncover true or fact. Methods comprise the procedures used for generating, collecting and evaluating data. Methods are ways of obtaining information useful for assessing explanations. An attempt to inquire truth also involves confrontation with obstacles. Methodology thus prepares the investigator to adopt techniques to neutralize the effects of such hurdles. There are numerous “tools” utilizes by social scientists to uncover truth, find the explanation for the occurrence of a phenomenon and to
facilitate the understanding of problems and situations which would help scientists to foretell the re-occurrence of a similar phenomenon in the future under similar conditions. Research methodology is a description, explanation and justification of various methods of conducting research.

It is necessary for researcher to know not only methods but also methodology. Is not only necessary how to calculate mean, median and mode or how to apply particular test but they need to know which techniques are relevant and which are not. So it is necessary that researcher has to design their methodology for problems as the same may differ from problem to problem.

4.4 STATEMENT OF PROBLEM

The study is an attempt to undertake an analytical study on impact of Mergers and Acquisitions on Financial Performance of selected Pharmaceutical Companies in India in order to suggest the suitable strategies to sustain and/or improve their Financial Performance.

The underlying principle of Indian Mergers and Acquisitions can be questioned if the performances of the merged/ acquiring firms do not show any enhancement in the long run. Therefore the objective of this study is to explore the impact of mergers and acquisitions in the Indian pharmaceutical industries on the performance of pharmaceutical companies. We aim to examine whether M & A in this industry have led to the improvement in performance deteriorated after the merged entity was formed. We have concentrated on 6 M & A deals in the BSE – listed Indian pharmaceuticals during a timeframe spanning from 2003-04 to 2010-2011. The change in performance levels of the pharmaceutical companies, if any, in the post-merger phase was compared to the pre-merger phase through selected financial parameters.
4.5 OBJECTIVES OF THE STUDY
The objectives of the study are:
1. To study the conceptual framework of mergers and acquisitions.
2. To study the recent trends in mergers and acquisitions in pharmaceutical industry in India.
3. To study the financial performance of selected companies.
4. To study the impact of mergers and acquisitions on financial performance of selected companies.
5. To compare the pre and post M & A of financial performance of selected companies.
6. To make suggestions for improving the financial performance of selected companies.

4.6 HYPOTHESES OF THE STUDY
The Alternative Hypotheses have been framed for the studies are:

1. There is no significant difference between liquidity ratios relating to financial performance of the selected companies.
2. There is no significant difference between activity ratios relating to financial performance of the selected companies.
3. There is no significant difference between profitability ratios relating to financial performance of the selected companies.
4. There is no significant difference between leverage ratios relating to financial performance of the selected companies.

4.7 TOOLS AND TECHNIQUES OF DATA ANALYSIS
The following tools and techniques are used:

- Ratio Analysis
- Graphs and Charts
- Mean (Also known as Average)
- Single Factor Analysis of Variance (ANOVA)
4.8 PERIOD OF THE STUDY
The study is mainly confined the Financial Performance and its interpretation of the selected units for the period of six years i.e. 2003-04 to 2010-2011.

4.9 SCOPE OF THE STUDY
The present study is undertaken to study the different aspects and concepts of the financial performance of selected pharmaceutical companies.
For this purpose the financial performance of selected units has been examined for the period of 6 years. The study is also deals with the impact of mergers and acquisitions on financial performance of selected pharmaceutical companies.

However, the result of the study would definitely reflect the true picture of the individual unit representing the growth of pharmaceutical companies in general.

4.10 SAMPLES OF THE STUDY
There are 6 companies selected which are listed on the BSE. Out of 115 pharmaceutical companies, 6 are selected because during the period of study the M & A deals were made. Hence, the following companies are selected for the purpose of the study.

1. Cadila Healthcare Limited (CHL)
2. Ranbaxy Laboratories Limited (Ranbaxy)
3. Biocon Limited (Biocon)
4. Aventis Pharma Limited (Aventis)
5. GlaxoSmithKline Pharmaceutical Limited (GSK)
6. Sun Pharmaceutical Industries Limited (Sun Pharma)

<table>
<thead>
<tr>
<th>Company</th>
<th>Pre-Merger Years</th>
<th>Post-Merger Years</th>
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<tr>
<td>CHL</td>
<td>2003-04 to 2005-06</td>
<td>2006-07 to 2008-09</td>
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<tr>
<td>Ranbaxy</td>
<td>2003-04 to 2005-06</td>
<td>2006-07 to 2008-09</td>
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<tr>
<td>Biocon</td>
<td>2004-05 to 2006-07</td>
<td>2007-08 to 2009-10</td>
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<tr>
<td>Aventis</td>
<td>2005-06 to 2007-08</td>
<td>2008-09 to 2010-11</td>
</tr>
<tr>
<td>GSK</td>
<td>2005-06 to 2007-08</td>
<td>2008-09 to 2010-11</td>
</tr>
<tr>
<td>Sun Pharma</td>
<td>2005-06 to 2007-08</td>
<td>2008-09 to 2010-11</td>
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4.11 SOURCES OF THE DATA COLLECTION
The study is mainly based on secondary data. Secondary data have been collected from annual reports of different companies under the study. Further information has been collected from annual survey of industries, reports of association of companies, libraries of various Institutions, various magazines, journals, research publications, websites, articles, newspapers, and different books on financial management, previous research findings (dissertations or thesis) will be used for data collection.

4.12 SIGNIFICANCE OF THE STUDY
The financial decision is very much crucial for any company. The present study is going to give clear picture of the financial impact of mergers and acquisitions and help to gain deeper understanding regarding the crucial decision of mergers and acquisitions.

4.13 LIKELY CONTRIBUTION TO EXISTING KNOWLEDGE
The study can be undertaken to examine operation of selected pharmaceutical companies. The study can be undertaken to understand the evolution, need, and history of selected pharmaceutical companies in India. The study reveals the suggestions to improve the company’s financial decisions.

4.14 LIMITATIONS OF THE STUDY
1. The entire study is based on secondary data of selected pharmaceutical companies collected from published annual reports and websites etc.
2. Only six companies have been selected for the study of financial performance may give clear picture of financial policy of the sector.
3. The time period of the study is limited to six years only.
4. This study is mainly based on ratios which have their own limitations.
5. The data for analysis is basically derived from financial statements. They are not adjusted for inflation.
4.15 FUTURE SCOPE OF THE STUDY

1. The researcher has undertaken study for six years data one should go for more periods to get the clear picture of long term financial policy of selected companies.

2. One may take all companies from pharmaceutical companies to get clear picture idea about financial decision of said sector.

3. One may study the reason for particular financial decision in pharmaceutical industries.

4.16 CHAPTER PLAN

The present study is divided into six chapters.

Chapter 1: Pharmaceutical Industry: An Overview
This chapter deals with the historical background of the pharmaceutical industry. It also discusses the profile of the selected units.

Chapter 2: Theoretical Aspects of the Study
This chapter narrates the theoretical aspects of the financial performance and also discusses Mergers and Acquisitions.

Chapter 3: Review of Literature
This chapter contains review of literature. This chapter focuses on past research studies on topic conducted the related from which important and useful conclusions are derived.

Chapter 4: Research Methodology
This chapter focused on methodological framework of the present study. This chapter includes the research, definition, meaning of research methodology, statement of problem, objectives, hypotheses, tools of data analysis, period of the study, scope, samples, sources of the data collection, significance, likely contribution to existing knowledge, limitations, future scope of the study and chapter plan.
Chapter 5: Analysis and Interpretation
This chapter deals with the data analysis and interpretation based on accounting and statistical tools. Ratio Analysis and Mean tools are used to measure financial ratios of selected pharmaceutical companies and ANOVA is used for hypotheses testing.

Chapter 6: Findings and Suggestions
This chapter focuses on major findings and suggestions derived from the data analyzed.