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Research Methodology
CHAPTER-4

RESEARCH METHODOLOGY

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4.1 INTRODUCTION

Until up to a couple of years back, the news that Indian companies having acquired American-European entities was very rare. However, this scenario has taken a sudden U turn. Nowadays, news of Indian Companies acquiring foreign businesses is more common than other way round.

Buoyant Indian Economy, extra cash with Indian corporate, Government policies and newly found dynamism in Indian businessmen have all contributed to this new merger and acquisition trend. Indian companies are now aggressively looking at North American and European markets to spread their wings and become the global players.

The Indian IT and ITES companies already have a strong presence in foreign markets; however, other sectors are also now growing rapidly. The increasing engagement of the Indian companies in the world markets, and particularly in the US, is not only an indication of the maturity reached by Indian Industry but also the extent of their participation in the overall globalization process.

4.2 TITLE OF THE PROBLEM

It is true that dramatic events like mergers, acquisitions, takeovers, restructuring and corporate controls occupy the Indian business news papers almost daily. Further they have become central focus of public and corporate policy issues. Some assert that the activities of mergers and acquisitions represent a new force in creativity and productivity. Some other view it is blight in our economy. Regardless of these views, they do represent a major trend in the economical environment. This is an area of potential good as well as potential harm in corporate strategy including manufacturing industry. Mergers take place due to various motives. There for an analysis has to be made to compare the financial performance of pre and post merger of the firms. The title of the problem is as under:

“A Comparative Study of Financial Performance Before and After Mergers and Acquisitions of the selected Indian Companies.”
4.3 **REVIEW OF LITERATURE**

In this study an attempt has been made to briefly review the work already undertaken and methodology employed. A brief review of selected studies has been presented as below:

David C. Cheng (1989), in their paper ‘Financial determinants of Bank Takeovers’ found that several studies have examined the determinants of bank merger pricing. Those studies focus on the characteristics of the target and downplay the characteristics of acquirer. Their study found that the purchase price is a negative function of the target’s capital to asset ratio. The only variable used in their model is the ratio of acquirer to target assets.

Cartwright and Cooper (1990) studied current wave of merger activity and assessed the contribution of psychology to understand mergers and acquisitions in addressing the essence of the activity. They found the positive relationship in combination of people and the fusion of organizational cultures. Cartwright and Cooper (1993) reported on a recent study of a sample of 157 middle managers involved in the merger of 2 UK building societies. Post-merger measures of mental health suggested merger to be a stressful life event, even when there is a high degree of cultural compatibility between the partnering organizations.

Gallet C.A (1996), “Merger and Market Power in the US Steel industry” He examines the relationship between mergers in the U.S. steel industry and the market power. The study employed New Empirical Industrial Organization (NEIO) approach which estimates the degree of market power from a system of demand and supply equations. The study analyzed yearly observations over the period between 1950 and 1988 and results have revealed that in the period of 1968 to 1971 merges did not have a significant effect on market power in the steel industry; whereas mergers in 1978 and 1983 did slightly boost market power in the steel industry.

An empirical study entitled ‘Takeovers as a strategy of turnaround’ by Ravi Sanker and Rao K.V. (1998) analysis the implications of takeovers from the financial
point of view with the help of certain parameters like liquidity, leverage, profitability etc. They observed that a sick company is takeover by a good management and makes serious attempts; it is possible to turnaround successfully.

Ruhani Ali and Gupta G S (1999) in their paper entitled ‘Motivation and Outcomes of Malaysian takeovers: An international perspective’ examine the potential motives and effects of corporate takeovers in Malaysia. The Mullar’s methodology, which involves the use accounting measures like size, growth, profitability, risk and leverage is employed for the study to analyze the performance characteristics of takeover firms in the pre and post takeovers periods.

Jay Kumar S. (1999) in his dissertation entitled, ‘Mergers and Acquisitions: An Evaluation Study’ examines the relative benefits expected by a corporate enterprise when they adopts mergers and acquisitions as a strategy. The author studies the extent to which the security prices reacted to the announcement of merger.

Anup Agrawal Jeffrey F. Jaffe (1999), in their article “The Post-merger Performance Puzzle”, examines the literature on long-run abnormal returns following mergers. The paper also examines explanations for any findings of underperformance following mergers. We conclude that the evidence does not support the conjecture that underperformance is specifically due to a slow adjustment to merger news. We convincingly reject the EPS myopia hypothesis, i.e. the hypothesis that the market initially overvalues acquirers if the acquisition increases EPS, ultimately leading to long-run under-performance.

The dissertation entitled, ‘An Analysis of Mergers and Acquisitions’ by Canagavally R. (2000), measures the performance in terms of size, growth, profitability and risk of the companies before and after merger. The dissertation also investigates the share prices of sample companies in response to the announcement of merger.
The paper entitled ‘Merger and Acquisition unlocking value’ by Huzifa Husain (2000), explains that takeovers (hostile or non-hostile) may be beneficial to the shareholders if they unlock the hidden value of a company. They also help the existing management to be more receptive to shareholders. Economically, takeovers make sense if the ‘private market value’ of a company is higher than the market capitalization of the company. Further if takeovers are used as a ploy to prevent competition, it becomes harmful to the economy. Therefore, proper checks and balances have to be put in place to ensure that takeover facilitation improves overall efficiency of the economy.

Beena P.L (2000), ‘An analysis of merger in the private corporate sector in India’ she attempts to analyze the significance of merger and their characteristics. The paper establishes that acceleration of the merger movement in the early 1990s was accompanied by the dominance of merger between firms belonging to the same business group of houses with similar product line.

Appelbaum, Gandell, Yortis, Proper and Jobin (2000) examined the multiple organizational factors which directly affect a merger as well as a merger process. They address the issue of communication and its importance throughout the merger and acquisition process. Further, they studied the issue of stress which is an outcome of mergers and acquisitions within uncertain environment and reported high-level of stress. Moreover, they evolved five major sections such as communications, corporate culture, change, stress, managing strategy. These were subdivided into three subsections – pre-merger, during the merger and post-merger.

The study entitled, Trumps for M & A – Information Technology Management in a merger and acquisition strategy (2001), found that success of merger and acquisitions depends on proper integration of employees, organization culture, IT, products, operations and service of both the companies. Proper IT integration in merger plays a critical role in determining how effectively merged organizations are able to integrate business processes and people, and deliver products and services to both internal and external customers of the organization. The
study suggests that to address the challenges, Chief Information Officers should be involved from the earliest phase.

The study, conducted by Ajay Pandey (2001) in the context of developed countries, points out the substantial valuation gains for target firms, particularly in the case of successful takeovers. The primary motivation for the study was to test whether takeovers are seen by capital market as creating value to the firm by improving performance following change in management or as mere replacement of existing management without any expectation of concomitant improved managerial and firm performance.

Vardhana Pawaskar (2001), “Effect of Mergers on Corporate Performance in India” he studied the impact of mergers on corporate performance. It compared the pre- and post merger operating performance of the corporations involved in merger between 1992 and 1995 to identify their financial characteristics. The study identified the profile of the profits. The regression analysis explained that there was no increase in the post- merger profits. The study of a sample of firms, restructured through mergers, showed that the merging firms were at the lower end in terms of growth, tax and liquidity of the industry. The merged firms performed better than industry in terms of profitability.

Mr. Surjit Kaur (2002) in her dissertation entitled, A study of corporate takeovers in India, examines the M & A activity in India during the post liberalization period. The study tested the usefulness of select financial ratios to predict corporate takeovers in India.

Paul (2003)“The merger of Bank of Madura with ICICI Bank”. The researcher evaluated the valuation of the swap ratio, the announcement of the swap ratio, share price fluctuations of the banks before the merger decision announcement and the impact of the merger decision on the share prices. He also attempted the suitability of the merger between the 57 year old Bank of Madura with its traditional focus on mass banking strategies based on social objectives, and ICICI Bank, a six year old ‘new
age' organization, which had been emphasizing parameters like profitability in the interests of shareholders. It was concluded that synergies generated by the merger would include increased financial capability, branch network, customer base, rural reach, and better technology. However, managing human resources and rural branches may be a challenge given the differing work cultures in the two organizations.

In a study conducted by Camerlynck et al. (2005), they analyzed 143 acquisition cases performed in Belgium between 1992-1994. During the analysis process, financial ratio calculations and non-parametric Wilcoxon statistical test was performed. Although the acquiring companies achieve a higher growth rate in their total assets and sales than the target companies, there were negative conditions in their adjusted liquidities than the industry, and they have reached a higher level of leverage.

Another study that investigates the relationship between an acquisition activity and financial performance of the companies has been conducted by Ooghe et al. (2006). In this study, they have analyzed the company which had performed 143 acquisitions in Belgium between 1992-1994. The financial performance indicators were analyzed to see whether these indicators of the acquiring company, such as profitability, liquidity, solvency and added-value were higher after the acquisition compared to the ones before the acquisition. In the analysis process, financial ratio calculations and non-parametric Wilcoxon statistical test was performed. According to the results, it was found that the average profitability of the acquiring company was higher before the acquisition compared to the profitability after acquisition. In addition, acquisitions created a negative effect in terms of solvencies of the acquiring companies. Another important finding obtained in the analysis was that the acquisition has a negative impact on the liquidity ratios of the acquiring companies. Besides that, an increase was observed in the rate of gross value added per employee; and, this result was associated with positive effects of the acquisition process on the productivity of the employees of the acquiring company.
Pazarskis et al. (2006) analyzed 15 mergers and acquisitions performed between 1998-2002 in Greece in their study. Financial ratio calculations and t-test was used in the analysis process. Financial ratio calculations were carried out to cover 3 years before and after the merger. Survey technique was used for data collection, and strong evidence was found on the decrease in company profitability due to the mergers and acquisitions.

The study entitled ‘Mergers and Operating Performance : Indian Experience’ (2007) by Pramod Mantravadi and A. Vidyadhar Reddy, explains that This research study aims to study the impact of m & A on the operating performance of acquiring corporate in different periods in India, by examining some pre and post merger financial ratios with chosen sample firms and mergers between 1991-2003. The result suggests that there are minor variations in terms of impact on operating performance following merger in different intervals of time in India.

Vanitha. S (2007) “Mergers and Acquisition in Manufacturing Industry” she analyzed the financial performance of the merged companies, share price reaction to the announcement of merger and acquisition and the impact of financial variables on the share price of merged companies. The author found that the merged company reacted positively to the merger announcement and also, few financial variables only influenced the share price of the merged companies.

Vanitha. S and Selvam. M (2007) “Financial Performance of Indian Manufacturing Companies during Pre and Post Merger” they analyzed the pre and post merger performance of Indian manufacturing sector during 2000-2002 by using a sample of 17 companies out of 58 (thirty percent of the total population). For financial performance analysis, they used ratio analysis, mean, standard deviation and ‘t’ test. They found that the overall financial performance of merged companies in respect of 13 variables were not significantly different from the expectations.

The paper entitled ‘M & A and Corporate Performance in Japan’ By – Ryo Kawahara & Fumiko Takeda ICFAI journal of M & A, Sept, 2007, This paper
investigates how M & A affect corporate performance for three years after their implementation. The corporate performance of 162 M & A that took place in Japan from 2001-03 is analyzed by using Wilcoxon signed rank test. They find that overall effects of M & A on corporate performance are statistically insignificant, compared to the corporate performance of other companies within the same industry with similar pre-acquisition performance.

Liu et al. (2007) have used financial ratio calculations, data envelopment analysis and regression analysis methods in their study evaluating performances of 60 companies between 1993-2003. Of the 60 companies, 24 of them have performed a mergers and acquisitions activity. As a result of the analysis, it was observed that company performance does not increase after mergers and acquisitions activities, and although the company operating performances increase in a meaningful way through the internal growth method, the merger and acquisition activities were not effective in achieving the same goal.

Murthy (2007) studied the case of 5 bank mergers in India viz. Punjab National Bank and New Bank of India, ICICI Bank and Bank of Madhura, ICICI Ltd. and ICICI Bank, Global Trust Bank and Oriental Bank of Commerce and Centurian Bank with Bank of Punjab. It was concluded by the author that consolidation is necessary due to stronger financial and operational structure, higher resources, huge customer base, technological advantage and penetration in rural market.

Pramod Mantravadi & A Vidyadhar Reddy (2008), in their empirical study “Post-Merger Performance of Acquiring Firms from Different Industries in India”, aimed to study the impact of mergers on the operating performance of acquiring corporates in different industries, by examining some pre- merger and post-merger financial ratios, with the sample of firms chosen as all mergers involving public limited and traded companies in India between 1991 and 2003. The results suggest that there are minor variations in terms of impact on operating performance following mergers, in different industries in India.
Wu (2008) has analyzed 17 bank merger and acquisition activities in Australia between 1983-2001. In the analysis process, the financial ratio calculations, t-test, Wilcoxon test, data envelopment analysis and Tobit regression analysis methods were used. In the study, the effectiveness of bank mergers and acquisitions were analyzed. As a result of the analysis, the findings reached are as follows: Acquiring banks were larger, more aggressive and less effective than the target banks. The scale inefficiency was determined as the main source of being not effective. According to the results of the regression analysis, there is a positive correlation between effectiveness before and after the merger of the banks.

Anand Manoj and Singh Jagandeep (2008) studied the impact of merger of five banks in the Indian banking sector. These mergers were the Times bank merged with the HDFC Bank, the bank of Madhurai with the ICICI Bank, the ICICI Ltd. with the ICICI Bank, the Global Trust bank merged with the Oriental Bank of Commerce and the Bank of Punjab merged with the Centurian Bank.

Dr. Salma Ahmed & Yasser Mahfooz (2009) in their case study paper, “Consolidation in the Sky - A Case Study on the Quest for Supremacy between Jetlite and Kingfisher Airlines”, did an attempt to descriptively analyze the rationale for consolidation in the Indian airline industry. The paper also evaluates major changes in the business environment affecting the airline industry.

Kumar (2009), "Post-Merger Corporate Performance: an Indian Perspective" examined the post-merger operating performance of a sample of 30 acquiring companies involved in merger activities during the period 1999-2002 in India. The study attempts to identify synergies, if any, resulting from mergers. The study uses accounting data to examine merger related gains to the acquiring firms. It was found that the post-merger profitability, assets turnover and solvency of the acquiring companies, on average, show no improvement when compared with pre-merger values.
Saboo and Gopi (2009) analyzed 54 merger and acquisition activities between 2000-2007 in their study. Analysis was based on the use of Paired t-test in analyzing the financial ratio calculations that cover two years before and after the mergers and acquisitions. The analysis was intended to examine the impact of domestic and cross-border mergers and acquisitions on the company performances. As a result of the analysis, the findings reached are as follows: Domestic mergers increased and improved the merged company's operating performance. In addition to this, there was no evidence for any increased performance in the cross-border mergers and acquisitions.

Ellis, Reus and Lamont (2009) explored the independent and interactive effects of procedural justice and informational justice on post-deal value creation in large related acquisitions. Their results showed that informational justice and procedural justice affect different components of value creation.

Dr. Neena Sinha, Dr. K.P.Kaushik & Ms. Timcy Chaudhary (2010) in their research article on “Measuring Post Merger and Acquisition Performance: An Investigation of Select Financial Sector Organizations in India”, examines the impact of mergers and acquisitions on the financial efficiency of the selected financial institutions in India. The analysis consists of two stages. Firstly, by using the ratio analysis approach, we calculate the change in the position of the companies during the period 2000-2008.

Kuriakose Sony and Girishkumar G. S. (2010) in their paper assessed the strategic and financial similarities of merged banks and relevant financials variables of respective banks were considered to assess their relatedness.

Jagdish R Raiyani (2011)’’ This paper makes an attempt to examine the impact of M&A on financial performance of Indian pharmaceutical companies. It is found that, the profitability of a firm depends directly on its size, selling effort and export and import intensities but inversely on their market share and demand for the products.
Shantanu Dutta (2011) In his article he specifies the result that firms with higher level of cash reserve are more likely to be acquirers. In other words the firm with excess resources tend to grow in size through acquisition he also concluded that high tech firms get support for a strategic motive.

Tariq H Ismail, Abulati & Radwa Manis (2011) This research paper examines the operating performance of a sample of Egyptian companies involves in merger and acquisition transactions for the period of 1996 to 2003. The analysis is based on the accounting measure to test the effect of M&A event and secondly whether the industry sector has an impact on the corporate performance. The results reveal that some measures of corporate performance like profitability, suggested statistically significant efficiency, liquidity, solvency and cash flow position do not show improvement in the short run. And it has been concluded that merger in Egyptian technology sector do not lead to improved corporate performance in the short run. Secondly, we examine changes in the efficiency of the companies during the pre and post merger periods by using nonparametric Wilcoxon signed rank test. The result of the study indicate that M&A cases in India show a significant correlation between financial performance and the M&A deal, in the long run, and the acquiring firms were able to generate value.

The study entitled, “LBOs, Corporate Restructuring and The Incentive-Intensity Hypothesis” investigated the argument that corporate restructuring is an intended outcome of LBO transactions directly. Using a detailed database on corporate operations, the study investigated four aspects of corporate restructuring, namely, corporate downsizing, corporate refocusing, portfolio reorganization and changes in the industry characteristics of portfolio business. The results of this study strongly suggest that the governance structure of LBO firms enables the managers to forge growth more effectively than the governance structure of public firms. This study analyzed the effects of LBOs on corporate restructuring activity by analyzing differences in restructuring activity between 33 large LBO firms and 33 closely matched public corporations. The evidences presented in the study show that certain
types of corporate restructuring are more prevalent and extensive in LBO firms than similar ones in public firms.

Healy, Palepu, Ruback examined the performance of 50 US mergers post acquisition using the criteria of cash flow performance and found that the operating performance of these companies were distinctly better following acquisitions. But the other claim that the operating cash flow performance did not improved.

N. M. Leepsa & Chandra Sekhar Mishra (2012) in their research paper on “Post Merger Financial Performance: A Study with Reference to Select Manufacturing Companies in India”, intends to study the trend in merger and acquisition (M&A) particularly with reference to manufacturing companies. The present study is an attempt to find out the difference in post-merger performance compared with pre-merger in terms of profitability, liquidity and solvency. The statistical tools used are descriptive statistics, paired sample t-test.

4.4 OBJECTIVES OF THE STUDY

The broad objective of this study is to measure the impact of mergers and acquisitions on financial performance in Indian corporate sectors. This objective can be sub divided in to:

1.) To examine and evaluate the impact of mergers and acquisitions on the Return on investment (ROI) of the selected companies by some important parameters such as:
   1. Return on Net Capital Employed Ratio
   2. Return on Long Term Fund Ratio
   3. Return on Assets Ratio
   4. Return on Shareholders’ Fund Ratio

2.) To examine and evaluate the impact of mergers and acquisitions on the Profitability of the selected companies by some important parameters such as:
   5. Gross Profit Ratio
   6. Net Profit Ratio
   7. Operating Profit Ratio
3.) To examine and evaluate the impact of mergers and acquisitions on the
Liquidity position of the selected units by some important parameters such as:
   8. Current Ratio
   9. Quick Ratio

4.) To examine and evaluate the impact of mergers and acquisitions on the Leverage
position of the selected units by some important parameters such as:
   10. Debt-Equity Ratio
   11. Long Term Debt Equity Ratio
   12. Total Debt to Owner’s Fund Ratio

5.) To examine and evaluate the impact of mergers and acquisitions on the Efficiency
of the selected units by some important parameters such as:
   13. Total Assets Turnover Ratio
   14. Fixed Assets Turnover Ratio
   15. Working Capital Turnover Ratio
   16. Inventory Turnover Ratio
   17. Debtors Turnover Ratio

4.5 RESEARCH DESIGN

The Comparative study of financial performance before and after the merger and
acquisition of the selected corporate sectors is totally based on the Secondary Data of
the Financial Statements of the Company. That’s why Descriptive Research Design is
appropriate for the current research study.

4.5.1 POPULATION OF THE STUDY

The population of the study consists of all types of the Indian companies having
any types of different operations of business and totally different nature of industries
but having any Merger and Acquisition Deals in Indian corporate sectors.
4.5.2 SELECTION OF SAMPLES

The study has been carried out on the micro-level, as it is not possible for the researcher to conduct it on the macro-level. The population of the study consists of all types of the companies having different operations of business and totally different nature of industries. As the study is to be carried out by the individual researcher it is not easy to select all the companies as the samples for the study. So, the convenient sampling has been done. As such the universe of the study is Indian Industries; the researcher has selected 10 companies (Which are top ten mergers and acquisitions deals as per deal value during the year 2006 to 2011) as mentioned below:

Table-4.1 Selected Sample Indian Companies

<table>
<thead>
<tr>
<th>SR NO</th>
<th>TOP 10 MERGER &amp; ACQUISITIONS DEALS (DURING THE YEAR 2006 TO 2011)</th>
<th>VALUE</th>
<th>YEAR</th>
<th>INDIAN COMPANY (Sample for the research)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tata Steel-Corus</td>
<td>$12.2 billion</td>
<td>January 30, 2007</td>
<td>TATA STEEL LTD</td>
</tr>
<tr>
<td>2</td>
<td>Vodafone-Hutchison Essar</td>
<td>$11.1 billion</td>
<td>February 11, 2007</td>
<td>HUTCHISON ESSAR</td>
</tr>
<tr>
<td>3</td>
<td>Hindalco-Novelis</td>
<td>$6 billion</td>
<td>February 2007</td>
<td>HINDALCO INDUSTRIES LTD.</td>
</tr>
<tr>
<td>4</td>
<td>Ranbaxy-Daiichi Sankyo</td>
<td>$4.5 billion</td>
<td>June 2008</td>
<td>RANBAXY LABORATORIES LTD.</td>
</tr>
<tr>
<td>5</td>
<td>ONGC-Imperial Energy</td>
<td>$2.8 billion</td>
<td>January 2009</td>
<td>OIL AND NATURAL GAS CORPORATION LTD. (ONGC)</td>
</tr>
<tr>
<td>6</td>
<td>NTT DoCoMo-Tata Tele</td>
<td>$2.7 billion</td>
<td>November 2008</td>
<td>TATA TELESERVICES LTD.</td>
</tr>
<tr>
<td>7</td>
<td>HDFC Bank-Centurion Bank of Punjab</td>
<td>$2.4 billion</td>
<td>February, 2008</td>
<td>HDFC BANK</td>
</tr>
<tr>
<td>8</td>
<td>Tata Motors-Jaguar Land Rover</td>
<td>$2.3 billion</td>
<td>March 2008</td>
<td>TATA MOTORS</td>
</tr>
<tr>
<td>9</td>
<td>Sterlite-Asarco</td>
<td>$1.8 billion</td>
<td>May 2008</td>
<td>STERLITE INDUSTRIES</td>
</tr>
<tr>
<td>10</td>
<td>Suzlon-RePower:</td>
<td>$1.7 billion</td>
<td>May 2007</td>
<td>SUZLON ENERGY LTD.</td>
</tr>
</tbody>
</table>
4.5.3 DATA COLLECTION

The study is based on the secondary data taken from the annual reports of selected units and EMIS data base website. And all the data relating to history, growth and development of Industries have been collected mainly from the books and magazine relating to the industry and published paper, report, article and from the various news papers, bulletins and other various research reports published by industry and research organization, various web sites like www. sebi. gov. in, www. indiainfoline.com, www. rbi. Org. in. The data relating to the selected units under study have been obtained from prospectus, pamphlets and annual reports of the selected units.

4.5.4 PERIOD OF THE STUDY

The present study is mainly intended to examine the financial performance of merged and acquirer or acquired Indian companies five years before merger and acquisition and five years after merger and acquisition.

4.6 HYPOTHESIS OF THE STUDY

On the basis of data collection, the researcher has identified the following broader hypothesis for the study.

NULL HYPOTHESIS

1) There is no significant difference in means score of ROI in selected units, before and after merger and acquisition.
2) There is no significant difference in means score of Profitability in selected units, before and after merger and acquisition.
3) There is no significant difference in means score of Liquidity in selected units, before and after merger and acquisition.
4) There is no significant difference in means score of Leverage in selected units, before and after merger and acquisition.
5) There is no significant difference in means score of Efficiency in selected units, before and after merger and acquisition.
ALTERNATE HYPOTHESIS

1) There is significant difference in means score of ROI in selected units, before and after merger and acquisition.

2) There is significant difference in means score of Profitability in selected units, before and after merger and acquisition.

3) There is significant difference in means score of Liquidity in selected units, before and after merger and acquisition.

4) There is significant difference in means score of Leverage in selected units, before and after merger and acquisition.

5) There is significant difference in means score of Efficiency in selected units, before and after merger and acquisition.

4.7 TOOLS FOR DATA ANALYSIS

4.7.1 Ratio Analysis

Ratios are among the well known and most widely used tools of financial analysis. Ratio can be defined as “The indicated quotient of two mathematical expression”. An operational definition of ratio is the relationship between one item to another expressed in simple mathematical form.

4.7.2 Statistical Techniques

(i) Average
The most commonly used average is the arithmetic mean, briefly referred to as the mean. The mean can be found by adding all the variables and dividing it by total number of years taken. It gives a brief picture of a large group, which it represents and gives a basic of comparison with other groups.

(ii) Index Number
According to Croxton and Crowden “Index numbers are devices for measuring difference in the magnitude of a group of related variables”
While as per Morris Hamburg “In its simplest form an index number is nothing more than a relative number or a “relative” who expresses the relationship between two figures, where one of the figures is used as a base.”

(iii) The Standard Deviation
The standard deviation concept was introduced by Karl – Pearson in 1823. It is by far the most important and widely used measure of studying Dispersion. Standard Deviation is also known as root mean square deviation for the reason that it is the square root of the mean of the squared deviation from arithmetic mean. Standard deviation is denoted by small Greek letter “σ”.

(iv) T-Test
T – Test is based on T – Distribution and is considering an appropriate test for judging the significance of a sample mean. It can also be used for judging, the significance of the coefficients of simple and partial correlations. The relevant test statistic, is calculated from the sample data and then compared with its problem value based on T – distribution at a specified level of significance for concerning degrees of freedom for accepting or rejecting the Null Hypothesis.

4.8 SIGNIFICANCE OF THE STUDY

4.8.1 Contribution to the knowledge
- Through this study my knowledge particularly regarding various ratios will be improved.
- Through this study my knowledge particularly regarding various statistical tools and techniques and statistical tests is improved.
- My analytical power will be improved.

4.8.2 Contribution to the society
- Through this research society will be able to know the real situation of the liquidity and profitability position, of selected units, before and after merger and acquisition.
- Through this study creditors and other parties can take proper decision.
- Employees will be able to take proper decision regarding job (work).

4.8.3 Contribution to the Industry

- Industry may be able to maintain their Liquidity and Profitability position during post merger and acquisition.
- Industry may be able to know the impact of mergers and acquisitions on their financial performance.

4.9 LIMITATION OF THE STUDY

Every live and non live factor has its own limitations which restrict the usability of that factor. The same rule applies to this research work. The major limitations of this study are as under:

1. This study is mainly based on secondary data derived from the annual reports of industry. The reliability and the finding are contingent upon the data published in annual report.
2. There are many approaches for evaluation of Financial Performance. There are no common views among experts.
3. The study is limited to five years before merger and five years after merger only.
4. Accounting ratios have its own limitation, which also applied to the study.
5. Inflation plays vital role in Indian Economy. If we do not considered inflation, when analysis of financial condition, is studied, evaluation may be not truly representative. In this study the effect of inflation is not considered which its limitation becomes.
6. This study is related with ten Companies. Any generalization for universal application cannot be applied here.
7. Financial analysis does not consider those facts which cannot be expressed in terms of money, for example – efficiency of workers, reputation and prestige of the management.
4.10 OUTLINE OF THE CHAPTER PLAN

Chapter: 1  Introduction : Mergers and Acquisitions

This chapter includes the following:

- What is Mergers and Acquisition
- Mergers and Acquisition History in India.
- Types and Motives of Mergers and Acquisitions
- Limitations of Mergers and Acquisitions

Chapter : 2  Introduction : Financial Performance Analysis

This chapter includes the following:

- About Financial Performance
- Usefulness of financial performance to various stakeholders.
- Techniques \ Tools to measure financial performance
- Ratio Analysis – Types and Utilities

Chapter : 3 Key Indicators : Selected Deal of Mergers and Acquisitions

This chapter includes the following:

Brief profile of selected Indian companies, which are selected as sample for the study with M & A deal details.

Chapter : 4  Research methodology

This chapter includes the following:

- Review of Literature
- Objectives
- Statistical Tools : Ratios
- Selection of sample
- Limitation of Study

Chapter : 5  Data Analysis and Interpretation

This chapter includes the followings:

The application of various statistical tests like ratio analysis, average, index number, standard deviation and t-test for the Financial performance analysis.
Chapter : 6  Conclusion, Findings and Suggestions

This chapter includes Summary, Findings and Conclusion.

Various supporting financial statements of the selected companies are preserved in Annexure followed by abbreviation and bibliographical references.

CONCLUSION

This chapter gives the details regarding the research methodology used in this research study. It also gives information regarding the research problem, main objective, sub-objectives, hypothesis, and limitations of the study, financial and statistical tools used for the study, sample, population, research data and data sources and the overview of chapter planning.
REFERENCES

2. Gupta, S. P. *Statistical Method*.
7. Black, K. *Business Statistic*.


