# Impact Of Mergers And Acquisitions On The Value Of Firms: A Study of Selected Pharmaceutical And Chemical Companies In India

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***Abstract - This research paper focuses on examining the impact of Mergers and Acquisitions (M&A) on the value of selected Pharmaceutical and Chemical companies in India. It covers the period of twelve years from 2000-01 to 2012-13 covering the pre-merger and post-merger phases. The most of the corporate advisors believed that M&A have positive impact on value of firms. However, the objective of achieving a success was subjective estimation. When the study examined each M&A against prior performance based on value of firms for the span of six years pre- and post-merger; it revealed that almost opposite results were found. It was found that among selected eleven units, majority units have not shown significant improvement in the value of firms. In other words, selected M&A were unsuccessful in majority of cases in improving the value of firms. This study supports the evidence to the previous research and also it is found that, by considering the financial and economic parameters the results obtained have shown decline in the value addition of both Pharmaceutical and Chemical companies in post-merger period as compared to the pre-merger period.***

***Keywords: Mergers, Acquisitions, Earnings per Share, Net Profit Margin, Gross Profit Margin, Return on Equity***

## I. INTRODUCTION

With increasing globalization and changing technology, product life-cycles are shortening and competition is becoming intense, where there is little room for organizations to meet their growth ambitions through internal development or organic growth. In order to achieve speedy growth with limited market access, technology, finance and time, corporate worldwide have preferred to grow inorganically through the route of Mergers and Acquisitions (M&A).

In last few years, India has witnessed an incredible growth in M&A activities, both inbound & outbound. Armed with strong balance sheets, willing local lenders and unrelenting ambition, Indian companies are well positioned to navigate the credit crunch and maintain their domestic/ global buying spree.

The Indian pharmaceutical sector has come a long way, being almost non-existent before 1970 to a prominent provider of healthcare products, meeting almost 95 per cent of the country's pharmaceuticals needs. From simple headache pills to sophisticated antibiotics and complex cardiac compounds, almost every type of medicine is now made indigenously. Technologically strong and totally self-reliant, the pharmaceutical industry in India has low costs of production, low R&D costs, innovative scientific manpower, strength of national laboratories and an increasing balance of trade.

Chemical industry is one of the oldest industries in India. The industry, comprising both small scale and large units (including MNCs) produces several thousands of products and by-products, ranging from plastics and petro-chemicals to cosmetics and toiletries. Chemical industry occupies an important place in the country's economy. The wide and diverse spectrum of chemical products can be broken down into a number of categories - inorganic and organic (commodity) chemicals, drugs and pharmaceuticals, plastics and petrochemicals, dyes and pigments, fine and specialty chemicals, pesticides and agrochemicals and fertilizers.

## II. OBJECTIVES

The objectives of the study are-

1. To study the conceptual framework of Mergers and Acquisitions.
2. To study the trends of Mergers and Acquisitions of selected pharmaceutical and chemical companies in India.
3. To study the financial performance of selected pharmaceutical and chemical companies in India.
4. To study the impact of Mergers and Acquisitions on value of firms of selected pharmaceutical and chemical companies in India.
5. To compare the pre-merger and post-merger financial performance of selected pharmaceutical and chemical companies in India.
6. To make suggestions for improving the value of the firms for the selected pharmaceutical and chemical companies in India.

## III. RESEARCH HYPOTHESES

Following research hypotheses have been framed for the purpose of analysis

1. There is no significant difference in the pre-merger and post-merger Gross Profit Margin of the selected pharmaceutical and chemical companies in India.
2. There is no significant difference in the pre-merger and post-merger Operating Profit Margin of the selected pharmaceutical and chemical companies in India.
3. There is no significant difference in the pre-merger and post-merger Net Profit Margin of the selected pharmaceutical and chemical companies in India.
4. There is no significant difference in the pre-merger and post-merger Return on Equity of the selected pharmaceutical and chemical companies in India.
5. There is no significant difference in the pre-merger and post-merger Earnings per Share of the selected pharmaceutical and chemical companies in India.
6. There is no significant difference in the pre-merger and post-merger Book Value per share of the selected pharmaceutical and chemical companies in India.

## IV. SIGNIFICANCE OF THE STUDY

The financial decision relating to Mergers and Acquisitions is very much crucial for any company. The company may think to retain profit if the company want to go for expansion in future and requirement of cash can be met through retained profit. The current 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.

## V. RESEARCH METHODOLOGY

In this paper impact of Mergers and Acquisitions on the value of selected companies is done by considering Pre- and Post-merger financial ratios. The period of the study is twelve years from 2000-01 to 2012-13.

Eleven NSE listed companies as shown in Table 1 are selected for the study as during the period of the study the Mergers and Acquisitions deals were made.

## VI. LIMITATIONS OF THE STUDY

1. The entire study is based on the secondary data of selected pharmaceutical and chemical companies from published annual reports, websites etc.
2. Eleven companies have been selected for the study of impact of Mergers and Acquisitions on value of firms, which may not give clear picture of financial performance of the particular sector.
3. The time period of the study is limited to twelve years.
4. The 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.

## VII. ANALYSIS AND INTERPRETATION

The basis for financial analysis, planning and decision making is financial statements which mainly consist of Balance Sheet and Profit & Loss Account. The Profit & Loss Account shows the operating activities of the concern and the Balance Sheet depicts the balance value of the acquired assets and liabilities at a particular point of time.

However, the above statements do not disclose all of the necessary and relevant information. For the purpose of obtaining the material and relevant information necessary for ascertaining the financial strengths and weaknesses of an enterprise, it is necessary to analyse the data depicted in the financial statements.

There are certain analytical tools which help in financial analysis and planning. One of the main tools is Ratio Analysis.

The analysis is done by calculating selected ratios using pre-merger and post-merger data for the Pharmaceutical Companies and Chemical Companies in India. All the ratios are calculated for the span of six years pre-merger and six years post-merger. To analyse the pre-merger and post-merger financial ratios; paired sample t-test is employed to check the significant difference between pre-merger and post-merger financial ratios individually for each ratio using Statistical Package for the Social Sciences (SPSS).

## VII. RESULTS AND DISCUSSION

1. Gross Profit Margin
   At 5% significance level, P-values of selected companies were computed as shown in table 2. For Cadila Healthcare it was less than 0.05. Therefore, null hypothesis is rejected. For all other companies it is accepted, which indicates there is no significant difference in Gross Profit Margin during pre-merger and post-merger period.
2. Operating Profit Margin

   At 5% significance level, P-values of selected companies were computed as shown in table 3. For Lupin Limited and Cadila Healthcare; it was less than 0.05. Therefore, null hypothesis is rejected. For all other companies it is accepted, which indicates there is no significant difference in Operating Profit Margin during pre-merger and post-merger period.
3. Net Profit Margin

   At 5% significance level, P-values of selected companies were computed as shown in table 4. For Lupin Limited and Cadila Healthcare; it was less than 0.05. Therefore, null hypothesis is rejected. For all other companies it is accepted, which indicates there is no significant difference in Net Profit Margin during pre-merger and post-merger period.
4. Return on Equity

   At 5% significance level, P-values of selected companies were computed as shown in table 5. For Dishman Pharmaceuticals and Chemicals Limited, Cadila Healthcare and Pidilite Industries Limited; it was less than 0.05. Therefore, null hypothesis is rejected. For all other companies it is accepted, which indicates there is no significant difference in Return on Equity during pre-merger and post-merger period.
5. Earnings per Share
6. At 5% significance level, P-values of selected companies were computed as shown in table 6. For Jubiliant Organosys Limited, Cadila Healthcare and Pidilite Industries Limited; it was less than 0.05. Therefore, null hypothesis is rejected. For all other companies it is accepted, which indicates there is no significant difference in Earnings per Share during Book Value per Share

   pre-merger and post-merger period.

   At 5% significance level, P-values of selected companies were computed as shown in table 7. For Dr. Reddy's Laboratories, Ranbaxy, Strides Arcolabs Limited, Tata Chemicals Limited and Pidilite Industries Limited; it was less than 0.05. Therefore, null hypothesis is rejected. For all other companies it is accepted, which indicates there is no significant difference in Book Value per share during pre-merger and post-merger period.

## CONCLUSION

1. Profitability position (post-merger) of Ranbaxy, Wockhardt, Tata Chemicals Limited and Punjab Chemicals and Crop Protection Limited was not as good as compared to other selected Companies. The management of the companies should try to increase Gross Profit, Operating Profit and Net Profit by increasing sales or by reducing operating expenses or both.
2. In case of Pidilite Industries Limited inspite of increase in profitability position post-merger, Earnings per Share and Book Value per Share was not increased. The management should try to increase Earnings per Share by increasing profits or by buyback of equity shares. The management should try to increase Book Value per Share by increasing Net Worth or by buy back of equity shares or both.
3. In case of Lupin Limited inspite of increase in profitability position post-merger, Earnings per Share and Book Value per Share was not increased. The management should try to increase Earnings per Share by increasing profits or by buyback of equity shares. The management should try to increase Book Value per Share by increasing Net Worth or by buy back of equity shares or both.
4. For Cadila Healthcare Gross Profit Margin, Operating Profit Margin, Net Profit Margin, Return on Equity, Earnings per Share and Book Value per share has increased post-merger. Hence, merger has shown the positive impact on the value of the comapny.
5. Average Earnings per Share (Post-Merger) was lowest of Ranbaxy and Wockhardt as compared to other selected Pharmaceutical Companies. The management should try to increase Earnings per Share to attract more investors.
6. Average Earnings per Share (Post-Merger) was lowest of Punjab Chemicals and Crop Protection Limited as compared to other selected Chemical Companies. The management should try to

increase Earnings per Share to attract more investors.

7. All the selected pharmaceutical and chemical companies can increase Earnings per Share by increasing revenues, reducing expenses or both or by buyback of shares from shareholders.
8. It was found from analysis that among selected eleven units, majority units have not shown significant improvement in the value of firms. In other words, selected Mergers and Acquisitions were unsuccessful in majority of cases in improving the value of firms.

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**Table-1: Selected Units for Study**

| Sr. No. | Company | Sector | Pre-Merger Years | Post-Merger Years |
|---|---|---|---|---|
| 1. | Dr. Reddy's Laboratories | Pharmaceutical | 2000-2005 | 2006-2011 |
| 2. | Ranbaxy | Pharmaceutical | 2001-2006 | 2007-2012 |
| 3. | Dishman Pharmaceuticals & Chemicals Limited | Pharmaceutical & Chemical | 2001-2006 | 2007-2012 |
| 4. | Strides Arcolabs Limited | Pharmaceutical | 2001-2006 | 2007-2012 |
| 5. | Jubiliant Organosys Limited | Pharmaceutical | 2001-2006 | 2007-2012 |
| 6. | Lupin Limited | Pharmaceutical | 2001-2006 | 2007-2012 |
| 7. | Cadila Healthcare | Pharmaceutical | 2001-2006 | 2007-2012 |
| 8. | Wockhardt | Pharmaceutical | 2001-2006 | 2007-2012 |
| 9. | Tata Chemicals | Chemical | 2002-2007 | 2008-2013 |
| 10. | Punjab Chemicals and Crop Protection Limited | Chemical | 2001-2006 | 2007-2012 |
| 11. | Pidilite Industries Limited | Chemical | 2001-2006 | 2007-2012 |

**Table-2: Gross Profit Margin Analysis (Pre- and Post-merger) for Selected Units**

| Name of the Company | Pre-merger Years | Post-merger Years | Mean (Pre-merger) | Mean (Post-merger) | P-Value |
|---|---|---|---|---|---|
| Dr. Reddy's Laboratories | 06 | 06 | 45.97 | 43.87 | 0.494 |
| Ranbaxy | 06 | 06 | 44.41 | 42.56 | 0.524 |
| Dishman Pharmaceuticals & Chemicals Limited | 06 | 06 | 31.62 | 31.88 | 0.892 |
| Strides Arcolabs Limited | 06 | 06 | 30.21 | 24.02 | 0.102 |
| Jubiliant Organosys Limited | 06 | 06 | 19.23 | 23.39 | 0.153 |
| Lupin Limited | 06 | 06 | 32.46 | 36.50 | 0.145 |
| Cadila Healthcare | 06 | 06 | 35.28 | 41.99 | 0.019 |
| Wockhardt | 06 | 06 | 41.28 | 39.81 | 0.458 |
| Tata Chemicals | 06 | 06 | 31.74 | 25.35 | 0.111 |
| Punjab Chemicals and Crop Protection Limited | 06 | 06 | 15.99 | 14.50 | 0.607 |
| Pidilite Industries Limited | 06 | 06 | 26.65 | 28.20 | 0.562 |

**Table - 3: Operating Profit Margin Analysis (Pre- and Post-merger) for Selected Units**

| Name of the Company | Pre-merger Years | Post-merger Years | Mean (Pre-merger) | Mean (Post-merger) | P-Value |
|---|---|---|---|---|---|
| Dr. Reddy's Laboratories | 06 | 06 | 20.78 | 21.99 | 0.825 |
| Ranbaxy | 06 | 06 | 15.71 | 0.02 | 0.203 |
| Dishman Pharmaceuticals & Chemicals Limited | 06 | 06 | 21.82 | 26.11 | 0.068 |
| Strides Arcolabs Limited | 06 | 06 | 19.18 | 19.55 | 0.942 |

| | | | | | |
|---|---|---|---|---|---|
| Jubiliant Organosys Limited | 06 | 06 | 11.76 | 16.42 | 0.305 |
| Lupin Limited | 06 | 06 | 15.40 | 20.25 | 0.007 |
| Cadila Healthcare | 06 | 06 | 16.62 | 22.71 | 0.025 |
| Wockhardt | 06 | 06 | 23.36 | 4.94 | 0.097 |
| Tata Chemicals | 06 | 06 | 16.54 | 14.89 | 0.314 |
| Punjab Chemicals and Crop Protection Limited | 06 | 06 | 6.62 | 5.57 | 0.810 |
| Pidilite Industries Limited | 06 | 06 | 15.65 | 15.82 | 0.916 |

**Table-4: Net Profit Margin Analysis (Pre- and Post-merger) for Selected Units**

| Name of the Company | Pre-merger Years | Post-merger Years | Mean (Pre-merger) | Mean (Post-merger) | P-Value |
|---|---|---|---|---|---|
| Dr. Reddy's Laboratories | 06 | 06 | 17.85 | 17.66 | 0.973 |
| Ranbaxy | 06 | 06 | 13.72 | -3.01 | 0.126 |
| Dishman Pharmaceuticals & Chemicals Limited | 06 | 06 | 14.15 | 16.78 | 0.562 |
| Strides Arcolabs Limited | 06 | 06 | 8.21 | 3.93 | 0.573 |
| Jubiliant Organosys Limited | 06 | 06 | 6.24 | 11.57 | 0.266 |
| Lupin Limited | 06 | 06 | 8.84 | 16.18 | 0.001 |
| Cadila Healthcare | 06 | 06 | 12.10 | 18.65 | 0.023 |
| Wockhardt | 06 | 06 | 18.95 | -4.99 | 0.066 |
| Tata Chemicals | 06 | 06 | 10.64 | 9.71 | 0.780 |
| Punjab Chemicals and Crop Protection Limited | 06 | 06 | 2.40 | -3.97 | 0.275 |
| Pidilite Industries Limited | 06 | 06 | 10.08 | 11.76 | 0.190 |

**Table-5: Return on Equity Analysis (Pre- and Post-merger) for Selected Units**

| Name of the Company | Pre-merger Years | Post-merger Years | Mean (Pre-merger) | Mean (Post-merger) | P-Value |
|---|---|---|---|---|---|
| Dr. Reddy's Laboratories | 06 | 06 | 18.36 | 14.32 | 0.425 |
| Ranbaxy | 06 | 06 | 21.53 | -22.56 | 0.160 |
| Dishman Pharmaceuticals & Chemicals Limited | 06 | 06 | 24.76 | 13.00 | 0.024 |
| Strides Arcolabs Limited | 06 | 06 | 9.09 | -4.63 | 0.265 |
| Jubiliant Organosys Limited | 06 | 06 | 23.35 | 16.29 | 0.322 |
| Lupin Limited | 06 | 06 | 22.83 | 28.48 | 0.222 |
| Cadila Healthcare | 06 | 06 | 18.51 | 25.52 | 0.003 |
| Wockhardt | 06 | 06 | 30.20 | 24.09 | 0.836 |
| Tata Chemicals | 06 | 06 | 13.83 | 13.64 | 0.960 |
| Punjab Chemicals and Crop Protection Limited | 06 | 06 | 11.50 | -80.80 | 0.295 |
| Pidilite Industries Limited | 06 | 06 | 20.95 | 26.01 | 0.046 |

**Table-6: Earnings per Share Analysis (Pre- and Post-merger) for Selected Units**

| Name of the Company | Pre-merger Years | Post-merger Years | Mean (Pre-merger) | Mean (Post-merger) | P-Value |
|---|---|---|---|---|---|
| Dr. Reddy's Laboratories | 06 | 06 | 37.56 | 43.67 | 0.613 |
| Ranbaxy | 06 | 06 | 23.75 | -7.26 | 0.058 |
| Dishman Pharmaceuticals & Chemicals Limited | 06 | 06 | 12.21 | 7.83 | 0.205 |
| Strides Arcolabs Limited | 06 | 06 | 7.49 | 5.85 | 0.856 |
| Jubiliant Organosys Limited | 06 | 06 | 28.04 | 15.99 | 0.022 |
| Lupin Limited | 06 | 06 | 57.73 | 41.85 | 0.647 |
| Cadila Healthcare | 06 | 06 | 17.50 | 25.56 | 0.002 |
| Wockhardt | 06 | 06 | 25.73 | -10.11 | 0.095 |
| Tata Chemicals | 06 | 06 | 13.83 | 23.66 | 0.100 |
| Punjab Chemicals and Crop Protection Limited | 06 | 06 | 13.80 | -14.06 | 0.325 |
| Pidilite Industries Limited | 06 | 06 | 19.98 | 6.04 | 0.013 |

**Table-7: Book Value per Share Analysis (Pre- and Post-merger) for Selected Units**

| Name of the Company | Pre-merger Years | Post-merger Years | Mean (Pre-merger) | Mean (Post-merger) | P-Value |
|---|---|---|---|---|---|
| Dr. Reddy's Laboratories | 06 | 06 | 217.45 | 309.95 | 0.000087 |
| Ranbaxy | 06 | 06 | 104.48 | 76.53 | 0.025 |
| Dishman Pharmaceuticals & Chemicals Limited | 06 | 06 | 49.53 | 66.71 | 0.172 |
| Strides Arcolabs Limited | 06 | 06 | 82.02 | 176.93 | 0.048 |
| Jubiliant Organosys Limited | 06 | 06 | 135.18 | 108.05 | 0.457 |
| Lupin Limited | 06 | 06 | 279.25 | 145.95 | 0.482 |
| Cadila Healthcare | 06 | 06 | 93.66 | 98.37 | 0.56 |
| Wockhardt | 06 | 06 | 86.09 | 39.43 | 0.106 |
| Tata Chemicals | 06 | 06 | 98.68 | 178.96 | 0.000068 |
| Punjab Chemicals and Crop Protection Limited | 06 | 06 | 108.37 | 110.19 | 0.959 |
| Pidilite Industries Limited | 06 | 06 | 96.23 | 23.52 | 0.011 |