IMPACT OF M&A ON PERFORMANCE OF ACQUIRER: A STUDY OF SELECTED FIRMS OF MANUFACTURING INDUSTRY IN INDIA

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ABSTRACT

Mergers & Acquisitions have gained much importance in today’s corporate world. It is used to gain competitive advantages over the competitors in the form of accelerating a company's growth, entering new markets, greater customer base, enhanced profitability and economies of scale etc. India has emerged as one of the leading nations in the world in terms of mergers and acquisitions. Both the inbound and outbound mergers and acquisitions have increased dramatically in past some years. This research paper is aimed to study the impact of mergers on the operating performance of acquiring firms of Indian manufacturing firms. This study is based on the short period analysis of three year prior to merger and three year post merger period covering a period of 2004 to 2011. To get a broader prospective on India, this study is based on mainly four industries- oil and gas, automotive, power and electrical. For measuring the impact of M&A, t test: paired sample mean has been applied. To measure the corporate performance, different financial ratios are used. After analyzing the impact, it is found that overall performance of the sample firms did not improve after mergers and acquisitions.

KEYWORDS: Mergers and Acquisitions, Corporate Performance, Ratio Analysis and t test

INTRODUCTION

Economic development is major aim of every country and every level of economy has its significant contribution in the progress of country. A country’s economy can be described as the wealth and resources of a country or region in terms of a production and consumption of goods and services. It can be divided into various sectors or levels: primary, secondary and tertiary. Primary sector of economy includes the production of raw material and basic foods. Activities associated with primary sectors are agriculture, mining, forestry, farming and fishing etc. the packaging and processing of raw materials associated with this sector is also considered to be a part of this sector. Secondary sector of economy manufactures finished goods. All of the manufacturing, processing and construction activities lie within secondary
sector. Activities associated with this level include production of automobile, textile, steel, electrical energy and construction and oil and gas etc. Tertiary sector is the service industry of any country. Service sector is also considered as the soft part of economy i.e. Activities, where people offer their knowledge, skills and time to improve productivity, performance & sustainability. The basic characteristic of this sector is the production of services instead of end product. Every sector has its own importance in economic development but here we only discuss the role of secondary sector in economic development.

Manufacturing Industries play a crucial role in the social and economic development of every country. Increasing prosperity, a major goal of the development process, is contributed primarily by the activities of business and industry. Ensuring steady industrial growth helps to compliment and sustain continued economic development. In the industrial sector, India is 14th in terms of volume of factory output. Various developmental initiatives are also being carried out in the areas of gas, mining, electricity and steel. All these sectors contribute significantly to the GDP. With a strong industrial base, economic planning becomes less risky, being able to plan ahead also assists industrial growth with profits re-invested into infrastructure development which in turn helps to boost and attract industry. Without a vibrant, strong industrial base economic development is much more risky and can be effected by external factors that are difficult to control. Thus, any economic development plan must have industry at the core. By encouraging and providing provision for growth of industry, an economy will grow in tandem which in turn encourages further industrial development.

Mergers and Acquisitions in India: The Latest Trends

Mergers and Acquisitions started to take place in the world from very early years. The M&A deals are common not only in developed countries but also became popular in developing countries. Today India has emerged as one of the top countries with respect to mergers and acquisitions. In pre-liberalization era, in India, the frequency of M&A deals were very less. But in the wake of liberalization and economic reforms in early 1990s Indian corporate houses got freedom to expand and diversify their business worldwide with lesser government control, regulations and restrictions. As a result, Post 1991 era witnessed growing trend of mergers and acquisitions by Indian firms across the globe as a part of their growth strategy. With increasing competition and economy heading towards globalization, Mergers and
Acquisitions are occurring with much larger scale than any time in the past and have played a major role in achieving the competitive edge in the international market. In last decade India has witnessed big deals of M&A in different sectors like-steel, oil and gas, banking and finance, telecom and energy. In year 2007, Tata Steel purchased 100% stake in European steel major Corus for $12.2 billion. This was the biggest M&A deal in Indian history. It made Tata Steel the world’s fifth-largest steel group. Some of the other well known deal which make India famous around the world are acquisition of Novelis by Hindalco, acquisition of German based Betapharm by Dr. Reddys Laboratories and acquisition of MTN and Zain by Bharti Airtel etc. From past some years, there are M&A deals in mostly all industries in India. Table -1 show the largest M&A deals in India so far.

<table>
<thead>
<tr>
<th>Acquirer</th>
<th>Target</th>
<th>Year</th>
<th>Deal Value (in $ billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tata Steel</td>
<td>Corus Group</td>
<td>2007</td>
<td>12.2</td>
</tr>
<tr>
<td>Vodafone</td>
<td>Hutch-Essar</td>
<td>2007</td>
<td>11.1</td>
</tr>
<tr>
<td>Bharti</td>
<td>Zain Africa BV</td>
<td>2010</td>
<td>10.7</td>
</tr>
<tr>
<td>Hindalco</td>
<td>Novelis</td>
<td>2007</td>
<td>6</td>
</tr>
<tr>
<td>Daiichi Sankyo</td>
<td>Ranbaxy</td>
<td>2008</td>
<td>4.5</td>
</tr>
<tr>
<td>ONGC</td>
<td>Imperial Energy</td>
<td>2009</td>
<td>2.8</td>
</tr>
<tr>
<td>NTT DoCoMo</td>
<td>Tata Teleservices</td>
<td>2008</td>
<td>2.7</td>
</tr>
<tr>
<td>HDFC Bank</td>
<td>Centurion Bank of Punjab</td>
<td>2008</td>
<td>2.4</td>
</tr>
<tr>
<td>Tata Motors</td>
<td>Jaguar and Land Rover</td>
<td>2008</td>
<td>2.3</td>
</tr>
<tr>
<td>Sterlite</td>
<td>Asarco</td>
<td>2008</td>
<td>1.8</td>
</tr>
<tr>
<td>Suzlon Energy</td>
<td>Repower</td>
<td>2007</td>
<td>1.7</td>
</tr>
<tr>
<td>Reliance Industries</td>
<td>Reliance Petroleum</td>
<td>2008</td>
<td>1.68</td>
</tr>
</tbody>
</table>

Source: business.rediff.com, May 2009

In last few years, 2007 and 2010 have been rebound years for Indian M&A. The volume of M&A deals in 2007 and 2010 were 676 and 662 respectively and total value of M&A’s were 51.11 $ bn and 49.78 $ bn respectively.² M&A investments in India in 2010 has seen a substantial growth in value and volume, driven by outbound deals reflecting India’s rising appetite for foreign assets. However, it is interesting to see a continuously declining trend in number of outbound deals between 2011 and 2013.
Table-2 shows the total M&A deals in India from year 2010 to 2013 in terms of volume and value. From the table, it is clear that from past some years the activities of M&A have been gradually decreasing in India and the volume of deal has also decreased. However, M&A activities in India showed a significant uptrend during first five months of 2014. In Jan- May this year corporate India announced 230 M&A deals worth US $16.37 bn. It is expected that the uptrend of M&A transactions in India will grow at the same rate in the coming months.\textsuperscript{3}

Table-3 shows the average size of deals in India from year 2009 to 2013. As Indian companies continue to look abroad for large acquisitions and Indian promoters continue to be willing to let go of their stake, M&A is continuing to be popular among Indian firms as an inorganic growth strategy.

<table>
<thead>
<tr>
<th>Deal Summary</th>
<th>Volume</th>
<th>Value (US $ mn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inbound</td>
<td>91</td>
<td>142</td>
</tr>
<tr>
<td>Outbound</td>
<td>198</td>
<td>146</td>
</tr>
<tr>
<td>CrossBorder</td>
<td>289</td>
<td>288</td>
</tr>
<tr>
<td>Domestic</td>
<td>373</td>
<td>216</td>
</tr>
<tr>
<td>M&amp;A</td>
<td>662</td>
<td>504</td>
</tr>
</tbody>
</table>

Source- Dealtracker, annual edition 2013, Grant Thornton India

<table>
<thead>
<tr>
<th>Year</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Deal Size (US$ mn)</td>
<td>80</td>
<td>192</td>
<td>184</td>
<td>182</td>
<td>119</td>
</tr>
</tbody>
</table>

Source- Dealtracker, annual edition 2013, Grant Thornton India

**Literature Review**

In this research, we have analyzed the impact of mergers and acquisitions on selected firms of Indian Manufacturing Industry. Mergers and acquisitions has always been a topic of interest for researchers. In recent history, numerous studies have been done on the impact of M&A on corporate and several theories have been proposed to understand the empirical validation of such impacts. Some of the effects which have been studied widely are the analysis of performance of firms post mergers and analysis of value creation after mergers and acquisitions. Only studies related to Indian Mergers and Acquisitions have been taken.
into account. Some of the existing literatures which guided me in the methodology of this research are as follows:

Dash (2004) examined the economic consequences of mergers on the shareholders of the acquirer firm. The study methodology which was employed to assess the extent of value creation by mergers, indicates that on an average mergers lead to value destruction, irrespective of their pattern over a long period of time and the destruction is relatively greater in case of unrelated mergers. Kumar (2009) has conducted research on post merger performance of Indian companies and concluded no real sign of better post merger operating performance of acquiring firms. Mantravedi and Reddy (2008) investigated Indian acquiring firms and found that there are minor variations in terms of impact on operating performance following mergers, in different sectors of Indian industries. According to his research, type of industry does seem to make a difference to the post-merger operating performance of acquiring firms. Kumar B.(2010) has studied the value creation in Indian banks mergers. The study finds that the operating performance does not improve after mergers. Perhaps the real economic gains could be analyzed over a longer period of time.

In oppose to above studies of Kumar(2009),Kumar B.(2010) and Dash(2004) there are some studies which showed the positive impact of Mergers and Acquisition on acquirer firms. Sinha (2010) has studied post M&A performance of selected financial companies. Her study includes 17 companies of financial sectors. According to her research, in the long run the acquiring firms were able to generate value creation in one or the other form that is higher cash flows, cost cutting and greater market power. Azhagaiah (2011) examined the impact of Indian Mergers and Acquisitions deals of year 2007. He has analyzed the overall performance of acquirer firm with the help of ratio analysis and statistical testing is done with t test and concluded that the Indian firms across industries involved in M&A have achieved an increase in the liquidity position, operating performance, profitability, and reduced their financial and operating risks immediately after merger. Further it is inferred that the overall efficiency of those corporate firms has also increased. Rizvi (2008) has studied the case of the merger of Gillette India and Procter and Gamble and found that there was win-win situation for all the stakeholders after merger. Bhan has studied Mergers and Acquisition of 8 Indian banking sector. He has chosen the time period of study from 1999-2006. Overall with the given sample of mergers in the Indian banking sector, it is clearly indicated that post reform mergers have been efficient for the merging banks. They have created a value for the acquiring banks. Saboo(2009) investigated 54 domestic mergers as well as cross border
mergers from different industries of India and concluded that mergers have a positive impact on key financial ratios of firms acquiring firm in domestic mergers while a slightly negative impact on the firms acquiring cross border firms.

Thus, we have found mixed conclusions from the previous studies as some of them have showed positive impact on the overall performance of companies while some others research have found that operating performance of acquirer firm does not improve after mergers. Some studies investigated that Mergers and Acquisitions are beneficial in long run rather than in short run. So, there is still a gap which needs more researches in this area. This study is an initial attempt to fill this gap. In the continuation of previous researches in the area of Mergers and acquisitions, we have also studied the impact of domestic mergers and acquisitions in selected Indian Manufacturing firms.

Research Methodology

Research Objectives

The study is primarily designed to examine the impact of relevant benefits expected by the Indian manufacturing firms in India after M&A, thereby tries to measure the shareholders’ wealth and operating performance of selected sample Indian firms. This study is done by drawing samples of five firms of different industries namely oil and gas, automotive, electrical and power sector. More specifically, the present study is proposed to:

- To study the impact of M&A on liquidity, profitability, leverage and operating efficiency of firms across industries in India after M&A.
- To study the impact of M&A on overall performance of selected firms.

Formation of Hypothesis

Based on the research objectives the following hypothesis is developed:

Ho: There is no significant difference between the overall performance of the companies before and after the merger that is Ho: $\mu = 0$.

Ha: There is a significant difference between the overall performance of the companies before and after the merger that is Ha: $\mu \neq 0$.

Research Design

In this research, descriptive research design has been used as the study is based on the quantitative secondary data. The main purpose of choosing descriptive research design is that
data collected is very concise and structured which makes analysis factual and simple. In this
we have analyzed impact of mergers and acquisitions on overall performance. Following
parameters are used to judge the overall performance—Profitability, Liquidity, Leverage and
Operating Efficiency. For analyzing all these parameters following financial ratios are
selected from each category—
Profitability- Gross Profit Margin, Net Profit Margin and Return on Net Worth
Liquidity- Current Ratio & Quick Ratio
Operating Efficiency- Total Assets Turnover Ratio, Inventory Turnover Ratio
Leverage- Debt Equity Ratio
To analyze the statistical significance of the impact of merger on different financial ratios &
Paired sample t test has been applied.

**Data Collection**

In the present research, only secondary type of data is used to study the impact of M&A on
the performance of selected Indian acquirer firms. The researcher has collected the financial
information from the respective acquiring companies. Financial information over a period of
time has been studied for which three year pre merger and three year post merger financial
data of acquiring company has been collected. This required financial information has been
collected from different secondary sources like annual report, press release, Securities and
Exchange board of India (SEBI), Reserve bank of India, internet and analyst report of
different research companies.

**Sampling**

In this study the non probability judgmental sampling design is used. The samples are drawn
of the Indian firms which are undergone domestic M&A as a part of their inorganic growth
strategy in year 2007-08. The manufacturing sector is considered for study. In manufacturing
sector, we have chosen four industries namely oil and gas, power, automotive and electrical
Due to time constraints, only five companies has been selected for the present study. Only
domestic mergers and acquisition which occurred in year 2007 or 2008 are taken for study as
three year pre and three year post merger analysis is done in this research so the pre merger
time period varies from year 2004 to 2007 and post merger period varies from year 2008 to
2011.
The mergers and acquisitions which are selected for study are –

1. Reliance Industries Limited (RIL) and Indian Petrochemical Corporation Limited (IPCL)
2. Mahindra and Mahindra Limited and Punjab Tractors
3. Voltas Limited and Rohini Industrial Electricals
4. Tata Power Company (TPC) and Coastal Gujarat Power Limited (CGPL)
5. Indian Oil Corporation Limited (IOC) and Indo-Burma Petroleum Company limited (IBP)

Thus a sample of five Indian manufacturing firms has been used for study.

**Data Analysis and Interpretation**

To study the impact of M&A on the overall performance of acquirer firms, the analysis has been made focusing on five parameters which are liquidity, profitability, operating performance, leverage and valuation of firms. Appropriate ratios viz., current ratio, quick ratio, total asset turnover ratio, inventory turnover ratio, gross profit margin, net profit margin, return on net worth, debt equity ratio are extensively used to measure the impact of M&A on the specific element. To measure the impact of M&A on various dimensions statistical tool, t test: paired two sample mean has been used.

- **Impact of M&A on Liquidity of Acquirer firm**

To study the impact of M&A on the liquidity position of acquirer firms, Current Ratio and Quick Ratio are used.

**Current ratio (CR)**

In a sound business, a Current Ratio of 2:1 is considered an ideal one. A very high ratio will result in idleness of funds and therefore, is not a good sign. On the contrary, a low ratio would mean inadequacy of working capital. Current ratio is calculated from the following formula-

\[
\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}
\]
Table 4: Impact of M&A on CURRENT RATIO (CR) of Acquirer Firms

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Acquirer Firms</th>
<th>Pre Merger Mean</th>
<th>Post Merger Mean</th>
<th>Impact</th>
<th>t-statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reliance Industries</td>
<td>0.83</td>
<td>1.133333</td>
<td>+</td>
<td>0.055307</td>
</tr>
<tr>
<td>2</td>
<td>Mahindra &amp; Mahindra</td>
<td>2.183333</td>
<td>1.686667</td>
<td>_</td>
<td>0.19377</td>
</tr>
<tr>
<td>3</td>
<td>Voltas</td>
<td>1.17</td>
<td>1.28</td>
<td>+</td>
<td>0.002743</td>
</tr>
<tr>
<td>4</td>
<td>Tata Power</td>
<td>1.646667</td>
<td>1.023333</td>
<td>_</td>
<td>0.092094</td>
</tr>
<tr>
<td>5</td>
<td>IOC</td>
<td>0.82</td>
<td>0.723333</td>
<td>_</td>
<td>0.304178</td>
</tr>
</tbody>
</table>

Major Findings:
The table no. 4 presents comparison of mean Current Ratio of sample merging firms. The mean Current Ratio is based on 3 years pre merger and 3 year post merger-

- Among the sample cases Current Ratio showed an increase post merger in two cases while in other three cases it decreased after merger.
- However based on the paired t test the difference in mean current ratio pre and post merger was not statistically significant in 4 out of 5 merger cases studied. Hence the merger did not have significant impact on quick ratio of sample firms.
- For Voltas there is a significant difference, at 95% confidence level, in mean Current Ratio pre and post merger. Here the Current ratio has increased from 1.17 to 1.28 after merger, which means merger had a positive impact on liquidity of this firm

Quick Ratio (QR)
Quick ratio is used as a measure of the company’s ability to meet its current obligations. A quick ratio of 1:1 indicates highly solvent position. This ratio serves as a supplement to the current ratio in analyzing liquidity. The formula for the calculation of quick ratio is as follows—

Quick Ratio = Quick Assets/ Quick Liabilities
Table 5: Impact of M&A on QUICK RATIO of Acquirer Firms

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Acquirer Firms</th>
<th>Pre merger Mean</th>
<th>Post merger Mean</th>
<th>Impact</th>
<th>t-statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reliance Industries</td>
<td>0.71</td>
<td>0.803333</td>
<td>+</td>
<td>0.135901</td>
</tr>
<tr>
<td>2</td>
<td>Mahindra &amp; Mahindra</td>
<td>2.143333</td>
<td>1.66</td>
<td>−</td>
<td>0.0043</td>
</tr>
<tr>
<td>3</td>
<td>Voltas</td>
<td>0.736667</td>
<td>0.953333</td>
<td>+</td>
<td>0.246576</td>
</tr>
<tr>
<td>4</td>
<td>TATA Power</td>
<td>1.42</td>
<td>1.116667</td>
<td>−</td>
<td>0.192664</td>
</tr>
<tr>
<td>5</td>
<td>IOC</td>
<td>0.51</td>
<td>0.476667</td>
<td>−</td>
<td>0.477292</td>
</tr>
</tbody>
</table>

**Major Findings:**

The table no. 5 presents comparison of mean quick ratio of sample merging firms. The mean quick ratio is based on 3 years pre merger and 3 year post merger- 

- Among the sample cases mean quick ratio showed an increase post merger in two cases while in other three cases it decreased after merger.
- However based on the paired t test the difference in mean quick ratio pre and post merger was not statistically significant in 4 out of 5 merger cases studied. Hence the merger did not have significant impact on quick ratio of sample firms.
- For Mahindra & Mahindra there is a significant difference, at 95% confidence level, in mean Quick Ratio pre and post merger. Here the quick ratio has decrease from 2.14 to 1.66 after merger, which means merger had a detrimental impact on liquidity of this firm.

**Impact of M&A on Profitability of Acquirer firm**

To what extent the M&A process of the acquirer has effected the profitability, has been analyzed by comparing the mean profitability between pre and post merger periods the use of t-test. The profitability measures considered for the analysis are: gross profit margin and net profit margin.
Gross Profit Margin
The ratio measures the efficiency of the company’s operations. A stable gross profit margin is the norm and any variations from it call for careful investigation. The Formula of gross profit margin is as below-

\[
gross\ profit\ margin = \frac{Gross\ profit \times 100}{Net\ Sales}
\]

Table: 6 Impact of M&A on GROSS PROFIT MARGIN of Acquirer Firms

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Acquirer Firms</th>
<th>Pre merger Mean</th>
<th>Post merger Mean</th>
<th>Impact</th>
<th>t-statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reliance Industries</td>
<td>13.53333</td>
<td>10.26</td>
<td></td>
<td>0.09377</td>
</tr>
<tr>
<td>2</td>
<td>Mahindra &amp; Mahindra</td>
<td>0.94667</td>
<td>8.693333</td>
<td></td>
<td>0.227569</td>
</tr>
<tr>
<td>3</td>
<td>Voltas</td>
<td>5.62667</td>
<td>7.86667</td>
<td>+</td>
<td>0.363775</td>
</tr>
<tr>
<td>4</td>
<td>TATA Power</td>
<td>0.676667</td>
<td>-5.68333</td>
<td></td>
<td>0.717124</td>
</tr>
<tr>
<td>5</td>
<td>IOC</td>
<td>5.143333</td>
<td>3.43</td>
<td></td>
<td>0.143119</td>
</tr>
</tbody>
</table>

Major Findings:
The table no. 6 presents comparison of mean Gross Profit Margin ratio of sample merging firms. The Gross Profit Margin ratio is based on 3 years pre merger and 3 year post merger-

- Among the sample cases mean Gross Profit Margin ratio showed an increase post merger in only one case while in other four cases it decreased after merger.
- However based on the paired t test the difference in mean Gross Profit Margin ratio pre and post merger was not statistically significant in all 5 merger cases studied. Hence the merger did not have significant impact on Gross Profit Margin ratio of sample firms.

Net Profit Margin
This ratio is designed to focus attention on the net profit margin arising from business operations before interest and tax is deducted. Net Profit Margin measures the efficiency of operation of the company. The ratio is calculated as-
Net Profit Margin = (Net Profit before Interest and Tax * 100)/ Net Sales

Table 7: Impact of M&A on NET PROFIT MARGIN of Acquirer Firm

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Acquirer Firms</th>
<th>Pre merger Mean</th>
<th>Post merger Mean</th>
<th>Impact</th>
<th>t-statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reliance Industries</td>
<td>11.02333</td>
<td>9.636667</td>
<td>_</td>
<td>0.35479</td>
</tr>
<tr>
<td>2</td>
<td>Mahindra &amp; Mahindra</td>
<td>8.53667</td>
<td>7.093333</td>
<td>_</td>
<td>0.174312</td>
</tr>
<tr>
<td>3</td>
<td>Voltas</td>
<td>5.98</td>
<td>5.883333</td>
<td>_</td>
<td>0.968755</td>
</tr>
<tr>
<td>4</td>
<td>Tata Power</td>
<td>12.69667</td>
<td>9.256667</td>
<td>_</td>
<td>0.008488</td>
</tr>
<tr>
<td>5</td>
<td>IOC</td>
<td>3.23</td>
<td>2.303333</td>
<td>_</td>
<td>0.458531</td>
</tr>
</tbody>
</table>

Major Findings:
The results of the net profit margin ratio of sample merging firms before and after merger have been presented in above table (Table 7)

- The mean net profit margin of the entire sample firm has shown a decrease after merger.
- Although each sample firm is showing a decrease in this ratio post merger, however the results of t test showed that the difference of mean net profit margin was not statistically significant in four out of five sample cases. Hence the merger does not have any statistically significant impact on Net Profit Margin of the selected firms.
- For the Tata Power, there is a significant difference at 95% confidence level, for the mean net profit margin pre and post merger. In this case the ratio has fallen from 12.69 to 9.25 post merger, which demonstrate the negative impact of the merger on profitability of this firm.

Return on Net Worth Ratio
Dividend payout indicates the extent of the net profits distributed to the shareholders as dividend. A high payout signifies a liberal distribution policy and low payout reflect conservative distribution policy. This ratio is calculated as:

\[
\text{Dividend Payout Ratio} = \frac{\text{Dividend per Share}}{\text{Earning per Share}}
\]
Major Findings

The results of the return on net worth ratio of sample merging firms before and after merger have been presented in following table (Table 8)

- The mean return on net worth ratio of four out of five firms has shown a decrease after merger.
- The results of t test showed that the difference of mean net profit margin was not statistically significant in four out of five sample cases. Hence the merger does not have any statistically significant impact on Return on net worth of the selected firms.
- For Mahindra & Mahindra, there is a significant difference at 95% confidence level, for the mean net profit margin pre and post merger. In this case the ratio has fallen from 31.4 to 22.9 post merger, which demonstrate the negative impact of the merger on profitability of this firm.

Table 8: Impact of M&A on RETURN ON NET WORTH RATIO of Acquirer Firms

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Acquirer Firms</th>
<th>Pre Merger Mean</th>
<th>Post Merger Mean</th>
<th>Impact</th>
<th>t-statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reliance Industries</td>
<td>19.67</td>
<td>14.95667</td>
<td>_</td>
<td>0.084554</td>
</tr>
<tr>
<td>2</td>
<td>Mahindra &amp; Mahindra</td>
<td>31.43667</td>
<td>22.90333</td>
<td>_</td>
<td>0.004975</td>
</tr>
<tr>
<td>3</td>
<td>Voltas</td>
<td>36.89333</td>
<td>24.09667</td>
<td>_</td>
<td>0.344767</td>
</tr>
<tr>
<td>4</td>
<td>Tata Power</td>
<td>12.19333</td>
<td>16.34667</td>
<td>+</td>
<td>0.123724</td>
</tr>
<tr>
<td>5</td>
<td>IOC</td>
<td>19.03333</td>
<td>13.46</td>
<td>_</td>
<td>0.354317</td>
</tr>
</tbody>
</table>

Impact of M&A on Operating Performance of Acquirer firm

To study the impact of M&A on the liquidity position of acquirer firms, Inventory Turnover Ratio and Total Asset Turnover Ratio are used. These ratios measure how effectively the firm employs its resources.

Inventory Turnover Ratio

This ratio is supposed to measure the efficiency with which inventories are managed by a company. A high ratio indicates a high degree of efficiency in inventory utilization which results in high sales and a low ratio reflects low sales. Where as an exceptionally high
inventory turnover ratio may indicate a company is running out of items frequently or making ineffective purchases and therefore losing sales to competitors. It is calculated from the following formula

\[
\text{Inventory Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}
\]

### Table 9: Impact of M&A on INVENTORY TURNOVER RATIO of Acquirer Firms

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Acquirer Firms</th>
<th>Pre Merger Mean</th>
<th>Post Merger Mean</th>
<th>Impact</th>
<th>t-statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reliance Industries</td>
<td>10.35</td>
<td>7.686667</td>
<td>-</td>
<td>0.049797</td>
</tr>
<tr>
<td>2</td>
<td>Mahindra &amp; Mahindra</td>
<td>8.756667</td>
<td>9.36</td>
<td>+</td>
<td>0.782738</td>
</tr>
<tr>
<td>3</td>
<td>Voltas</td>
<td>5.506667</td>
<td>5.586667</td>
<td>+</td>
<td>0.948903</td>
</tr>
<tr>
<td>4</td>
<td>Tata Power</td>
<td>452.6433</td>
<td>346.8633</td>
<td>-</td>
<td>0.738211</td>
</tr>
<tr>
<td>5</td>
<td>IOC</td>
<td>7.763333</td>
<td>9.97</td>
<td>+</td>
<td>0.45385</td>
</tr>
</tbody>
</table>

**Major Findings**

The Inventory turnover ratio of sample merged companies during pre and post merger period of financial sector is exhibited in Table 9

- Among the sample cases Inventory turnover Ratio showed an increase post merger in three cases while in other two cases it decreased after merger.
- However based on the paired t test the difference in mean quick ratio pre and post merger was not statistically significant in all the merger cases studied. Hence the merger did not have significant impact on Inventory turnover ratio of sample firms.

**Total Assets Turnover Ratio**

This ratio indicates the number of times total assets are being turned over in a year. The high total asset turnover ratio indicates overtrading of total assets, while a low ratio indicates idle capacity. This ratio is calculated as-

\[
\text{Total Assets Turnover Ratio} = \frac{\text{Net Sales}}{\text{Total Assets}}
\]
Major Findings

The table no. 10 presents comparison of mean Total Asset Turnover Ratio of sample merging firms. The mean total asset turnover Ratio is based on 3 years pre merger and 3 year post merger-

- Among the sample cases Total Asset Turnover Ratio showed an increase post merger in two cases while in other three cases it decreased after merger.
- However based on the paired t test the difference in mean current ratio pre and post merger was not statistically significant in 4 out of 5 merger cases studied. Hence the merger did not have significant impact on Total Asset Turnover ratio of sample firms.
- For Voltas there is a significant difference, at 95% confidence level, in mean Total Asset Turnover Ratio pre and post merger. Here the ratio has decreased from 5.15 to 3.79 after merger, which means merger had a negative impact on operating efficiency of this firm

Impact of M&A on Leverage of Acquirer firm

Leverage refers to the use of debt financing. Leverage ratios helps in assessing the risk arising from the use of debt capital. To measure mergers effect on financial risk of the selected acquirer firm, we have considered debt equity ratio
Debt to Equity Ratio

This ratio shows the part of long term debt in firm’s equity. In general, the lower the long term debt to equity ratio, the higher the degree of protection enjoyed by the creditors. This ratio is calculated as-

\[
\text{Debt to Equity Ratio} = \frac{\text{Long Term Debt}}{\text{Total Assets}}
\]

**Table 11: Impact of M&A on DEBT TO EQUITY RATIO of Acquirer Firms**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Acquirer Firms</th>
<th>Pre Merger Mean</th>
<th>Post Merger Mean</th>
<th>Impact</th>
<th>t-statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reliance Industries</td>
<td>0.61</td>
<td>0.57</td>
<td>-</td>
<td>0.482964</td>
</tr>
<tr>
<td>2</td>
<td>Mahindra &amp;Mahindra</td>
<td>1.603333</td>
<td>1.41</td>
<td>-</td>
<td>0.52747</td>
</tr>
<tr>
<td>3</td>
<td>Voltas</td>
<td>0.24</td>
<td>0.093333</td>
<td>+</td>
<td>0.25413</td>
</tr>
<tr>
<td>4</td>
<td>Tata Power</td>
<td>0.626667</td>
<td>1.736667</td>
<td>+</td>
<td><strong>0.007305</strong></td>
</tr>
<tr>
<td>5</td>
<td>IOC</td>
<td>0.783333</td>
<td>0.95</td>
<td>+</td>
<td>0.259076</td>
</tr>
</tbody>
</table>

**Major Findings**

The long term debt to equity ratio of acquirer companies during pre and post merger period of financial sector is exhibited in above Table 11

- From the above table it is clear that ratio of debt to equity has been increased in three out of five merging firm. But it shows a negative impact on these firms as increased portion of debt in equity is not a sound condition for any firm.
- It is shown in the table that Voltas enjoy the ratio of 0.09 in post merger stage which is good as lower the debt equity ratio, higher the degree of protection for the creditors.
- However based on the paired t test the difference in mean current ratio pre and post merger was not statistically significant in 4 out of 5 merger cases studied. Hence the merger did not have significant impact on Total Asset Turnover ratio of sample firms.
- For Voltas there is a significant difference, at 95% confidence level, in mean Total Asset Turnover Ratio pre and post merger. Here the ratio has decreased from 5.15 to 3.79 after merger, which means merger had a negative impact on operating efficiency of this firm.
Conclusion
This study was undertaken to test the impact of domestic mergers on the overall performance of the selected firms of Indian Manufacturing industry. The results from the analysis of pre-merger and post-merger, overall performance for the acquiring firms in the sample produced following findings- First, the liquidity position of firms has not improved in most of the cases after mergers. Second, the profitability of firms has shown downward movement after merger. In most of the cases the profitability ratio decreased post merger Third, efficiency ratios have shown mixed results post mergers. Fourth, according to leverage parameter, the debt equity ratio doesn’t show any positive results. Thus, Overall result of the study indicates that due to merger the change in most of the parameters is not statistically significant as per the t-test results; hence we have to accept the null hypothesis. Thus, according to the present study there is no significant difference in the overall performance of the acquirer firm after merger. However the results cannot be generalized as the study has been done on a limited number of firms and at a specific point of time.

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