# Impact of Corporate Acquisitions on Operating Performance of TATA Group

VISHAL SRIVASTAVA (Corresponding Author)
*PhD Scholar, Under the Faculty of Management*
*Symbiosis Centre for Research & Innovation (SCRI), Symbiosis International (Deemed University)*
*Gram: Lavale, Tal: Mulshi, Dist: Pune - 412115*

Dr. SUNDER RAM KORIVI
*Senior Consultant, Department of Economic Affairs*
*and*
*National Institute of Financial Management Research Programme, Faridabad – NCR Delhi*

## Abstract

**Abstract - TATA Group, an Indian conglomerate has adopted the strategy of corporate acquisition to achieve growth. This study is focused to evaluate the post-acquisition operating performance of the select TATA group companies (acquirers) which have made acquisitions from FY 2007-08 to FY 2009-10. Paired sample t-test has been used on two operating performance indicators i.e. Return on Equity and Operating Profit margin to check whether operating performance of acquirers has significantly improved post-acquisition. This study has revealed that there is no significant improvement of corporate acquisitions on select TATA group companies' operating performance based on financial parameter i.e. Return on Equity (ROE). Similar result has been also obtained for select TATA group companies' operating performance based on financial parameter i.e. Operating Profit Margin (OPM) except for Tata Consultancy Services Limited.**

**Key Words: Acquisition, Accounting, Operating performance**

**JEL Classification: G34**

## I. INTRODUCTION

Business can be grown by organic or inorganic way. TATA group, an Indian multinational conglomerate, has demonstrated an equal keenness to grow by inorganic way i.e. by doing mergers and acquisitions to attain growth targets. Acquisitions have gained much importance in the present corporate world.

Substantial amount of research has been done to evaluate the performance of acquiring companies and various researchers have used different methods to evaluate the performance of an acquisition. Bruner R. F. (2002) summarized the evidences from 14 informal studies and 100 scientific studies from 1971 to 2001. He found following four approaches used by researchers in order to evaluate the post-acquisition performance.

a) Accounting studies (Returns estimated from reported financial statements)
b) Event Studies (Market based returns to Shareholders)
c) Clinical Studies (Case Studies Method)
d) Survey of Executives (Questionnaire Method)

Many studies in this field have been done by using Mixed Method approach also in which the researcher has used two or more methods to evaluate the post-acquisition performance.

e) Mixed Method Approach

Accounting studies have been followed widely by the researchers which focus on the financial parameters (performance indicators) of the acquirer's pre and post- acquisition. Accounting studies use audited financial statements of companies, hence the credibility of these studies can be very well established and unlike Event studies, these are not very much carried away by external events.

The exponential growth which can be obtained by adopting the way of acquisitions cannot the denied however, it is equally important to evaluate the performance of acquiring companies in the later years. This study is focused to evaluate the post-acquisition operating performance of the select TATA group companies (acquirers) which have made acquisitions from FY 2007-08 to FY 2009-10. Considering the urge amongst Indian companies to go for acquisition, this study will be very significant for corporate India while deciding the acquisition as a strategy for growth.

This study has been organized as follows:
**Section I** of this study has given brief introduction of corporate acquisitions. **Section II** of the study will discuss the corporate acquisitions' studies based on accounting method in detail. In previous literature, the terms merger and acquisition have been interchangeably used by many authors, the same will be followed in this study also but the basic intent will remain as acquisition only. **Section III** will elaborate about the Research Design and Methodology which includes Objectives of the Study, Scope of Study, Research Questions, Hypotheses, Data Collection and Sample of the Study and finally the Research Methodology followed in this paper. **Section IV** will be data analysis and findings part of the paper. **Section V** will present the Conclusion of paper. **Section VI** will provide limitation of this study.

## II. LITERATURE REVIEW

This section covers the previous corporate acquisition studies based on accounting method and these studies have shown positive, negative or no impact as well as mixed impact of acquisitions on the operating performance of the acquiring companies:

Kaplan (1989) studied changes in operating results for a sample of 76 large management buyouts of public companies completed between 1980 and 1986. Post buyout financial data was available for 48 companies only. He found that in the three years after the buyout, these companies experience increase in operating income (before depreciation) and in net cash flow. Similar findings were established by Cornett and Tehranian (1992) who examined the post-acquisition performance of large bank mergers between 1982 and 1987. They compared the post- merger performance of 30 large banks acquisitions with the pre-merger performance of merging banks. They have used operating cash flows (defined as earnings before depreciation, goodwill, interest on long-term debt, and taxes) divided by the market value of assets (defined as the market value of common stock plus the book value of long-term debt and preferred stock less cash), in addition to accounting measures, to evaluate performance. To identify the sources of the post-merger improvements in cash flow performance, they evaluated merger-related changes in seven common bank performance indicators viz. Profitability (ROA and ROE), Capital Adequacy, Credit Quality, Efficiency, Liquidity Risk, Growth and Interest rate risk. They found that in comparison to the large banks in the industry, their sample of merged banks produced superior cash flow returns on assets during the post-merger period. Results obtained by Guest, Bild and Runsten (2010) who have studied 303 nos. acquisitions of UK public companies by UK public companies, completed between January 1985 and December 1996 also demonstrated positive impact of acquisitions. To measure accounting rate of return they have compared the post-takeover profitability of acquirers with the pre-takeover weighted average profitability of acquirers and targets, relative to non-merging control firms. As a specific measure of profitability, they have used return on equity. They found that takeovers resulted in significant improvement in return on equity (ROE).

However the findings of Ravenscraft and Scherer (1987) who have studied tender offer targets of the 1960s and early 1970s were in contrast to above mentioned. They found that target companies entered their acquirers' organizations with a profit record slightly inferior to that of their two-digit industry peers. They also found that nine years later on average, they performed appreciably less well. They opined that there is no evidence of enhancement in post takeover profitability i.e.operating income and cash flow. Similar negative impact of acquistions was also reported by Sharma and Ho (2002) who have studied a sample of 36 Australian acquisitions between 1986 to 1991 inclusive by using matched firms to control for industry and economy-wide factors. They found that on the basis of four accrual (return on total assets i.e ROA, return on ordinary shareholders' equity i.e. ROE, profit margin i.e. PM, earning per share i.e EPS) and four cash flow performance measures (cash flow return on assets, cash flow return from sales, cash flow return on average ordinary shareholders' equity, cash flow from operations minus preference dividends on number of ordinary shares) corporate acquisitions did not lead to significant post-acquisition improvements in corporate operating performance. Selcuk and Yilmaz (2011) have also studied the impact of Merger & Acquisition (M&A) deals on the performance of acquirer Turkish companies. They have included a total of 62 companies involved in M&A deals between 2003 and 2007. In their study they have used three profitability ratios to assess changes in corporate performance (ROA: Return on assets defined as Net Income/Total Assets, ROE: Return on equity defined as Net Income/Total Equity, ROS: Return on sales defined as Net Income/Net Sales). They found that post-acquisition ROA and ROS values are significantly lower than pre-acquisition values. However, they could not confirm the same when ROE measure of performance was used. Hence, they concluded that acquirer companies are negatively affected by M&A activities.

Gugler, Mueller, Yurtoglu and Zulehner (2001) have found mixed impact when they studied the effects of mergers around the world over a period of late 1970s to 1998. They had a merger sample of 14,269 merger years and acquiring firms were present over a period of 15 years in their data base. They defined a merger as a transaction where more than 50 percent of the equity of a target firm is acquired. They examined the effects of the mergers by comparing the performance of the merging firms with control groups of non-merging firms. Their comparisons were made on profitability and sales. They found that mergers on average do result in significant increases in profits, but reduce the sales of the merging firms. Similar mixed impact was also found by Cosh and Guest (2001) when they examined the long run pre- and post-takeover performance of hostile takeovers in the U.K. from 1985 to mid-1996. Their sample included 64 hostile takeovers and 139 friendly takeovers. They found that prior to takeover, targets in hostile takeovers experience a significant deterioration in profit returns. However, they found that in the post-takeover period hostile takeovers show significant improvements in profit returns, which are associated with significant asset disposals. In contrast, friendly takeovers do not improve profit returns. On the similar lines when Mantravadi and Reddy (2008) have studied the impact of acquisitions on the operating performance of acquiring corporates in different industries, by examining some pre and post-acquisition financial ratios in the post reform period, they also found the mixed impact of acquisitions. Their sample included 118 acquisitions involving public limited and traded companies in India between 1991 and 2003. They found that there are minor variations in terms of impact on operating performance following acquisitions, in different industries in India. Their findings of operating performance of the acquiring firms in different industries are as follows:

a) Agri – Products: mergers had caused a significant decline in terms of both profitability and returns on investment and capital deployed in the business.
b) Chemicals: mergers had caused significant decline both in profit margins and the returns on net worth and capital deployed in the business.
c) Textiles and textile products : mergers had caused a marginal but statistically insignificant decline in operating performance, in terms of profitability margins and returns on invested capital
d) Banking and Finance: mergers had caused an improvement in the profit margins and returns on net worth, though not substantiated statistically.
e) Pharmaceuticals: mergers had caused no change in profitability while there was a decline in return on net worth and capital deployed in the business.
f) Electrical equipment: mergers had caused marginal but statistically insignificant negative impact on the profitability margins and returns on capital deployed in the business.

Kumara and Satyanarayana (2013) have also reported mixed impact when they examined the comparative difference between pre and post-merger and acquisition in terms of financial analysis. They have taken the sample of ten major companies from a list of merger and acquisition in India in 2010. They have studied i) Liquidity or solvency Parameters (Current ratio, Liquidity ratio), ii) Leverage parameters (Debt equity ratio, total debt to Long term funds), iii) Profitability Parameters (Return on capital employed, return on net worth, return on assets). The results indicated a significant positive value creation to the acquired firms. They found that the liquidity ratios improved after merger and acquisition but it is not statistically insignificant. The profitability position of the companies has positively increased in terms of return on capital employed, return on long term funds, and return on assets and it declined in terms of return on net worth. The financial performance of the firms improved after merger in terms of current ratio, liquidity ratio, ROCE, ROA, return on long term funds but most of the ratios are statistically insignificant.

To sum up previous literature demonstrates all kinds of impact of corporate acquisitions and it is difficult to draw a conclusion based on previous literature.

## III. RESEARCH DESIGN AND METHODOLOGY

Research design and methodology followed in this paper is as follows:

*3.1 Objectives of the Study -*

Main objective of this study is to find out post-acquisition operating Performance of select TATA group companies which are listed in India and made acquisitions from FY 2007-08 to FY 2009-10. Operating performance of the companies has been studied based on two key parameters i.e. Return on Equity and Operating Profit Margin as follows:

i. To study the impact on Return on Equity of the acquiring companies post-acquisition.
ii. To study the impact on Operating Profit Margin of the acquiring companies post- acquisition.

*3.2 Scope of Study -*

This study covers select TATA group Companies (listed in India) which have made either domestic or cross-border acquisitions from FY 2007-08 to FY 2009-10. Target companies can be either Listed or Non-listed entities. Study keeps it focus only on completed acquisitions. Study includes only those acquisitions after which the financials of the target company starts getting reported under the acquiring company i.e. either the target company (or part of it) merged with acquirer or target company becomes a subsidiary company of acquirer.

*3.3 Research Questions -*

This study explores whether operating performance of select TATA group companies (listed in India) which made acquisitions from FY 2007-08 to FY 2009-10 has improved post-acquisition based on following parameters?

i. Return on Equity
ii. Operating Profit Margin

*3.4 Research Hypotheses -*

Following are the research hypotheses to test the objectives as mentioned above:

i. $H1_0$: There is a significant improvement in the Return on Equity of select TATA group companies (post-acquisition).
ii. $H2_0$: There is a significant improvement in the Operating Profit Margin of select TATA group companies (post-acquisition).

*3.5 Data Collection and Sample of the Study -*

For the proposed study, secondary data has been used and list of TATA group companies has been collected from the Bloomberg terminal and has been re-verified with Annual/Quarterly/Monthly issues of Deal Tracker magazine (published by Grant Thronton, India) which have made acquisitions from FY 2007-08 to FY 2009-10. The deals in which more than 50% stake have been acquired by acquirer, only considered for study. From the list so obtained, companies listed at National Stock Exchange (NSE) or Bombay Stock Exchange (BSE) have been sorted out (mentioned below in Table 1):

Table 1: List of acquirer and target companies

| S. No. | Acquirer Name | Target Name | Financial Year |
|---|---|---|---|
| 1 | Tata Consultancy Services Limited | TCS do Brasil | FY 2007-08 |
| 2 | Tata Global Beverages Limited | Vitax and Flosana trademarks | FY 2007-08 |
| 3 | Tata Motors Limited | Jaguar Land Rover | FY 2007-08 |
| 4 | Tata Power Company | Coastal Gujarat Power | FY 2007-08 |
| 5 | Tata Steel Limited | NatSteel Trade International | FY 2007-08 |
| 6 | Tata Steel Limited | Corus | FY 2007-08 |
| 7 | Tata Steel Limited | Incab Industries | FY 2007-08 |
| 8 | Tata Steel Limited | Rawmet Ferrous Industries | FY 2007-08 |
| 9 | Tata Steel Limited | SSE Steel Limited | FY 2007-08 |
| 10 | Tata Steel Limited | AL Rimal Mining LLC | FY 2007-08 |
| 11 | Tata Steel Limited | Vinausteel Limited | FY 2007-08 |
| 12 | Voltas Limited | Universal Comfort Products Limited (UCPL) | FY 2007-08 |
| 13 | Tata Chemicals Limited | General Chemical Industrial Products Inc. (GCIP) | FY 2008-09 |
| 14 | Tata Communications Limited | Neotel | FY 2008-09 |
| 15 | Tata Consultancy Services Limited | Citigroup Global Services Ltd | FY 2008-09 |
| 16 | Tata Global Beverages Limited | Grand | FY 2008-09 |
| 17 | Tata Motors Limited | Miljoe Grenland Innovasjon | FY 2008-09 |
| 18 | Tata Motors Limited | Comoplesa Lebrero SA | FY 2008-09 |
| 19 | Tata Motors Limited | Serviplem SA | FY 2008-09 |
| 20 | Tata Motors Limited | Comoplesa Lebrero SA. | FY 2008-09 |
| 21 | Tata Motors Limited | Milj Grenland Innovasjon | FY 2008-09 |
| 22 | Trent Limited | Landmark | FY 2008-09 |
| 23 | Voltas Limited | Rohini Industrial Electricals P Ltd | FY 2008-09 |
| 24 | Voltas Limited | Universal Comfort Products Ltd | FY 2008-09 |
| 25 | Voltas Limited | Saudi Ensas Company for Engineering Services WLL (Saudi Ensas) | FY 2008-09 |
| 26 | Tata Communications Limited | BT Group plc's Mosaic business | FY 2009-10 |
| 27 | Tata Motors Limited | Tata Hispano Motors Carrocera SA | FY 2009-10 |
| 28 | Tata Motors Limited | Hispano Carrocera S.A | FY 2009-10 |
| 29 | Tata Steel Limited | Tata Ryerson Ltd | FY 2009-10 |

*Source: Bloomberg Terminal and Grant Thronton, India*

Hence, the final list of TATA group companies obtained for this study is as follows (Table 2):

Table 2: Final List of TATA group companies obtained for this study

| S. No. | Acquirer Name | Acquisition Year | Pre-Acquisition Period | Post- Acquisition Period |
|---|---|---|---|---|
| 1 | Tata Chemicals Limited | FY 2008-09 | FY 2005-06 to FY 2007-08 | FY 2009-10 to FY 2011-12 |
| 2 | Tata Communications Limited | FY 2008-09, FY 2009-10 | FY 2005-06 to FY 2007-08 | FY 2010-11 to FY 2012-13 |
| 3 | Tata Consultancy Services Limited | FY 2007-08, FY 2008-09 | FY 2004-05 to FY 2006-07 | FY 2009-10 to FY 2011-12 |
| 4 | Tata Global Beverages Limited | FY 2007-08, FY 2008-09 | FY 2004-05 to FY 2006-07 | FY 2009-10 to FY 2011-12 |
| 5 | Tata Motors Limited | FY 2007-08, FY 2008-09, FY 2009-10 | FY 2004-05 to FY 2006-07 | FY 2010-11 to FY 2012-13 |
| 6 | Tata Power Company | FY 2007-08 | FY 2004-05 to FY 2006-07 | FY 2008-09 to FY 2010-11 |
| 7 | Tata Steel Limited | FY 2007-08, FY 2009-10 | FY 2004-05 to FY 2006-07 | FY 2010-11 to FY 2012-13 |
| 8 | Trent Limited | FY 2008-09 | FY 2005-06 to FY 2007-08 | FY 2009-10 to FY 2011-12 |
| 9 | Voltas Limited | FY 2007-08, FY 2008-09 | FY 2004-05 to FY 2006-07 | FY 2009-10 to FY 2011-12 |

*Source: Bloomberg Terminal and Grant Thronton, India*

Data from CMIE- Prowess database has been collected for all the above mentioned select TATA group companies in order to derive following operating performance indicators:

Table 3: Derivation of operating performance indicators

| . No. | Operating Performance Indicator | Formula | Input from CMIE - Prowess |
|---|---|---|---|
| 1 | Return on Equity (ROE) | $\frac{\text{Net Income or Profit after Tax (PAT)}}{\text{Shareholders' Equity}}$ | Directly Available |
| | | | Total Capital + Reserves and Funds |
| 2 | Operating Profit Margin (OPM) | $\frac{\text{Profit before interest and Taxes (PBIT)}}{\text{Net Sales}}$ | PAT+Provision for direct tax+Interest expense+Financial charges on Debt Instruments+Bill discounting charges |
| | | | Directly available |

*Source: CMIE Prowess*

The period in which acquisitions took place, has been considered as year ZERO. A period of three years (Pre and Post acquisition) has been chosen for study because it is sufficient time for the reflection of benefits, if any, in the operating performance of acquiring companies. Researchers like Pawaskar (2001), Mantravadi and Reddy (2008) have also used a span of three years in their studies.

*3.6 Research Methodology -*

Following research methodology has been adopted for this study:

i. After collection of all the inputs from CMIE - Prowess, operating Performance indicators have been calculated by using the above mentioned formulas for the entire duration as mentioned above.

ii. Since, study wants to compare the means of individual performance indicators of same acquiring companies during pre and post-acquisition period, paired sample two tailed t-test will be the most suitable for this purpose. Researchers like Pawaskar (2001), Mantravadi and Reddy (2008) have used paired sample two tailed t-test in their studies.

iii. Study shall test the hypotheses for one company with paired sample two tailed t-test (at 95% confidence interval) with SPSS to check whether there is a significant improvement on the performance indicators under study during post-acquisition period.

iv. In the similar manner, hypotheses shall be tested for other companies also.

## IV. DATA ANALYSIS, FINDINGS

*4.1 Analysis based on Return on Equity (Refer Table 4 & 5)-*

Hypotheses have been tested with paired sample two tailed t-test (at 95% confidence interval) with SPSS to check whether there is a significant improvement in return on equity for the TATA group companies under study:

Tata Chemicals Limited -

Paired sample t-test for Tata Chemicals Limited has shown that mean ROE for three years before acquisition is 21.46% and three years after acquisition is 14.68%. Hence there is a decrease in mean ROE after acquisition but it is not statistically significant (p-value is > 0.05 and t = 3.938).

Tata Communications Limited -

Paired sample t-test for Tata Communications Limited has shown that mean ROE for three years before acquisition is 0.26% and three years after acquisition is (33.01%). Hence there is a decrease in mean ROE after acquisition and it is statistically significant also (p-value is < 0.05 and t = 4.751).

Tata Consultancy Services Limited -

Paired sample t-test for Tata Consultancy Services Limited has shown that mean ROE for three years before acquisition is 50.41% and three years after acquisition is 36.47%. Hence there is a decrease in mean ROE after acquisition and it is statistically significant also (p-value is < 0.05 and t = 6.903).

Tata Global Beverages Limited -

Paired sample t-test for Tata Global Beverages Limited has shown that mean ROE for three years before acquisition is 16.01% and three years after acquisition is 7.22%. Hence there is a decrease in mean ROE after acquisition and it is statistically significant also (p-value is < 0.05 and t = 4.449).

Tata Motors Limited -

Paired sample t-test for Tata Motors Limited has shown that mean ROE for three years before acquisition is 28.36% and three years after acquisition is 38.20%. Hence there is an increase in mean ROE after acquisition but it is not statistically significant (p-value is > 0.05 and t = -1.687).

Tata Power Company -
Paired sample t-test for Tata Power Company has shown that mean ROE for three years before acquisition is 11.68% and three years after acquisition is 13.88%. Hence there is an increase in mean ROE after acquisition but it is not statistically significant (p-value is > 0.05 and t = -1.859).

Tata Steel Limited -
Paired sample t-test for Tata Steel Limited has shown that mean ROE for three years before acquisition is 37.06% and three years after acquisition is 5.24%. Hence there is a decrease in mean ROE after acquisition but it is not statistically significant (p-value is > 0.05 and t = 4.288).

Trent Limited -
Paired sample t-test for Trent Limited has shown that mean ROE for three years before acquisition is 8.01% and three years after acquisition is (1.16%). Hence there is a decrease in mean ROE after acquisition and it is statistically significant also (p-value is < 0.05 and t = 19.835).

Voltas Limited -
Paired sample t-test for Voltas Limited has shown that mean ROE for three years before acquisition is 32.82% and three years after acquisition is 23.76%. Hence there is a decrease in mean ROE after acquisition but it is not statistically significant (p-value is > 0.05 and t = 0.633).

Hence, based on the above analysis, hypothesis $H1_0$: “There is a significant improvement in the Return on Equity of select TATA group companies (post-acquisition)” is rejected.

*4.2 Analysis based on Operating Profit Margin (Refer Table 6 & 7) -*

Tata Chemicals Limited -
Paired sample t-test for Tata Chemicals Limited has shown that mean OPM for three years before acquisition is 17.64% and three years after acquisition is 13.56%. Hence there is a decrease in mean OPM after acquisition but it is not statistically significant (p-value is > 0.05 and t = 1.685).

Tata Communications Limited -
Paired sample t-test for Tata Communications Limited has shown that mean OPM for three years before acquisition is 5.28% and three years after acquisition is 0.60%. Hence there is a decrease in mean OPM after acquisition but it is not statistically significant (p-value is > 0.05 and t = 2.525).

Tata Consultancy Services Limited -
Paired sample t-test for Tata Consultancy Services Limited has shown that mean OPM for three years before acquisition is 26.17% and three years after acquisition is 28.69%. Hence there is an increase in mean OPM after acquisition and it is statistically significant also (p-value is < 0.05 and t = -11.536).

Tata Global Beverages Limited -
Paired sample t-test for Tata Global Beverages Limited has shown that mean OPM for three years before acquisition is 17.76% and three years after acquisition is 11.13%. Hence there is a decrease in mean OPM after acquisition but it is not statistically significant (p-value is > 0.05 and t = 2.2).

Tata Motors Limited -
Paired sample t-test for Tata Motors Limited has shown that mean OPM for three years before acquisition is 11.22% and three years after acquisition is 10.01%. Hence there is a decrease in mean OPM after acquisition but it is not statistically significant (p-value is > 0.05 and t = 2.13).

Tata Power Company -
Paired sample t-test for Tata Power Company has shown that mean OPM for three years before acquisition is 19.35% and three years after acquisition is 18.61%. Hence there is a decrease in mean OPM after acquisition but it is not statistically significant (p-value is > 0.05 and t = 0.493).

Tata Steel Limited -
Paired sample t-test for Tata Steel Limited has shown that mean OPM for three years before acquisition is 30.54% and three years after acquisition is 7.27%. Hence there is a decrease in mean OPM after acquisition and it is statistically significant also (p-value is $< 0.05$ and $t = 8.607$).

Trent Limited -
Paired sample t-test for Trent Limited has shown that mean OPM for three years before acquisition is 9.76% and three years after acquisition is 0.92%. Hence there is a decrease in mean OPM after acquisition and it is statistically significant also (p-value is $< 0.05$ and $t = 10.77$).

Voltas Limited -
Paired sample t-test for Voltas Limited has shown that mean OPM for three years before acquisition is 6.68% and three years after acquisition is 9.01%. Hence there is an increase in mean OPM after acquisition but it is not statistically significant (p-value is $> 0.05$ and $t = -0.602$).

Hence, based on the above analysis, hypothesis $H2_0$: “There is a significant improvement in the Operating Profit Margin of select TATA group companies (post-acquisition)” is rejected except for Tata Consultancy Services Limited.

## V. CONCLUSION

In this study, previous literature available on corporate acquisition have been reviewed keeping its focus mainly on accounting method. Previous literature has shown that acquisitions have positive, negative or no impact as well as a mixed impact (i.e. positive and negative both) on firms performance. However, this study has revealed that there is no significant improvement of corporate acquisitions on select TATA group companies’ operating performance based on financial parameter i.e. Return on Equity (ROE). Similar result has been also obtained for select TATA group companies’ operating performance based on financial parameter i.e. Operating Profit Margin (OPM) except for Tata Consultancy Services Limited.

## VI. LIMITATIONS OF STUDY

This study is limited to the pre and post-acquisition financial parameters of the select listed acquiring companies of TATA group since it is difficult to get the authentic data for the firm if it is a non-listed entity. This study excludes the effect of any change in law and regulation on the post- acquisition performance of acquiring companies. This study does not differentiate between cash and stock acquisitions.

Based on the above discussion, one thing can be said with lot of certainty that researchers will always remain keen on corporate acquisition studies and further scope for study will remain forever.

Table 4: Analysis based on Return on Equity

| S. No. | Acquirer Name | Mar-05 | Mar-06 | Mar-07 | Mar-08 | Mar-09 | Mar-10 | Mar-11 | Mar-12 | Mar-13 | Mean for Pre-Acquisition Period | Mean for Post-Acquisition Period |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Tata Chemicals Limited | | 0.1909 | 0.1975 | 0.2554 | ***0.1541*** | 0.1427 | 0.1444 | 0.1532 | | 0.2146 | 0.1468 |
| 2 | Tata Communications Limited | | 0.0129 | 0.0003 | -0.0054 | ***0.0376*** | ***-0.1187*** | -0.1939 | -0.3421 | -0.4543 | 0.0026 | -0.3301 |
| 3 | Tata Consultancy Services Limited | 0.5565 | 0.4863 | 0.4695 | ***0.4044*** | ***0.3324*** | 0.3767 | 0.3681 | 0.3492 | | 0.5041 | 0.3647 |
| 4 | Tata Global Beverages Limited | 0.1359 | 0.1797 | 0.1646 | ***0.4290*** | ***0.1780*** | 0.0823 | 0.0577 | 0.0767 | | 0.1601 | 0.0722 |
| 5 | Tata Motors Limited | 0.3035 | 0.2706 | 0.2766 | ***0.2438*** | ***-0.3886*** | ***0.2923*** | 0.4749 | 0.4113 | 0.2597 | 0.2836 | 0.3820 |
| 6 | Tata Power Company | 0.1173 | 0.1120 | 0.1210 | ***0.1286*** | 0.1255 | 0.1576 | 0.1333 | | | 0.1168 | 0.1388 |
| 7 | Tata Steel Limited | 0.4807 | 0.3576 | 0.2734 | ***0.3518*** | ***0.1694*** | ***-0.0894*** | 0.2427 | 0.1075 | -0.1930 | 0.3706 | 0.0524 |
| 8 | Trent Limited | | 0.1007 | 0.0853 | 0.0544 | ***0.0004*** | 0.0024 | 0.0025 | -0.0397 | | 0.0801 | -0.0116 |
| 9 | Voltas Limited | 0.2378 | 0.2713 | 0.4755 | ***0.3593*** | ***0.3159*** | 0.3499 | 0.2545 | 0.1084 | | 0.3282 | 76 |

*Source: CMIE Prowess & Authors' Calculations*

Note: Numbers in bold and italic displays acquisition period.

Table 5: Null Hypothesis Testing based on Return on Equity

| S. No. | Acquirer Name | ROE mean (3 Years before Acquisition) | ROE mean (3 years after Acquisition) | t (.05 significance) | p-value Sig. (2-tailed) | Change in ROE (Increase /Decrease) | Whether Significant (Yes/ No) | Null Hypothesis applicable | Null Hypothesis (Accept/ Reject) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Tata Chemicals Limited | 21.46% | 14.68% | 3.938 | > 0.05 | Decrease | No | $H1_0$ | Reject |
| 2 | Tata Communications Limited | 0.26% | -33.01% | 4.751 | < 0.05 | Decrease | Yes | $H1_0$ | Reject |
| 3 | Tata Consultancy Services Limited | 50.41% | 36.47% | 6.903 | < 0.05 | Decrease | Yes | $H1_0$ | Reject |
| 4 | Tata Global Beverages Limited | 16.01% | 7.22% | 4.449 | < 0.05 | Decrease | Yes | $H1_0$ | Reject |
| 5 | Tata Motors Limited | 28.36% | 38.20% | -1.687 | > 0.05 | Increase | No | $H1_0$ | Reject |
| 6 | Tata Power Company | 11.68% | 13.88% | -1.859 | > 0.05 | Increase | No | $H1_0$ | Reject |
| 7 | Tata Steel Limited | 37.06% | 5.24% | 4.288 | > 0.05 | Decrease | No | $H1_0$ | Reject |
| 8 | Trent Limited | 8.01% | -1.16% | 19.835 | < 0.05 | Decrease | Yes | $H1_0$ | Reject |
| 9 | Voltas Limited | 32.82% | 23.76% | 0.633 | > 0.05 | Decrease | No | $H1_0$ | Reject |

*Source: CMIE Prowess, SPSS & Authors' Calculations*

Table 6: Analysis based on Operating Profit Margin

| S. No. | Acquirer Name | Mar-05 | Mar-06 | Mar-07 | Mar-08 | Mar-09 | Mar-10 | Mar-11 | Mar-12 | Mar-13 | Mean for Pre-Acquisition Period | Mean for Post-Acquisition Period |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Tata Chemicals Limited | | 0.1624 | 0.1465 | 0.2202 | ***0.1044*** | 0.1403 | 0.1351 | 0.1314 | | 0.1764 | 0.1356 |
| 2 | Tata Communications Limited | | 0.0699 | 0.0493 | 0.0392 | ***0.0781*** | ***0.0154*** | -0.0115 | 0.0082 | 0.0212 | 0.0528 | 0.0060 |
| 3 | Tata Consultancy Services Limited | 0.2523 | 0.2683 | 0.2645 | ***0.2777*** | ***0.2265*** | 0.2786 | 0.2966 | 0.2855 | | 0.2617 | 0.2869 |
| 4 | Tata Global Beverages Limited | 0.1492 | 0.1714 | 0.2123 | ***0.5501*** | ***0.3032*** | 0.1373 | 0.1004 | 0.0964 | | 0.1776 | 0.1113 |
| 5 | Tata Motors Limited | 0.1081 | 0.1148 | 0.1136 | ***0.1167*** | ***0.0006*** | ***0.0623*** | 0.1066 | 0.1012 | 0.0927 | 0.1122 | 0.1001 |
| 6 | Tata Power Company | 0.2024 | 0.1731 | 0.2049 | ***0.1945*** | 0.1668 | 0.1892 | 0.2021 | | | 0.1935 | 0.1861 |
| 7 | Tata Steel Limited | 0.3553 | 0.2836 | 0.2774 | ***0.1597*** | ***0.0718*** | ***0.0347*** | 0.1292 | 0.0940 | -0.0052 | 0.3054 | 0.0727 |
| 8 | Trent Limited | | 0.1196 | 0.0964 | 0.0769 | ***0.0146*** | 0.0170 | 0.0222 | -0.0114 | | 0.0976 | 0.0092 |
| 9 | Voltas Limited | 0.0466 | 0.0522 | 0.1016 | ***0.0988*** | ***0.0892*** | 0.1173 | 0.1047 | 0.0483 | | 0.0668 | 0.0901 |

*Source: CMIE Prowess & Authors' Calculations*

Note: Numbers in bold and italic displays acquisition period.

Table 7: Null Hypothesis Testing based on Operating Profit Margin

| S. No. | Acquirer Name | OPM mean (3 Years before Acquisition) | OPM mean (3 years after Acquisition) | t (.05 significance) | p-value Sig. (2-tailed) | Change in OPM (Increase /Decrease) | Whether Significant (Yes/ No) | Null Hypothesis applicable | Null Hypothesis (Accept/ Reject) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Tata Chemicals Limited | 17.64% | 13.56% | 1.685 | > 0.05 | Decrease | No | $H2_0$ | Reject |
| 2 | Tata Communications Limited | 5.28% | 0.60% | 2.525 | > 0.05 | Decrease | No | $H2_0$ | Reject |
| 3 | Tata Consultancy Services Limited | 26.17% | 28.69% | -11.536 | < 0.05 | Increase | Yes | $H2_0$ | Accept |
| 4 | Tata Global Beverages Limited | 17.76% | 11.13% | 2.2 | > 0.05 | Decrease | No | $H2_0$ | Reject |
| 5 | Tata Motors Limited | 11.22% | 10.01% | 2.13 | > 0.05 | Decrease | No | $H2_0$ | Reject |
| 6 | Tata Power Company | 19.35% | 18.61% | 0.493 | > 0.05 | Decrease | No | $H2_0$ | Reject |
| 7 | Tata Steel Limited | 30.54% | 7.27% | 8.607 | < 0.05 | Decrease | Yes | $H2_0$ | Reject |
| 8 | Trent Limited | 9.76% | 0.92% | 10.77 | < 0.05 | Decrease | Yes | $H2_0$ | Reject |
| 9 | Voltas Limited | 6.68% | 9.01% | -0.602 | > 0.05 | Increase | No | $H2_0$ | Reject |

*Source: CMIE Prowess, SPSS & Authors' Calculations*

REFERENCES

[1] Bruner, R. F. (2002). Does M&A Pay? A Survey of Evidence for the Decision Maker. *Journal of Applied Finance*, 48-68

[2] Kaplan, S. (1989). The effect of Management Buyouts on operating performance and Value. *Journal of Financial Economics, 24*, 217-254.

[3] Cornett, M. M., & Tehranian, H. (1992). Changes in corporate performance associated with bank acquisitions. *Journal of Financial Economics, 31*, 211-234.

[4] Guest, P. M., Bild, M., & Runsten, M. (2010). The effect of takeovers on the fundamental value of acquirers. *Accounting and Business Research, 40*(4), 333-352.

[5] RAVENSCRAFT, D. J., & SCHERER, F. M. (1987). LIFE AFTER TAKEOVER. *THE JOURNAL OF INDUSTRIAL ECONOMICS, 46*(2), 147-156.

[6] Sharma, D. S., & Ho, J. (2002). The Impact of Acquisitions on Operating Performance : Some Australian Evidence. *Journal of Business Finance & Accounting, 29*(1&2), 155-200.

[7] Akben-Selcuk, E., & Altiok-Yilmaz, A. (2011). The Impact of Mergers and Acquisitions on Acquirer Performance: Evidence from Turkey. *Business and Economics Journal, BEJ-22*, 1-8.

[8] Gugler, K., Mueller, D. C., Yurtoglu, B. B., & Zulehner, C. (2001). The effects of mergers: an international comparison. *Working Paper*, i-31.

[9] Cosh, A., & Guest, P. (2001). THE LONG-RUN PERFORMANCE OF HOSTILE TAKEOVERS: U.K. EVIDENCE. *University of Cambridge Working Paper No. 215*, 1-56.

[10] Mantravadi, P., & Reddy, A. V. (2008). Post-Merger Performance of Acquiring Firms from Different Industries in India. *International Research Journal of Finance and Economics, 22*, 192-204.

[11] Kumara, N. M., & Satyanarayana. (2013). Comparative Study of Pre and Post Corporate Integration through Mergers and acquisition. *International Journal of Business and Management Invention, 2*, 31-38.

[12] Pawaskar, V. (2001). Effect of Mergers on Corporate Performance in India. *Vikalpa, 26*(1), 19-32.