

Chapter – 5

ANALYSIS OF THE EFFECT OF ACQUISITION ON FINANCIAL PERFORMANCE OF THE COMPANIES IN LONGRUN

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CHAPTER 5

ANALYSIS OF THE EFFECT OF ACQUISITION ON FINANCIAL PERFORMANCE OF THE COMPANIES IN LONG RUN

5.1 INTRODUCTION

Mergers and acquisitions (M&As) are important corporate strategic actions which are vital for the companies in order to survive in this competitive global world. There are many studies at the global level to analyse the effect of merger and acquisition on the overall performance of the companies in general and financial performance in specific. But the results are still dubious, there is no unanimous opinion on whether the mergers and acquisitions create the value for the firm or not. In spite of that the Mergers and Acquisition take place day in and day out across the globe. In the present research an attempt is made to analyse the effect of acquisition on the financial performance of the sample acquirer firms both in long run as well as short run. In this chapter, to study the effect of acquisition on the financial performance of selected sample acquirer companies in long run, the analysis is carried out in two parts. Section 1 deals with the descriptive statistics of the overall and sectoral analysis and section 2 deals with the empirical results of hypotheses testing of the overall and sectoral analysis. The summary and conclusion of descriptive statistics and hypotheses testing for overall as well as sectoral analysis is present at the end.

SECTION: 1

DESCRIPTIVE STATISTICAL INDICATORS

Before discussing descriptive statistics for overall and sectoral analysis, it is important to mention here the methodology used by the study in brief. For overall analysis, total sample of 66 acquirer domestic companies is taken for analysis, which comprises of 43 acquirer companies from the year 2007 and 23 acquirer companies from the year

2008. For sectoral analysis, these 66 acquirer companies are divided into 9 sectors. Five years pre acquisition and five year post acquisition performance is analysed through financial tools for overall as well as sectoral analysis.

FINANCIAL TOOLS USED IN THE STUDY

To analyse the pre and post acquisition financial performance, ratio analysis is used as a tool. Table 5.1 summarises the ratios used for the study.

Table 5.1 List of Ratios used in the Present Study

Sr. No	Category of Ratios		Title of the Ratio
1.	Liquidity Ratios	1.	Current Ratio (CR)
		2.	Quick Ratio (QR)
		3.	NWC to Sales Ratio (NWC/SR)
2.	Leverage Ratios	4.	Debt-Equity Ratio (D-ER)
		5.	Interest Coverage Ratio (ICR)
3.	Activity Ratio	6.	Inventory Turnover Ratio (ITR)
		7.	Fixed Asset Turnover Ratio (FATR)
4.	Profitability Ratios	8.	Gross Profit Margin Ratio (GPM)
		9.	Operating Profit Margin Ratio (OPM)
		10.	Net Profit Margin Ratio (NPM)
		11.	PBDIT To TA Ratio (PBDIT/TA)
		12.	Return on Capital Employed Ratio (ROCE)
		13.	Return on Investment Ratio (ROI)
		14.	Return on Net worth Ratio (RONW)
5.	Valuation Ratios	15.	Earning Per Share (EPS)
		16.	Price Earning Ratio (P/E)

5.2 DESCRIPTIVE STATISTICAL INDICATORS: OVERALL ANALYSIS

This section summarises the descriptive statistics for all 16 selected ratios across 66 sample acquirer companies. The aggregate mean and range for all 16 ratios are calculated (Table 5.2). A mean is a single value selected from a group of values to represent them in some way, a value which is supposed to stand for whole group of

which it is a part, as typical of all the values in the group.¹ The range is the simplest of all the measures of dispersion. Range is the difference between the greatest (maximum) and the smallest (minimum) observation of the distribution.²

Table 5.2 Pre and Post Acquisition Mean and Range Values for Entire Sample

Sr No	Ratios	Mean		Range	
		Pre Acquisition	Post Acquisition	Pre Acquisition	Post Acquisition
1	CR (Times)	1.57	1.26	12.38	4.03
2	QR (Times)	1.00	0.93	4.03	3.06
3	NWC/SR (Times)	1.01	0.67	23.32	17.38
4	D-ER (Times)	1.58	1.19	21.33	10.42
5	ICR (Times)	11.31	15.09	70.32	73.85
6	ITR (Times)	19.26	20.03	83.08	93.72
7	FATR (Times)	5.34	5.57	37.02	38.31
8	GPM (%)	19.87	24.34	106.42	93.20
9	OPM (%)	15.60	19.88	140.35	148.91
10	NPM (%)	6.04	7.31	154.26	97.90
11	PBDIT/TA (%)	15.47	12.98	28.70	27.20
12	ROCE (%)	10.51	8.18	27.05	26.16
13	ROI (%)	7.55	6.01	20.26	19.34
14	RONW (%)	15.69	11.77	83.49	96.81
15	EPS (Rs.)	13.44	12.02	59.45	97.65
16	P/E (Times)	15.21	16.32	60.73	62.78

Table 5.3 presents standard deviation and coefficient of variation. According to Gupta S.P. (2005)², “the standard deviation (SD) measures the absolute dispersion, the greater the standard deviation, the greater will be the magnitude of the deviations of the values from their mean”. Coefficient of variation (COV) is a relative measure of variation and is expressed as percentage. It measures the scatter in the data relative to mean. It is calculated as:

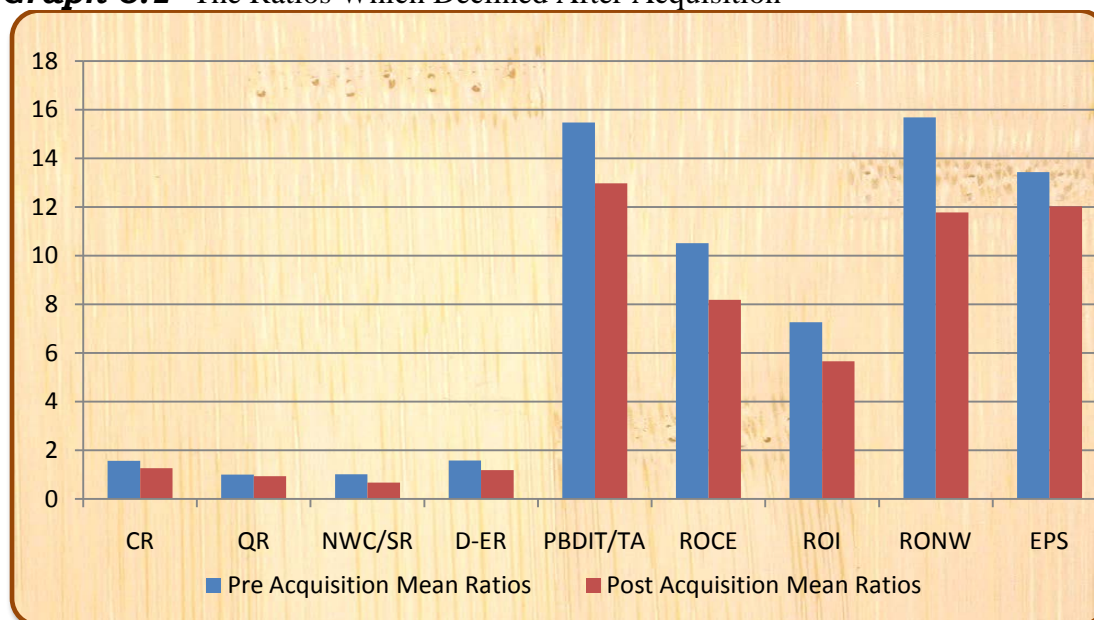
$$COV = \frac{SD}{\bar{X}} \times 100$$

Where SD is Standard Deviation and \bar{X} is arithmetic mean of the sample.

Table 5.3 Pre and Post Acquisition Standard Deviation and Coefficient of Variation for Entire Sample

Sr No	Ratios	Standard Deviation		Coefficient of Variation (%)	
		Pre Acquisition	Post Acquisition	Pre Acquisition	Post Acquisition
1	CR	1.58	0.73	101.12	57.71
2	QR	0.89	0.78	89.01	84.54
3	NWC/SR	1.15	0.87	113.57	129.79
4	D-ER	3.22	1.60	202.83	133.63
5	ICR	11.01	14.83	97.34	98.27
6	ITR	16.74	18.74	86.91	93.55
7	FATR	6.12	7.34	114.56	131.77
8	GPM	15.17	18.60	76.35	76.41
9	OPM	20.23	26.10	129.67	131.32
10	NPM	5.59	6.09	92.61	83.26
11	PBDIT/TA	6.57	6.01	42.45	46.32
12	ROCE	6.22	5.64	59.12	68.85
13	ROI	4.41	4.24	58.35	70.58
14	RONW	15.63	13.73	99.62	116.65
15	EPS	13.12	17.95	97.62	149.33
16	P/E	11.39	13.42	74.89	82.23

It can be observed from the table 5.2 that the aggregate mean values are decreased in post acquisition period as compared to pre acquisition period, for 9 ratios, *i.e.* CR, QR, NWC/SR, D-ER, PBDIT/TA, ROCE, ROI, RONW and EPS. It is interesting to note here that reduction in aggregate mean values is observed in all three liquidity ratios, one leverage ratio and four rate of return ratios from profitability category and one ratio in valuation category. Graph 5.1 presents the ratios which declined after acquisition.

Graph 5.1 The Ratios Which Declined After Acquisition

★ Current Ratio

The current ratio^{3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20} is a measure of the firm's short term solvency. It shows the ability of the firm to meet its current liabilities. Current assets get converted into cash during the operating cycle of the firm and provide the funds needed to pay current liabilities. The aggregate mean value of CR decreases in post acquisition period (1.26) as compared to pre acquisition period (1.57). Post acquisition CR decreased indicating scarcity of resources to pay its debts over the short-term period and difficulty meeting current obligations. The highest mean value of CR in pre acquisition period is 12.50 and the lowest value is 0.122 so the range is 12.38. This indicates variation in data, which is also reflected in standard deviation (1.58) and coefficient of variation (101.12%), this is due to high value of CR of few sample acquirer firms.

★ Quick Ratio

The Quick ratio^{1,4,7,8,9,11,13,14,15,16,18,19,20,21} is a fairly stringent measure of liquidity. It is based on those current assets which are highly liquid. An asset is liquid if it can be converted into cash immediately or reasonably soon without a loss of value. Inventories are excluded from the numerator of this ratio because inventories are deemed to be the least liquid component of current asset. It is observed from the table 5.2 that the aggregate mean value of QR has decreased from (1.00) to (0.93). A falling QR indicates worsening liquidity positions and failure to meet immediate current

liabilities after acquisition. There is low variation in the mean values of QR, which can be noticed in the pre (4.03) and post (3.06) acquisition range of mean values, pre (0.89) and post (0.78) acquisition standard deviation and pre (89.01%) and post (84.54%) acquisition coefficient of variation.

★ Net Working Capital to Sales Ratio

Net working capital to sales ratio^{4, 11,13,14,22} is another measure of Liquidity. Working capital is a measure of operating liquidity and refers both to cash on hand and assets a business can quickly convert to cash. The liquidity relies in great part on cash flows from sales revenues, it determines whether a business can function in the short term without relying too much on external financing and is one indication of financial health and fitness. In simple words, working capital as a percentage of sales tells a business how much of every sales rupee must go toward meeting operational expenses and short-term debt obligations. The comparison of pre (1.01) and post (0.67) acquisition mean in table 5.2 shows that the NWC/SR has deteriorated after acquisition. Decrease in NWC/SR ratio indicates that management of current asset and current liability is affected negatively by acquisition. The pre (23.32) and post (17.38) acquisition range is high because of negative values of the ratio for some of the sample acquirer companies. For example, highest value in post acquisition period is 10.60 and lowest value is -6.780 so the range is 17.38. Pre and post acquisition coefficient of variation (113.57% and 129.79%) indicates increased variation in mean values of acquirer firms after acquisition.

★ Debt Equity Ratio

The relationship describing the lender's contribution for each rupee of owner's contribution is called debt equity ratio.^{3,6,7,8,10,11,12,13,14,15,18,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34} It is a measure of the relationship between the capital contributed by creditors and the capital contributed by shareholders. It also shows the extent to which shareholders' equity can fulfill a company's obligations to creditors in the event of liquidation. It is observed that the pre acquisition mean (1.58) is higher than post acquisition mean (1.19). This shows that D-ER has reduced after acquisition. Each industry has different D-ER benchmarks, as some industries tend to use more debt financing than others. A lower D-ER usually implies a more financially stable business. Companies with a higher D-

ER are considered more risky to creditors and investors than companies with a lower ratio. The reduction in D-ER after acquisition indicates that a company is not taking advantage of the increased profits that financial leverage may bring. High variation in pre and post acquisition mean values is observed in this ratio. Pre acquisition range of mean values is 21.33, where the highest value of the ratio is 21.36 and the lowest value is 0.022 and post acquisition range is 10.42, where the highest value of the ratio is 10.43 and the lowest value is 0.010. The variation in mean values has reduced in post acquisition period, which is reflected by pre and post acquisition standard deviation (3.22 and 1.60) and coefficient of variation (202.83% and 133.63%).

★ PBDIT to Total Assets Ratio

This ratio is comparison of profit with total assets. It shows how much profit the firm is earning by using its all the assets. It considers Profit before Depreciation Interest and Tax as numerator and total assets as denominator.^{11,21,27,35,36} Table 5.2 shows that pre acquisition mean (15.47) is higher than post acquisition mean (12.98), which indicates that PBDIT/TA has decreased after acquisition. The data of mean value have less variation, which is indicated by the range of the ratio. The pre acquisition range of mean values is 28.70 where highest value is 29.30 and lowest value is 0.600 and post acquisition range is 27.20. The coefficient of variation (42.45% and 46.32%) of pre and post acquisition period indicates increase in variation in mean values of acquirer firms in post acquisition period.

★ Return on Capital Employed Ratio

Return on Capital Employed^{7,10,11,12,13,15,17,18,19,22,23,24,26,31,32,37,38,39,48} is also called as Earning Power, is a measure of business performance which is not affected by interest charges and tax burden. It abstracts away the effect of capital structure and tax factors and focuses on operating performance. Hence it is eminently suited for inter firm comparison. Further, it is internally consistent. The numerator represents a measure of pre tax earnings belonging to all sources of finance and the denominator represents total financing. The comparison of pre acquisition mean (10.51) and post acquisition mean (8.18) given in table 5.2 shows that the ROCE has declined after acquisition. Investors are interested in the ratio to see how efficiently a company uses its capital employed as well as its long-term financing strategies. The decrease in ratio suggests that profitability has declined after acquisition. The comparison of pre and post

acquisition coefficient of variation (59.12% and 68.85%) shows increase in variation in mean values after acquisition.

★ Return on Investment Ratio

This ratio is post tax version of Earning Power *i.e.* Return on Capital Employed. It is defined in such a way that it can be compared directly with the post-tax weighted average cost of capital of the firm.^{6,7,16,18,20,25,29,34} It can be observed from comparison given in table 5.2 that pre acquisition mean (7.55) is higher than post acquisition mean (6.01). This indicates decrease in returns earned on total investments of the sample acquirer firms after acquisition. The pre acquisition range of the ratio is 20.26 and post acquisition range is 19.34. The comparison of pre and post coefficient of variation (58.35% and 70.58%) indicates increase in variation in mean values of the acquirer firms after acquisition.

★ Return on Net worth Ratio

Return on Net worth^{3,4,7,8,10,11,12,13,15,16,18,20,22,23,24,25,30,31,32,34,37,38,40,41,42,43} which is also known as Return on Equity^{5,26,28,44} is of great interest to shareholders. It measures the profitability of equity funds invested in the firm. The RONW indicates how well the firm has used the resources of owners. This ratio is one of the most important relationships in financial analysis. The earning of a satisfactory return is the most desirable objective of a business. The ratio of net profit to owners' equity reflects the extent to which this objective has been accomplished. By comparing pre acquisition (15.69) and post acquisition (11.77) mean from table 5.2, it can be observed that the RONW has reduced after acquisition. It could be due to decrease in profit or increase in equity base after acquisition. All three profit margin ratios have improved after acquisition, however, the improvement in the profit margin is less than proportionate. Thus, the reason for decline in this ratio could be increase in net worth of the acquirer companies after acquisition. The post acquisition coefficient of variation (116.65%) show high variation in mean values, as compared to that of variation in pre acquisition mean values.

★ Earning per Share

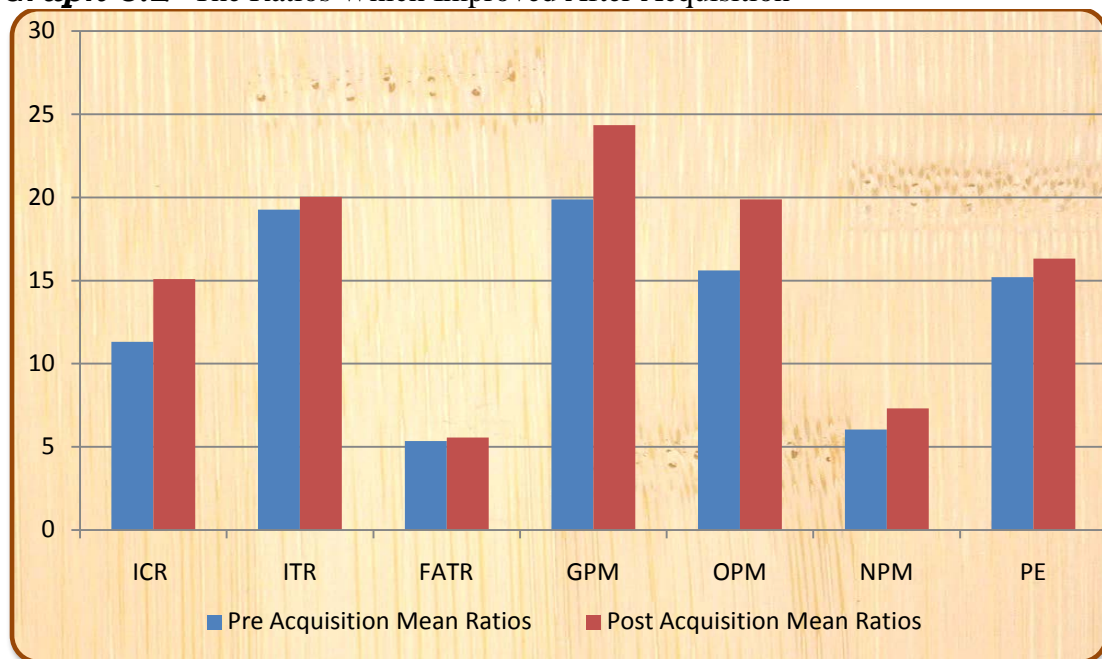
The Earning per Share (EPS)^{4,7,8,12,15,18,24,29,,32,37,43,} is calculated by dividing the PAT by the total number of outstanding ordinary shares. EPS calculations made over the years indicate whether or not the firm's earnings power on per share basis has

changed over that period. The comparisons of pre acquisition mean (13.44) and post acquisition mean (12.02) shows that the EPS has reduced after acquisition. In the present study, the comparison of RONW and all profit margin ratios reveal the reason for decline in the ratio is more attributable to increase in number of equity shares of the acquirer companies after acquisition. The post acquisition range (97.65) shows high variation in mean values of the ratio, because the highest value here is 71.64 and the lowest value is -26.01. This is also indicated by increased post acquisition standard deviation (17.95) and coefficient of variation (149.33%).

The improvement in aggregate mean values is observed in case of rest seven ratios *i.e.* ICR, ITR, FATR, GPM, OPM, NPM and P/E. It is observed that one leverage ratio, both the turnover ratios, all three profit margin ratios and P/E show improvement in aggregate mean values after acquisition.

This is graphically presented in Graph 5.2

Graph 5.2 The Ratios Which Improved After Acquisition



★ Interest Coverage Ratio

The Interest Coverage ratio^{7,8,10,11,12,16,17,18,20} is used to test the firm's debt serving capacity. The Profit before Interest and Tax is used in the numerator of this ratio because the ability of the firm to pay interest is not affected by tax payment, as interest on debt funds is a tax deductible expense. Because a company's failure to meet interest payments usually results in default, the ICR is of particular interest to lenders and bondholders and acts as a margin of safety. However, because the ICR is based on current earnings and current expenses, it primarily focuses a company's short-term ability to meet interest obligations. Table 5.2 shows that the ICR has increased from (11.31) in pre acquisition period to (15.09) in post acquisition period. The D-ER has declined after acquisition, indicating reduction in debt capital and profit margin ratios have improved after acquisition indicating improvement in profit margin of acquirer companies after acquisition. As the combined effect of these two measures, there is an improvement in ICR. The pre acquisition range of mean values is 70.32 and post acquisition range is 73.85. The comparison of pre and post acquisition standard deviation (11.01 and 14.83) and coefficient of variation (97.34% and 98.27%) indicates increased variation in mean values of ICR after acquisition.

★ Inventory Turnover Ratio

The Inventory Turnover^{3,10,14,15,38} reflects the efficiency of inventory management and shows how rapidly the inventory is turning into receivables through sales. From the comparison of pre acquisition mean (19.26) and post acquisition mean (20.03) given in table 5.2, it can be observed that the IRT has improved after acquisition. The higher the ratio, the more efficient is the management of inventories and *vice versa*. However, this may not be always true. A high ITR may be caused by a low level of inventory which may result in frequent stock outs and loss of sales and customer goodwill, but in present study, comparison of CR and QR reveals that the inventory levels not very high, because values of both the ratio goes parallel. The pre acquisition range of ITR is 83.08 and post acquisition range is 93.72. It can be observed from pre (16.74) and post (18.74) standard deviation and pre (86.91%) and post (93.55%) coefficient of variation that the variation in mean values of acquirer firms for this ratio has increased after acquisition.

★ Fixed Assets Turnover Ratio

Assets are used to generate sales. Therefore, a firm should manage its assets efficiently to maximize sales. The FATR indicates the efficiency with which the firm uses its fixed assets to generate sales.^{4,10,14,15,38} It can be observed from table 5.2, that post acquisition mean (5.57) has improved as compared to pre acquisition mean (5.34). An improvement in ratio indicates increase in degree of efficiency in asset utilization. High variation in mean values of acquirer companies is observed through pre and post acquisition range. The pre acquisition range is 37.02, where highest value is 38.82 and lowest value is 0.322 and post acquisition range is 38.31, where highest value is 41.30 and lowest value is 0.368. This is also reflected by pre (6.12) and post (7.34) standard deviation and pre (114.56%) and post (131.77%) acquisition coefficient of variation.

★ Gross Profit Margin Ratio

The gross profit margin^{4,7, 9,10,12,14,15,19,22,24,25,26,31,32,38,45,47} reflects the efficiency with which management produces each unit of product. This ratio indicates the average spread between the cost of goods sold and the sales revenue. It can be observed from table 5.2 that post acquisition mean (24.34) is higher than pre acquisition mean (19.87). The higher GPM may result from possible effect of acquisition on the company like efficient management, low cost of production or increase in sales price. The pre and post acquisition range of this ratio is 106.4 and 93.20. The variation in mean values of acquirer firms has increased in post acquisition period, which can be observed from pre and post standard deviation (15.17 and 18.60) and coefficient of variation (76.35% and 76.41%).

★ Operating Profit Margin Ratio

Operating profit margin^{10,13,15,16,19,22,23,24,25,26,29,31,32,37,39,47,48} establishes the relationship between operating profit and Sales. If the firm's profit has to be examined from the view point of all investors *i.e.* lenders and borrowers, the appropriate measure of profit is operating profit. Operating profit is equivalent to EBIT. This measure of profit shows earning directly arise from the commercial operations of the business, without the effect of financing. The Comparison of pre acquisition mean (15.60) and post acquisition mean (19.88) from table 5.2, shows that OPM has improved after acquisition. Improvement in OPM could be resulted from increase in

operating efficiencies after acquisition. The pre acquisition range is 140.35, where highest value is 98.8 and the lowest value is -41.5 and post acquisition range is 148.9, where highest value is 98.9 and lowest value is -50. This indicates high variation this ratio after acquisition, which is also reflected in the pre (20.23) and post (26.10) standard deviation and pre (129.67%) and post (131.28%) coefficient of variation.

★ Net Profit Margin Ratio

Net profit margin ratio^{4,7,8,10,14,15,16,17,18,19,22,23,24,25,26,27,29,31,32,39,45,48} establishes the relationship between net profit and sales and indicates management's efficiency in manufacturing, administrating and selling the products. This ratio is the overall measure of the firm's ability to turn each rupee sales into net profit. This ratio also indicates the firm's capacity to withstand adverse economic conditions. Table 5.2 shows improvement in mean from (6.04) to (7.31) after acquisition. Improvement in NPM is an indicator improvement in efficiency of acquirer firms and control over the costs after acquisition. The less variation in post acquisition mean values of acquirer firms is observed from comparison of pre and post range (154.26 to 97.90) and coefficient of variation (92.61% to 83.26%).

★ Price Earning Ratio

The price earning ratio^{4,7,12,18,24,27,32,39,43,46} also known as price earning multiple, is a measure which primarily reflects the following factors: profitability, growth prospects, risk characteristics, shareholder orientation, corporate image and degree of liquidity. It is widely used by the security analysts to value the firm's performance as expected by investors. It indicates investor's judgment or expectations about the firm's performance. Management is also interested in this market appraisal of the firm's performance and will like to find the causes if P/E ratio declines. The comparison of pre acquisition mean (15.21) and post acquisition mean (16.32) given in table 5.2 reflects that price earning ratio has improved after acquisition. The high P/E after acquisition indicates positive future prospects and shows that the investors are willing to pay more for this company's shares. The increase in range, standard deviation and coefficient of variation post acquisition indicates increased variations in post acquisition period.

5.3 DESCRIPTIVE STATISTICAL INDICATORS: SECTORAL ANALYSIS

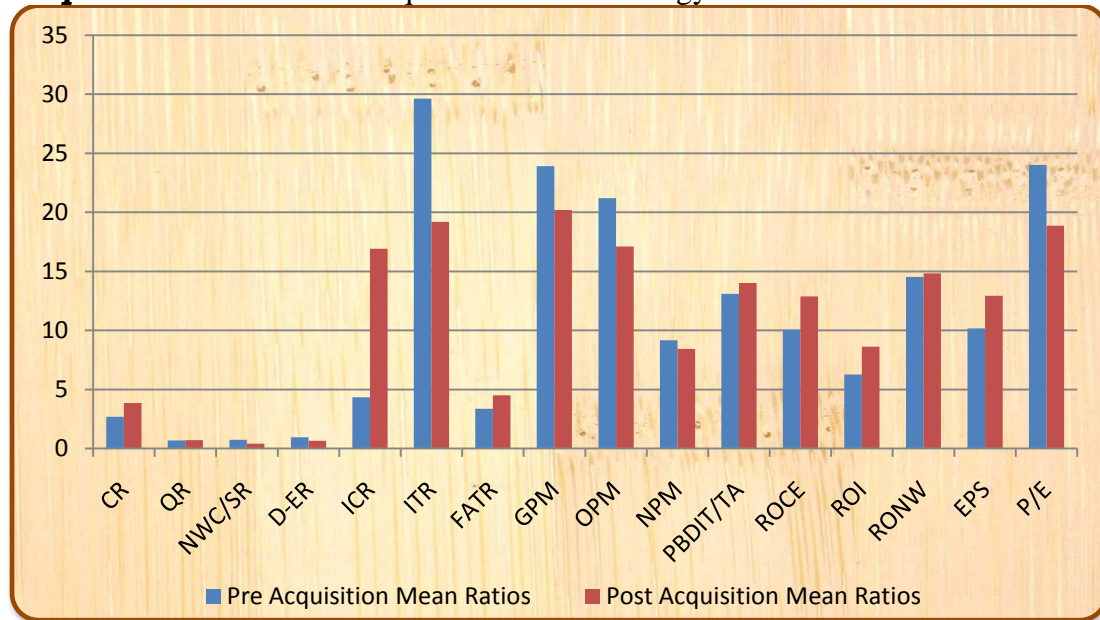
As discussed in research methodology, in the present study, an attempt is also made to examine the sectoral trends if any. The classification of companies in sectors is presented in Chapter 4. This paragraph discusses the behaviour of selected 16 ratios over 9 sectors for pre and post acquisition period through four descriptive statistical indicators *i.e.* mean, range, standard deviation and coefficient of variation.

A. Energy Sector

Table 5.4 presents the mean and range values for all 16 selected ratios for pre and post acquisition period and Table 5.5 presents the standard deviation and coefficient of variation for pre and post acquisition period for all 16 selected ratios of energy sector. Graph 5.3 presents the mean values of each ratio, for pre and post acquisition period, indicating rise or fall in the respective ratio in the post acquisition period.

Table 5.4 Pre and Post Acquisition Mean and Range Values: Energy Sector

Sr No	Ratios	Mean		Range	
		Pre Acquisition	Post Acquisition	Pre Acquisition	Post Acquisition
1	CR (Times)	2.69	3.85	1.03	3.60
2	QR (Times)	0.67	0.70	1.14	1.11
3	NWC/SR (Times)	0.72	0.41	2.02	0.94
4	D-ER (Times)	0.95	0.66	2.47	1.18
5	ICR (Times)	4.34	16.93	4.57	6.80
6	ITR (Times)	29.63	19.20	75.88	28.90
7	FATR (Times)	3.36	4.49	5.62	7.85
8	GPM (%)	23.90	20.20	49.12	18.34
9	OPM (%)	21.20	17.10	23.69	22.58
10	NPM (%)	9.16	8.44	17.11	13.82
11	PBDIT/TA (%)	13.09	14.02	15.20	20.42
12	ROCE (%)	10.05	12.87	12.48	25.17
13	ROI (%)	6.25	8.63	8.62	18.77
14	RONW (%)	14.52	14.84	34.98	22.27
15	EPS (Rs.)	10.16	12.92	26.50	30.09
16	P/E (Times)	24.03	18.88	41.80	24.89

Graph 5.3 Pre and Post Acquisition Ratios: Energy Sector**Table 5.5** Pre and Post Acquisition Standard Deviation and Coefficient of Variation: Energy Sector

Sr No	Ratios	Standard Deviation		Coefficient of Variation(%)	
		Pre Acquisition	Post Acquisition	Pre Acquisition	Post Acquisition
1	CR	3.86	5.91	143.30	153.38
2	QR	0.41	0.43	60.77	60.65
3	NWC/SR	0.81	0.35	112.44	84.46
4	D-ER	0.83	0.47	87.65	70.34
5	ICR	1.99	29.67	45.86	175.25
6	ITR	37.72	13.09	127.30	68.17
7	FATR	2.45	3.15	73.01	70.27
8	GPM	19.30	6.79	80.75	33.59
9	OPM	9.23	9.20	43.55	53.80
10	NPM	6.18	4.83	67.46	57.14
11	PBDIT/TA	5.38	7.52	41.13	53.61
12	ROCE	4.40	9.39	43.82	72.93
13	ROI	3.04	6.48	48.65	114.12
14	RONW	12.14	7.39	83.61	49.85
15	EPS	9.52	12.04	93.65	93.18
16	P/E	16.95	9.37	70.53	49.61

- ★ It can be observed from the table 5.4 that the aggregate mean values of energy sector have improved for both the liquidity ratios *i.e.* CR (2.69 to 3.85) and QR (0.67 to 0.70), which indicates improvement in liquidity performance after acquisition. The comparison of CR and QR show high proportion of inventory in current assets. This is also reflected in ITR (29.63 to 19.20), which has declined after acquisition due to higher proportion of inventory. The third ratio in this category *i.e.* NWC/SR also declined (0.72 to 0.41) after acquisition. After comparing this ratio with other two liquidity ratios, it is clear that the ratio has declined due to increase in sales.
- ★ The D-ER has declined after acquisition (0.95 to 0.66) indicating reduction of debt capital in the capital structure of sample acquirer firms. The ICR has improved after acquisition (4.34 to 16.93). Thus, taking both the ratios together, it can be inferred that the improvement in ICR is because of reduction in amount of interest due to less debt capital.
- ★ The FATR is improved (3.36 to 4.49) showing better utilization of fixed assets of acquirer firms after acquisition.
- ★ The GPM (23.90 to 20.20), OPM (21.20 to 17.10) and NPM (9.16 to 8.44) declined after acquisition indicating that acquirer firms are not managing their manufacturing and operating costs efficiently after acquisition.
- ★ All four rate of return ratios *i.e.* PBDIT/TA (13.09 to 14.02), ROCE (10.05 to 12.87), ROI (6.25 to 8.63) and RONW (14.52 to 14.84) have improved after acquisition, indicates reduction in acquirer firms' total assets, when compared with profit margin ratios. The RONW (14.52 to 14.84) improved after acquisition because of reduction in profit margin of acquirer companies after acquisition.
- ★ Similar result is observed in EPS (10.16 to 12.92), which has improved after acquisition indicating improvement in earnings of acquirer companies for their equity share holders.
- ★ The pre (3.86) and post (5.91) standard deviation and pre (143.30%) and post (153.35%) coefficient of variation indicates increased variation in mean values of CR after acquisition. The pre acquisition range of CR is 1.03 and post acquisition range is 3.60. The highest increase in variation in mean values after acquisition is observed in ICR (45.86% to 175.25%). In pre acquisition period the least variation

in mean values is observed in PBDIT/TA (41.13) and for post acquisition mean values it is for GPM (33.59).

B. Materials Sector

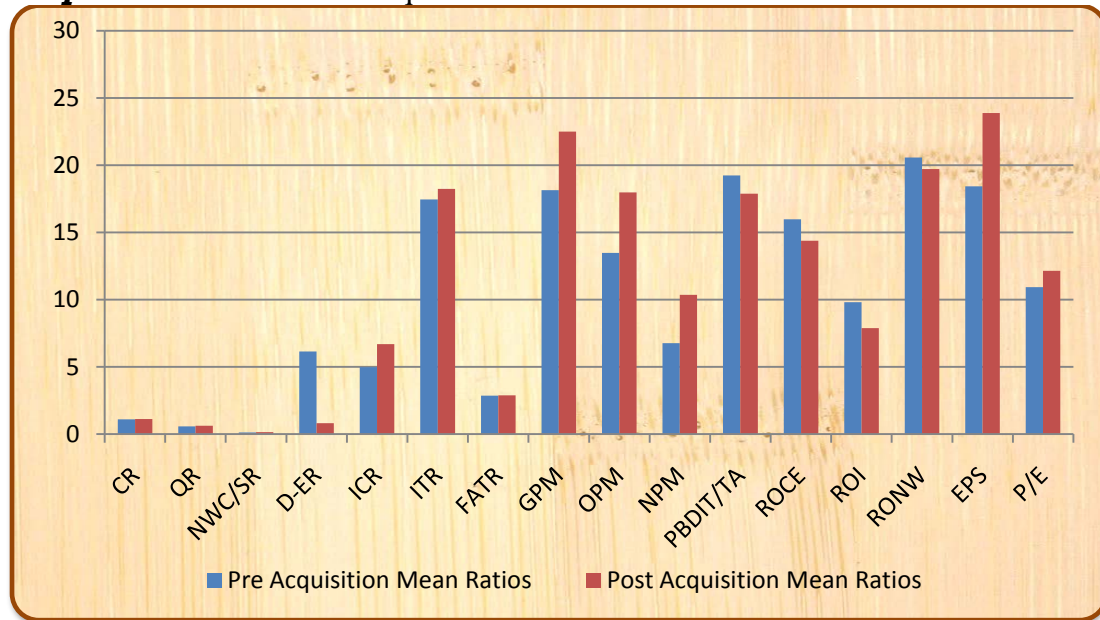
Table 5.6 presents the mean and range values for all 16 selected ratios for pre and post acquisition period and Table 5.7 presents the standard deviation and coefficient of variation for pre and post acquisition period for all 16 selected ratios of materials sector.

★ It can be observed from table 5.6 that all three liquidity ratios of material sector *i.e.* CR (1.09 to 1.11), QR (0.57 to 0.62) and NWC/SR (0.13 to 0.15) improved after acquisition. This indicates that liquidity and solvency of the acquirer companies belonging to material sector have improved after acquisition.

Graph 5.4 presents the mean values of each ratio, for pre and post acquisition period, indicating rise or fall in the respective ratio in the post acquisition period.

Table 5.6 Pre and Post Acquisition Mean and Range Values: Materials Sector

Sr No	Ratios	Mean		Range	
		Pre Acquisition	Post Acquisition	Pre Acquisition	Post Acquisition
1	CR (Times)	1.09	1.11	1.20	0.91
2	QR (Times)	0.57	0.62	0.65	0.45
3	NWC/SR (Times)	0.13	0.15	0.32	0.22
4	D-ER (Times)	6.14	0.82	20.77	1.08
5	ICR (Times)	4.98	6.69	19.35	11.93
6	ITR (Times)	17.46	18.23	21.91	21.18
7	FATR (Times)	2.86	2.88	2.17	3.69
8	GPM (%)	18.15	22.49	20.49	23.47
9	OPM (%)	13.47	17.98	20.46	25.84
10	NPM (%)	6.77	10.36	16.63	17.75
11	PBDIT/TA (%)	19.23	17.88	16.99	9.96
12	ROCE (%)	15.98	14.39	16.96	15.84
13	ROI (%)	9.81	7.87	11.72	10.94
14	RONW (%)	20.58	19.71	81.23	23.62
15	EPS (Rs.)	18.43	23.87	45.63	64.17
16	P/E (Times)	10.92	12.15	6.51	19.51

Graph 5.4 Pre and Post Acquisition Ratios: Materials Sector**Table 5.7** Pre and Post Acquisition Standard Deviation and Coefficient of Variation: Materials Sector

Sr No	Ratios	Standard Deviation		Coefficient of Variation (%)	
		Pre Acquisition	Post Acquisition	Pre Acquisition	Post Acquisition
1	CR	0.44	0.33	40.46	29.26
2	QR	0.26	0.19	45.53	31.76
3	NWC/SR	0.11	0.08	88.18	50.00
4	D-ER	8.95	0.39	145.84	48.21
5	ICR	5.63	3.96	113.01	59.16
6	ITR	9.93	9.47	56.84	51.92
7	FATR	0.88	1.27	30.94	43.93
8	GPM	7.12	8.98	39.23	39.94
9	OPM	7.07	9.09	52.47	50.61
10	NPM	6.26	5.96	92.42	57.48
11	PBDIT/TA	5.95	4.05	30.96	22.69
12	ROCE	6.11	5.82	38.22	40.47
13	ROI	4.22	4.02	43.01	51.10
14	RONW	27.72	7.96	134.69	40.37
15	EPS	14.53	17.74	78.83	74.31
16	P/E	2.78	8.98	25.48	73.91

- ★ The D–ER (6.14 to 0.82) has declined and ICR (4.98 to 6.69) has improved after acquisition, showing reduction of debt capital in capital structure of the acquirer firms after acquisition.
- ★ The turnover ratios improved after acquisition indicating improvement in inventory management and efficiency of utilising fixed assets.
- ★ All three profit margin ratios *i.e.* GPM (18.15 to 22.49), OPM (13.47 to 17.98) and NPM (6.77 to 10.36) improved after acquisition showing improvement in manufacturing efficiency and operating efficiency after acquisition.
- ★ The opposite results are noticed in all four rate of return ratios. PBDIT/TA (19.23 to 17.88), ROCE (15.98 to 14.39), ROI (9.81 to 7.87) and RONW (20.58 to 19.71) declined after acquisition. This indicates that the improvement in the denominator for the ratios *i.e.* total assets and net worth is more than improvement in profit margin. The EPS (18.43 and 23.87) and P/E (10.92 to 12.15) have improved after acquisition.
- ★ In pre acquisition mean values, highest variation is observed in D/ER, where in pre acquisition range, the highest value is 20.93 and the lowest value is 0.16. This is also reflected in standard deviation (8.95) and coefficient of variation (145.84%) of the ratio. The lowest variation is observed for P/E (25.48%).
- ★ In case of post acquisition mean values, highest variation is observed in EPS (74.31%) and lowest variation is in PBDIT/TA (22.69%).

C. Industrial Sector

Table 5.8 presents the mean and range values for all 16 selected ratios for pre and post acquisition period and Table 5.9 presents the standard deviation and coefficient of variation for pre and post acquisition period for all 16 selected ratios of Industrial sector.

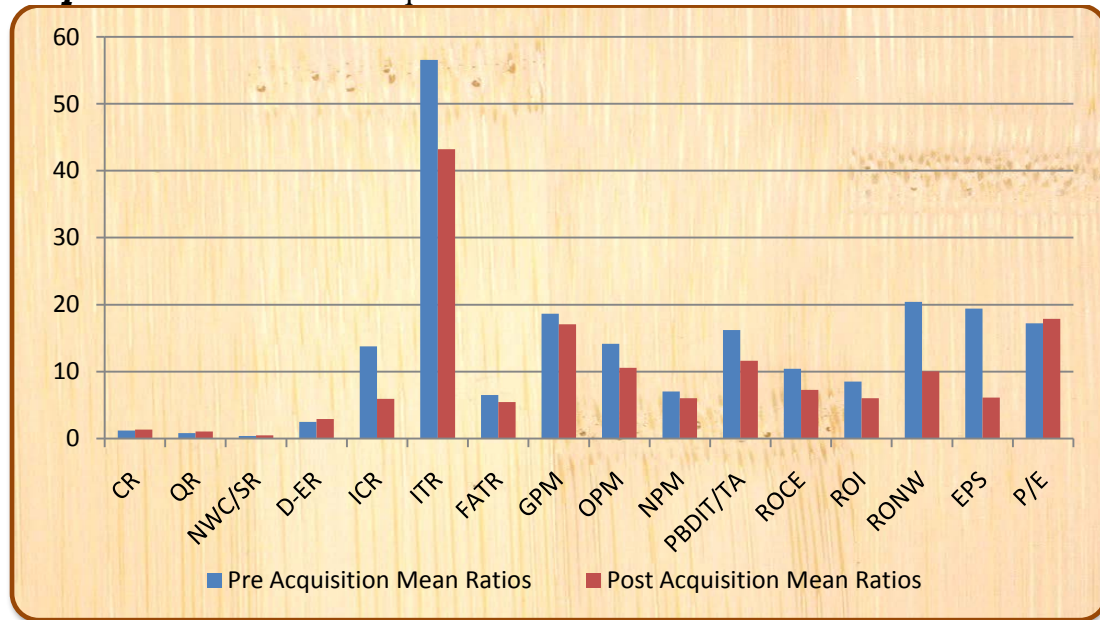
Graph 5.5 presents the mean values of each ratio, for pre and post acquisition period, indicating rise or fall in the respective ratio in the post acquisition period.

Table 5.8 Pre and Post Acquisition Mean and Range Values: Industrial Sector

Sr No	Ratios	Mean		Range	
		Pre Acquisition	Post Acquisition	Pre Acquisition	Post Acquisition
1	CR (Times)	1.18	1.36	0.92	3.70
2	QR (Times)	0.82	1.06	0.89	3.01
3	NWC/SR (Times)	0.36	0.48	1.16	1.21
4	D-ER (Times)	2.49	2.94	8.35	10.42
5	ICR (Times)	13.75	5.92	33.70	18.01
6	ITR (Times)	56.58	43.23	28.94	26.11
7	FATR (Times)	6.48	5.44	8.44	17.26
8	GPM (%)	18.64	17.07	20.68	24.21
9	OPM (%)	14.16	10.57	18.38	19.11
10	NPM (%)	7.05	6.02	12.73	18.92
11	PBDIT/TA (%)	16.19	11.64	20.12	10.69
12	ROCE (%)	10.40	7.26	14.96	10.99
13	ROI (%)	8.49	6.01	9.34	7.74
14	RONW (%)	20.43	10.05	19.21	15.06
15	EPS (Rs.)	19.41	6.10	34.91	17.74
16	P/E (Times)	17.19	17.88	17.07	50.09

Table 5.9 Pre and Post Acquisition Standard Deviation and Coefficient of Variation: Industrial Sector

Sr No	Ratios	Standard Deviation		Coefficient of Variation (%)	
		Pre Acquisition	Post Acquisition	Pre Acquisition	Post Acquisition
1	CR	0.30	1.18	25.56	86.87
2	QR	0.27	1.24	32.84	117.09
3	NWC/SR	0.14	0.22	38.71	46.13
4	D-ER	2.83	3.49	113.52	118.49
5	ICR	12.71	6.24	92.43	105.37
6	ITR	64.77	37.75	114.47	87.32
7	FATR	3.62	5.66	55.84	103.93
8	GPM	8.55	8.83	35.13	51.72
9	OPM	6.72	6.75	47.43	63.82
10	NPM	3.91	6.59	55.51	109.65
11	PBDIT/TA	6.11	3.25	37.70	27.95
12	ROCE	5.20	3.54	50.03	48.83
13	ROI	7.63	4.81	89.87	80.03
14	RONW	7.43	12.88	36.36	128.15
15	EPS	13.30	5.13	68.52	84.70
16	P/E	6.50	15.05	37.83	84.17

Graph 5.5 Pre and Post Acquisition Ratios: Industrial Sector

- ★ Table 5.8 reflects that all three liquidity ratios improved after acquisition for industrial sector. This indicates improvement in short term payment capacity of acquirer firms after acquisition.
- ★ The D-ER (2.49 to 2.94) shows improvement after acquisition. The ICR declined after acquisition (13.75 to 5.92) because of reduction in EBIT and increase in interest amount because of increase in debt.
- ★ The ITR (56.58 to 43.23) and FATR (6.48 to 5.44) declined after acquisition. This indicates inefficiency in inventory management and fixed asset utilization of acquirer firms after acquisition.
- ★ All the profitability ratios declined after acquisition indicating deterioration in profitability performance of acquirer firms after acquisition. In line with these ratios, EPS also declined (19.41 to 6.10) after acquisition.
- ★ Improvement in P/E (17.19 to 17.88) indicates that share holders are expecting improvement and growth in acquirer firms after acquisition.
- ★ In pre acquisition mean values highest variation is observed in ITR (114.47%) and lowest variation is in values of CR (25.56%). In case of post acquisition mean values, highest variation is in ROWN (128.15%) and lowest variation is in PBDIT/TA (27.95%).

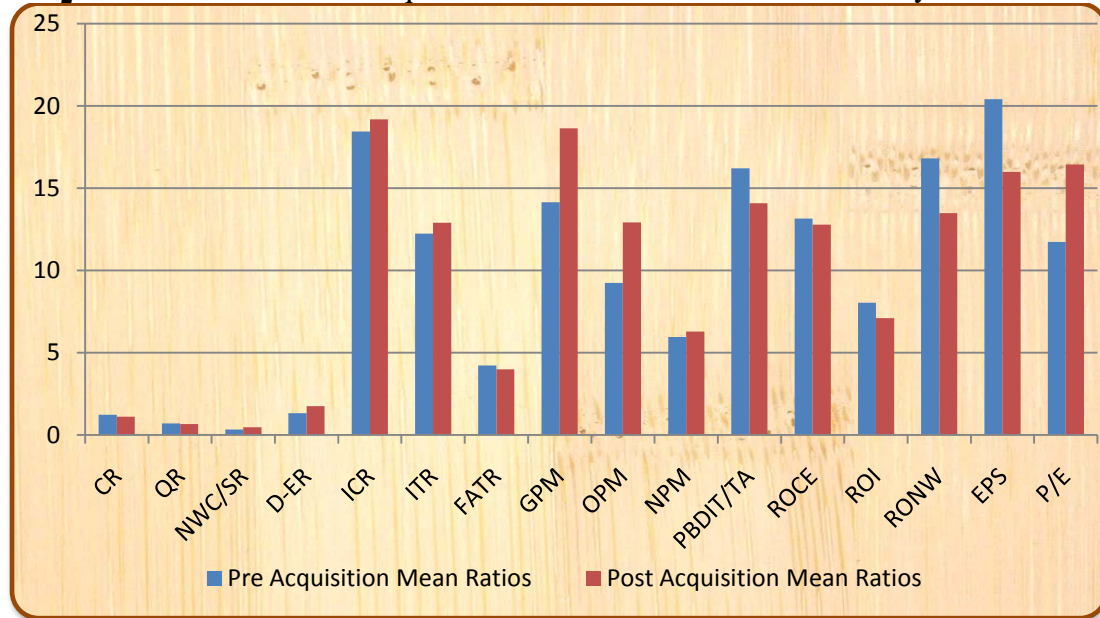
D. Consumer Discretionary Sector

Table 5.10 presents the mean and range values for all 16 selected ratios for pre and post acquisition period and Table 5.11 presents the standard deviation and coefficient of variation for pre and post acquisition period for all 16 selected ratios of consumer discretionary sector. Graph 5.6 presents the mean values of each ratio, for pre and post acquisition period, indicating rise or fall in the respective ratio in the post acquisition period.

- ★ It can be observed from the Table 5.10 that the CR (1.22 to 1.11) and QR (0.71 to 0.67) of consumer discretionary sector declined after acquisition indicating deterioration in current asset management of the acquirer companies.
- ★ The degree of leverage is affected positively by acquisition, reflected in D-ER (1.32 to 1.75) and ICR (18.45 to 19.18). The increase in ICR indicates that increase in numerator *i.e.* EBIT is higher than increase in the amount of interest.

Table 5.10 Pre and Post Acquisition Mean and Range Values: Consumer Discretionary Sector

Sr No	Ratios	Mean		Range	
		Pre Acquisition	Post Acquisition	Pre Acquisition	Post Acquisition
1	CR (Times)	1.22	1.11	1.57	1.55
2	QR (Times)	0.71	0.67	1.07	1.04
3	NWC/SR (Times)	0.33	0.47	1.41	1.23
4	D-ER (Times)	1.32	1.75	4.51	7.41
5	ICR (Times)	18.45	19.18	7.39	6.79
6	ITR (Times)	12.24	12.89	16.95	23.08
7	FATR (Times)	4.22	3.99	7.06	7.79
8	GPM (%)	14.15	18.63	20.18	27.38
9	OPM (%)	9.24	12.92	30.03	26.38
10	NPM (%)	5.96	6.28	32.11	28.35
11	PBDIT/TA (%)	16.20	14.08	23.95	19.44
12	ROCE (%)	13.16	12.79	24.47	23.36
13	ROI (%)	8.03	7.11	16.90	16.14
14	RONW (%)	16.80	13.49	71.67	91.53
15	EPS (Rs.)	20.41	15.99	57.55	78.35
16	P/E (Times)	11.74	16.44	17.55	57.60

Graph 5.6 Pre and Post Acquisition Ratios: Consumer Discretionary Sector**Table 5.11** Pre and Post Acquisition Standard Deviation and Coefficient of Variation: Consumer Discretionary Sector

Sr No	Ratios	Standard Deviation		Coefficient of Variation (%)	
		Pre Acquisition	Post Acquisition	Pre Acquisition	Post Acquisition
1	CR	0.47	0.48	38.18	43.45
2	QR	0.32	0.34	44.92	51.05
3	NWC/SR	0.37	0.48	111.81	101.27
4	D-ER	1.73	1.92	130.66	109.74
5	ICR	18.74	25.02	101.57	130.44
6	ITR	3.77	6.58	30.81	51.09
7	FATR	2.37	2.48	56.05	62.14
8	GPM	5.78	8.65	40.84	46.44
9	OPM	7.31	8.76	79.06	67.81
10	NPM	7.52	8.04	126.21	127.96
11	PBDIT/TA	6.12	5.72	37.75	40.63
12	ROCE	5.85	6.01	44.42	47.01
13	ROI	5.03	4.15	62.67	58.42
14	RONW	18.33	21.59	109.10	160.04
15	EPS	17.94	19.77	87.89	123.63
16	P/E	7.43	11.17	63.28	67.94

- ★ The ITR has improved (12.24 to 12.89) and FATR has declined (4.22 to 3.99) after acquisition. All three profit margin ratios *i.e.* GPM (14.15 to 18.63), OPM (9.24 to 12.92) and NPM (5.96 to 6.28) have improved indicating efficient management of costs by acquirer companies after acquisition.
- ★ All four rate of return ratios and EPS declined after acquisition, when these ratios are compared with profit margin ratios it is clear that the ratios declined because of increase in total assets and net worth after acquisition.
- ★ Improvement in P/E (11.74 to 16.44) indicates positive reaction of market to the acquisition event and the shareholders are positive about future of the acquirer firms.
- ★ In pre acquisition mean values highest variation is observed in D-ER (130.66%) and lowest variation is in values of ITR (30.81%). In case of post acquisition mean values, highest variation is in RONW (160.10%) and lowest variation is in PBDIT/TA (40.63%).

E. Consumer Staples Sector

Table 5.12 presents the mean and range values for all 16 selected ratios for pre and post acquisition period and Table 5.13 present the standard deviation and coefficient of variation for pre and post acquisition period for all 16 selected ratios of consumer staples sector. Graph 5.7 presents the mean values of each ratio, for pre and post acquisition period, indicating rise or fall in the respective ratio in the post acquisition period.

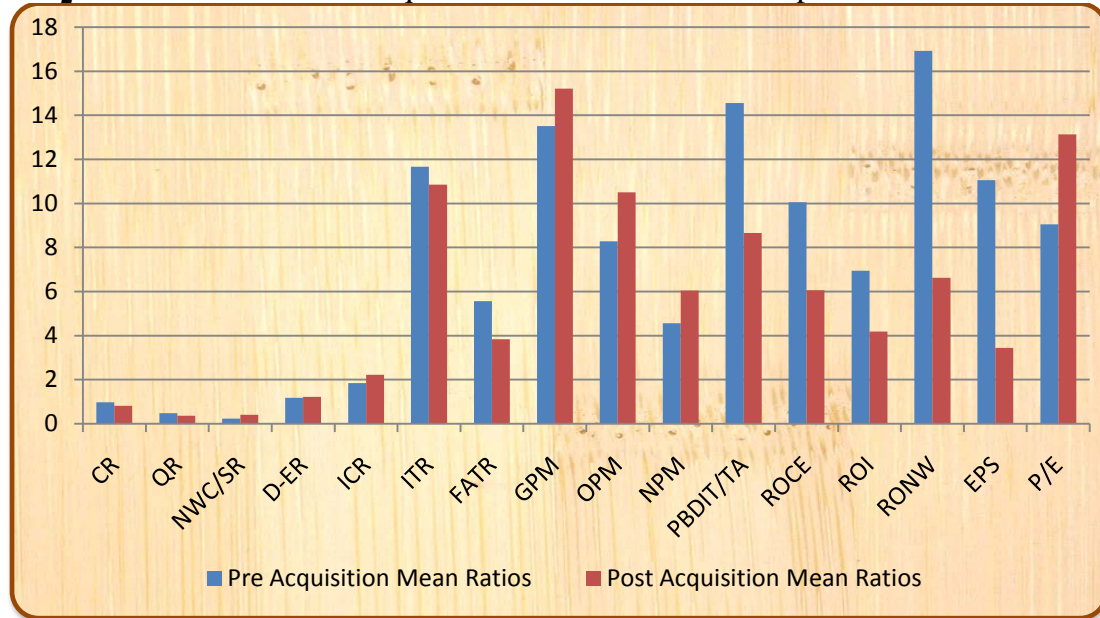
- ★ As per table 5.12, both the liquidity ratios of consumer staple sector *i.e.* CR (0.98 to 0.82) and QR (0.48 to 0.37) declined after acquisition and NWC/SR (0.23 to 0.41) improved after acquisition.
- ★ The D-ER (1.17 to 1.22) and ICR (1.84 to 2.22) improved, showing improvement in degree of leverage after acquisition. In spite of increase in debt, the ICR improved because improvement in profit higher than increase in debt.
- ★ Both the turnover ratios *i.e.* ITR (11.67 to 10.85) and FATR (5.56 to 3.83) declined after acquisition indicating deterioration in inventory management and fixed asset utilization.

Table 5.12 Pre and Post Acquisition Mean and Range Values: Consumer Staples Sector

Sr No	Ratios	Mean		Range	
		Pre Acquisition	Post Acquisition	Pre Acquisition	Post Acquisition
1	CR (Times)	0.98	0.82	0.49	0.16
2	QR (Times)	0.48	0.37	0.22	0.21
3	NWC/SR (Times)	0.23	0.41	0.44	1.78
4	D-ER (Times)	1.17	1.22	3.29	1.67
5	ICR (Times)	1.84	2.22	2.58	2.61
6	ITR (Times)	11.67	10.85	20.97	20.66
7	FATR (Times)	5.56	3.83	14.13	8.09
8	GPM (%)	13.51	15.21	9.13	21.14
9	OPM (%)	8.28	10.50	5.47	15.51
10	NPM (%)	4.56	6.05	6.49	15.84
11	PBDIT/TA (%)	14.56	8.66	20.16	8.32
12	ROCE (%)	10.06	6.06	17.78	5.52
13	ROI (%)	6.95	4.18	12.29	3.81
14	RONW (%)	16.92	6.625	35.20	17.93
15	EPS (Rs.)	11.06	3.441	13.62	31.03
16	P/E (Times)	9.05	13.13	8.69	9.40

Table 5.13 Pre and Post Acquisition Standard Deviation and Coefficient of Variation: Consumer Staples Sector

Sr No	Ratios	Standard Deviation		Coefficient of Variation (%)	
		Pre Acquisition	Post Acquisition	Pre Acquisition	Post Acquisition
1	CR	0.17	0.06	17.17	6.84
2	QR	0.08	0.07	17.42	20.00
3	NWC/SR	0.16	0.69	70.00	167.48
4	D-ER	1.26	0.64	107.77	52.67
5	ICR	0.90	1.08	48.94	48.60
6	ITR	9.76	8.69	83.59	80.11
7	FATR	5.18	3.04	93.26	79.36
8	GPM	3.51	7.13	25.97	46.90
9	OPM	2.07	6.09	24.98	58.00
10	NPM	2.45	6.39	53.69	105.71
11	PBDIT/TA	6.92	3.09	47.55	35.67
12	ROCE	7.54	2.57	74.90	42.44
13	ROI	6.21	2.68	89.25	64.04
14	RONW	13.67	7.77	80.79	117.30
15	EPS	5.39	1.19	48.77	34.43
16	P/E	4.87	6.99	53.82	53.28

Graph 5.7 Pre and Post Acquisition Ratios: Consumer Staples Sector

- ★ All three profit margin ratios improved and all four rate of return ratios declined in profitability measures, after acquisition.
- ★ In valuation category, EPS declined indicating the inefficiency of management of acquirer companies in generating returns for equity shareholders. The P/E improved (9.05 to 13.13) after acquisition indicating positive expectation of shareholders about the future of acquirer companies.
- ★ In pre acquisition mean values highest variation is observed in D-ER (107.77%) and lowest variation is in values of CR (17.17%). In case of post acquisition mean values, highest variation is in NWC/SR (167.48%) and lowest variation is in CR (6.84%).

F. Health Care Sector

Table 5.14 presents the mean and range values for all 16 selected ratios for pre and post acquisition period and Table 5.15 presents the standard deviation and coefficient of variation for pre and post acquisition period for all 16 selected ratios of health care sector.

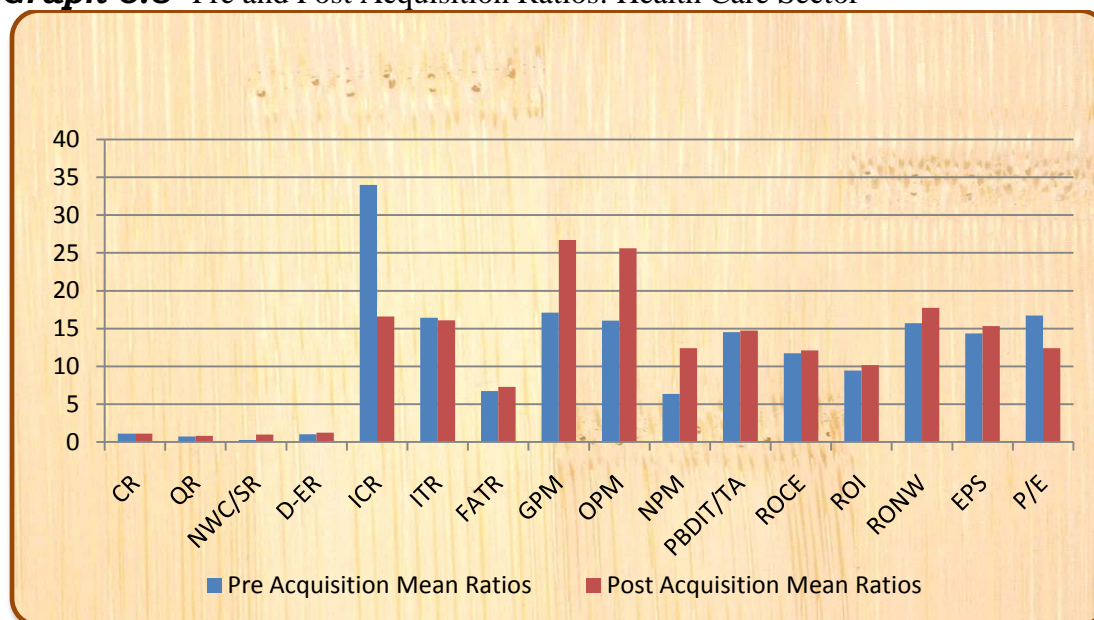
Graph 5.8 presents the mean values of each ratio, for pre and post acquisition period, indicating rise or fall in the respective ratio in the post acquisition period.

Table 5.14 Pre and Post Acquisition Mean and Range Values: Health Care Sector

Sr No	Ratios	Mean		Range	
		Pre Acquisition	Post Acquisition	Pre Acquisition	Post Acquisition
1	CR (Times)	1.11	1.10	1.99	0.75
2	QR (Times)	0.74	0.79	1.77	0.68
3	NWC/SR (Times)	0.26	0.99	0.78	4.72
4	D-ER (Times)	1.00	1.22	1.32	2.62
5	ICR (Times)	33.97	16.59	27.50	11.10
6	ITR (Times)	16.44	16.09	31.63	31.86
7	FATR (Times)	6.73	7.26	36.92	36.65
8	GPM (%)	17.10	26.70	62.36	46.54
9	OPM (%)	16.06	25.59	44.53	47.35
10	NPM (%)	6.36	12.41	50.88	31.30
11	PBDIT/TA (%)	14.52	14.72	18.79	25.01
12	ROCE (%)	11.73	12.10	13.02	20.71
13	ROI (%)	9.46	10.14	19.82	12.47
14	RONW (%)	15.72	17.75	59.89	51.73
15	EPS (Rs.)	14.33	15.33	39.97	71.10
16	P/E (Times)	16.72	12.42	32.62	33.42

Table 5.15 Pre and Post Acquisition Standard Deviation and Coefficient of Variation: Health Care Sector

Sr No	Ratios	Standard Deviation		Coefficient of Variation (%)	
		Pre Acquisition	Post Acquisition	Pre Acquisition	Post Acquisition
1	CR	0.56	0.25	50.40	22.79
2	QR	0.51	0.22	68.37	27.88
3	NWC/SR	0.26	1.47	99.61	148.83
4	D-ER	0.45	1.01	44.45	82.51
5	ICR	9.35	5.96	27.52	35.93
6	ITR	10.87	10.47	66.11	65.07
7	FATR	12.08	11.84	179.54	163.04
8	GPM	18.93	12.99	110.70	48.65
9	OPM	13.34	13.58	83.06	53.06
10	NPM	6.24	11.29	98.14	90.97
11	PBDIT/TA	5.48	7.34	37.74	49.88
12	ROCE	4.94	5.69	40.77	48.72
13	ROI	6.61	6.04	69.47	59.56
14	RONW	18.92	17.27	120.35	97.29
15	EPS	14.24	24.33	99.37	158.71
16	P/E	11.43	12.17	68.36	97.98

Graph 5.8 Pre and Post Acquisition Ratios: Health Care Sector

- ★ In the liquidity category, except CR (1.11 to 1.10), the rest two ratios *i.e.* QR (0.74 to 0.79) and NWC/SR (0.26 to 0.99) improved after acquisition. This indicates reduction in inventory after acquisition.
- ★ The D-ER (1.00 to 1.22) has increased and ICR (33.97 to 16.59) has declined after acquisition, indicating increase in debt capital in the capital structure and resultant increase in interest expenses. All the profitability ratios have improved indicating improvement in profitability position of healthcare sector after acquisition.
- ★ In pre acquisition mean values highest variation is observed in FATR ratio (179.54%) and lowest variation is for ICR (27.52%). In case of post acquisition mean values, highest variation again for FATR at 163.04% and lowest variation is for CR at 22.79%.

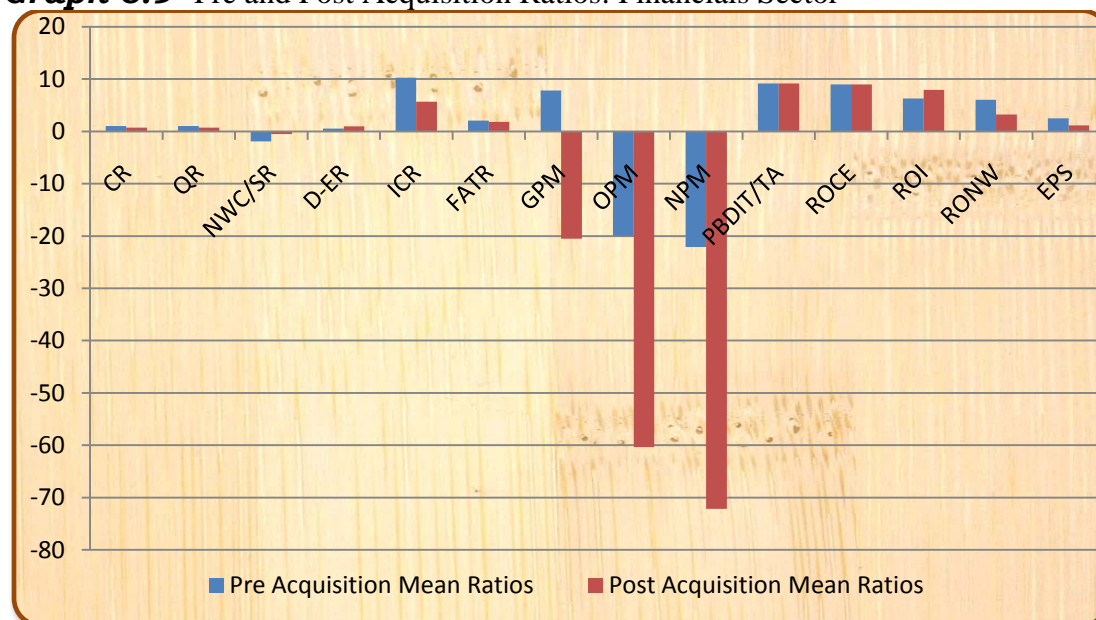
G. Financials Sector

Table 5.16 presents two descriptive statistical indicators of financials sector. There are only two acquirer companies from the sample which belong to this sector. Therefore standard deviation and coefficient of variation are not presented. Graph 5.9 presents the mean values of each ratio, for pre and post acquisition period, indicating rise or fall in the respective ratio in the post acquisition period.

- ★ The mean value of CR and QR is same as this sector is financials sector, so inventory portion is not there. Both the ratios declined after acquisition, indicates deterioration in liquidity position of the acquirer companies after acquisition. The third liquidity ratio, NWC/SR show improvement (-1.88 to -0.50) after acquisition, when this ratio is compared with other two liquidity ratios, it reveals that this improvement is because of increase in revenue after acquisition.
- ★ The similar results are indicated by reduction in FATR (2.09 to 1.85) of the acquirer firms after acquisition.
- ★ All the profit margin ratios declined after acquisition, in spite of improved revenue, indicating inefficiency of the management of acquiring firms in controlling operating expenses. PBDIT/TA (9.14 to 9.18), ROCE (8.98 to 9.01) and ROI (6.28 to 7.93) improved after acquisition and ROE (6.02 to 3.23) and EPS (2.47 to 1.13) declined after acquisition indicating combined effect of inefficient management of operating cost and increase in capital after acquisition.

Table 5.16 Pre and Post Acquisition Mean and Range Values: Financials Sector

Sr No	Ratios	Mean		Range	
		Pre Acquisition	Post Acquisition	Pre Acquisition	Post Acquisition
1	CR (Times)	1.04	0.74	1.85	0.78
2	QR (Times)	1.04	0.74	1.85	0.78
3	NWC/SR (Times)	-1.88	-0.50	-4.35	-1.53
4	D-ER (Times)	0.52	0.99	0.87	0.55
5	ICR (Times)	10.26	5.67	8.27	6.73
6	ITR (Times)	-	-	-	-
7	FATR (Times)	2.09	1.85	3.16	0.61
8	GPM (%)	7.80	-20.52	14.91	-41.58
9	OPM (%)	-19.99	-60.34	-40.22	-61.04
10	NPM (%)	-22.13	-72.18	-62.68	-68.71
11	PBDIT/TA (%)	9.14	9.18	17.07	10.12
12	ROCE (%)	8.98	9.01	9.17	9.48
13	ROI (%)	6.28	7.93	7.49	9.59
14	RONW (%)	6.02	3.23	12.69	8.80
15	EPS (Rs.)	2.47	1.13	5.03	2.66
16	P/E (Times)	-	-	-	-

Graph 5.9 Pre and Post Acquisition Ratios: Financials Sector

H. Information Technology Sector

Table 5.17 presents the mean and range values for all 16 selected ratios for pre and post acquisition period. And Table 5.18 presents the standard deviation and coefficient of variation for pre and post acquisition period for all 16 selected ratios of information technology sector.

Graph 5.10 presents the mean values of each ratio, for pre and post acquisition period, indicating rise or fall in the respective ratio in the post acquisition period.

- ★ The liquidity performance of the acquirer companies from information technology sector deteriorated after acquisition, indicated by CR (3.62 to 1.31) and QR (2.02 to 1.33). However, the net working capital to sales ratio (3.55 to 4.96) improved after acquisition.
- ★ The D-ER declined (0.81 to 0.62) and ICR improved (6.61 to 7.12), indicating reduction of borrowed capital in the capital structure and reduction in the amount of interest because of that.
- ★ Both the turnover ratios *i.e.* ITR (15.31 to 27.17) and FATR (4.27 to 4.87) improved after acquisition showing improvement in inventory turnover and better utilization of fixed assets after acquisition. High variation in the mean values of FATR is observed in this sector. The pre acquisition range is 14.33, where highest value is 14.65 and lowest value is 0.32 and post acquisition range is 17.44, where

highest value is 17.98 and lowest value is 0.54. This is also reflected in pre (4.64) and post (5.80) standard deviation and pre (108.73%) and post (119.14%) coefficient of variation.

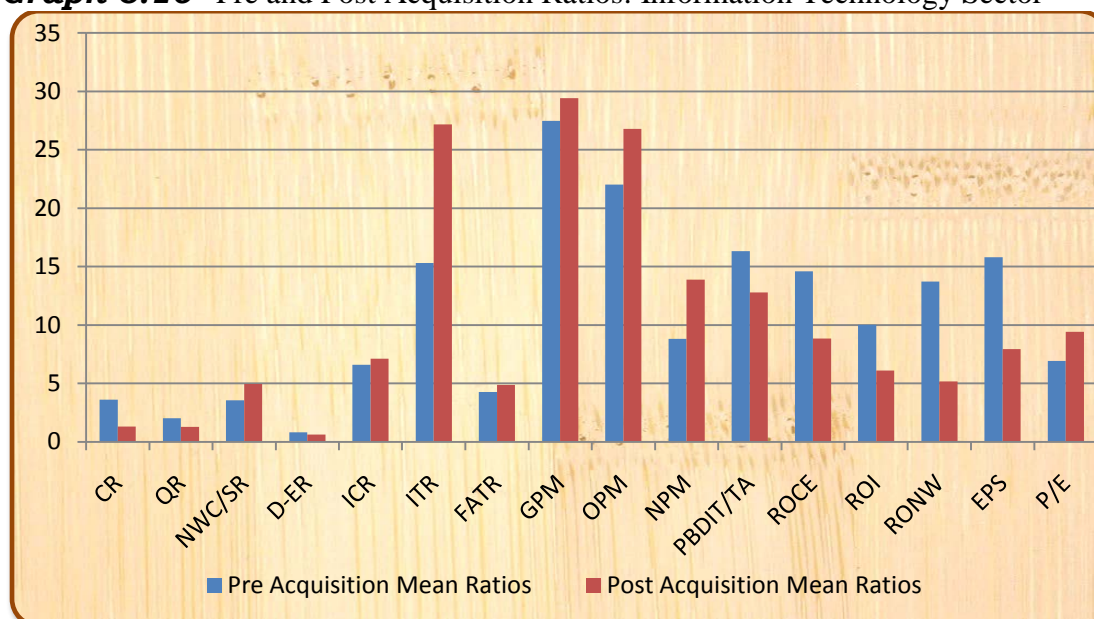
- ★ All three profit margin ratios show improvement and all four rate of return ratios declined after acquisition, the possible reason of decline in rate of return in spite of increasing profit margin could be addition to long term funds and assets of the acquirer companies after acquisition.
- ★ In the valuation category, EPS declined (15.80 to 7.94) in line with deterioration in RONW and P/E improved (6.94 to 9.42) indicating expectation of share holders about growth and expansion of the acquirer firms after acquisition.

Table 5.17 Pre and Post Acquisition Mean and Range Values: Information Technology Sector

Sr No	Ratios	Mean		Range	
		Pre Acquisition	Post Acquisition	Pre Acquisition	Post Acquisition
1	CR (Times)	3.62	1.31	1.17	1.18
2	QR (Times)	2.02	1.33	3.88	2.43
3	NWC/SR (Times)	3.55	4.96	3.33	4.25
4	D-ER (Times)	0.81	0.62	3.16	2.00
5	ICR (Times)	6.61	7.12	22.95	35.78
6	ITR (Times)	15.31	27.17	22.88	88.00
7	FATR (Times)	4.27	4.87	14.33	17.44
8	GPM (%)	27.48	29.42	58.84	62.17
9	OPM (%)	22.01	26.79	60.32	64.90
10	NPM (%)	8.83	13.88	39.66	51.12
11	PBDIT/TA (%)	16.31	12.79	24.23	23.66
12	ROCE (%)	14.60	8.85	21.95	20.71
13	ROI (%)	10.01	6.12	18.25	15.12
14	RONW (%)	13.73	5.17	50.50	28.03
15	EPS (Rs.)	15.80	7.94	34.83	30.68
16	P/E (Times)	6.94	9.42	25.48	16.24

Table 5.18 Pre and Post Acquisition Standard Deviation and Coefficient of Variation: Information Technology Sector

Sr No	Ratios	Standard Deviation		Coefficient of Variation (%)	
		Pre Acquisition	Post Acquisition	Pre Acquisition	Post Acquisition
1	CR	1.35	0.41	37.25	31.44
2	QR	1.47	0.69	72.72	53.18
3	NWC/SR	1.03	1.58	29.11	32.03
4	D-ER	0.90	0.67	111.38	107.74
5	ICR	8.07	10.68	122.06	150.1
6	ITR	7.59	28.79	49.61	105.02
7	FATR	4.64	5.80	108.73	119.14
8	GPM	19.21	20.46	69.90	69.54
9	OPM	19.51	14.67	88.64	54.75
10	NPM	14.15	13.84	160.32	99.71
11	PBDIT/TA	8.14	7.38	49.93	57.07
12	ROCE	7.56	6.22	51.78	69.16
13	ROI	6.13	5.21	61.24	85.13
14	RONW	15.69	9.46	114.27	183.02
15	EPS	13.94	8.51	88.22	107.51
16	P/E	8.50	6.05	122.52	64.27

Graph 5.10 Pre and Post Acquisition Ratios: Information Technology Sector

I. Real Estate Sector

Table 5.19 presents the mean and range values for all 16 selected ratios for pre and post acquisition period and Table 5.20 presents the standard deviation and coefficient of variation for pre and post acquisition period for all 16 selected ratios of real estate sector. Graph 5.11 presents the mean values of each ratio, for pre and post acquisition period, indicating rise or fall in the respective ratio in the post acquisition period.

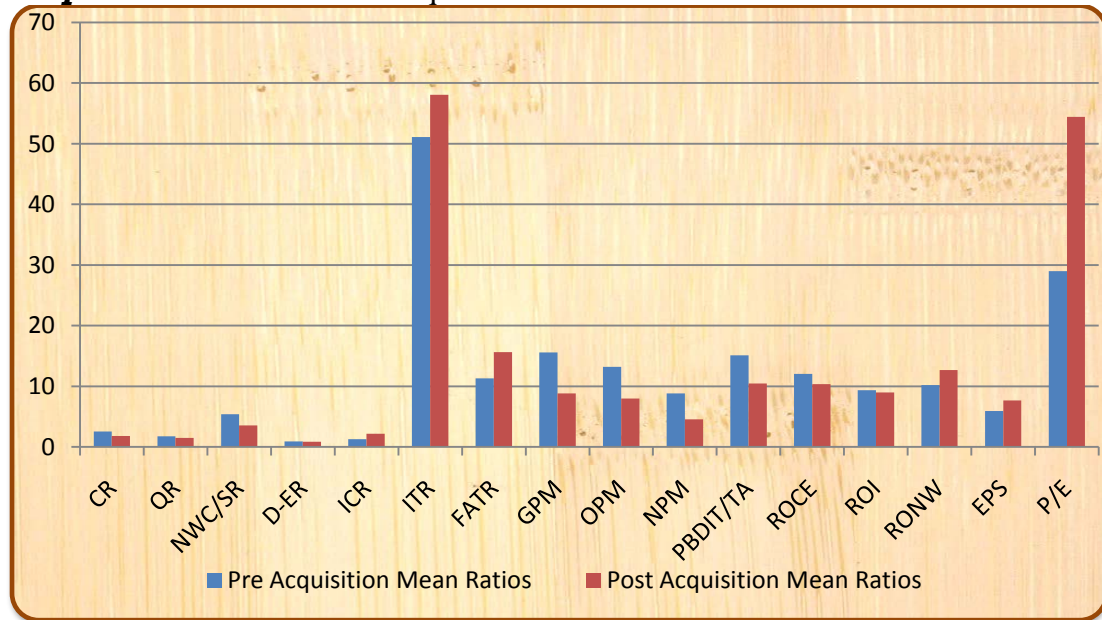
- ★ The CR (2.52 to 1.77), QR (1.76 to 1.50) and NWC/SR (5.39 to 3.54) declined after acquisition indicating reduction in current assets of acquirer companies after acquisition. The decline in NWC/SR indicates improvement in sales revenue of the companies of real estate sector. This is also reflected in the turnover ratios. Both the turnover ratios *i.e.* ITR (51.08 to 58.06) and FATR (11.29 to 15.61) improved after acquisition showing improvement in sales and also improvement in inventory management and better utilization of fixed assets after acquisition.
- ★ The maximum variation in the pre acquisition mean value of this sector is observed in NWC/SR with pre acquisition coefficient of variation at 184.41%. In the pre acquisition period, highest mean value is 23.17 and lowest value is 0.41, so the range is 22.75 and in post acquisition period, the highest value is 10.61 and the lowest value is 0.235, so the range is 10.37.
- ★ This is also indicated by pre (9.95) and post (4.45) standard deviation and pre (184.41%) and post (125.75%) coefficient of variation. Graph 5.11 presents the mean values of each ratio, for pre and post acquisition period, indicating rise or fall in the respective ratio in the post acquisition period.
- ★ The D–ER declined (0.88 to 0.84) and ICR improved (1.28 to 2.18), indicating reduction of borrowed capital in the capital structure and reduction in the amount of interest because of that.
- ★ In profitability category six ratios declined and RONW (10.20 to 12.69), improved after acquisition. The decrease in profit margin suggests that this improvement could be result of reduction in net worth after acquisition.

Table 5.19 Pre and Post Acquisition Mean and Range Values: Real Estate Sector

	Ratios	Mean		Range	
		Pre Acquisition	Post Acquisition	Pre Acquisition	Post Acquisition
1	CR (Times)	2.52	1.77	2.60	2.41
2	QR (Times)	1.76	1.50	2.41	2.59
3	NWC/SR (Times)	5.39	3.54	22.75	10.37
4	D-ER (Times)	0.88	0.84	0.72	1.81
5	ICR (Times)	1.28	2.18	3.67	1.96
6	ITR (Times)	51.08	58.06	51.45	75.36
7	FATR (Times)	11.29	15.61	24.19	36.85
8	GPM (%)	15.57	8.80	28.98	23.53
9	OPM (%)	13.21	7.99	21.64	17.10
10	NPM (%)	8.81	4.56	19.70	15.30
11	PBDIT/TA (%)	15.08	10.46	20.05	11.99
12	ROCE (%)	12.05	10.35	13.95	10.37
13	ROI (%)	9.36	8.96	12.53	9.12
14	RONW (%)	10.20	12.69	16.88	20.80
15	EPS (Rs.)	5.92	7.63	14.53	26.67
16	P/E (Times)	28.99	54.45	36.58	34.87

Table 5.20 Pre and Post Acquisition Standard Deviation and Coefficient of Variation: Real Estate Sector

Sr No	Ratios	Standard Deviation		Coefficient of Variation (%)	
		Pre Acquisition	Post Acquisition	Pre Acquisition	Post Acquisition
1	CR	0.95	0.82	37.74	46.26
2	QR	0.95	1.02	53.92	67.71
3	NWC/SR	9.95	4.45	184.41	125.75
4	D-ER	0.28	0.41	32.34	47.98
5	ICR	1.51	0.76	117.71	34.91
6	ITR	36.38	53.28	71.22	91.76
7	FATR	9.27	14.67	82.12	93.97
8	GPM	15.42	7.71	99.03	96.49
9	OPM	11.08	6.98	83.18	87.36
10	NPM	6.22	5.44	70.62	119.3
11	PBDIT/TA	7.61	4.25	50.49	40.61
12	ROCE	4.63	4.32	38.41	41.71
13	ROI	4.19	3.26	44.76	36.38
14	RONW	6.29	8.11	61.73	63.88
15	EPS	5.65	10.69	95.47	140.12
16	P/E	18.96	21.68	65.40	39.81

Graph 5.11 Pre and Post Acquisition Ratios: Real Estate Sector

After analysing descriptive statistical indicators of overall and sectoral analysis, the next section presents empirical results of hypotheses testing of overall and sectoral analysis.

SECTION: 2

EMPIRICAL RESULTS OF OVERALL AND SECTORAL ANALYSIS

This section presents empirical results of overall and sectoral analysis.

5.4 EMPIRICAL RESULTS OF OVERALL ANALYSIS

The study analysed five years pre and post acquisition performance of 66 sample acquirer firms, which have undergone acquisition in the calendar year 2007 and 2008. 16 various ratios are selected for analysis, representing liquidity, leverage, activity, profitability and valuation positions of the sample acquirer companies. As mentioned in the Chapter 4, to examine, whether the acquisition has significantly affected to liquidity, leverage, activity, profitability, earning per share and price earning ratio or not, following six hypotheses are framed:

★ HYPOTHESES

The researcher has attempted to test the following hypotheses pertaining to analyzing the effect of acquisition on all the sample companies:

- H₀₁:** There is no significant difference in liquidity performance of the selected acquirer firms before and after acquisition
- H₀₂:** There is no significant difference in degree of leverage of the selected acquirer firms before and after acquisition
- H₀₃:** There is no significant difference in activity ratios of the selected acquirer firms before and after acquisition
- H₀₄:** There is no significant difference in profitability position of the selected acquirer firms before and after acquisition
- H₀₅:** There is no significant difference in Earning per Share (EPS) of the selected acquirer firms before and after acquisition
- H₀₆:** There is no significant difference in Price Earning ratio (PE) of the selected acquirer firms before and after acquisition

This section will be examining the impact taking all acquisitions under sample and the following section will be examining the impact, considering companies pertaining to single sector at a time. As mentioned in Chapter 4, to test the significance of impact of acquisition, paired t test is applied.

5.4.1 EMPIRICAL RESULTS OF LIQUIDITY RATIOS

Liquidity refers to the firm's ability to meet its obligations in the short run, usually one year. Liquidity ratios^{3,4,5,6,7,8,,11,15,16,18,19,20} are generally based on the relationship between current assets and current liabilities. To examine impact of acquisition on liquidity, the ratios selected are:

- ❖ Current Ratio
- ❖ Quick Ratio and
- ❖ New working capital to Sales ratio.

The discussion will present the pre acquisition mean and post acquisition mean of selected ratios for all sample companies. For the purpose of application of paired t test, computation of difference of mean and square of difference of mean is required. This information is presented in respective tables.

★ Current Ratio

Table 5.21 presents pre and post acquisition mean, difference of mean and square of difference of current ratio for all 66 sample acquirer companies.

Based on the analysis mean values of all sample acquirer firms, it is observed that out of total 66 firms for 24 firms CR has increased and for 42 firms CR has declined. To examine whether the acquisition has affected CR of the acquirer firms significantly or not, paired t-test is applied on the 66 pairs of pre and post acquisition mean values of CR. The results of paired t test are presented in Table 5.24. From the table it can be observed that there is no significant difference between aggregate mean values of CR for pre and post acquisition period, when all 66 companies are taken together. This results are in conformity with some of the previous studies.^{9,11,15,18,19,20}

Table: 5.21 Current Ratio

Sr No	Name of the Companies	CR			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
1.	ABG Shipyard Ltd.	0.964	0.614	0.350	0.1225
2.	Accel Fortline Ltd.	1.440	1.320	0.120	0.0144
3.	Advanta Ltd.	1.080	0.918	0.162	0.0262
4.	Aegis Logistics Ltd.	1.102	1.714	-0.612	0.3745
5.	Aftek Ltd.	3.842	1.354	2.488	6.1901
6.	Apollo Tyres Ltd.	0.718	0.650	0.068	0.0046
7.	Aurobindo Pharma Ltd.	1.058	1.208	-0.150	0.0225
8.	Autoline Industries Ltd.	1.036	0.630	0.406	0.1648
9.	Bharat Heavy Electricals Ltd.	1.388	1.124	0.264	0.0696
10.	Bodal Chemicals Ltd.	0.944	1.384	-0.440	0.1936
11.	Bombay Burma Trading Corp. Ltd.	1.530	2.028	-0.498	0.2480
12.	Carborundum Universal Ltd.	0.748	1.394	-0.646	0.4173
13.	Century Plyboards India Ltd.	1.724	1.588	0.136	0.0184
14.	Cranes Softwares International Ltd.	2.050	0.910	1.140	1.2996
15.	Dollex Industries Ltd.	0.898	0.802	0.096	0.0092
16.	Epic Energy Ltd.	1.332	4.378	-3.046	9.2781
17.	Exide Industries Ltd.	1.208	1.378	-0.170	0.0289
18.	Forties Healthcare Ltd.	0.592	0.930	-0.337	0.1139
19.	GMR Infrastructures Ltd.	1.856	3.070	-1.214	1.4737
20.	Godrej Properties Ltd.	1.422	0.662	0.760	0.5776
21.	Heritage Foods India Ltd.	0.996	0.822	0.174	0.0302
22.	Indoco Remedies Ltd	1.166	0.940	0.226	0.0510
23.	Jet Airways (India) Ltd.	1.266	0.408	0.858	0.7361
24.	Kirloskar Brothers Ltd.	0.952	0.956	-0.004	0.000016
25.	Kovai Medical Center & Hosp Ltd.	0.406	1.172	-0.766	0.5867
26.	Lupin Ltd.	1.224	1.458	-0.234	0.0547
27.	Modern India Ltd.	3.050	1.174	1.876	3.5193
28.	Nexxoft Infotel Ltd.	12.50	2.532	9.970	99.400
29.	Nilkamal Ltd.	1.156	1.198	-0.042	0.0017
30.	Pidilite Industries Ltd.	1.814	1.546	0.268	0.0718
31.	Pioneer Embroideries Ltd.	1.290	1.042	0.248	0.0615
32.	Satra Properties India Ltd.	4.022	1.996	2.026	4.1046
33.	S Kumars Nationwide Ltd.	1.626	1.560	0.066	0.0043
34.	Sona Koyo Steering Systems Ltd.	0.818	0.634	0.184	0.0338
35.	S.P. Apparels Ltd.	1.250	1.024	0.226	0.0510
36.	Speciality Papers Ltd.	0.764	0.840	-0.076	0.0057
37.	Strides Acrolab Ltd.	1.206	0.706	0.500	0.2500
38.	Sundram Fasteners Ltd.	1.034	1.052	-0.018	0.0003
39.	Systematix Corporate Services Ltd.	0.112	0.352	-0.240	0.0576
40.	Tata Power Company Ltd.	1.308	1.320	-0.012	0.0001
41.	Tata Steel Ltd.	0.610	0.638	-0.028	0.0007

Sr No	Name of the Companies	CR			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
42.	United Credit Ltd.	2.096	0.616	1.480	2.1904
43.	Videocon Industries Ltd.	2.142	0.948	1.194	1.4256
44.	A C I Infocom Ltd.	1.332	1.240	0.092	0.0084
45.	AIA Engineering Ltd.	0.876	4.106	-3.230	10.432
46.	Allsec Technologies Ltd.	0.824	0.763	0.061	0.0037
47.	Datamatics Global Services Ltd.	1.984	1.786	0.198	0.0392
48.	Dr. Reddy's Laboratories Ltd.	2.398	1.234	1.164	1.3548
49.	Essar Securities Ltd.	1.964	1.128	0.836	0.6988
50.	Genus Power Infrastructures Ltd.	1.248	1.452	-0.204	0.0416
51.	Housing Development & Infra Ltd.	1.998	1.873	0.125	0.0156
52.	Jayaswal Neco Inds. Ltd.	0.862	1.048	-0.186	0.0345
53.	Jay Shree Tea Inds. Ltd.	0.912	0.774	0.138	0.0190
54.	Joonktollee Tea Inds. Ltd.	1.254	0.760	0.494	0.2440
55.	Mahindra and Mahindra Ltd.	0.568	0.476	0.092	0.0084
56.	Orient Paper Industries Ltd.	1.244	0.922	0.322	0.1036
57.	Panama Petrochem Ltd.	1.154	1.298	-0.144	0.0207
58.	Piramal Enterprises Ltd.	0.970	0.876	0.094	0.0088
59.	Quest Softech (India) Ltd.	2.758	1.824	0.934	0.8723
60.	RDB Realities & Infra. Ltd.	1.474	1.230	0.244	0.0595
61.	SEL Manufacturing Company Ltd.	0.824	1.506	-0.682	0.4651
62.	S R F Ltd.	1.234	1.136	0.098	0.0096
63.	SRM Energy Ltd.	0.521	0.498	0.023	0.0005
64.	Stone India Ltd.	1.204	0.818	0.386	0.1489
65.	TCS Ltd.	4.594	1.792	2.802	7.8512
66.	Zenith Birla (India) Ltd.	1.798	1.834	-0.036	0.0012

Source: Computed results are based on the data from the financial statements of selected acquirer firms from CMIE prowess database

★ Quick Ratio

Table 5.22 summarises pre and post acquisition mean, difference of mean and square of difference of quick ratio for all 66 sample acquirer companies.

It is observed from table 5.22, that 26 acquirer companies out of total sample of 66 acquirer companies show rise in QR. Rest 40 acquirer companies show decrease in the ratio. To examine whether the acquisition has affected QR of the acquirer firms significantly or not, paired t-test is applied on the 66 pairs of pre and post acquisition mean values of QR. The results of paired t are presented in Table 5.24.

Table: 5.22 Quick Ratio

Sr No	Name of the Companies	QR			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
1.	ABG Shipyard Ltd.	0.406	0.122	0.284	0.0806
2.	Accel Fortline Ltd.	1.194	1.096	0.098	0.0096
3.	Advanta Ltd.	0.547	0.398	0.149	0.0223
4.	Aegis Logistics Ltd.	0.894	1.594	-0.700	0.4900
5.	Aftek Ltd.	3.430	1.190	2.240	5.0176
6.	Apollo Tyres Ltd.	0.346	0.258	0.088	0.0077
7.	Aurobindo Pharma Ltd.	0.552	0.680	-0.128	0.0163
8.	Autoline Industries Ltd.	0.458	0.240	0.218	0.0475
9.	Bharat Heavy Electricals Ltd.	1.016	0.898	0.118	0.0139
10.	Bodal Chemicals Ltd.	0.610	1.046	-0.436	0.1900
11.	Bombay Burma Trading Corp. Ltd.	0.870	1.138	-0.268	0.0718
12.	Carborundum Universal Ltd.	0.470	0.792	-0.322	0.1036
13.	Century Plyboards India Ltd.	1.030	0.788	0.242	0.0585
14.	Cranes Softwares International Ltd.	1.970	0.890	1.080	1.1664
15.	Dollex Industries Ltd.	0.566	0.378	0.188	0.0353
16.	Epic Energy Ltd.	1.116	3.764	-2.468	7.0119
17.	Exide Industries Ltd.	0.528	0.458	0.070	0.0049
18.	Forties Healthcare Ltd.	0.480	0.910	-0.430	0.1849
19.	GMR Infrastructures Ltd.	1.866	3.084	-1.218	1.4835
20.	Godrej Properties Ltd.	1.104	0.494	0.610	0.3721
21.	Heritage Foods India Ltd.	0.468	0.352	0.116	0.0134
22.	Indoco Remedies Ltd.	0.640	0.386	0.254	0.0645
23.	Jet Airways (India) Ltd.	0.954	0.310	0.644	0.4147
24.	Kirloskar Brothers Ltd.	0.782	0.580	0.202	0.0408
25.	Kovai Medical Center & Hosp Ltd.	0.176	1.068	-0.892	0.7956
26.	Lupin Ltd.	0.814	0.854	-0.040	0.0016
27.	Modern India Ltd.	0.440	0.744	-0.304	0.0924
28.	Nexxoft Infotel Ltd.	4.778	1.652	3.125	9.7687
29.	Nilkamal Ltd.	0.628	0.558	0.070	0.0049
30.	Pidilite Industries Ltd.	0.910	0.825	0.085	0.0072
31.	Pioneer Embroideries Ltd.	0.638	0.614	0.024	0.0005
32.	Satra Properties India Ltd.	2.850	0.774	2.076	4.3097
33.	S Kumars Nationwide Ltd.	0.966	0.950	0.016	0.0002
34.	Sona Koyo Steering Systems Ltd.	0.530	0.480	0.050	0.0025
35.	S.P. Apparels Ltd.	0.648	0.376	0.272	0.0739
36.	Speciality Papers Ltd.	0.346	0.234	0.112	0.0125
37.	Strides Acrolab Ltd.	0.986	0.578	0.408	0.1664
38.	Sundram Fasteners Ltd.	0.658	0.594	0.064	0.0040
39.	Systematix Corporate Services Ltd.	0.112	0.352	-0.240	0.0576
40.	Tata Power Company Ltd.	1.106	1.168	-0.062	0.0038
41.	Tata Steel Ltd.	0.332	0.380	-0.048	0.0023
42.	United Credit Ltd.	0.914	0.622	0.292	0.0852
43.	Videocon Industries Ltd.	1.366	0.578	0.788	0.6209

Sr No	Name of the Companies	QR			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
44.	A C I Infocom Ltd.	0.928	0.940	-0.012	0.0001
45.	AIA Engineering Ltd.	0.652	3.994	-3.342	11.168
46.	Allsec Technologies Ltd.	0.959	0.722	0.236	0.0560
47.	Datamatics Global Services Ltd.	1.568	3.047	-1.479	2.1874
48.	Dr. Reddy's Laboratories Ltd.	1.948	0.846	1.102	1.2144
49.	Essar Securities Ltd.	1.964	1.128	0.836	0.6988
50.	Genus Power Infrastructures Ltd.	1.012	1.182	-0.170	0.0289
51.	Housing Development & Infra Ltd.	1.491	2.215	-0.724	0.5241
52.	Jayaswal Neco Inds. Ltd.	0.256	0.378	-0.122	0.0148
53.	Jay Shree Tea Inds. Ltd.	0.536	0.372	0.164	0.0268
54.	Joonktollee Tea Inds. Ltd.	0.428	0.454	-0.026	0.0006
55.	Mahindra and Mahindra Ltd.	0.300	0.282	0.018	0.0003
56.	Orient Paper Industries Ltd.	0.790	0.644	0.146	0.0213
57.	Panama Petrochem Ltd.	0.700	0.752	-0.052	0.0027
58.	Piramal Enterprises Ltd.	0.458	0.738	-0.280	0.0784
59.	Quest Softech (India) Ltd.	2.782	1.702	1.080	1.1664
60.	RDB Realities & Infra. Ltd.	1.218	1.018	0.200	0.0400
61.	SEL Manufacturing Company Ltd.	0.492	1.300	-0.808	0.6528
62.	S R F Ltd.	0.670	0.684	-0.014	0.0001
63.	SRM Energy Ltd.	0.698	0.587	0.111	0.0123
64.	Stone India Ltd.	0.764	0.462	0.302	0.0912
65.	TCS Ltd.	4.412	1.868	2.544	6.4719
66.	Zenith Birla (India) Ltd.	1.292	1.334	-0.042	0.0017

Source: Computed results are based on the data from the financial statements of selected acquirer firms from CMIE prowess database

On comparing the calculated t value with the Table value, it was found that there is no significant difference between aggregate mean values of QR for pre and post acquisition period. Similar results are obtained by some previous researches 9,11,15,18,19,20,

★ Net Working Capital to Sales Ratio

It can be observed from the table 5.23 given below that 33 acquirer companies out of total sample of 66 companies show increase in the ratio and 32 firms shows decrease in the ratio. The required financial data for calculation of ratio is not available for 1 company.

Table: 5.23 Net Working Capital to Sales Ratio

Sr No	Name of the Companies	NWC/SR			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
1.	ABG Shipyard Ltd.	0.450	1.020	-0.569	0.3243
2.	Accel Fortline Ltd.	0.528	0.359	0.168	0.0284
3.	Advanta Ltd.	0.542	1.796	-1.253	1.5713
4.	Aegis Logistics Ltd.	0.351	0.327	0.023	0.0005
5.	Aftek Ltd.	1.532	0.687	0.845	0.7148
6.	Apollo Tyres Ltd.	0.136	0.097	0.038	0.0014
7.	Aurobindo Pharma Ltd.	0.310	0.883	-0.573	0.3283
8.	Autoline Industries Ltd.	0.050	0.010	0.039	0.0015
9.	Bharat Heavy Electricals Ltd.	1.245	0.321	0.924	0.8537
10.	Bodal Chemicals Ltd.	0.163	0.464	-0.301	0.0906
11.	Bombay Burma Trading Corp. Ltd.	0.629	0.705	-0.076	0.0057
12.	Carborundum Universal Ltd.	0.286	0.270	0.016	0.0002
13.	Century Plyboards India Ltd.	0.266	0.275	-0.009	0.00008
14.	Cranes Softwares International Ltd.	1.274	3.907	-2.632	6.931
15.	Dollex Industries Ltd.	0.213	0.018	0.194	0.0379
16.	Epic Energy Ltd.	2.157	0.271	1.885	3.5562
17.	Exide Industries Ltd.	0.158	0.085	0.073	0.0053
18.	Forties Healthcare Ltd.	-0.146	4.831	-4.977	24.777
19.	GMR Infrastructures Ltd.	23.17	10.60	12.56	157.86
20.	Godrej Properties Ltd.	1.879	5.261	-3.381	11.434
21.	Heritage Foods India Ltd.	0.104	0.069	0.034	0.0012
22.	Indoco Remedies Ltd.	0.300	0.377	-0.077	0.0059
23.	Jet Airways (India) Ltd.	0.213	0.018	0.194	0.0379
24.	Kirloskar Brothers Ltd.	0.214	0.256	-0.041	0.0017
25.	Kovai Medical Center & Hosp Ltd.	-0.014	0.116	-0.131	0.0173
26.	Lupin Ltd.	0.495	0.396	0.099	0.0098
27.	Modern India Ltd.	1.067	0.287	0.779	0.6079
28.	Nexsoft Infotel Ltd.	6.485	0.323	6.162	37.981
29.	Nilkamal Ltd.	0.280	0.265	0.015	0.0002
30.	Pidilite Industries Ltd.	0.188	0.175	0.012	0.0001
31.	Pioneer Embroideries Ltd.	0.463	1.212	-0.748	0.5601
32.	Satra Properties India Ltd.	-	-	-	-
33.	S Kumars Nationwide Ltd.	1.292	0.882	0.410	0.1681
34.	Sona Koyo Steering Systems Ltd.	0.234	0.035	0.199	0.0398
35.	S.P. Apparels Ltd.	0.264	0.890	-0.625	0.3911
36.	Speciality Papers Ltd.	0.122	0.211	-0.089	0.0080
37.	Strides Acrolab Ltd.	0.633	0.749	-0.116	0.0134
38.	Sundram Fasteners Ltd	0.285	0.305	-0.019	0.0003
39.	Systematix Corporate Services Ltd.	-4.052	-1.267	-2.784	7.7528
40.	Tata Power Company Ltd	0.257	0.422	-0.164	0.0271
41.	Tata Steel Ltd.	-0.032	0.098	-0.130	0.0170
42.	United Credit Ltd.	8.673	-6.780	15.45	238.80
43.	Videocon Industries Ltd.	0.463	1.212	-0.748	0.5601

Sr No	Name of the Companies	NWC/SR			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
44.	A C I Infocom Ltd.	0.155	0.131	0.023	0.0005
45.	AIA Engineering Ltd.	0.081	1.231	-1.150	1.3220
46.	Allsec Technologies Ltd.	0.123	0.284	-0.161	0.0260
47.	Datamatics Global Services Ltd.	0.316	0.201	0.115	0.0132
48.	Dr. Reddy's Laboratories Ltd.	0.509	0.114	0.394	0.1559
49.	Essar Securities Ltd	0.293	0.261	0.032	0.0010
50.	Genus Power Infrastructures Ltd.	0.391	0.548	-0.156	0.0245
51.	Housing Development & Infra Ltd.	0.412	1.316	-0.904	0.8175
52.	Jayaswal Neco Inds. Ltd.	0.177	0.181	-0.003	0.00009
53.	Jay Shree Tea Inds. Ltd.	0.171	0.263	-0.091	0.0084
54.	Joonktollee Tea Inds. Ltd.	0.225	0.093	0.132	0.0174
55.	Mahindra and Mahindra Ltd.	-0.120	-0.153	0.033	0.0010
56.	Orient Paper Industries Ltd.	0.083	0.050	0.033	0.0011
57.	Panama Petrochem Ltd.	0.138	0.121	0.016	0.0002
58.	Piramal Enterprises Ltd.	0.092	0.970	-0.878	0.7711
59.	Quest Softech (India) Ltd.	0.324	0.840	-0.515	0.2659
60.	RDB Realities & Infra. Ltd.	0.453	0.234	0.218	0.0478
61.	SEL Manufacturing Company Ltd.	-0.001	0.081	-0.083	0.0069
62.	S R F Ltd.	0.061	0.136	-0.074	0.0055
63.	SRM Energy Ltd.	1.236	1.026	0.209	0.0440
64.	Stone India Ltd.	0.171	0.109	0.062	0.0039
65.	TCS Ltd.	1.042	0.234	0.808	0.6536
66.	Zenith Birla (India) Ltd.	0.212	0.392	-0.179	0.0323

Source: Computed results are based on the data from the financial statements of selected acquirer firms from CMIE prowess database, - Required financial data is not available for calculation of ratio

To examine whether the acquisition has affected NWC/SR of the acquirer firms significantly or not, paired t-test is applied on the 65 pairs of pre and post acquisition mean values of NWC/SR. The computed value of paired t is presented in Table 5.24. On comparing the computed value of t with the Table value, it was found that there is no significant difference between aggregate mean values of NWC/SR for pre and post acquisition period. This results are in conformity with some earlier studies^{11,22}.

Table 5.24 Hypothesis Testing of Liquidity Ratios

Sr No.	Ratio	Df	t calculated	P value	Hypothesis
1	Current Ratio	65	1.653	0.120	H ₀₁ Accepted
2	Quick Ratio	65	0.667	0.507	H ₀₁ Accepted
3	NWC to Sales Ratio	64	0.969	0.336	H ₀₁ Accepted

From Table 5.24, it can be concluded that the acquisition does not affect significantly to the overall liquidity position of the acquirer and therefore,

H₀₁: There is no significant difference in liquidity performance of the selected acquirer firms before and after acquisition
stands **accepted**.

5.4.2 EMPIRICAL RESULTS OF LEVERAGE RATIOS

The next category ratios are Leverage Ratios.^{7,8,10,11,12} Financial leverage refers to the use of debt finance. Two Leverage ratios are selected for analysis viz:

- ❖ Debt Equity Ratio and
- ❖ Interest Coverage Ratio.

★ Debt Equity Ratio

Table 5.25 given below shows that from the total sample of 66 acquirer firms, the require financial data for calculation of ratio is not available for 3 acquirer companies. so out of remaining 63 firms, 35 firms show increase in Debt Equity ratio and 28 firms show decrease in the ratio.

To examine whether the acquisition has affected degree of leverage of the acquirer firms significantly or not, paired t-test is applied on the 63 pairs of pre and post acquisition mean values of D-ER. The computed value of paired t is presented in Table 5.27. On comparing the calculated t value with the Table value, it is observed that there is no significant difference between aggregate mean values of D-ER for pre and post acquisition period. Similar results are obtained by some of the previous researches^{11,15,18,20,29,34}.

Table :5.25 Debt- Equity Ratio

Sr No	Name of the Companies	D-ER			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
1.	ABG Shipyard Ltd.	0.752	1.966	-1.214	1.4737
2.	Accel Fortline Ltd.	0.998	0.498	0.500	0.2500
3.	Advanta Ltd.	0.322	0.730	-0.407	0.1660
4.	Aegis Logistics Ltd.	0.460	0.274	0.186	0.0345
5.	Aftek Ltd.	3.196	0.060	3.136	9.8344
6.	Apollo Tyres Ltd.	0.896	0.720	0.176	0.0309
7.	Aurobindo Pharma Ltd.	1.454	1.902	-0.448	0.2007
8.	Autoline Industries Ltd.	0.174	0.060	0.114	0.0129
9.	Bharat Heavy Electricals Ltd.	0.106	0.010	0.096	0.0092
10.	Bodal Chemicals Ltd.	-	-	-	-
11.	Bombay Burma Trading Corp. Ltd.	2.266	2.790	-0.524	0.2745
12.	Carborundum Universal Ltd.	0.400	0.624	-0.224	0.0501
13.	Century Plyboards India Ltd.	0.866	0.964	-0.098	0.0096
14.	Cranes Softwares International Ltd.	0.836	2.044	-1.208	1.4592
15.	Dollex Industries Ltd.	1.674	1.626	0.048	0.0023
16.	Epic Energy Ltd.	0.022	0.154	-0.132	0.0174
17.	Exide Industries Ltd.	0.818	0.130	0.688	0.4733
18.	Forties Healthcare Ltd.	1.432	0.378	1.054	1.1119
19.	GMR Infrastructures Ltd.	0.958	0.268	0.690	0.4761
20.	Godrej Properties Ltd.	1.280	0.974	0.306	0.0936
21.	Heritage Foods India Ltd.	0.210	1.912	-1.702	2.8968
22.	Indoco Remedies Ltd	1.018	0.996	0.022	0.0004
23.	Jet Airways (India) Ltd.	8.448	10.43	-1.984	3.9362
24.	Kirloskar Brothers Ltd.	0.488	0.434	0.054	0.0029
25.	Kovai Medical Center & Hosp Ltd.	1.066	2.814	-1.748	3.0555
26.	Lupin Ltd.	1.348	0.476	0.872	0.7603
27.	Modern India Ltd.	0.652	1.346	-0.694	0.4816
28.	Nexxoft Infotel Ltd.	-	-	-	-
29.	Nilkamal Ltd.	0.732	1.150	-0.418	0.1747
30.	Pidilite Industries Ltd.	0.160	0.488	-0.328	0.1075
31.	Pioneer Embroideries Ltd.	1.292	7.470	-6.178	38.167
32.	Satra Properties India Ltd.	-	-	-	-
33.	S Kumars Nationwide Ltd.	4.684	2.144	2.540	6.4516
34.	Sona Koyo Steering Systems Ltd.	0.870	1.150	-0.280	0.0784
35.	S.P. Apparels Ltd.	1.096	1.254	-0.158	0.0249
36.	Speciality Papers Ltd.	3.504	1.674	1.830	3.3489
37.	Strides Acrolab Ltd.	0.892	2.408	-1.516	2.2982
38.	Sundram Fasteners Ltd.	0.904	1.342	-0.438	0.1918
39.	Systematix Corporate Services Ltd.	0.082	0.715	-0.633	0.4005
40.	Tata Power Company Ltd.	0.516	0.588	-0.072	0.0051
41.	Tata Steel Ltd.	0.828	0.964	-0.136	0.0187
42.	United Credit Ltd.	0.040	0.042	-0.002	0.0004

Sr No	Name of the Companies	D-ER			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
43.	Videocon Industries Ltd.	1.246	1.370	-0.124	0.0153
44.	A C I Infocom Ltd.	0.302	0.284	0.018	0.0003
45.	AIA Engineering Ltd.	0.094	0.072	0.022	0.0004
46.	Allsec Technologies Ltd.	0.136	0.054	0.082	0.0067
47.	Datamatics Global Services Ltd.	0.712	1.480	-0.768	0.5898
48.	Dr. Reddy's Laboratories Ltd.	0.136	0.192	-0.056	0.0031
49.	Essar Securities Ltd.	0.957	1.267	-0.309	0.0957
50.	Genus Power Infrastructures Ltd.	2.492	0.832	1.660	2.7556
51.	Housing Development & Infra Ltd.	0.564	0.982	-0.418	0.1750
52.	Jayaswal Neco Inds. Ltd.	13.02	1.546	11.47	131.65
53.	Jay Shree Tea Inds. Ltd.	0.886	1.118	-0.232	0.0538
54.	Joonktollie Tea Inds. Ltd.	0.432	0.242	0.190	0.0361
55.	Mahindra and Mahindra Ltd.	0.530	0.940	-0.410	0.1681
56.	Orient Paper Industries Ltd.	21.36	0.623	20.74	430.36
57.	Panama Petrochem Ltd.	0.884	0.952	-0.068	0.0046
58.	Piramal Enterprises Ltd.	0.668	0.624	0.043	0.0019
59.	Quest Softech (India) Ltd.	0.934	0.644	0.290	0.0841
60.	RDB Realities & Infra. Ltd.	0.922	0.652	0.270	0.0729
61.	SEL Manufacturing Company Ltd.	1.233	1.033	0.200	0.0400
62.	S R F Ltd.	0.830	0.670	0.160	0.0256
63.	SRM Energy Ltd.	0.961	1.311	-0.350	0.1225
64.	Stone India Ltd.	0.812	0.814	-0.002	0.0004
65.	TCS Ltd.	0.466	0.822	-0.356	0.1267
66.	Zenith Birla (India) Ltd.	0.326	0.498	-0.172	0.0295

Source: Computed results are based on the data from the financial statements of selected acquirer firms from CMIE prowess database, - Required financial data is not available for calculation of ratio

★ Interest Coverage Ratio

Table 5.26 shows that 29 acquiring firms out of total sample of 66 acquiring firms show increase in the ratio in post acquisition period and 33 firms show decrease in the ratio. As the required financial data for calculation of ratio are not available for 4 firms, the details are presented for 62 firms.

To examine whether the acquisition has affected ICR of the acquirer firms significantly or not, paired t-test is applied on the 62 pairs of pre and post acquisition mean values of ICR. The computed value of paired t is presented in Table 5.27. On comparing the calculated t value with the Table value, it was observed that there is no significant difference between aggregate mean values of ICR for pre and post

acquisition period. This result is in conformity with some of the previous studies.^{11,18,20}

Table: 5.26 Interest Coverage Ratio

Sr No	Name of the Companies	ICR			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
1.	ABG Shipyard Ltd.	5.738	3.178	2.560	6.5536
2.	Accel Fortline Ltd.	1.850	2.292	-0.442	0.1953
3.	Advanta Ltd.	1.580	1.058	0.522	0.2724
4.	Aegis Logistics Ltd.	6.046	9.310	-3.264	10.653
5.	Aftek Ltd.	0.464	3.994	-3.530	12.460
6.	Apollo Tyres Ltd.	3.294	4.102	-0.808	0.6528
7.	Aurobindo Pharma Ltd.	13.64	1.812	11.82	139.90
8.	Autoline Industries Ltd.	52.59	65.45	-12.85	165.32
9.	Bharat Heavy Electricals Ltd.	16.18	17.94	-1.760	3.0976
10.	Bodal Chemicals Ltd.	1.132	2.706	-1.574	2.4774
11.	Bombay Burma Trading Corp. Ltd.	1.310	2.274	-0.964	0.9292
12.	Carborundum Universal Ltd.	12.32	6.858	5.466	29.877
13.	Century Plyboards India Ltd.	0.866	0.964	-0.098	0.0096
14.	Cranes Softwares International Ltd.	5.994	0.470	5.524	30.514
15.	Dollex Industries Ltd.	2.290	2.072	0.218	0.0475
16.	Epic Energy Ltd.	-	-	-	-
17.	Exide Industries Ltd.	6.236	69.952	-63.71	4059.7
18.	Forties Healthcare Ltd.	-1.537	2.268	-3.805	14.481
19.	GMR Infrastructures Ltd.	2.566	2.746	-0.180	0.0324
20.	Godrej Properties Ltd.	2.044	2.990	-0.946	0.8949
21.	Heritage Foods India Ltd.	0.882	0.874	0.008	0.00006
22.	Indoco Remedies Ltd	3.970	0.416	3.554	12.630
23.	Jet Airways (India) Ltd.	2.834	-0.066	2.900	8.4100
24.	Kirloskar Brothers Ltd.	7.172	4.324	2.848	8.1111
25.	Kovai Medical Center & Hosp Ltd.	3.750	2.948	0.802	0.6432
26.	Lupin Ltd.	4.498	24.168	-19.67	386.90
27.	Modern India Ltd.	-1.102	2.058	-3.160	9.9856
28.	Nexsoft Infotel Ltd.	-	-	-	-
29.	Nilkamal Ltd.	3.112	2.940	0.172	0.0295
30.	Pidilite Industries Ltd.	50.07	13.44	36.62	1341.6
31.	Pioneer Embroideries Ltd.	2.748	-0.348	3.096	9.5852
32.	Satra Properties India Ltd.	-	-	-	-
33.	S Kumars Nationwide Ltd.	-21.26	1.938	-23.20	538.42
34.	Sona Koyo Steering Systems Ltd.	9.516	2.464	7.052	49.730
35.	S.P. Apparels Ltd.	3.712	4.282	-0.570	0.3249
36.	Speciality Papers Ltd.	3.430	3.488	-0.058	0.0033
37.	Strides Acrolab Ltd.	2.270	1.272	0.998	0.9960
38.	Sundram Fasteners Ltd	10.39	4.550	5.840	34.105

Sr No	Name of the Companies	ICR			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
39.	Systematix Corporate Services Ltd.	-	-	-	-
40.	Tata Power Company Ltd.	3.908	3.976	-0.068	0.0046
41.	Tata Steel Ltd.	14.86	6.164	8.700	75.690
42.	United Credit Ltd.	20.32	36.24	-15.91	253.38
43.	Videocon Industries Ltd.	2.534	2.350	0.184	0.0338
44.	A C I Infocom Ltd.	-0.524	0.610	-1.134	1.2859
45.	AIA Engineering Ltd.	30.16	12.89	17.27	298.25
46.	Allsec Technologies Ltd.	2.697	2.461	0.236	0.0556
47.	Datamatics Global Services Ltd.	3.680	3.612	0.068	0.0046
48.	Dr. Reddy's Laboratories Ltd.	27.19	11.04	16.15	260.85
49.	Essar Securities Ltd.	10.26	5.670	4.590	21.068
50.	Genus Power Infrastructures Ltd.	3.080	2.590	0.490	0.2401
51.	Housing Development & Infra Ltd.	0.697	1.029	-0.332	0.1102
52.	Jayaswal Neco Inds. Ltd.	0.722	1.508	-0.786	0.6177
53.	Jay Shree Tea Inds. Ltd.	1.580	3.064	-1.484	2.2022
54.	Joonktollee Tea Inds. Ltd.	1.302	2.786	-1.484	2.2022
55.	Mahindra and Mahindra Ltd.	6.728	2.040	4.688	21.977
56.	Orient Paper Industries Ltd.	5.190	5.344	-0.154	0.0237
57.	Panama Petrochem Ltd.	1.948	2.156	-0.208	0.0432
58.	Piramal Enterprises Ltd.	6.046	3.246	2.800	7.8400
59.	Quest Softech (India) Ltd.	3.156	3.364	-0.208	0.0432
60.	RDB Realities & Infra. Ltd.	2.208	2.096	0.112	0.0125
61.	SEL Manufacturing Company Ltd.	36.28	67.54	-31.26	977.25
62.	S R F Ltd.	6.758	6.866	-0.108	0.0116
63.	SRM Energy Ltd.	6.523	6.023	0.500	0.2500
64.	Stone India Ltd.	1.922	0.748	1.174	1.3782
65.	TCS Ltd.	22.42	9.640	12.78	163.45
66.	Zenith Birla (India) Ltd.	3.562	3.774	31.84	1014.2

Source: Computed results are based on the data from the financial statements of selected acquirer firms from CMIE prowess database, - Required financial data is not available for calculation of ratio

Table 5.27 Hypothesis Testing of Leverage Ratios

Sr No.	Ratio	Df	t calculated	P value	Hypothesis
1	Debt Equity Ratio	62	0.956	0.343	H ₀₂ Accepted
2	Interest Coverage Ratio	61	-0.851	0.397	H ₀₂ Accepted

Thus, from Table 5.27, it can be concluded that the leverage ratio and coverage ratio do not change significantly after the acquisition for the acquirer companies and therefore,

H₀₂: There is no significant difference in degree of leverage of the selected acquirer firms before and after acquisition

stands **accepted**.

5.4.3 EMPIRICAL RESULTS OF ACTIVITY RATIOS

Funds of creditors and owners are invested in various assets to generate sales and profits. The better the management of assets, the larger the amount of sales. Activity ratio^{3,4,10,14,15,38} measures the efficiency with which the assets are employed by a firm. Two turnover ratios are selected to examine impact of acquisition on acquirer companies. They are:

- ❖ Inventory Turnover ratio and
- ❖ Fixed Assets Turnover ratio.

★ Inventory Turnover Ratio

It can be observed from table 5.28 that 26 acquirer firms out of total sample of 66 acquirer firms indicate improvement in ITR after acquisition, where as 24 firms show deterioration in the ratio. The required financial data for calculation of ratio is not available for 16 acquirer firms. Hence data of 50 companies are analysed to examine the impact of acquisition.

To examine whether the acquisition has affected ITR of the acquirer firms significantly or not, paired t-test is applied on the 50 pairs of pre and post acquisition mean values of ITR. The computed value of paired t is presented in Table 5.30. On comparing the calculated value of t with the Table value, it is observed that there is no significant difference between aggregate mean values of ITR for pre and post acquisition period. This result is in conformity with the study of Ransariya S. (2010)¹⁵.

Table: 5.28 Inventory Turnover Ratio

Sr No	Name of the Companies	ITR			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
1.	ABG Shipyard Ltd.	-	-	-	-
2.	Accel Fortline Ltd.	27.52	22.68	4.836	23.386
3.	Advanta Ltd.	3.133	2.060	1.073	1.1519
4.	Aegis Logistics Ltd.	19.68	43.36	-23.68	560.74
5.	Aftek Ltd.	-	-	-	-
6.	Apollo Tyres Ltd.	15.76	12.79	2.966	8.7971
7.	Aurobindo Pharma Ltd.	16.98	11.36	5.618	31.561
8.	Autoline Industries Ltd.	8.792	8.960	-0.168	0.0282
9.	Bharat Heavy Electricals Ltd.	23.83	30.97	-7.136	50.922
10.	Bodal Chemicals Ltd.	15.68	12.70	2.980	8.8804
11.	Bombay Burma Trading Corp. Ltd.	4.260	5.452	-1.192	1.4208
12.	Carborundum Universal Ltd.	12.08	14.10	-2.020	4.0804
13.	Century Plyboards India Ltd.	11.53	15.66	-4.134	17.089
14.	Cranes Softwares International Ltd.	11.41	92.01	-80.61	6497.3
15.	Dollex Industries Ltd.	24.10	16.90	7.198	51.811
16.	Epic Energy Ltd.	-	-	-	-
17.	Exide Industries Ltd.	11.42	14.46	-3.040	9.2416
18.	Forties Healthcare Ltd.	-	-	-	-
19.	GMR Infrastructures Ltd.	-	-	-	-
20.	Godrej Properties Ltd.	-	-	-	-
21.	Heritage Foods India Ltd.	20.23	22.72	-2.488	6.1901
22.	Indoco Remedies Ltd.	7.198	6.290	0.908	0.8244
23.	Jet Airways (India) Ltd.	-	-	-	-
24.	Kirloskar Brothers Ltd.	41.87	53.33	-11.45	131.23
25.	Kovai Medical Center & Hosp Ltd.	-	-	-	-
26.	Lupin Ltd.	10.37	10.45	-0.088	0.0077
27.	Modern India Ltd.	76.80	95.74	-18.93	358.49
28.	Nexxoft Infotel Ltd.	-	-	-	-
29.	Nilkamal Ltd.	13.29	7.490	5.802	33.663
30.	Pidilite Industries Ltd.	8.924	9.416	-0.492	0.2420
31.	Pioneer Embroideries Ltd.	5.088	5.450	-0.362	0.1310
32.	Satra Properties India Ltd.	-	-	-	-
33.	S Kumars Nationwide Ltd.	3.428	5.834	-2.406	5.7888
34.	Sona Koyo Steering Systems Ltd.	19.47	28.52	-9.058	82.047
35.	S.P. Apparels Ltd.	14.42	7.430	6.996	48.944
36.	Speciality Papers Ltd.	-	-	-	-
37.	Strides Acrolab Ltd.	38.82	38.15	0.670	0.4489
38.	Sundram Fasteners Ltd.	21.61	18.76	2.856	8.1567
39.	Systematix Corporate Services Ltd.	-	-	-	-
40.	Tata Power Company Ltd.	-	-	-	-
41.	Tata Steel Ltd.	9.580	10.63	-1.058	1.1193
42.	United Credit Ltd.	14.66	11.56	3.108	9.6596
43.	Videocon Industries Ltd.	18.20	22.76	-4.562	20.811

Sr No	Name of the Companies	ITR			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
44.	A C I Infocom Ltd.	7.924	20.39	-12.47	155.58
45.	AIA Engineering Ltd.	57.74	32.53	25.20	635.29
46.	Allsec Technologies Ltd.	4.642	4.012	0.630	0.3969
47.	Datamatics Global Services Ltd.	14.23	13.68	0.548	0.3003
48.	Dr. Reddy's Laboratories Ltd.	18.55	18.82	-0.266	0.0707
49.	Essar Securities Ltd.	33.25	16.38	16.86	284.52
50.	Genus Power Infrastructures Ltd.	86.22	38.57	47.65	2270.9
51.	Housing Development & Infra Ltd.	-	-	-	-
52.	Jayaswal Neco Inds. Ltd.	14.09	14.91	-0.814	0.6625
53.	Jay Shree Tea Inds. Ltd.	6.678	4.608	2.070	4.2849
54.	Joonktollee Tea Inds. Ltd.	4.250	7.938	-3.688	13.601
55.	Mahindra and Mahindra Ltd.	20.38	21.48	-1.104	1.2188
56.	Orient Paper Industries Ltd.	30.83	30.59	0.236	0.0556
57.	Panama Petrochem Ltd.	10.55	14.09	-3.540	12.531
58.	Piramal Enterprises Ltd.	7.432	14.86	-7.436	55.294
59.	Quest Softech (India) Ltd.	-	-	-	-
60.	RDB Realities & Infra. Ltd.	25.35	20.38	4.974	24.740
61.	SEL Manufacturing Company Ltd.	-	-	-	-
62.	S R F Ltd.	29.23	29.70	-0.472	0.2227
63.	SRM Energy Ltd.	10.34	9.672	0.674	0.4542
64.	Stone India Ltd.	18.42	11.41	1.013	49.182
65.	TCS Ltd.	22.42	9.640	12.78	163.45
66.	Zenith Birla (India) Ltd.	10.16	9.623	0.540	0.2922

Source: Computed results are based on the data from the financial statements of selected acquirer firms from CMIE prowess database, - Required financial data is not available for calculation of ratio

★ Fixed Assets Turnover Ratio

Out of total 66 acquiring firms in the sample, the required financial data for calculation of ratio is not available for 3 acquirer firms. Out of remaining 63 firms, 28 acquirer firms' fixed asset turnover ratio has increased after acquisition and 35 companies show decrease in the ratio. These details are presented in Table 5.29 given below.

To examine whether the acquisition has affected FATR of the acquirer firms significantly or not, paired t-test is applied on the 63 pairs of pre and post acquisition mean values of FATR. The computed value of paired t is presented in Table 5.30. On comparing the calculated t value with the Table value, it was found that there is no

significant difference between aggregate mean values of FATR for pre and post acquisition period. Similar result is obtained by Ransariya S. (2010)¹⁵.

Table: 5.29 Fixed Assets Turnover Ratio

Sr No	Name of the Companies	FATR			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
1.	ABG Shipyard Ltd.	7.538	4.422	3.116	9.7094
2.	Accel Fortline Ltd.	14.65	12.20	2.448	5.9927
3.	Advanta Ltd.	3.613	1.846	1.767	3.1234
4.	Aegis Logistics Ltd.	2.042	2.694	-0.652	0.4251
5.	Aftek Ltd	3.066	4.194	-1.128	1.2723
6.	Apollo Tyres Ltd.	4.194	3.834	0.360	0.1296
7.	Aurobindo Pharma Ltd.	2.804	2.174	0.630	0.3969
8.	Autoline Industries Ltd.	6.256	9.220	-2.964	8.7852
9.	Bharat Heavy Electricals Ltd.	9.110	18.27	-9.164	83.978
10.	Bodal Chemicals Ltd.	4.016	9.550	-5.534	30.625
11.	Bombay Burma Trading Corp. Ltd.	2.768	2.966	-0.198	0.0392
12.	Carborundum Universal Ltd.	3.458	2.696	0.762	0.5806
13.	Century Plyboards India Ltd.	8.466	7.596	0.870	0.7569
14.	Cranes Softwares International Ltd.	2.358	0.544	1.814	3.2905
15.	Dollex Industries Ltd.	15.75	9.542	6.214	38.613
16.	Epic Energy Ltd.	0.853	4.942	-4.088	16.717
17.	Exide Industries Ltd.	3.146	7.108	-3.962	15.697
18.	Forties Healthcare Ltd.	0.900	2.710	-1.810	3.2761
19.	GMR Infrastructures Ltd.	8.760	8.910	-0.150	0.0225
20.	Godrej Properties Ltd.	26.01	41.30	-15.29	233.84
21.	Heritage Foods India Ltd.	5.436	4.850	0.586	0.3433
22.	Indoco Remedies Ltd	2.796	2.024	0.772	0.5959
23.	Jet Airways (India) Ltd.	1.622	1.016	0.606	0.3672
24.	Kirloskar Brothers Ltd.	10.06	8.586	1.478	2.1844
25.	Kovai Medical Center & Hosp Ltd.	1.502	1.504	-0.002	0.00004
26.	Lupin Ltd.	2.358	3.430	-1.072	1.1491
27.	Modern India Ltd.	1.828	11.29	-9.470	89.680
28.	Nexxoft Infotel Ltd.	-	-	-	-
29.	Nilkamal Ltd.	3.356	5.462	-2.106	4.4352
30.	Pidilite Industries Ltd.	3.856	5.316	-1.460	2.1316
31.	Pioneer Embroideries Ltd.	2.692	1.426	1.266	1.6027
32.	Satra Properties India Ltd.	-	-	-	-
33.	S Kumars Nationwide Ltd.	1.408	4.256	-2.848	8.1111
34.	Sona Koyo Steering Systems Ltd.	3.786	3.516	0.270	0.0729
35.	S.P. Apparels Ltd.	7.726	1.526	6.200	38.440
36.	Speciality Papers Ltd.	4.516	2.810	1.706	2.9104
37.	Strides Acrolab Ltd.	38.82	38.15	0.670	0.4489
38.	Sundram Fasteners Ltd.	3.192	3.074	0.118	0.0139
39.	Systematix Corporate Services Ltd.	-	-	-	-

Sr No	Name of the Companies	FATR			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
40.	Tata Power Company Ltd.	1.304	1.508	-0.204	0.0416
41.	Tata Steel Ltd.	1.684	2.718	-1.034	1.0691
42.	United Credit Ltd.	0.322	0.368	-0.046	0.0021
43.	Videocon Industries Ltd.	2.362	2.418	-0.056	0.0031
44.	A C I Infocom Ltd.	10.70	18.18	-7.48	55.9504
45.	AIA Engineering Ltd.	9.096	1.870	7.226	52.215
46.	Allsec Technologies Ltd.	3.185	5.031	-1.846	3.4077
47.	Datamatics Global Services Ltd.	3.751	1.246	2.505	6.2760
48.	Dr. Reddy's Laboratories Ltd.	4.444	3.906	0.538	0.2894
49.	Essar Securities Ltd	3.672	2.152	1.520	2.3104
50.	Genus Power Infrastructures Ltd.	6.476	9.086	-2.610	6.8121
51.	Housing Development & Infra Ltd.	6.230	4.460	1.770	3.1339
52.	Jayaswal Neco Inds. Ltd.	2.592	2.250	0.342	0.1169
53.	Jay Shree Tea Inds. Ltd.	2.400	2.472	-0.072	0.0051
54.	Joonktollie Tea Inds. Ltd.	1.622	1.448	0.174	0.0302
55.	Mahindra and Mahindra Ltd.	6.050	4.002	2.048	4.1943
56.	Orient Paper Industries Ltd.	3.528	2.670	0.858	0.7361
57.	Panama Petrochem Ltd.	6.250	3.048	3.202	10.252
58.	Piramal Enterprises Ltd.	2.910	1.904	1.006	1.0120
59.	Quest Softech (India) Ltd.	1.080	1.448	-0.368	0.1354
60.	RDB Realities & Infra. Ltd.	13.65	12.06	1.586	2.5153
61.	SEL Manufacturing Company Ltd.	1.570	1.688	-0.118	0.0139
62.	S R F Ltd.	2.044	1.628	0.416	0.1730
63.	SRM Energy Ltd.	2.136	1.236	0.900	0.8100
64.	Stone India Ltd.	9.354	3.262	6.092	37.112
65.	TCS Ltd.	1.532	0.738	0.794	0.6304
66.	Zenith Birla (India) Ltd.	1.866	3.038	-1.172	1.3735

Source: Computed results are based on the data from the financial statements of selected acquirer firms from CMIE prowess database, - Required financial data is not available for calculation of ratio

Table 5.30 Hypothesis Testing of Activity Ratios

Sr No.	Ratio	Df	t calculated	P value	Hypothesis
1	Inventory Turnover Ratio	49	-0.353	0.725	H ₀₃ Accepted
2	Fixed Asset Turnover Ratio	62	-0.502	0.617	H ₀₃ Accepted

From the Table 5.30 it can be concluded that the selected two activity ratios do not change significantly after acquisition for the acquirer companies. Therefore,

H₀₃: *There is no significant difference in activity ratios of the selected acquirer firms before and after acquisition*

stands **accepted**.

5.4.4 EMPIRICAL RESULTS OF PROFITABILITY RATIOS

A company should earn profits to survive and grow over a long period of time. The following profitability ratios^{1,2,3,5,10,11,12,19,20,25,29,33,34,35,36,37} are selected for analysis:

- ❖ Gross Profit Margin Ratio
- ❖ Operating Profit Margin Ratio
- ❖ Net Profit Margin Ratio
- ❖ PBDIT to Total Assets Ratio
- ❖ Return on Capital Employed Ratio
- ❖ Return on Investment Ratio
- ❖ Return on Net worth Ratio

★ Gross Profit Margin Ratio

Table 5.31 present details of Gross Profit Margin Ratio

Table: 5.31 Gross Profit Margin Ratio

Sr No	Name of the Companies	GPM			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
1.	ABG Shipyard Ltd.	20.80	33.80	-13.00	169.00
2.	Accel Fortline Ltd.	10.10	9.200	0.900	0.8100
3.	Advanta Ltd.	14.70	25.20	-10.50	110.25
4.	Aegis Logistics Ltd.	23.80	22.10	1.700	2.8900
5.	Aftek Ltd.	30.30	28.80	1.500	2.2500
6.	Apollo Tyres Ltd.	9.000	10.40	-1.400	1.9600
7.	Aurobindo Pharma Ltd.	29.30	23.40	5.900	34.810
8.	Autoline Industries Ltd.	14.70	16.40	-1.700	2.8900
9.	Bharat Heavy Electricals Ltd.	20.50	27.50	-7.000	49.000
10.	Bodal Chemicals Ltd.	8.200	14.20	-6.000	36.000
11.	Bombay Burma Trading Corp. Ltd.	14.60	35.20	-20.60	424.36
12.	Carborundum Universal Ltd.	22.00	22.60	-0.600	0.3600
13.	Century Plyboards India Ltd.	8.700	23.10	-14.40	207.36
14.	Cranes Softwares International Ltd.	59.60	67.80	-8.200	67.240
15.	Dollex Industries Ltd.	19.80	12.60	7.200	51.840
16.	Epic Energy Ltd.	28.00	14.60	13.40	179.56
17.	Exide Industries Ltd.	14.00	16.30	-2.300	5.2900
18.	Forties Healthcare Ltd.	-15.10	56.50	-71.60	5126.5
19.	GMR Infrastructures Ltd.	91.30	85.30	6.000	36.000
20.	Godrej Properties Ltd.	52.50	97.20	-44.70	1998.1
21.	Heritage Foods India Ltd.	11.20	4.000	7.200	51.840
22.	Indoco Remedies Ltd	16.50	9.100	7.400	54.760
23.	Jet Airways (India) Ltd.	19.80	12.60	7.200	51.840
24.	Kirloskar Brothers Ltd.	14.40	11.50	2.900	8.4100
25.	Kovai Medical Center & Hosp Ltd.	16.30	19.40	-3.100	9.6100
26.	Lupin Ltd.	17.70	22.00	-4.300	18.490

Sr No	Name of the Companies	GPM			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
27.	Modern India Ltd.	8.300	8.600	-0.300	0.0900
28.	Nexxoft Infotel Ltd.	15.00	24.60	-9.600	92.160
29.	Nilkamal Ltd.	11.60	10.80	0.800	0.6400
30.	Pidilite Industries Ltd.	16.70	18.10	-1.400	1.9600
31.	Pioneer Embroideries Ltd.	18.90	15.50	3.400	11.560
32.	Satra Properties India Ltd.	-	-	-	-
33.	S Kumars Nationwide Ltd.	11.60	20.80	-9.200	84.640
34.	Sona Koyo Steering Systems Ltd.	9.900	7.800	2.100	4.4100
35.	S.P. Apparels Ltd.	10.30	25.30	-15.00	225.00
36.	Speciality Papers Ltd.	10.80	12.90	-2.100	4.4100
37.	Strides Acrolab Ltd.	25.40	33.60	-8.200	67.240
38.	Sundram Fasteners Ltd.	14.50	12.70	1.800	3.2400
39.	Systematix Corporate Services Ltd.	15.25	-11.31	25.56	705.73
40.	Tata Power Company Ltd.	33.70	28.70	5.000	25.000
41.	Tata Steel Ltd.	29.10	38.10	-9.000	81.000
42.	United Credit Ltd.	22.30	20.10	2.200	4.8400
43.	Videocon Industries Ltd.	18.90	15.50	3.400	11.560
44.	A C I Infocom Ltd.	0.700	5.600	-4.900	24.010
45.	AIA Engineering Ltd.	15.20	74.50	-59.30	3516.5
46.	Allsec Technologies Ltd.	22.80	35.60	-12.80	163.84
47.	Datamatics Global Services Ltd.	13.20	18.40	-5.200	27.040
48.	Dr. Reddy's Laboratories Ltd.	29.40	26.40	3.000	9.0000
49.	Essar Securities Ltd.	12.10	17.50	-5.400	29.160
50.	Genus Power Infrastructures Ltd.	15.00	15.10	-0.100	0.0100
51.	Housing Development & Infra Ltd.	12.40	18.60	-6.200	38.440
52.	Jayaswal Neco Inds. Ltd.	8.600	14.70	-6.100	37.210
53.	Jay Shree Tea Inds. Ltd.	10.70	17.40	-6.700	44.890
54.	Joonktollee Tea Inds. Ltd.	13.60	18.90	-5.300	28.090
55.	Mahindra and Mahindra Ltd.	12.40	11.10	1.300	1.6900
56.	Orient Paper Industries Ltd.	13.20	14.60	-1.400	1.9600
57.	Panama Petrochem Ltd.	10.60	11.50	-0.900	0.8100
58.	Piramal Enterprises Ltd.	19.60	25.40	-5.800	33.640
59.	Quest Softech (India) Ltd.	49.30	24.40	24.90	620.01
60.	RDB Realities & Infra. Ltd.	10.80	9.100	1.700	2.8900
61.	SEL Manufacturing Company Ltd.	28.90	31.00	-2.100	4.4100
62.	S R F Ltd.	19.20	26.70	-7.500	56.250
63.	SRM Energy Ltd.	25.70	34.60	-8.900	79.210
64.	Stone India Ltd.	11.80	9.600	2.200	4.8400
65.	TCS Ltd.	54.70	66.70	-12.00	144.00
66.	Zenith Birla (India) Ltd.	32.50	16.90	15.60	243.36

Source: Computed results are based on the data from the financial statements of selected acquirer firms from CMIE prowess database, - Required financial data is not available for calculation of ratio

Table 5.31 shows that, 38 acquiring firms show improvement in the ratio for post acquisition period and the ratio deteriorated for remaining 27 firms in post acquisition period. The required data for calculation of ratio is not available for 1 acquirer firm. Hence calculation is based on data of 65 acquirer firms.

To examine whether the acquisition has affected GPM of the acquirer firms significantly or not, paired t-test is applied on the 65 pairs of pre and post acquisition mean values of GPM. The computed value of paired t is presented below.

GPM Ratio	Df (64)	Paired t value (-0.173)	P Value (0.863)
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On comparing the calculated t value with the Table value, it is observed that there is no significant difference between aggregate mean values of GPM for pre and post acquisition period. This result is similar with some of the previous researches.^{7,15,19,47}

★ Operating Profit Margin Ratio

Table 5.32 shows that, 39 acquiring companies out of total sample of 66 acquiring companies show increase in performance after acquisition event and 25 acquiring companies show decrease in performance after acquisition. The required financial data for calculation of ratio are not available for 2 firms.

To examine whether the acquisition has affected OPM of the acquirer firms significantly or not, paired t-test is applied on the 64 pairs of pre and post acquisition mean values of OPM. The computed value of paired t is presented below.

Table 5.32 Operating Profit Margin Ratio

Sr No	Name of the Companies	OPM			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
1.	ABG Shipyard Ltd.	19.40	31.30	-11.90	141.61
2.	Accel Fortline Ltd.	7.300	6.000	1.300	1.6900
3.	Advanta Ltd.	11.60	17.60	-6.000	36.000
4.	Aegis Logistics Ltd.	20.30	18.40	1.900	3.6100
5.	Aftek Ltd.	9.600	20.90	-11.30	127.69
6.	Apollo Tyres Ltd.	6.40	8.200	-1.800	3.2400
7.	Aurobindo Pharma Ltd.	6.700	19.40	-12.70	161.29
8.	Autoline Industries Ltd.	12.40	15.20	-2.800	7.8400
9.	Bharat Heavy Electricals Ltd.	24.30	26.10	-1.800	3.2400
10.	Bodal Chemicals Ltd.	6.000	12.20	-6.200	38.440
11.	Bombay Burma Trading Corp. Ltd.	11.50	31.40	-19.90	396.01
12.	Carborundum Universal Ltd.	18.00	18.50	-0.500	0.2500
13.	Century Plyboards India Ltd.	6.700	9.600	-2.900	8.4100
14.	Cranes Softwares International Ltd.	49.40	-50.00	99.40	9880.4
15.	Dollex Industries Ltd.	6.800	4.300	2.500	6.2500
16.	Epic Energy Ltd.	56.40	18.90	37.50	1406.2
17.	Exide Industries Ltd.	9.900	14.60	-4.700	22.090
18.	Forties Healthcare Ltd.	-41.50	50.70	-92.20	8500.9
19.	GMR Infrastructures Ltd.	96.40	62.50	33.90	1149.2
20.	Godrej Properties Ltd.	98.80	98.90	-0.100	0.0100
21.	Heritage Foods India Ltd.	9.400	2.100	7.300	53.290
22.	Indoco Remedies Ltd	12.10	4.100	8.000	64.000
23.	Jet Airways (India) Ltd.	6.800	4.300	2.500	6.2500
24.	Kirloskar Brothers Ltd.	11.80	8.900	2.900	8.4100
25.	Kovai Medical Center & Hosp Ltd.	9.700	15.20	-5.500	30.250
26.	Lupin Ltd.	15.10	19.90	-4.800	23.040
27.	Modern India Ltd.	0.200	7.800	-7.600	57.760
28.	Nexsoft Infotel Ltd.	-2.900	4.500	-7.400	54.760
29.	Nilkamal Ltd.	6.600	8.200	-1.600	2.5600
30.	Pidilite Industries Ltd.	13.50	15.90	-2.400	5.7600
31.	Pioneer Embroideries Ltd.	14.30	5.000	9.300	86.490
32.	Satra Properties India Ltd.	-	-	-	-
33.	S Kumars Nationwide Ltd.	-8.300	17.20	-25.50	650.25
34.	Sona Koyo Steering Systems Ltd.	6.300	5.000	1.300	1.6900
35.	S.P. Apparels Ltd.	8.900	20.40	-11.50	132.25
36.	Speciality Papers Ltd.	8.600	10.80	-2.200	4.8400
37.	Strides Acrolab Ltd.	20.80	28.20	-7.400	54.760
38.	Sundram Fasteners Ltd	12.00	9.700	2.300	5.2900
39.	Systematix Corporate Services Ltd.	-10.10	-23.86	13.76	189.33
40.	Tata Power Company Ltd.	24.60	22.60	2.000	4.0000
41.	Tata Steel Ltd.	23.70	34.50	-10.80	116.64
42.	United Credit Ltd.	57.40	70.90	-13.50	182.25
43.	Videocon Industries Ltd.	14.30	5.000	9.300	86.490

Sr No	Name of the Companies	OPM			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
44.	A C I Infocom Ltd.	-1.200	1.700	-2.900	8.4100
45.	AIA Engineering Ltd.	6.800	12.90	-6.100	37.210
46.	Allsec Technologies Ltd.	16.40	5.600	10.80	116.64
47.	Datamatics Global Services Ltd.	27.50	16.40	11.10	123.21
48.	Dr. Reddy's Laboratories Ltd.	18.80	19.60	-0.800	0.6400
49.	Essar Securities Ltd.	34.50	27.10	7.400	54.760
50.	Genus Power Infrastructures Ltd.	10.00	11.80	-1.800	3.2400
51.	Housing Development & Infra Ltd.	-	-	-	-
52.	Jayaswal Neco Inds. Ltd.	6.200	15.00	-8.800	77.440
53.	Jay Shree Tea Inds. Ltd.	3.300	8.600	-5.300	28.090
54.	Joonktollee Tea Inds. Ltd.	5.800	4.900	0.900	0.8100
55.	Mahindra and Mahindra Ltd.	13.10	19.20	-6.100	37.210
56.	Orient Paper Industries Ltd.	22.70	24.10	-1.400	1.9600
57.	Panama Petrochem Ltd.	7.300	8.000	-0.700	0.4900
58.	Piramal Enterprises Ltd.	9.000	11.00	-2.000	4.0000
59.	Quest Softech (India) Ltd.	21.70	-39.40	61.10	3733.2
60.	RDB Realities & Infra. Ltd.	7.400	4.800	2.600	6.7600
61.	SEL Manufacturing Company Ltd.	35.30	26.10	9.200	84.640
62.	S R F Ltd.	5.900	4.400	1.500	2.2500
63.	SRM Energy Ltd.	11.80	16.40	-4.600	21.160
64.	Stone India Ltd.	36.30	23.20	13.10	171.61
65.	TCS Ltd.	15.90	16.80	-0.900	0.8100
66.	Zenith Birla (India) Ltd.	21.10	9.100	12.00	144.00

Source: Computed results are based on the data from the financial statements of selected acquirer firms from CMIE prowess database, - Required financial data is not available for calculation of ratio

OPM Ratio	Df (63)	Paired t value (-0.460)	P Value (0.647)
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On comparing the calculated t value with the Table value, it is observed that there is no significant difference between aggregate mean values of OPM for pre and post acquisition period. This result is in conformity with some of the previous studies.^{15,19,29,47,48}

★ Net Profit Margin Ratio

It can be observed from table 5.33 that, out of total sample of 66 acquiring firms, the required financial data is not available for 2 acquirer firms. So out of remaining 64 firms, 38 firms show improvement in performance post acquisition and remaining 26 firms show decrease in performance post acquisition.

Table: 5.33 Net Profit Margin Ratio

Sr No	Name of the Companies	NPM			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
1.	ABG Shipyard Ltd.	7.500	11.60	-4.100	16.810
2.	Accel Fortline Ltd.	1.900	6.300	-4.400	19.360
3.	Advanta Ltd.	9.000	-8.200	17.20	295.84
4.	Aegis Logistics Ltd.	20.30	18.40	1.900	3.6100
5.	Aftek Ltd.	-8.600	8.500	-17.10	292.41
6.	Apollo Tyres Ltd.	2.800	4.000	-1.200	1.4400
7.	Aurobindo Pharma Ltd.	-4.600	5.700	-10.30	106.09
8.	Autoline Industries Ltd.	7.200	10.10	-2.900	8.4100
9.	Bharat Heavy Electricals Ltd.	7.900	12.80	-4.900	24.010
10.	Bodal Chemicals Ltd.	-0.300	5.300	-5.600	31.360
11.	Bombay Burma Trading Corp. Ltd.	1.300	15.80	-14.50	210.25
12.	Carborundum Universal Ltd.	11.70	10.90	0.800	0.6400
13.	Century Plyboards India Ltd.	4.200	6.200	-2.000	4.0000
14.	Cranes Softwares International Ltd.	30.90	-23.22	54.12	2928.9
15.	Dollex Industries Ltd.	2.500	-3.800	6.300	39.690
16.	Epic Energy Ltd.	-3.500	7.600	-11.10	123.21
17.	Exide Industries Ltd.	4.900	9.300	-4.400	19.360
18.	Forties Healthcare Ltd.	-67.30	28.40	-95.70	9158.4
19.	GMR Infrastructures Ltd.	86.90	65.30	21.60	466.56
20.	Godrej Properties Ltd.	14.80	45.60	-30.80	948.64
21.	Heritage Foods India Ltd.	5.600	-0.500	6.100	37.210
22.	Indoco Remedies Ltd	7.000	-0.300	7.300	53.290
23.	Jet Airways (India) Ltd.	2.500	-3.800	6.300	39.690
24.	Kirloskar Brothers Ltd.	7.100	4.100	3.000	9.0000
25.	Kovai Medical Center & Hosp Ltd.	3.600	6.700	-3.100	9.6100
26.	Lupin Ltd.	8.100	16.10	-8.000	64.000
27.	Modern India Ltd.	-2.800	2.800	-5.600	31.360
28.	Nexxoft Infotel Ltd.	-6.600	-6.100	-0.500	0.2500
29.	Nilkamal Ltd.	3.500	6.300	-2.800	7.8400
30.	Pidilite Industries Ltd.	8.700	11.30	-2.600	6.7600
31.	Pioneer Embroideries Ltd.	8.200	-4.500	12.70	161.29
32.	Satra Properties India Ltd.	-	-	-	-
33.	S Kumars Nationwide Ltd.	-17.00	5.400	-22.40	501.76
34.	Sona Koyo Steering Systems Ltd.	3.500	1.500	2.000	4.0000
35.	S.P. Apparels Ltd.	4.800	10.50	-5.700	32.490
36.	Speciality Papers Ltd.	3.800	4.200	-0.400	0.1600
37.	Strides Acrolab Ltd.	8.400	3.200	5.200	27.040
38.	Sundram Fasteners Ltd.	6.900	4.400	2.500	6.2500
39.	Systematix Corporate Services Ltd.	-19.36	-32.81	13.45	180.90
40.	Tata Power Company Ltd.	13.10	13.40	-0.300	0.0900
41.	Tata Steel Ltd.	14.00	19.70	-5.700	32.490
42.	United Credit Ltd.	5.200	10.20	-5.000	25.000
43.	Videocon Industries Ltd.	8.200	-4.500	12.70	161.29

Sr No	Name of the Companies	NPM			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
44.	A C I Infocom Ltd.	-2.700	0.100	-2.800	7.8400
45.	AIA Engineering Ltd.	9.000	15.05	-6.050	36.602
46.	Allsec Technologies Ltd.	-	-	-	-
47.	Datamatics Global Services Ltd.	9.700	3.600	6.100	37.210
48.	Dr. Reddy's Laboratories Ltd.	16.40	14.70	1.700	2.8900
49.	Essar Securities Ltd.	7.801	-20.52	28.32	802.05
50.	Genus Power Infrastructures Ltd.	5.300	6.100	-0.800	0.6400
51.	Housing Development & Infra Ltd.	19.70	12.50	7.200	51.840
52.	Jayaswal Neco Inds. Ltd.	-2.600	1.900	-4.500	20.250
53.	Jay Shree Tea Inds. Ltd.	3.300	7.200	-3.900	15.210
54.	Joonktolee Tea Inds. Ltd.	2.900	7.500	-4.600	21.160
55.	Mahindra and Mahindra Ltd.	5.300	3.100	2.200	4.8400
56.	Orient Paper Industries Ltd.	1.600	6.300	-4.700	22.090
57.	Panama Petrochem Ltd.	4.200	13.30	-9.100	82.810
58.	Piramal Enterprises Ltd.	11.60	31.62	-20.02	400.80
59.	Quest Softech (India) Ltd.	8.300	-32.60	40.90	1672.8
60.	RDB Realities & Infra. Ltd.	2.200	1.600	0.600	0.3600
61.	SEL Manufacturing Company Ltd.	15.00	23.80	-8.800	77.440
62.	S R F Ltd.	7.000	11.80	-4.800	23.040
63.	SRM Energy Ltd.	12.70	0.600	12.10	146.41
64.	Stone India Ltd.	1.200	-0.100	1.300	1.6900
65.	TCS Ltd.	29.70	14.00	15.70	246.49
66.	Zenith Birla (India) Ltd.	13.90	4.000	9.900	98.010

Source: Computed results are based on the data from the financial statements of selected acquirer firms from CMIE prowess database, - Required financial data is not available for calculation of ratio

To examine whether the acquisition has affected NPM of the acquirer firms or not, paired t-test is applied on the 64 pairs of pre and post acquisition mean values of NPM. The computed value of paired t is presented below.

NPM Ratio	Df (63)	Paired t value (-0.606)	P Value (0.546)
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On comparing the calculated t value with the Table value, it was found that there is no significant difference between aggregate mean values of NPM for pre and post acquisition period. Some previous researches also got similar results.^{15,18,19,48}

★ PBDIT to Total Assets Ratio

It can be observed from the table 5.34 that 22 acquiring companies out of total sample of 66 companies, show improvement in performance after acquisition and remaining 44 acquiring companies have deterioration in performance after acquisition.

Table: 5.34 PBDIT to Total Assets Ratio

Sr No	Name of the Companies	PBDIT/TA			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
1.	ABG Shipyard Ltd.	13.60	11.10	2.500	6.2500
2.	Accel Fortline Ltd.	12.10	12.40	-0.300	0.0900
3.	Advanta Ltd.	12.80	3.900	8.900	79.210
4.	Aegis Logistics Ltd.	19.50	19.80	-0.300	0.0900
5.	Aftek Ltd.	12.60	3.800	8.800	77.440
6.	Apollo Tyres Ltd.	16.00	13.60	2.400	5.7600
7.	Aurobindo Pharma Ltd.	17.30	13.10	4.200	17.640
8.	Autoline Industries Ltd.	29.10	25.50	3.600	12.960
9.	Bharat Heavy Electricals Ltd.	13.40	17.10	-3.700	13.690
10.	Bodal Chemicals Ltd.	10.50	19.20	-8.700	75.690
11.	Bombay Burma Trading Corp. Ltd.	8.200	19.50	-11.30	127.69
12.	Carborundum Universal Ltd.	18.80	20.00	-1.200	1.4400
13.	Century Plyboards India Ltd.	12.90	18.20	-5.300	28.090
14.	Cranes Softwares International Ltd.	26.80	9.300	17.50	306.25
15.	Dollex Industries Ltd.	12.60	6.400	6.200	38.440
16.	Epic Energy Ltd.	3.600	20.10	-16.50	272.25
17.	Exide Industries Ltd.	18.80	25.80	-7.000	49.000
18.	Forties Healthcare Ltd.	2.200	4.300	-2.100	4.4100
19.	GMR Infrastructures Ltd.	10.20	2.100	8.100	65.610
20.	Godrej Properties Ltd.	24.40	14.10	10.30	106.09
21.	Heritage Foods India Ltd.	27.40	10.20	17.20	295.84
22.	Indoco Remedies Ltd.	17.50	8.600	8.900	79.210
23.	Jet Airways (India) Ltd.	12.60	6.400	6.200	38.440
24.	Kirloskar Brothers Ltd.	14.50	10.90	3.600	12.960
25.	Kovai Medical Center & Hosp Ltd.	16.70	14.90	1.800	3.2400
26.	Lupin Ltd.	14.80	18.70	-3.900	15.210
27.	Modern India Ltd.	4.400	10.50	-6.100	37.210
28.	Nexsoft Infotel Ltd.	4.100	28.00	-23.90	571.21
29.	Nilkamal Ltd.	16.30	17.90	-1.600	2.5600
30.	Pidilite Industries Ltd.	26.30	21.60	4.700	22.090
31.	Pioneer Embroideries Ltd.	16.80	6.100	10.70	114.49
32.	Satra Properties India Ltd.	22.20	11.60	10.60	112.36
33.	S Kumars Nationwide Ltd.	5.500	12.70	-7.200	51.840
34.	Sona Koyo Steering Systems Ltd.	17.50	12.60	4.900	24.010
35.	S.P. Apparels Ltd.	13.90	10.80	3.100	9.6100
36.	Speciality Papers Ltd.	16.00	10.90	5.100	26.010
37.	Strides Acrolab Ltd.	13.00	8.800	4.200	17.640
38.	Sundram Fasteners Ltd.	17.90	14.60	3.300	10.890
39.	Systematix Corporate Services Ltd.	0.600	4.100	-3.500	12.250
40.	Tata Power Company Ltd.	15.80	10.90	4.900	24.010
41.	Tata Steel Ltd.	24.30	14.30	10.00	100.00
42.	United Credit Ltd.	14.50	7.000	7.500	56.250
43.	Videocon Industries Ltd.	16.80	6.100	10.70	114.49

Sr No	Name of the Companies	PBDIT/TA			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
44.	A C I Infocom Ltd.	3.200	6.800	-3.600	12.960
45.	AIA Engineering Ltd.	18.90	10.60	8.300	68.890
46.	Allsec Technologies Ltd.	14.60	6.700	7.900	62.410
47.	Datamatics Global Services Ltd.	23.10	12.60	10.50	110.25
48.	Dr. Reddy's Laboratories Ltd.	17.20	15.10	2.100	4.4100
49.	Essar Securities Ltd.	17.60	14.20	3.400	11.560
50.	Genus Power Infrastructures Ltd.	16.40	11.90	4.500	20.250
51.	Housing Development & Infra Ltd.	17.10	12.40	4.700	22.090
52.	Jayaswal Neco Inds. Ltd.	9.300	12.10	-2.800	7.8400
53.	Jay Shree Tea Inds. Ltd.	7.200	12.30	-5.100	26.010
54.	Joonktollee Tea Inds. Ltd.	11.00	8.000	3.000	9.0000
55.	Mahindra and Mahindra Ltd.	17.90	9.400	8.500	72.250
56.	Orient Paper Industries Ltd.	17.60	17.00	0.600	0.3600
57.	Panama Petrochem Ltd.	12.40	9.700	2.700	7.2900
58.	Piramal Enterprises Ltd.	21.00	29.30	-8.300	68.890
59.	Quest Softech (India) Ltd.	26.70	13.00	13.70	187.69
60.	RDB Realities & Infra. Ltd.	12.00	11.90	0.100	0.0100
61.	SEL Manufacturing Company Ltd.	23.00	16.00	7.000	49.000
62.	S R F Ltd.	18.80	22.10	-3.300	10.890
63.	SRM Energy Ltd.	11.20	5.400	5.800	33.640
64.	Stone India Ltd.	9.200	9.400	-0.200	0.0400
65.	TCS Ltd.	21.70	20.80	0.900	0.8100
66.	Zenith Birla (India) Ltd.	29.30	12.70	16.60	275.56

Source: Computed results are based on the data from the financial statements of selected acquirer firms from CMIE prowess database

To examine whether the acquisition has affected PBDIT/TA of the acquirer firms significantly or not, paired t-test is applied on the 66 pairs of pre and post acquisition mean values of PBDIT/TA. The computed value of paired t is presented below.

PBDIT /TA Ratio	Df (65)	Paired t value (2.681^{***})	P Value (0.009)
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On comparing the calculated t value with the Table value, it was found that there is a significant difference between aggregate mean values of PBDIT/TA for pre and post acquisition period at 1percent level of significance.

★ Return on Capital Employed Ratio

Table 5.35 presents pre and post acquisition means of ROCE. It shows that, 26 acquiring companies out total sample of 66 acquiring companies show improvement, post acquisition and 40 companies show deterioration in performance post acquisition.

Table: 5.35 Return on Capital Employed Ratio

Sr No	Name of the Companies	ROCE			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
1.	ABG Shipyard Ltd.	10.13	8.569	1.569	2.4630
2.	Accel Fortline Ltd.	8.002	6.375	1.627	2.6479
3.	Advanta Ltd.	12.09	2.433	9.658	93.293
4.	Aegis Logistics Ltd.	15.84	15.97	-0.129	0.0167
5.	Aftek Ltd.	0.555	1.651	-1.096	1.2025
6.	Apollo Tyres Ltd.	9.483	10.33	-0.847	0.7182
7.	Aurobindo Pharma Ltd.	9.834	10.47	-0.645	0.4168
8.	Autoline Industries Ltd.	23.45	23.35	0.101	0.0102
9.	Bharat Heavy Electricals Ltd.	8.932	9.456	-0.523	0.2740
10.	Bodal Chemicals Ltd.	7.426	15.47	-8.049	64.801
11.	Bombay Burma Trading Corp. Ltd.	5.973	6.222	-0.248	0.0619
12.	Carborundum Universal Ltd.	14.99	15.67	-0.676	0.4580
13.	Century Plyboards India Ltd.	9.753	12.90	-3.151	9.9302
14.	Cranes Softwares International Ltd.	22.51	-0.734	23.24	540.31
15.	Dollex Industries Ltd.	6.043	5.428	0.615	0.3787
16.	Epic Energy Ltd.	0.551	14.12	-13.57	184.29
17.	Exide Industries Ltd.	13.03	22.36	-9.335	87.152
18.	Forties Healthcare Ltd.	-3.601	3.473	-7.074	50.051
19.	GMR Infrastructures Ltd.	9.901	1.983	7.917	62.687
20.	Godrej Properties Ltd.	9.303	12.34	-3.039	9.2413
21.	Heritage Foods India Ltd.	22.45	3.873	18.57	345.15
22.	Indoco Remedies Ltd.	12.08	4.154	7.931	62.901
23.	Jet Airways (India) Ltd.	4.411	1.462	2.948	8.6911
24.	Kirloskar Brothers Ltd.	10.17	7.301	2.871	8.2436
25.	Kovai Medical Center & Hosp Ltd.	10.02	11.62	-1.603	2.5713
26.	Lupin Ltd.	12.39	16.49	-4.101	16.821
27.	Modern India Ltd.	0.859	9.201	-8.342	69.593
28.	Nexsoft Infotel Ltd.	2.023	9.306	-7.283	53.045
29.	Nilkamal Ltd.	8.744	12.56	-3.823	14.615
30.	Pidilite Industries Ltd.	20.80	17.92	2.880	8.2958
31.	Pioneer Embroideries Ltd.	12.64	-0.003	12.64	159.87
32.	Satra Properties India Ltd.	4.160	11.08	-6.922	47.925
33.	S Kumars Nationwide Ltd.	-1.012	10.11	-11.13	123.91
34.	Sona Koyo Steering Systems Ltd.	10.91	7.697	3.218	10.360
35.	S.P. Apparels Ltd.	11.71	8.597	3.121	9.7456
36.	Speciality Papers Ltd.	12.08	8.501	3.581	12.825
37.	Strides Acrolab Ltd.	9.764	3.477	6.287	39.534
38.	Sundram Fasteners Ltd.	14.54	9.453	5.089	25.898
39.	Systematix Corporate Services Ltd.	-0.608	-1.193	0.585	0.3430
40.	Tata Power Company Ltd.	10.93	8.481	2.453	6.0194
41.	Tata Steel Ltd.	19.80	12.77	7.031	49.447
42.	United Credit Ltd.	8.103	4.929	3.173	10.071
43.	Videocon Industries Ltd.	7.758	7.834	-0.075	0.0057

Sr No	Name of the Companies	ROCE			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
44.	A C I Infocom Ltd.	1.390	2.305	-0.915	0.8378
45.	AIA Engineering Ltd.	21.58	8.446	13.13	172.50
46.	Allsec Technologies Ltd.	4.539	-4.742	9.281	86.149
47.	Datamatics Global Services Ltd.	5.236	4.285	0.951	0.9044
48.	Dr. Reddy's Laboratories Ltd.	12.60	7.282	5.320	28.308
49.	Essar Securities Ltd.	2.569	2.256	0.313	0.0982
50.	Genus Power Infrastructures Ltd.	10.84	2.408	8.441	71.253
51.	Housing Development & Infra Ltd.	6.396	6.257	0.139	0.0193
52.	Jayaswal Neco Inds. Ltd.	3.845	7.138	-3.293	10.845
53.	Jay Shree Tea Inds. Ltd.	4.663	8.996	-4.333	18.775
54.	Joonktollee Tea Inds. Ltd.	5.101	3.477	1.623	2.6353
55.	Mahindra and Mahindra Ltd.	12.41	4.570	7.842	61.504
56.	Orient Paper Industries Ltd.	12.67	12.78	-0.103	0.0106
57.	Panama Petrochem Ltd.	8.542	6.771	1.771	3.1347
58.	Piramal Enterprises Ltd.	17.10	9.462	7.647	58.485
59.	Quest Softech (India) Ltd.	11.74	4.498	7.242	52.448
60.	RDB Realities & Infra. Ltd.	3.610	3.798	-0.188	0.0353
61.	SEL Manufacturing Company Ltd.	18.08	12.56	5.519	30.463
62.	S R F Ltd.	13.07	2.083	10.98	120.75
63.	SRM Energy Ltd.	10.41	-4.804	15.22	231.71
64.	Stone India Ltd.	5.236	4.396	0.841	0.7067
65.	TCS Ltd.	14.46	8.665	5.801	33.651
66.	Zenith Birla (India) Ltd.	19.37	7.160	12.21	149.25

Source: Computed results are based on the data from the financial statements of selected acquirer firms from CMIE prowess database

To examine whether the acquisition has affected ROCE of the acquirer firms significantly or not, paired t-test is applied on the 66 pairs of pre and post acquisition mean values of ROCE. The computed value of paired t is presented below.

ROCE	Df (65)	Paired t value (2.060 ^{**})	P Value (0.043)
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On comparing the calculated t value with the Table value, it was found that there is a significant difference between aggregate mean values of ROCE for pre and post acquisition period at 5 percent level of significance. This result is in conformity with some of the previous studies.^{11,15,23,49}

★ Return on Investment Ratio

Table 5.36 presents ROI ratio of 66 sample companies for pre and post acquisition period. Out of total sample of 66 acquiring companies, 30 acquiring companies show

improvement in post acquisition period. Remaining 36 acquiring companies show decline in ROI ratio post acquisition.

Table: 5.36 Return on Investment Ratio

Sr No	Name of the Companies	ROI			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
1.	ABG Shipyard Ltd.	6.707	5.772	0.935	0.8745
2.	Accel Fortline Ltd.	6.082	4.802	1.279	1.6378
3.	Advanta Ltd.	10.25	1.896	8.356	69.831
4.	Aegis Logistics Ltd.	12.14	11.96	0.181	0.0329
5.	Aftek Ltd.	0.563	1.471	-0.908	0.8247
6.	Apollo Tyres Ltd.	6.068	7.071	-1.003	1.0072
7.	Aurobindo Pharma Ltd.	7.590	7.468	0.122	0.0150
8.	Autoline Industries Ltd.	14.74	16.02	-1.281	1.6410
9.	Bharat Heavy Electricals Ltd.	5.540	8.077	-2.536	6.4354
10.	Bodal Chemicals Ltd.	7.228	11.88	-4.660	21.720
11.	Bombay Burma Trading Corp. Ltd.	5.681	12.58	-6.902	47.638
12.	Carborundum Universal Ltd.	11.24	11.43	-0.181	0.0331
13.	Century Plyboards India Ltd.	7.602	11.64	-4.040	16.326
14.	Cranes Softwares International Ltd.	16.66	0.238	16.42	269.94
15.	Dollex Industries Ltd.	4.342	3.489	0.853	0.7279
16.	Epic Energy Ltd.	0.355	11.80	-11.45	131.13
17.	Exide Industries Ltd.	8.637	15.15	-6.513	42.420
18.	Forties Healthcare Ltd.	-3.601	3.400	-7.002	49.030
19.	GMR Infrastructures Ltd.	9.555	1.786	7.769	60.358
20.	Godrej Properties Ltd.	6.190	8.696	-2.506	6.2818
21.	Heritage Foods India Ltd.	14.17	2.150	12.02	144.58
22.	Indoco Remedies Ltd.	10.06	3.752	6.309	39.810
23.	Jet Airways (India) Ltd.	2.879	0.636	2.243	5.0326
24.	Kirloskar Brothers Ltd.	8.798	5.150	3.648	13.309
25.	Kovai Medical Center & Hosp Ltd.	5.545	7.689	-2.143	4.5942
26.	Lupin Ltd.	9.561	14.30	-4.745	22.520
27.	Modern India Ltd.	0.671	5.920	-5.248	27.550
28.	Nexsoft Infotel Ltd.	1.043	1.923	-0.879	0.7736
29.	Nilkamal Ltd.	7.608	8.914	-1.305	1.7041
30.	Pidilite Industries Ltd.	14.11	14.60	-0.492	0.2424
31.	Pioneer Embroideries Ltd.	11.52	0.825	10.69	114.41
32.	Satra Properties India Ltd.	3.353	6.914	-3.561	12.685
33.	S Kumars Nationwide Ltd.	-1.209	7.071	-8.280	68.571
34.	Sona Koyo Steering Systems Ltd.	7.323	5.223	2.100	4.4119
35.	S.P. Apparels Ltd.	8.529	6.149	2.380	5.6648
36.	Speciality Papers Ltd.	9.484	5.759	3.724	13.874
37.	Strides Acrolab Ltd.	7.988	3.363	4.625	21.390
38.	Sundram Fasteners Ltd.	9.860	6.646	3.213	10.328
39.	Systematix Corporate Services Ltd.	-0.801	-1.750	0.949	0.9006

Sr No	Name of the Companies	ROI			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
40.	Tata Power Company Ltd.	8.192	6.675	1.517	2.3014
41.	Tata Steel Ltd.	13.53	8.804	4.727	22.349
42.	United Credit Ltd.	7.342	3.838	3.504	12.279
43.	Videocon Industries Ltd.	7.102	6.649	0.453	0.2057
44.	A C I Infocom Ltd.	-0.470	1.600	-2.070	4.2856
45.	AIA Engineering Ltd.	13.05	7.324	5.735	32.893
46.	Allsec Technologies Ltd.	3.136	-3.276	6.413	41.134
47.	Datamatics Global Services Ltd.	15.96	8.706	7.255	52.642
48.	Dr. Reddy's Laboratories Ltd.	8.709	5.032	3.676	13.516
49.	Essar Securities Ltd.	12.16	9.812	2.349	5.5196
50.	Genus Power Infrastructures Ltd.	7.496	1.663	5.832	34.022
51.	Housing Development & Infra Ltd.	11.81	8.568	3.247	10.547
52.	Jayaswal Neco Inds. Ltd.	2.657	4.932	-2.275	5.1784
53.	Jay Shree Tea Inds. Ltd.	3.222	6.216	-2.994	8.9651
54.	Joonktollee Tea Inds. Ltd.	3.524	2.403	1.121	1.2583
55.	Mahindra and Mahindra Ltd.	8.577	3.158	5.419	29.367
56.	Orient Paper Industries Ltd.	8.760	8.832	-0.071	0.0051
57.	Panama Petrochem Ltd.	5.902	4.679	1.223	1.4967
58.	Piramal Enterprises Ltd.	11.82	6.538	5.284	27.925
59.	Quest Softech (India) Ltd.	8.112	3.108	5.004	25.043
60.	RDB Realities & Infra. Ltd.	8.292	8.222	0.069	0.0047
61.	SEL Manufacturing Company Ltd.	12.49	8.681	3.813	14.545
62.	S R F Ltd.	9.032	1.439	7.593	57.660
63.	SRM Energy Ltd.	7.198	-3.319	10.51	110.63
64.	Stone India Ltd.	3.618	3.037	0.580	0.3374
65.	TCS Ltd.	9.996	5.988	4.008	16.067
66.	Zenith Birla (India) Ltd.	13.38	4.947	8.441	71.264

Source: Computed results are based on the data from the financial statements of selected acquirer firms from CMIE prowess database

To examine whether the acquisition has affected ROI of the acquirer firms significantly or not, paired t-test is applied on the 66 pairs of pre and post acquisition mean values of ROI. The computed value of paired t is presented here.

ROI	Df (65)	Paired t value (2.481^{**})	P Value (0.015)
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On comparing the calculated t value with the Table value, it was found that there is a significant difference between aggregate mean values of ROI for pre and post acquisition period at 5 percent level of significance. This result matches with some of the previous studies^{4,9,42}.

★ Return on Net worth/ Return on Equity Ratio

The Table 5.37 presents the pre and post acquisition mean of RONW. Out of total sample of 66 acquirer firms, 24 firms have shown improvement in this ratio and 42 firms show deterioration in the ratio. To examine whether the acquisition has affected RONW of the acquirer firms significantly or not, paired t-test is applied on the 66 pairs of pre and post acquisition mean values of RONW. The computed value of paired t is presented below.

Table: 5.37 Return on Net worth Ratio

Sr No	Name of the Companies	RONW			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
1.	ABG Shipyard Ltd.	28.21	20.11	8.098	65.577
2.	Accel Fortline Ltd.	6.664	6.560	0.104	0.0108
3.	Advanta Ltd.	11.67	-1.494	13.17	173.48
4.	Aegis Logistics Ltd.	19.18	19.35	-0.166	0.0275
5.	Aftek Ltd.	-4.860	1.392	-6.252	39.087
6.	Apollo Tyres Ltd.	14.94	15.08	-0.142	0.0201
7.	Aurobindo Pharma Ltd.	33.84	12.63	21.22	450.11
8.	Autoline Industries Ltd.	30.47	45.19	-14.72	216.61
9.	Bharat Heavy Electricals Ltd.	15.43	29.97	-14.53	211.23
10.	Bodal Chemicals Ltd.	33.72	28.69	5.035	25.358
11.	Bombay Burma Trading Corp. Ltd.	3.926	29.56	-25.63	657.10
12.	Carborundum Universal Ltd.	24.02	22.64	1.378	1.8988
13.	Century Plyboards India Ltd.	19.29	26.13	-6.844	46.840
14.	Cranes Softwares International Ltd.	43.49	-6.946	50.43	2543.7
15.	Dollex Industries Ltd.	13.78	10.52	3.258	10.614
16.	Epic Energy Ltd.	0.634	15.15	-14.52	210.71
17.	Exide Industries Ltd.	18.94	26.29	-7.354	54.081
18.	Forties Healthcare Ltd.	-25.82	2.952	-28.78	828.25
19.	GMR Infrastructures Ltd.	13.06	1.254	11.81	139.52
20.	Godrej Properties Ltd.	13.01	22.05	-9.040	81.721
21.	Heritage Foods India Ltd.	26.90	-3.224	30.12	907.69
22.	Indoco Remedies Ltd.	20.83	5.440	15.39	237.09
23.	Jet Airways (India) Ltd.	11.52	-12.91	-1.39	1.93210
24.	Kirloskar Brothers Ltd.	26.44	11.26	15.18	230.49
25.	Kovai Medical Center & Hosp Ltd.	12.03	25.94	-13.91	193.37
26.	Lupin Ltd.	22.63	31.25	-8.622	74.338
27.	Modern India Ltd.	-0.554	14.16	-14.72	216.61
28.	Nexsoft Infotel Ltd.	2.396	-8.682	11.08	122.73
29.	Nilkamal Ltd.	11.04	17.83	-6.822	46.539
30.	Pidilite Industries Ltd.	22.54	29.13	-6.592	43.454
31.	Pioneer Embroideries Ltd.	21.09	-46.34	67.43	4546.8

Sr No	Name of the Companies	RONW			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
32.	Satra Properties India Ltd.	13.44	20.41	-6.970	48.580
33.	S Kumars Nationwide Ltd.	-33.27	13.39	-46.66	2177.5
34.	Sona Koyo Steering Systems Ltd.	18.98	9.620	9.362	87.647
35.	S.P. Apparels Ltd.	30.55	13.41	17.14	293.98
36.	Speciality Papers Ltd.	39.43	14.14	25.29	639.78
37.	Strides Acrolab Ltd.	10.72	-1.262	11.98	143.47
38.	Sundram Fasteners Ltd.	22.35	15.48	6.872	47.224
39.	Systematix Corporate Services Ltd.	-0.324	-1.176	0.852	0.7259
40.	Tata Power Company Ltd.	11.58	10.24	1.342	1.8009
41.	Tata Steel Ltd.	37.47	18.79	18.69	349.16
42.	United Credit Ltd.	8.122	4.308	3.814	14.546
43.	Videocon Industries Ltd.	12.13	8.794	3.338	11.142
44.	A C I Infocom Ltd.	-7.008	-1.072	-5.936	35.236
45.	AIA Engineering Ltd.	23.77	9.322	14.45	208.68
46.	Allsec Technologies Ltd.	36.54	19.23	17.31	299.63
47.	Datamatics Global Services Ltd.	14.69	13.23	1.460	2.1316
48.	Dr. Reddy's Laboratories Ltd.	17.44	14.61	2.830	8.0089
49.	Essar Securities Ltd.	12.37	7.625	4.744	22.505
50.	Genus Power Infrastructures Ltd.	35.62	11.70	23.91	571.78
51.	Housing Development & Infra Ltd.	16.33	12.58	3.747	14.040
52.	Jayaswal Neco Inds. Ltd.	-31.01	5.508	-36.52	1333.4
53.	Jay Shree Tea Inds. Ltd.	5.510	14.70	-9.192	84.492
54.	Joonktollee Tea Inds. Ltd.	4.232	5.106	-0.874	0.7638
55.	Mahindra and Mahindra Ltd.	26.71	8.952	17.76	315.27
56.	Orient Paper Industries Ltd.	50.22	18.58	31.64	1001.3
57.	Panama Petrochem Ltd.	16.03	15.59	0.432	0.1866
58.	Piramal Enterprises Ltd.	34.06	50.47	-16.41	269.15
59.	Quest Softech (India) Ltd.	11.82	0.448	11.38	129.41
60.	RDB Realities & Infra. Ltd.	5.902	5.732	0.170	0.0289
61.	SEL Manufacturing Company Ltd.	38.39	20.37	18.02	324.72
62.	S R F Ltd.	20.25	23.64	-3.394	11.519
63.	SRM Energy Ltd.	4.346	4.025	0.321	0.1029
64.	Stone India Ltd.	8.998	0.302	8.696	75.620
65.	TCS Ltd.	19.95	9.072	10.88	118.41
66.	Zenith Birla (India) Ltd.	26.76	6.924	19.84	393.54

Source: Computed results are based on the data from the financial statements of selected acquirer firms from CMIE proweess database, - Required financial data is not available for calculation of ratio

RONW Ratio	Df (65)	Paired t value (1.780*)	P Value (0.079)
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On comparing the calculated t value with the Table value, it was found that there is significant difference between aggregate mean values of RONW for pre and post

acquisition period at 10 percent level of significance. This result is in conformity with some of the previous studies.^{4,10,23,48}

The summary of empirical results of the seven profitability ratios is presented in table 5.38 given below.

Table 5.38 Hypothesis Testing of Profitability Ratios

Sr No	Ratio	Df	t calculated	P value	Hypothesis
1.	Gross Profit Margin Ratio	64	-0.173	0.863	H ₀₄ Accepted
2.	Operating Profit Margin Ratio	63	-0.460	0.647	H ₀₄ Accepted
3.	Net Profit Margin Ratio	63	-0.606	0.546	H ₀₄ Accepted
4.	PBDIT to Total Asset Ratio	65	2.681***	0.009	H ₀₄ Rejected
5.	Return on Capital Employed Ratio	65	2.060**	0.043	H ₀₄ Rejected
6.	Return on Investment Ratio	65	2.481**	0.015	H ₀₄ Rejected
7.	Return on Net Worth Ratio	65	1.780*	0.079	H ₀₄ Rejected

*** Significant at 1% level, ** Significant at 5% level, * Significant at 10% level

From the Table 5.38 it can be concluded that the out of selected seven profitability ratios three profit margin ratios viz. GPM, OPM and NPM do not change significantly after acquisition for the acquirer companies and remaining four rate of return ratios viz. PBDIT/TA, ROCE, ROI and RONW changed significantly after acquisition for the acquirer companies. Therefore,

H₀₄: There is no significant difference in profitability ratios of the selected acquirer firms before and after acquisition

stands **accepted** for three profit margin ratios and **H₀₄** stands **rejected** for four rate of return ratios.

5.4.5 EMPIRICAL RESULTS OF VALUATION RATIOS

Valuation ratios^{4,7,8,12,15,24,29,,32,37,43} indicate how the equity stock of the company is assessed in the capital market. Since the market value of equity reflects the combined influence of risk and return, valuation ratios are the most comprehensive measure of a firm's performance. Two Valuation ratios are applied for analysis

- ❖ Earning per share and
- ❖ Price Earning ratio.

★ Earning per Share

Table 5.39 presents the pre and post acquisition mean of EPS. As the relevant data of 2 acquirer companies were not available, data of 64 companies are analysed. It can be observed from table 5.39 that, out of total sample of 66 acquiring companies, 33 companies show increase in the EPS post acquisition, where as 31 companies show decrease in EPS post acquisition.

Table: 5.39 Earning Per Share

Sr No	Name of the Companies	EPS			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
1.	ABG Shipyard Ltd.	8.196	33.64	-25.44	647.397
2.	Accel Fortline Ltd.	1.598	2.754	-1.156	1.33633
3.	Advanta Ltd.	6.905	-4.194	11.09	123.187
4.	Aegis Logistics Ltd.	7.776	14.82	-7.046	49.6461
5.	Aftek Ltd.	0.286	3.068	-2.782	7.73952
6.	Apollo Tyres Ltd.	18.67	4.480	14.19	201.356
7.	Aurobindo Pharma Ltd.	6.908	44.96	-38.06	1448.56
8.	Autoline Industries Ltd.	19.61	27.06	-7.45	55.5025
9.	Bharat Heavy Electricals Ltd.	37.62	71.64	-34.02	1157.49
10.	Bodal Chemicals Ltd.	1.246	12.98	-11.73	137.733
11.	Bombay Burma Trading Corp. Ltd.	55.07	17.91	37.16	1380.86
12.	Carborundum Universal Ltd.	20.61	6.514	14.09	198.753
13.	Century Plyboards India Ltd.	9.720	6.966	2.754	7.58451
14.	Cranes Softwares International Ltd.	10.45	-7.434	17.88	319.837
15.	Dollex Industries Ltd.	18.62	6.036	12.59	158.558
16.	Epic Energy Ltd.	0.236	3.186	-2.950	8.70250
17.	Exide Industries Ltd.	12.31	5.144	7.166	51.3515
18.	Forties Healthcare Ltd.	-2.252	0.932	-3.184	10.1378
19.	GMR Infrastructures Ltd.	2.338	0.272	2.066	4.26835
20.	Godrej Properties Ltd.	8.356	13.60	-5.246	27.5205
21.	Heritage Foods India Ltd.	13.34	-9.338	22.68	514.382
22.	Indoco Remedies Ltd.	25.66	1.416	24.25	588.062
23.	Jet Airways (India) Ltd.	16.93	-10.57	27.50	756.250
24.	Kirloskar Brothers Ltd.	30.52	8.652	21.87	478.296
25.	Kovai Medical Center & Hosp Ltd.	2.592	8.762	-6.170	38.0689
26.	Lupin Ltd.	27.99	42.69	-14.70	216.090
27.	Modern India Ltd.	1.692	1.604	0.088	0.00774
28.	Nexsoft Infotel Ltd.	0.172	3.680	-3.508	12.3060
29.	Nilkamal Ltd.	13.41	24.56	-11.15	124.367
30.	Pidilite Industries Ltd.	20.17	6.452	13.72	188.403
31.	Pioneer Embroideries Ltd.	11.89	-11.29	23.18	537.497
32.	Satra Properties India Ltd.	1.890	0.804	1.086	1.17939

Sr No	Name of the Companies	EPS			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
33.	S Kumars Nationwide Ltd.	-2.478	5.036	-7.514	56.4602
34.	Sona Koyo Steering Systems Ltd.	6.668	1.128	5.540	30.6916
35.	S.P. Apparels Ltd.	2.102	9.500	-7.398	54.7304
36.	Speciality Papers Ltd.	11.40	3.006	8.398	70.5264
37.	Strides Acrolab Ltd.	6.722	7.120	-0.398	0.15840
38.	Sundram Fasteners Ltd	18.24	3.598	14.64	214.446
39.	Systematix Corporate Services Ltd.	-0.040	-0.194	0.154	0.02371
40.	Tata Power Company Ltd.	26.73	33.04	-6.308	39.7908
41.	Tata Steel Ltd.	41.24	66.96	-25.71	661.415
42.	United Credit Ltd.	3.024	1.870	1.154	1.33171
43.	Videocon Industries Ltd.	49.67	23.50	26.16	684.659
44.	A C I Infocom Ltd.	-1.322	-0.490	-0.832	0.69222
45.	AIA Engineering Ltd.	34.12	34.56	-0.440	0.19360
46.	Allsec Technologies Ltd.	6.421	1.197	5.224	27.2964
47.	Datamatics Global Services Ltd.	20.12	6.716	13.41	179.828
48.	Dr. Reddy's Laboratories Ltd.	37.71	45.09	-7.380	54.4644
49.	Essar Securities Ltd.	4.987	2.462	2.525	6.37562
50.	Genus Power Infrastructures Ltd.	9.864	20.93	-11.07	122.589
51.	Housing Development & Infra Ltd.	16.22	26.94	-10.72	114.918
52.	Jayaswal Neco Inds. Ltd.	-4.386	2.797	-7.183	51.6026
53.	Jay Shree Tea Inds. Ltd.	5.010	21.69	-16.68	278.422
54.	Joonktolllee Tea Inds. Ltd.	-	-	-	-
55.	Mahindra and Mahindra Ltd.	31.16	30.34	0.828	0.68558
56.	Orient Paper Industries Ltd.	16.63	9.532	7.102	50.4384
57.	Panama Petrochem Ltd.	10.29	2.952	7.344	53.9343
58.	Piramal Enterprises Ltd.	22.33	-26.01	48.33	2336.36
59.	Quest Softech (India) Ltd.	-	-	-	-
60.	RDB Realities & Infra. Ltd.	5.030	2.552	2.477	6.13800
61.	SEL Manufacturing Company Ltd.	29.43	12.68	16.75	280.830
62.	S R F Ltd.	16.26	50.98	-34.71	1205.20
63.	SRM Energy Ltd.	1.517	12.26	-10.75	115.571
64.	Stone India Ltd.	2.712	1.114	1.598	2.55360
65.	TCS Ltd.	15.44	23.24	-7.800	60.8400
66.	Zenith Birla (India) Ltd.	6.956	1.354	5.602	31.3824

Source: Computed results are based on the data from the financial statements of selected acquirer firms from CMIE prowess database, - Required financial data is not available for calculation of ratio

To examine whether the acquisition has affected EPS of the acquirer firms significantly or not, paired t-test is applied on the 64 pairs of pre and post acquisition mean values of EPS. The computed value of paired t is presented below.

Earning per share	Df (63)	Paired t value (1.136)	P Value (0.260)
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On comparing the calculated t value with the Table value, it was found that there is no significant difference between aggregate mean values of EPS for pre and post acquisition period. Similar results are obtained by some of the previous studies^{15,18}.

Thus, it can be concluded that the EPS does not change significantly after acquisition for the acquirer companies. Therefore,

H₀₅: There is no significant difference in Earning Per Share (EPS) of the selected acquirer firms before and after acquisition
stands **accepted**.

★ Price Earning Ratio

Table 5.40 presents the pre and post acquisition mean of P/E ratio. As the price was not available for 13 companies, this ratio could be derived for 53 companies out of total sample of 66 companies. It can be observed from table 5.40 that, 24 acquiring firms out of total sample of 66 firms show increase in performance where as 29 acquiring firms show decrease in performance post acquisition. To calculate P/E, the price taken in the numerator is the market price of the shares of acquirer company, in the Bombay Stock Exchange based on average of monthly closing price for the year under consideration.

Table: 5.40 Price Earning Ratio

Sr No	Name of the Companies	P/E			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
1.	ABG Shipyard Ltd.	-	-	-	-
2.	Accel Fortline Ltd.	-	-	-	-
3.	Advanta Ltd.	-	-	-	-
4.	Aegis Logistics Ltd.	5.918	14.22	-8.306	68.9896
5.	Aftek Ltd.	14.36	20.32	-5.962	35.5454
6.	Apollo Tyres Ltd.	11.42	13.20	-1.780	3.16840
7.	Aurobindo Pharma Ltd.	0.494	0.200	0.294	0.08643
8.	Autoline Industries Ltd.	20.17	28.24	-8.066	65.0603
9.	Bharat Heavy Electricals Ltd.	17.34	22.48	-5.142	26.4401
10.	Bodal Chemicals Ltd.	6.720	4.356	2.364	5.58849
11.	Bombay Burma Trading Corp. Ltd.	21.79	-5.220	27.01	729.648
12.	Carborundum Universal Ltd.	9.534	23.27	-13.73	188.677
13.	Century Plyboards India Ltd.	14.20	18.84	-4.642	21.5481

Sr No	Name of the Companies	P/E			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
14.	Cranes Softwares International Ltd.	9.304	4.084	5.220	27.2484
15.	Dollex Industries Ltd.	6.504	14.20	-7.696	59.2284
16.	Epic Energy Ltd.	49.61	11.80	37.80	1429.14
17.	Exide Industries Ltd.	11.05	19.95	-8.896	79.1388
18.	Fortis Healthcare Ltd.	-	-	-	-
19.	GMR Infrastructures Ltd.	-	-	-	-
20.	Godrej Properties Ltd.	-	-	-	-
21.	Heritage Foods India Ltd.	5.980	47.11	-41.13	1692.33
22.	Indoco Remedies Ltd.	9.620	-6.426	16.04	257.474
23.	Jet Airways (India) Ltd.	22.86	-10.84	33.70	1135.69
24.	Kirloskar Brothers Ltd.	12.94	20.18	-7.244	52.4755
25.	Kovai Medical Center & Hosp Ltd.	13.57	10.29	3.276	10.7321
26.	Lupin Ltd.	15.90	19.47	-3.572	12.7591
27.	Modern India Ltd.	41.96	153.1	-111.1	12348.5
28.	Nexsoft Infotel Ltd.	-11.12	5.762	-16.88	285.018
29.	Nilkamal Ltd.	6.562	10.51	-3.954	15.6341
30.	Pidilite Industries Ltd.	14.86	20.28	-5.428	29.4631
31.	Pioneer Embroideries Ltd.	4.822	-0.562	5.384	28.9874
32.	Satra Properties India Ltd.	48.52	36.62	11.90	141.657
33.	S Kumars Nationwide Ltd.	4.236	51.94	-47.70	2275.86
34.	Sona Koyo Steering Systems Ltd.	13.30	9.926	3.374	11.3838
35.	S.P. Apparels Ltd.	-	-	-	-
36.	Speciality Papers Ltd.	-	-	-	-
37.	Strides Acrolab Ltd.	28.38	26.99	1.382	1.90992
38.	Sundram Fasteners Ltd	15.25	12.58	2.664	7.09689
39.	Systematix Corporate Services Ltd.	-22.88	109.7	-132.6	17593.1
40.	Tata Power Company Ltd.	11.18	27.36	-16.17	261.533
41.	Tata Steel Ltd.	9.082	7.994	1.088	1.18374
42.	United Credit Ltd.	8.230	4.436	3.794	14.3944
43.	Videocon Industries Ltd.	7.640	10.14	-2.504	6.27001
44.	A C I Infocom Ltd.	-	-	-	-
45.	AIA Engineering Ltd.	11.94	22.57	-10.62	112.911
46.	Allsec Technologies Ltd.	8.467	6.348	2.119	4.49016
47.	Datamatics Global Services Ltd.	13.42	10.74	2.684	7.20385
48.	Dr. Reddy's Laboratories Ltd.	33.11	24.16	8.944	79.9951
49.	Essar Securities Ltd.	-	-	-	-
50.	Genus Power Infrastructures Ltd.	7.806	6.434	1.372	1.88238
51.	Housing Development & Infra Ltd.	13.53	10.21	3.317	11.0064
52.	Jayaswal Neco Inds. Ltd.	-	-	-	-
53.	Jay Shree Tea Inds. Ltd.	14.66	8.080	6.587	43.3951
54.	Joonktollee Tea Inds. Ltd.	-	-	-	-
55.	Mahindra and Mahindra Ltd.	17.26	26.40	-9.144	83.6127
56.	Orient Paper Industries Ltd.	12.81	5.444	7.369	54.3070
57.	Panama Petrochem Ltd.	37.34	31.32	6.025	36.3066

Sr No	Name of the Companies	P/E			
		Pre Acquisition Mean	Post Acquisition Mean	Diff. of Mean	Diff. Squared
58.	Piramal Enterprises Ltd.	25.99	20.28	5.710	32.6098
59.	Quest Softech (India) Ltd.	-	-	-	-
60.	RDB Realities & Infra. Ltd.	11.95	17.87	-5.925	35.1056
61.	SEL Manufacturing Company Ltd.	7.830	17.49	-9.666	93.4445
62.	S R F Ltd.	8.354	3.756	4.598	21.1416
63.	SRM Energy Ltd.	27.16	16.43	10.72	115.107
64.	Stone India Ltd.	28.85	18.97	9.880	97.6144
65.	TCS Ltd.	9.278	4.737	4.540	20.6161
66.	Zenith Birla (India) Ltd.	11.15	39.25	-28.10	789.722

Source: Computed results are based on the data from the financial statements of selected acquirer firms from CMIE prowess database, - Required financial data is not available for calculation of ratio

To examine whether the acquisition has affected P/E ratio of the acquirer firms significantly or not, paired t-test is applied on the 53 pairs of pre and post acquisition mean values of P/E ratio. The computed value of paired t is presented here.

P/E Ratio	Df (52)	Paired t value (-1.438)	P Value (0.156)
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On comparing the calculated t value with the Table value, it was found that there is no significant difference between aggregate mean values of P/E ratio for pre and post acquisition period. This result is in conformity with the study of Daddikar P.V and Shaikh A.H. (2014)¹⁸.

Thus, it can be concluded that the P/E ratio does not change significantly after acquisition for the acquirer companies. Therefore,

H₀₆: There is no significant difference in Price Earning Ratio (P/E) of the selected acquirer firms before and after acquisition
stands **accepted**.

5.5 EMPIRICAL RESULTS OF SECTORAL ANALYSIS

This section summarises the empirical results of sectoral analysis. Before discussing the empirical results it would be important to recall that the 66 sample acquirer firms, which have undergone acquisition in the calendar year 2007 and 2008, are divided in to 9 sectors based on GICS⁴⁹ for detailed sectoral analysis. The study analysed five

years pre and post acquisition performance of all 9 sectors through 16 various ratios representing liquidity, leverage, activity, profitability and valuation positions of the sample acquirer companies. To test the effect of acquisition on these ratios, paired t test is applied on the pairs of pre and post aggregate means of all the acquirer companies belonging to particular sector for each ratio.

★ HYPOTHESES

For sectoral analysis, hypotheses are framed on similar line as of the overall analysis. Therefore, the hypotheses for all selected 9 sectors are as follows:

- H₀₇:** There is no significant difference in liquidity performance of the selected acquirer firms before and after acquisition for selected sectors.
- H₀₈:** There is no significant difference in degree of leverage of the selected acquirer firms before and after acquisition for selected sectors.
- H₀₉:** There is no significant difference in activity ratios of the selected acquirer firms before and after acquisition for selected sectors.
- H₀₁₀:** There is no significant difference in profitability position of the selected acquirer firms before and after acquisition for selected sectors.
- H₀₁₁:** There is no significant difference in Earning Per Share (EPS) of the selected acquirer firms before and after acquisition for selected sectors.
- H₀₁₂:** There is no significant difference in Price Earning ratio (PE) of the selected acquirer firms before and after acquisition for selected sectors.

5.5.1 EMPIRICAL RESULTS OF ENERGY SECTOR

The summary of empirical results of all 16 ratios for energy sector is presented in table 5.41. There are 6 companies in this sector. The required data for calculation of ICR for 1 company, and of ITR for 2 companies are not available, for all other ratios the data for all 6 companies were available. The computed value of paired t is shown in Table 5.41.

Table 5.41 Empirical Results of Energy Sector

Sr No.	Name of Ratio	Df	t stat	P value	Hypothesis
1.	CR	5	-1.706	0.149	H ₀₇ Accepted
2.	QR	5	-0.818	0.451	H ₀₇ Accepted
3.	NWC/SR	5	0.970	0.377	H ₀₇ Accepted
4.	D-ER	5	0.928	0.396	H ₀₈ Accepted
5.	ICR	4	-0.986	0.380	H ₀₈ Accepted
6.	ITR	3	0.839	0.463	H ₀₉ Accepted
7.	FATR	5	-0.945	0.388	H ₀₉ Accepted
8.	GPM	5	0.336	0.331	H ₀₁₀ Accepted
9.	OPM	5	1.077	0.751	H ₀₁₀ Accepted
10.	NPM	5	0.674	0.530	H ₀₁₀ Accepted
11.	PBDIT/TA	5	-0.255	0.809	H ₀₁₀ Accepted
12.	ROCE	5	-0.188	0.857	H ₀₁₀ Accepted
13.	ROI	5	-0.782	0.275	H ₀₁₀ Accepted
14.	RONW	5	-0.131	0.901	H ₀₁₀ Accepted
15.	EPS	5	-0.813	0.453	H ₀₁₁ Accepted
16.	P/E	5	0.671	0.532	H ₀₁₂ Accepted

To examine whether the acquisition has affected selected 16 ratios of the acquirer firms from energy sector significantly or not, paired t-test is applied on the pairs of pre and post acquisition mean values. For this the six null hypotheses are framed as mentioned in paragraph 5.5. Based on the mean values of different ratios, paired t-value for each ratio is derived. On comparing the computed t values with the Table Values, it is found that there is no significant difference between aggregate mean values of all 16 ratios for pre and post acquisition period for energy sector. So it can be inferred here that the acquisition has not affected the liquidity, leverage, activity, profitability or valuation ratios of acquirer companies belonging to energy sector.

5.5.2 EMPIRICAL RESULTS OF MATERIAL SECTOR

There are total 6 companies in this sector. The required data to calculate P/E ratio is not available for 1 company, for all other ratios the data for all 6 companies were available. To examine whether the acquisition has affected selected 16 ratios of the acquirer firms from material sector significantly or not, paired t-test is applied. Based

on the pre and post acquisition mean values of different ratios, paired t-value for each ratio is derived. The computed value of paired t is shown in Table 5.42.

Table 5.42 Empirical Results of Material Sector

Sr No.	Name of Ratio	Df	t calculated	P value	Hypothesis
1.	CR	5	-0.179	0.851	H ₀₇ Accepted
2.	QR	5	-0.678	0.528	H ₀₇ Accepted
3.	NWC/SR	5	-0.927	0.397	H ₀₇ Accepted
4.	D-ER	5	1.475	0.200	H ₀₈ Accepted
5.	ICR	5	-1.411	0.217	H ₀₈ Accepted
6.	ITR	5	-2.509*	0.054	H ₀₉ Rejected
7.	FATR	5	-0.048	0.963	H ₀₉ Accepted
8.	GPM	5	-2.935**	0.030	H ₀₁₀ Rejected
9.	OPM	5	-2.989**	0.032	H ₀₁₀ Rejected
10.	NPM	5	-3.707**	0.014	H ₀₁₀ Rejected
11.	PBDIT/TA	5	0.644	0.548	H ₀₁₀ Accepted
12.	ROCE	5	1.286	0.254	H ₀₁₀ Accepted
13.	ROI	5	0.302	0.775	H ₀₁₀ Accepted
14.	RONW	5	0.091	0.931	H ₀₁₀ Accepted
15.	EPS	5	-0.640	0.551	H ₀₁₁ Accepted
16.	P/E	4	-0.322	0.762	H ₀₁₂ Accepted

** Significant at 5% level, * Significant at 10% level

- ★ On comparing the results of paired t test of 16 ratios with Table values, the significant difference is observed in ITR (-2.509*), GPM (-2.935**), OPM (-2.989**) and NPM (-3.707**). For rest all ratios no significant difference is found between aggregate mean values. The negative paired t values indicate that performance of all four ratios have improved after acquisition.
- ★ Improvement in ITR after acquisition shows increase in efficiency of inventory management of acquirer firms. It indicates improvement in production efficiency and sales.
- ★ Improvement in all three profit margin ratios indicates that acquirer firms' operating efficiency and manufacturing efficiency has improved after acquisition. It shows they are managing their costs in a better way.

5.5.3 EMPIRICAL RESULTS OF INDUSTRIAL SECTOR

There are 8 companies in the industrial sector. The required data for calculation of ITR is not available for 2 companies and of P/E ratio for 1 company, for all other ratios the data for all 8 companies were available. To examine whether the acquisition has affected selected 16 ratios of the acquirer firms from industrial sector significantly or not, paired t-test is applied. Based on the pre and post acquisition mean values of different ratios, paired t-value for each ratio is derived. The computed value of paired t for industrial sector is shown in Table 5.43.

Table 5.43 Empirical Results of Industrial Sector

Sr No.	Name of Ratio	Df	t calculated	P value	Hypothesis
1.	CR	7	-0.399	0.702	H ₀₇ Accepted
2.	QR	7	-0.536	0.608	H ₀₇ Accepted
3.	NWC/SR	7	-0.546	0.601	H ₀₇ Accepted
4.	D-ER	7	-1.704	0.132	H ₀₈ Accepted
5.	ICR	7	0.435	0.676	H ₀₈ Accepted
6.	ITR	5	1.070	0.333	H ₀₉ Accepted
7.	FATR	7	0.581	0.579	H ₀₉ Accepted
8.	GPM	7	0.515	0.380	H ₀₁₀ Accepted
9.	OPM	7	0.938	0.622	H ₀₁₀ Accepted
10.	NPM	7	0.883	0.440	H ₀₁₀ Accepted
11.	PBDIT/TA	7	2.112*	0.073	H ₀₁₀ Rejected
12.	ROCE	7	1.899*	0.081	H ₀₁₀ Rejected
13.	ROI	7	2.013*	0.079	H ₀₁₀ Rejected
14.	RONW	7	2.496**	0.041	H ₀₁₀ Rejected
15.	EPS	7	0.783	0.459	H ₀₁₁ Accepted
16.	P/E	6	-0.096	0.927	H ₀₁₂ Accepted

** Significant at 5% level, *Significant at 10% level

- ★ On comparing the results of paired t test of 16 ratios with Table values, the significant difference is observed for PBDIT/TA (2.112*), ROCE (1.899*), ROI (2.013*) and ROE (2.496**). For remaining 12 ratios no significant difference is found between aggregate mean values for pre and post acquisition period. The positive t values indicate that the performance of these four ratios has deteriorated after acquisition. PBDIT/TA, ROCE and ROI have declined after acquisition

indicating inefficiency of management of acquirer firms in utilizing total assets to generate earnings. Deterioration in ROE indicates that the returns generated by the acquirer firms for its equity shareholders have decreased after acquisition.

5.5.4 EMPIRICAL RESULTS OF CONSUMER DISCRETIONARY SECTOR

There are 12 companies in this sector. The required data for calculation of ITR is not available for 1 company and for calculation of P/E ratio for 1 company. For all other ratios the data for all 12 companies were available. To examine whether the acquisition has affected various 16 ratios of the acquirer firms from consumer discretionary sector or not, paired t-test is applied. Based on the pre and post acquisition mean values of different ratios, paired t-value for each ratio is derived. The computed value of paired t for consumer discretionary sector is shown in Table 5.44.

Table 5.44 Empirical Results of Consumer Discretionary Sector

Sr No.	Name of Ratio	Df	t calculated	P value	Hypothesis
1.	CR	11	0.878	0.399	H ₀₇ Accepted
2.	QR	11	0.387	0.707	H ₀₇ Accepted
3.	NWC/SR	11	-1.319	0.214	H ₀₇ Accepted
4.	D-ER	11	-0.751	0.468	H ₀₈ Accepted
5.	ICR	11	-1.342	0.207	H ₀₈ Accepted
6.	ITR	10	-0.983	0.351	H ₀₉ Accepted
7.	FATR	11	0.321	0.754	H ₀₉ Accepted
8.	GPM	11	-1.887*	0.086	H ₀₁₀ Rejected
9.	OPM	11	-1.209	0.252	H ₀₁₀ Accepted
10.	NPM	11	-0.802	0.440	H ₀₁₀ Accepted
11.	PBDIT/TA	11	1.031	0.325	H ₀₁₀ Accepted
12.	ROCE	11	0.058	0.954	H ₀₁₀ Accepted
13.	ROI	11	0.412	0.631	H ₀₁₀ Accepted
14.	RONW	11	0.332	0.746	H ₀₁₀ Accepted
15.	EPS	11	0.693	0.503	H ₀₁₁ Accepted
16.	P/E	10	-1.005	0.339	H ₀₁₂ Accepted

*Significant at 10% level

- ★ On comparing the results of paired t test of 16 ratios with Table values, the significant difference is observed in GPM (-1.887*) at 10 percent level of significance. For rest 15 ratios no significant difference is found between aggregate mean values for pre and post acquisition period.
- ★ The negative paired t value of GPM indicates that performance of this ratio has improved after acquisition indicating improvement in manufacturing efficiency of the acquirer companies.

5.5.5 EMPIRICAL RESULTS OF CONSUMER STAPLES SECTOR

There are 6 companies in consumer staple sector. The required data for calculation is not available for 1 company to calculate ITR. The required data is not available also for 1 company and 3 companies to calculate EPS and P/E respectively, for all other ratios the data for all 6 companies were available. To examine whether the acquisition has affected selected 16 ratios of the acquirer firms from consumer staple sector significantly or not, paired t-test is applied. Based on the pre and post acquisition mean values of different ratios, paired t-value for each ratio is derived. The computed value of paired t for consumer staple sector is shown in Table 5.45.

Table 5.45 Empirical Results of Consumer Staples Sector

Sr No.	Name of Ratio	Df	t calculated	P value	Hypothesis
1.	CR	5	2.175*	0.082	H ₀₇ Rejected
2.	QR	5	3.785**	0.013	H ₀₇ Rejected
3.	NWC/SR	5	-0.813	0.453	H ₀₇ Accepted
4.	D-ER	5	-0.098	0.926	H ₀₈ Accepted
5.	ICR	5	-1.483	0.198	H ₀₈ Accepted
6.	ITR	4	0.434	0.686	H ₀₉ Accepted
7.	FATR	5	1.820	0.128	H ₀₉ Accepted
8.	GPM	5	-0.564	0.411	H ₀₁₀ Accepted
9.	OPM	5	-0.897	0.597	H ₀₁₀ Accepted
10.	NPM	5	-1.039	0.346	H ₀₁₀ Accepted
11.	PBDIT/TA	5	1.980	0.105	H ₀₁₀ Accepted
12.	ROCE	5	1.037	0.358	H ₀₁₀ Accepted
13.	ROI	5	1.052	0.186	H ₀₁₀ Accepted
14.	RONW	5	1.642	0.162	H ₀₁₀ Accepted
15.	EPS	4	1.165	0.309	H ₀₁₁ Accepted
16.	P/E	2	-0.996	0.424	H ₀₁₂ Accepted

** Significant at 5% level, *Significant at 10% level

- ★ On comparing the results of paired t test of 16 ratios with Table values, the significant difference is observed in current ratio (2.175^{*}) and quick ratio (3.785^{**}) at 10 percent and 5 percent level of significance respectively. For rest all ratios no significant difference is found between pre and post aggregate mean values.
- ★ The positive t values for CR and QR indicate that the performance of these two ratios has deteriorated after acquisition as both these ratios indicate liquidity and solvency of the firm, decrease in both the ratios indicate that the short term payment capacity of the acquirer firms is reduced after acquisition and liquidity has deteriorated.

5.5.6 EMPIRICAL RESULTS OF HEALTH CARE SECTOR

There are 9 acquirer companies in health care sector. The required data is not available for 1 company to calculate D-ER, for 2 companies to calculate ITR and for 1 company to calculate P/E, for all other ratios the data for all 9 companies were available. To examine whether the acquisition has affected selected 16 ratios of the acquirer firms from health care sector significantly or not, paired t-test is applied. Based on the pre and post acquisition mean values of different ratios, paired t-value for each ratio is derived. The computed value of paired t for health care sector is presented in Table 5.46.

- ★ On comparing the results of paired t test of 16 ratios with Table values, the significant difference is observed in P/E (2.026^{*}) at 10 percent level of significance. For rest all ratios no significant difference is found between aggregate mean values for pre and post acquisition period. The positive paired t values for P/E indicate that performance of this ratio has declined after acquisition. As the P/E ratio indicates the expected price of a share based on its earning, decline in P/E ratio indicates that market is not very hopeful about the future strength of the company.

Table 5.46 Empirical Results of Health Care Sector

Sr No.	Name of Ratio	Df	t calculated	P value	Hypothesis
1.	CR	8	0.033	0.975	H ₀₇ Accepted
2.	QR	8	-0.254	0.806	H ₀₇ Accepted
3.	NWC/SR	8	-1.338	0.218	H ₀₇ Accepted
4.	D-ER	7	-0.626	0.551	H ₀₈ Accepted
5.	ICR	8	0.953	0.368	H ₀₈ Accepted
6.	ITR	6	0.225	0.829	H ₀₉ Accepted
7.	FATR	8	-0.763	0.468	H ₀₉ Accepted
8.	GPM	8	-1.208	0.331	H ₀₁₀ Accepted
9.	OPM	8	-1.304	0.262	H ₀₁₀ Accepted
10.	NPM	8	-1.350	0.214	H ₀₁₀ Accepted
11.	PBDIT/TA	8	-0.101	0.922	H ₀₁₀ Accepted
12.	ROCE	8	-0.300	0.771	H ₀₁₀ Accepted
13.	ROI	8	-1.431	0.190	H ₀₁₀ Accepted
14.	RONW	8	-0.327	0.753	H ₀₁₀ Accepted
15.	EPS	8	-0.123	0.905	H ₀₁₁ Accepted
16.	P/E	7	2.026*	0.082	H ₀₁₂ Rejected

*Significant at 10% level

5.5.7 EMPIRICAL RESULTS OF FINANCIALS SECTOR

There are 2 companies in this sector. As this is financials sector ITR is not applicable and the required data to calculate the P/E ratio is not available for both the companies, for all other ratios the data for both the companies were available. To examine whether the acquisition has affected various 16 ratios of the acquirer firms from financials sector or not, paired t-test is applied. Based on the pre and post acquisition mean values of different ratios, paired t-value for each ratio is derived. The computed value of paired t for financials sector is shown in table 5.47.

On comparing the calculated value of t with the Table values, it is found that there is no significant difference between aggregate mean values of 14 ratios for pre and post acquisition period for financials sector. So it can be inferred here that the acquisition has not affected the liquidity, leverage, activity, profitability and valuation ratios of acquirer companies belonging to financials sector.

Table 5.47 Empirical Results of Financials Sector

Sr No.	Name of Ratio	Df	t calculated	P value	Hypothesis
1.	CR	1	0.554	0.678	H ₀₇ Accepted
2.	QR	1	0.649	0.633	H ₀₇ Accepted
3.	NWC/SR	1	-0.977	0.507	H ₀₇ Accepted
4.	D-ER	1	-2.912	0.211	H ₀₈ Accepted
5.	ICR	1	0.981	0.718	H ₀₈ Accepted
6.	ITR	-	-	-	-
7.	FATR	1	0.195	0.877	H ₀₉ Accepted
8.	GPM	1	1.005	0.498	H ₀₁₀ Accepted
9.	OPM	1	0.999	0.501	H ₀₁₀ Accepted
10.	NPM	1	1.291	0.369	H ₀₁₀ Accepted
11.	PBDIT/TA	1	-0.012	0.992	H ₀₁₀ Accepted
12.	ROCE	1	-3.331	0.185	H ₀₁₀ Accepted
13.	ROI	1	-0.025	0.984	H ₀₁₀ Accepted
14.	RONW	1	1.438	0.387	H ₀₁₀ Accepted
15.	EPS	1	1.130	0.461	H ₀₁₁ Accepted
16.	P/E	-	-	-	-

5.5.8 EMPIRICAL RESULTS OF INFORMATION TECHNOLOGY SECTOR

There are total 11 companies in the information technology sector. The required data is no not available to calculate D-ER for 1 company, ICR for 1 company, ITR for 3 companies, FATR for 1 company, NPM for 1 company, EPS for 1 company and P/E for 3 companies, for all other ratios the data for all 11 companies were available. The computed value of paired t for information technology sector is shown in table 5.48.

To examine whether the acquisition has affected various 16 ratios of the acquirer firms from information technology sector or not, paired t-test is applied. Based on the pre and post acquisition mean values of different ratios, paired t-value for each ratio is derived. On comparing the calculated t values with the Table values, it is found that there is no significant difference between aggregate mean values of all 16 ratios for pre and post acquisition period for information technology sector. Therefore, it can be inferred here that the acquisition has not affected the performance of acquirer companies belonging to information technology sector.

Table 5.48 Empirical Results of Information Technology Sector

Sr No.	Name of Ratio	Df	t calculated	P value	Hypothesis
1.	CR	10	1.769	0.107	H ₀₇ Accepted
2.	QR	10	1.625	0.135	H ₀₇ Accepted
3.	NWC/SR	10	-1.065	0.315	H ₀₇ Accepted
4.	D-ER	9	0.514	0.620	H ₀₈ Accepted
5.	ICR	9	-0.258	0.802	H ₀₈ Accepted
6.	ITR	7	-1.119	0.300	H ₀₉ Accepted
7.	FATR	9	-0.990	0.348	H ₀₉ Accepted
8.	GPM	10	-1.126	0.423	H ₀₁₀ Accepted
9.	OPM	10	-0.835	0.287	H ₀₁₀ Accepted
10.	NPM	9	-0.482	0.641	H ₀₁₀ Accepted
11.	PBDIT/TA	10	1.040	0.323	H ₀₁₀ Accepted
12.	ROCE	10	1.295	0.231	H ₀₁₀ Accepted
13.	ROI	10	1.182	0.243	H ₀₁₀ Accepted
14.	RONW	10	1.795	0.103	H ₀₁₀ Accepted
15.	EPS	9	0.953	0.366	H ₀₁₁ Accepted
16.	P/E	7	-0.802	0.453	H ₀₁₂ Accepted

5.5.9 EMPIRICAL RESULTS OF REAL ESTATE SECTOR

- ★ There are 6 companies in this sector. The required data is not available to calculate NWC/SR, D-ER, ICR, FATR, GPM and NPM for 1 company each. The required data is not available for 4 companies to calculate ITR and for 2 companies to calculate OPM and P/E. For all other ratios the data for all 6 companies were available. To examine whether the acquisition has affected selected 16 ratios of the acquirer firms from real estate sector significantly or not, paired t-test is applied. Based on the pre and post acquisition mean values of different ratios, paired t-value for each ratio is derived. The computed value of paired t for real estate sector is shown in table 5.49.

Table 5.49 Empirical Results of Real Estate Sector

Sr No.	Name of Ratio	Df	t calculated	P value	Hypothesis
1.	CR	5	1.536	0.185	H ₀₇ Accepted
2.	QR	5	0.505	0.635	H ₀₇ Accepted
3.	NWC/SR	4	0.669	0.540	H ₀₇ Accepted
4.	D-ER	4	0.121	0.910	H ₀₈ Accepted
5.	ICR	4	-1.526	0.202	H ₀₈ Accepted
6.	ITR	1	-0.584	0.664	H ₀₉ Accepted
7.	FATR	4	-1.254	0.278	H ₀₉ Accepted
8.	GPM	4	1.110	0.376	H ₀₁₀ Accepted
9.	OPM	3	0.996	0.329	H ₀₁₀ Accepted
10.	NPM	4	0.949	0.641	H ₀₁₀ Accepted
11.	PBDIT/TA	5	1.719	0.146	H ₀₁₀ Accepted
12.	ROCE	5	0.705	0.531	H ₀₁₀ Accepted
13.	ROI	5	0.524	0.124	H ₀₁₀ Accepted
14.	RONW	5	-0.636	0.553	H ₀₁₀ Accepted
15.	EPS	5	-0.801	0.460	H ₀₁₁ Accepted
16.	P/E	3	-0.844	0.442	H ₀₁₂ Accepted

- ★ On comparing the calculated t values with the Table values, it is found that there is no significant difference between aggregate mean values of all 16 ratios for pre and post acquisition period for real estate sector. Thus, it can be inferred here that the acquisition has not affected the liquidity, leverage, activity, profitability and valuation ratios of acquirer companies belonging to real estate sector.

5.6 FINDINGS

5.6.1 FINDINGS OF OVERALL ANALYSIS

To study the effect of acquisition on financial performance of selected sample companies, 16 ratios are analysed, which together represent liquidity, leverage, activity, profitability and valuation aspects of the companies. After calculation of the ratios, Paired t-test is applied to test the significance of the change in selected ratios. The Paired t-test was applied on all 16 ratios across 66 sample companies. Table 5.50 presents the summary of empirical result of overall analysis.

Table 5.50 The Summary of Empirical Results of Overall Analysis

Sr No.	Name of Ratio	t calculated	P value	Hypothesis
LIQUIDITY RATIOS				
1.	CR	1.653	0.120	H ₀₁ Accepted
2.	QR	0.667	0.507	H ₀₁ Accepted
3.	NWC/SR	0.969	0.336	H ₀₁ Accepted
LEVERAGE RATIOS				
4.	D-ER	0.956	0.343	H ₀₂ Accepted
5.	ICR	-0.851	0.397	H ₀₂ Accepted
ACTIVITY RATIOS				
6.	ITR	-0.353	0.725	H ₀₃ Accepted
7.	FATR	-0.502	0.617	H ₀₃ Accepted
PROFITABILITY RATIOS				
8.	GPM	-0.173	0.863	H ₀₄ Accepted
9.	OPM	-0.460	0.674	H ₀₄ Accepted
10.	NPM	-0.606	0.546	H ₀₄ Accepted
11.	PBDIT/TA	2.681 ^{***}	0.009	H ₀₄ Rejected
12.	ROCE	2.060 ^{**}	0.043	H ₀₄ Rejected
13.	ROI	2.481 ^{**}	0.015	H ₀₄ Rejected
14.	RONW	1.780 [*]	0.079	H ₀₄ Rejected
VALUATION RATIOS				
15.	EPS	1.136	0.260	H ₀₅ Accepted
16.	P/E	-1.438	0.156	H ₀₆ Accepted

*Significant at 10% level, ** Significant at 5% level, *** Significant at 1% level

1. In the category of Liquidity Ratios, all three ratios *i.e.* CR, QR and NWC/SR are statistically insignificant. It can be observed from the result of paired t-test that, there is no significance difference in the defined liquidity performance standards between pre-acquisition and post-acquisition. Hence, the null hypothesis **H₀₁** is accepted stating that there is no significant influence on acquiring firm's liquidity performance after acquisition. The results of this study are similar to some of the previous studies.^{5,6,10,16,17,18}.
2. To analyse the effect of acquisition on degree of leverage of acquirer firm, two Leverage Ratios are analysed *viz.* D-ER and ICR. The result from paired t-test for both the ratios illustrated that there is no significance difference in the level of

leverage and coverage between pre-acquisition and post-acquisition. Hence, the null hypothesis H_{02} is accepted which states that there is no significant influence on acquiring firm's degree of leverage after acquisition. the result of this study is in conformity with some of the previous studies.^{5,6,16,18,30,31}

3. To test the effect of acquisition on the efficiency with which the firm manages and utilizes its assets, two activity ratios are analysed *viz.* ITR and FATR, both the ratios are statistically insignificant. The result from paired t-test illustrated that there is no significance difference in the efficiency standards between pre-acquisition and post-acquisition. Hence, the null hypothesis H_{03} is accepted which states that there is no significant influence on selected activity ratios of acquiring firm after acquisition. The result is similar to the study of Ransariya S. (2010)¹⁵.
4. In every business the most important measurement is profit. To study the effect of acquisition on profitability position of the firm, seven Profitability Ratios are analysed. Out of which three ratios *i.e.* GPM, OPM and NPM are statistically insignificant. The result from paired t-test illustrated that there is no significance difference in the selected profitability ratios between pre-acquisition and post-acquisition. Hence, the null hypotheses H_{04} is accepted conveying that there is no significant influence on acquiring firm's profitability ratios after acquisition. The results of this study is similar to some of the previous studies^{5,16,17,18,20,30,39,40,41}. The four profitability ratios *i.e.* PBDIT/TA, ROCE, ROI and RONW are statistically significant. Hence, the null hypothesis H_{04} is rejected for these four ratios. This result is in line with some of the previous researches^{4,9,10,11,15,23,42,48,50}. On comparing pre acquisition mean and post acquisition mean it is observed that there is a negative effect of acquisition on sample acquiring firm's performance measured in terms of these ratios.
5. The last category is Valuation Ratios. Both the ratios *i.e.* EPS and P/E are statistically insignificant. The result from paired t-test indicated that there is no significance difference in the selected valuation ratios between pre-acquisition and post-acquisition. Hence, the null hypotheses H_{05} and H_{06} are accepted conveying that there is no significant influence of acquisition on acquiring firm's Valuation. These results are in conformity with some of the previous studies.^{15,18}

It is important to note here that for most of the findings support is available from earlier studies^{5,6,10,16,17,18,20,30,31,39,40,41}. This affirms that the acquisitions on the whole do not affect the acquirer companies' liquidity, leverage, activity, profitability or valuation.

5.6.2 FINDINGS OF SECTORAL ANALYSIS

To study the effect of acquisition on financial performance of selected sectors, 16 ratios similar to overall analysis are analysed. After calculation of the ratios, paired t-test is applied on mean values on each sector, ratio wise, to test whether the change in various ratios is significant or not. The paired t test is applied on all 16 ratios across various 9 sectors. Table 5.51 presents summary of improvement or decline arising from comparison of pre and post acquisition mean. It also shows whether the change is significant or not. The following are the observations from the table:

1. It can be observed that on the basis of pre and post acquisition mean values, CR and QR have improved for energy, materials and industrials sectors but statistically it is insignificant. Both the ratios have declined for consumer discretionary, consumer staple, financial, information technology and real estate but except consumer staple sector the change is statistically insignificant. There is a significant decline in CR and QR in consumer staple sector indicating that all the current assets including inventory have decreased or current liabilities have increased after acquisition. NWC/SR has improved for majority of the sectors except energy, real estate but it is statistically insignificant^{9,15,17}. Thus it can be concluded from the result of paired t-test that, there is no significance difference in the selected liquidity ratios between pre-acquisition and post-acquisition in all the sectors except consumer staples.

Hence, the null hypothesis H_{07} is rejected for consumer staples sector for CR and QR, indicating that there is significant influence on acquiring firm's liquidity after acquisition. The null hypothesis is accepted for rest all sectors.

The sectoral summary of empirical results of all the ratios is presented in Table 5.51

Table 5.51 Sector Wise Summary of All the Ratios

Ratios	Sectors																			
	Energy		Materials		Industrial		Cons. Disc.		Cons. Staples		Health care		Financials		Info. Tech		Real Estate		OA	
CR	↑	NS	↑	NS	↑	NS	↓	NS	↓	S*	↓	NS	↓	NS	↓	NS	↓	NS	↓	NS
LR	↑	NS	↑	NS	↑	NS	↓	NS	↓	S**	↑	NS	↓	NS	↓	NS	↓	NS	↓	NS
NWC/SR	↓	NS	↑	NS	↑	NS	↑	NS	↑	NS	↑	NS	↑	NS	↑	NS	↓	NS	↓	NS
D-ER	↓	NS	↓	NS	↑	NS	↑	NS	↑	NS	↑	NS	↑	NS	↓	NS	↓	NS	↓	NS
ICR	↑	NS	↑	NS	↓	NS	↑	NS	↑	NS	↓	NS	↓	NS	↑	NS	↑	NS	↑	NS
ITR	↓	NS	↑	S*	↓	NS	↑	NS	↓	NS	↓	NS	-	-	↑	NS	↑	NS	↑	NS
FATR	↑	NS	↑	NS	↓	NS	↓	NS	↓	NS	↑	NS	↓	NS	↑	NS	↑	NS	↑	NS
GPM	↓	NS	↑	S**	↓	NS	↑	S*	↑	NS	↑	NS	↓	NS	↑	NS	↓	NS	↑	NS
OPM	↓	NS	↑	S**	↓	NS	↑	NS	↑	NS	↑	NS	↓	NS	↑	NS	↓	NS	↑	NS
NPM	↓	NS	↑	S**	↓	NS	↑	NS	↑	NS	↑	NS	↓	NS	↑	NS	↓	NS	↑	NS
PBDIT/TA	↑	NS	↓	NS	↓	S*	↓	NS	↓	NS	↑	NS	↑	NS	↓	NS	↓	NS	↓	S***
ROCE	↑	NS	↓	NS	↓	S*	↓	NS	↓	NS	↑	NS	↑	NS	↓	NS	↓	NS	↓	S**
ROI	↑	NS	↓	NS	↓	S*	↓	NS	↓	NS	↑	NS	↑	NS	↓	NS	↓	NS	↓	S**
RONW	↑	NS	↓	NS	↓	S**	↓	NS	↓	NS	↑	NS	↓	NS	↓	NS	↑	NS	↓	S*
EPS	↑	NS	↑	NS	↓	NS	↓	NS	↓	NS	↑	NS	↓	NS	↓	NS	↑	NS	↓	NS
P/E	↓	NS	↑	NS	↑	NS	↑	NS	↑	NS	↓	S*	-	-	↑	NS	↑	NS	↑	NS

*Significant at 10% level, ** Significant at 5% level, *** Significant at 1% level

- Note:
1. ↑= Increase ↓= Decrease on the basis of comparison of pre and post acquisition mean
 2. The number 1 to 11 represents 9 different sectors.
 3. OA indicates empirical results of Overall Analysis.
 4. – indicates non availability of financial data for computation.
 5. NS = Non significant S= Significant

2. To judge the long term financial strength of the firm, two Leverage Ratios are analysed, D-ER and ICR. D-ER has improved for all the sectors except energy, material, information technology and real estate but it is statistically insignificant. ICR has improved for all the sectors except materials, healthcare and financials but again it is statistically insignificant. When this ratio is compared with D-ER, it indicates that the more obvious reason for improvement of the ratio is reduction in debt capital rather than improvement in operating efficiency. The result from paired t-test for both the ratios indicates that there is no significance difference in the selected leverage and coverage ratio between pre-acquisition and post-acquisition. Hence, the null hypotheses H_{08} is accepted which considers that there is no significant influence on acquiring firm's degree of leverage after acquisition¹⁵.

3. Both the selected activity ratios *i.e.* ITR and FATR have improved in materials, information technology and real estate sector and have deteriorated in industrial and consumer staples but except material sector both the changes are statistically insignificant. The material sector show significant improvement in inventory turnover ratio. The improved turnover ratio indicates better utilisation of assets and signifies improved efficiency. Except inventory turnover ratio of material sector, the result from paired t-test illustrated that there is no significance difference in the selected efficiency ratios between pre-acquisition and post-acquisition. Hence, the null hypotheses H_{09} is accepted which consider that there are no significant influence on activity ratios of acquiring firm after acquisition¹⁵.
4. To analyse the effect of acquisition on profitability position of the firm, seven Profitability Ratios are selected. All three profit margin ratios *viz.* GPM, OPM and NPM show improvement in consumer staple sector, healthcare sector and information technology sector but statistically it is insignificant. The improvement in all three ratios in case of material sector and improvement in GPM in case of consumer discretionary sector are statistically significant. The improvement in profit margin ratios indicates improvement in profitability and efficiency of cost management of acquirer firms after acquisition.
5. The PBDIT/TA has declined in all the sectors except, energy, healthcare and financials but it is statistically insignificant. The industrial sector show significant decline in PBDIT/TA. By comparing PBDIT/TA to profit margin ratios, it is clear that the decline in the ratios is because of increase in total assets of the acquirer firms after acquisition.
6. ROCE and ROI show decline in all the sectors except energy, healthcare and financial but it is statistically insignificant. The ROCE and ROI have significantly declined for industrial sector. RONW is also decreased in all the sectors except energy, healthcare and real estate. The reduction in RONW is statistically significant for industrial sector. Thus for this sector RONW for acquirer companies was negatively affected. For rest all sectors it is statistically insignificant.

7. The result from paired t-test indicates that there is no significance difference in the all selected Profitability ratios between pre-acquisition and post-acquisition for energy, consumer staples, health care, financials, information technology and real estate sector. Hence, the null hypothesis H_{010} is accepted for all these sectors, which considers that there is no significant influence of acquisition on acquiring firm's profitability position. The results of this study is in line with some of the previous studies.^{15,19,23,47} The null hypothesis H_{010} is rejected for PBDIT/TA, ROCE, ROI and RONW in case of industrial sector, for GPM, OPM and NPM in case of materials sector and for GPM in case of consumer discretionary sector.
8. The last category is valuation ratios. The result from paired t-test illustrated that there is no significance difference in the EPS between pre-acquisition and post-acquisition period for all sectors. Thus, the null hypothesis H_{011} is accepted for all the sectors. The result from paired t-test illustrated that there is no significance difference in the selected valuation ratios measured as P/E ratio, between pre-acquisition and post-acquisition for except for health care sector, where the reduction in P/E ratio is found to be significant conveying negative effect on price multiple of acquirer company. Hence, the null hypothesis H_{012} is accepted which consider that there is no significant influence of acquisition on acquiring firm's Valuation ratios^{15,50} for all sector except for P/E ratio of health care sector.

After analysing the effect of acquisition on financial performance of all the selected companies together (overall analysis) and classifying the companies according to their sectors (sectoral analysis), the next chapter examines the effect of acquisition announcement on share price of the sample acquirer companies.



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