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MERGERS AND ACQUISITIONS'S IMPACT ON FINANCIAL PERFORMANCE: AN EVALUATION WITH PERSPECTIVE OF TIME

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ABSTRACT

Mergers and Acquisitions (M&A) is the most prefered technique of the corpoates from diversed areas across the globe for achieiving inorganic growth. In Indian context, M&A has a graceful history from pre liberalization to post librelization period wherein the companies have used this process in different scenarios to accomplish various objectives. Though this method have enormous benefits but at the same time are firms are able to convert these qualitative aspects into quantitative form and if yes than do they see an immediate impact or it takes considerable time to reflect same in their financial performance. The present research work with the help of Du Pont Return on Assets (ROA) framework assess the success of M&A in the long run by taking a sample of 24 companies that have acquired companies in financial year 2005- 2006.

Keywords: mergers and acquisitions; du pont analysis; long run; financial performance; return on assets.

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1. INTRODUCTION

In today's highly dynamic and fierce competitive business world, corportes are force to develop and rethink their strategies not only to secure but also maintain their business growth. Internal expansion and external expansion are the two different ways that helps the firm to fuel their growth engine. With respect to former, business enterprises by evaluating their internal strengths and weakness can decide the course of action for expansion which can be in either form – coming up with new segments, developing new products in same segment or targeting new markets all together. In case of latter, companies always look into the opportunities available in the outer world for development. The different structures through which external expansion can be done are - Strategic Alliance, Joint Ventures, or Mergers and Acquisitions (M&A).

From all three M&A is the most common and well received route opted globally by business units for external expansion. M&A is a three stages process – The first stage starts before M&A which comprises of selecting a target, due diligence, deal finalization. Second phase is during M&A which looks into seeking approval from shareholders and other regulatory authorities third phase starts after M&A which takes care of integration process. Once the entire process gets over an analysis has to be done that whether the firm was able to build upon the synergies or not with an objective of which M&A was done. If yes, than the benefits so derived from such synergies will have an immediate impact or will it take substaintial time to reflect same in their financial performance.

The present study has been undertaken to seek the answers of these questions by studying the financial performance before and after merger of the companies by calcuating the three ratios return on assets, net profit margin and asset turnover ratio as per Du Pont framework.

1.1. Objective of the Study

As stated in previous paragraphs, the present study has been conducted with an objective to evaluate whether post merger the financial performance of the companies improve in the long run or not. Keeping in view the same the following hypotheis has been formulated:-

H_0 = There is no significant effect on Return on Assets (ROA) before and after M&A.

H_1 = There is significant effect on Return on Assets (ROA) before and after M&A.

H_0 = There is no significant effect on Net Profit Margin (NPM) before and after M&A.

H_1 = There is significant effect on Net Profit Margin (NPM) before and after M&A.

H_0 = There is no significant effect on Asset Turnover Ratio (ATR) before and after M&A.

H_1 = There is significant effect on Asset Turnover Ratio (ATR) before and after M&A.

1.2 Literature Review

[1] analyzed the impact of M&A in Malaysian banking sector by studying the 10 banking groups that came into existence by merging 52 banking institution. To have a check on profitability improvement after merger pre and post return on assets and return on equity ratios were calculated and compared. The end result showed a positive trend subsequent the merger. They also discovered that M&A was much needed in order to overcome financial crisis and international agreements.

[2] applied event study as well as accounting ratios method to the 12 companies selected from the time frame of 1999 – 2005 acquisitions deals in order to assess the success or failure of M&A. Based on the event study results it was deduced that shareholders of the target companies benefited immediately because of high premium paid by the acquirer for buying the company and acquirer companies' shareholders reap abnormal returns within the time frame of two years. As per accounting ratios, ROCE and RONW were improved. However only half of the companies were able to take advantage of cost reduction and made better use of fixed assets.

[3] conducted their study by selecting 22 mergers and 52 acquisitions as a sample from M&A deals in 2003. They compared the financial results by working out liquidity, operating, overall efficiency, equity shareholders' return ratios for three years each - pre deal and post deal. The end results showed that in maximum cases of mergers as well as acquisitions the companies were able to generate synergies by gauging the better financial performance in post-merging and acquisition scenario.

[4] undertook study of the firms that did acquisition from 1999- 2002. He finalized 30 companies as a sample and assessed their results by computing and comparing profitability, operating and leverage ratios for three years pre and three years post-acquisition. The outcome was that companies not registered significance improvement in financial performance after merger.

[5] inferred from his study that mergers have proven to be beneficial for the Indian corporates performance in the long run. He conducted his study by taking sample of 87 firms from the merger deals of January 1996 to March 2002 and determined pretax operating cash flows for three years before and after merger.

[6] evaluated the financial performance of Indian Pharmaceutical sector by taking top 3 players as a sample. They used Dupont Analysis and calculated ROI and ROE accordingly for the period of ten years (2003-2012). They found that pharma companies are more focused on absolute measures rather than relative which will may not present a true and fair picture every time. Hence relative size of the firms should also be taken into consideration while computing ratios.

[7] researched to find out the firm level determinants that paly decisive role in deciding for the business enterprises as to whether go for acquisition or not. With sample of 360 companies from the time frame 2004-2010 and restricting to three sectors – FMCG, Automobile and Pharmaceutical it was found that business group affiliation and earning volatility are the two crucial elements for the corporates to decide to opt for M&A or not.

[8] conducted their study to assess the effect on efficiency, growth and profitability on Nigerian Banks in post M&A scenario. They analyzed the key financial ratios of the 10 banks selected as a sample. The results of their study were that M&A has positive impact on bank profitability and operating efficiency but also at the same time leads to post consolidation crisis in Nigerian banking sector.

[9] researched on the Indian corporates acquiring companies in foreign by restricting samples to only those acquisitions that were successful and acquirer had took over majority stake in the target. For ascertaining the results, operating cash flow ratios and asset turnover ratios were computed for three pre as well as post-merger. The conclusion of the study was cross border acquisition does not lead to higher performance in long term and in case where targets are relatively big in size as compare to acquiring firm the results are still worse.

[10] conducted their study specific to Indian manufacturing sectors by selecting the deals during 2003-2004 to 2006-2007. They computed liquidity, profitability and solvency ratios and compared the effect with pre and post-merger taking the time frame of three years for each. Their research findings were that M&A impact were reflected in the immediate years

categorically in event and the first year after M&A.

[11] investigated as to whether merger should be allowed or not as per the conditions laid down Fiji's M&A legislation by taking two case studies. The first case was about conglomerate merger where the firms were involved into different type of beverage activity - alcoholic and soft drink and had no impact on the individual market share. In second case, the firm was "failing unit" and need to be salvaged. Along with regulatory requirement, financial position of the firm was assessed by computing profitability, rate of return, liquidity, efficiency and leverage ratios. Therefore, merger should be allowed as it was in public interest. They concluded that in both the cases M&A applications were cleared.

[12] found that M&A improves the profitability as well as enhance the speed of innovation. They conducted their study specific to Indian pharmaceutical sector by taking sample of four companies who done acquisition overseas. For arriving at result they took financial and patent fillings data for eight years and measured profitability with respect to gross profit and operating margins.

[13] studied the long term performance of acquiring firm by comparing the operating cash flows ratios in Du Pont framework for five years prior and post-merger. They finalized the sample of 383 mergers and acquisition that took place from January 2003 to December 2008. The end result depicts that the financial performance of the acquirer has enhanced after merger.

2. RESULTS AND DISCUSSION

2.1 Impact on Return on Asset (ROA) Ratio

Looking at the descriptive statistics (Table 3), the mean of pre and post-merger ROA, depicts that there is improvement in the performance of 18 companies after merger. However the standard deviation presents different picture altogether. From 18 firms, the standard deviation of 10 firms has been on higher side and the rest 8 registered lower deviations. In case of former, although there return has increased but at same time there was fluctuation in each year earning with respect to increase in assets after merger period whereas latter represent along with boost in return, there is consistency in revenues in tandem to greater size of assets subsequent to merger. Further to signify more, paired t test was applied (Table 4) and it was found that ROA of only six companies namely Dabur India Ltd, EIH Associated Hotels Ltd., HIL Ltd., Lakshmi Machine Works Ltd., Mphasis Ltd. and VIP Industries Ltd. has shown significant effect in terms of improvement whereas that of Forbes & Co. Ltd there is a significant effect in ratio, but surprisingly the average values has gone down.

2.2 Effect on Net Profit Margin (NPM) Ratio

On comparing the pre and post-merger mean (Table 3), it is clearly observed that post-merger NPM of 15 firms has increased. While studying the variation, the results found were different from averages. The level of differences was high in 10 firms and low in 5 firms. This implies that with better margins majority of companies experienced swing in profitability with augmented sales and very few were able to lessen the variation in the profits with higher sales after unification. Dabur India Ltd., EIH Associated Hotels Ltd., HIL Ltd., Lakshmi Machine Works Ltd. and Larsen and Tubro Ltd. are the five acquirers whose NPM has significantly enhanced (Table 5).

2.3 Influence of Merger on Asset Turnover Ratio (ATR) Ratio

While comparing the mean and standard deviation of ATR in before and after merger scenario (Table 3) it was found that ATR of eleven companies 11 has been significantly enhanced. The outcome of differential was opposite to earlier observations in which 8 firms were found with lesser and 3 firms with high variance. It means that major chunk of firms earlier were not able to utilize the asset properly due to sales vary but with the added sales and increased assets it has been used efficiently and also the deviation in sales has gone down. Akar Tools Ltd., EIH Associated Hotels Ltd., HIL Ltd., JSW Ltd., Thermax Ltd., Universal Cables Ltd., and VIP Industries Ltd., are the seven firms whose ATR has become better, on the other side ATR of Forbes & Co. Ltd., Punjab Chemicals & Crop Protection Ltd., RSWM Ltd. and Tata Global Beverages Ltd. have dropped significantly after merger (Table 6).

2.4 Forecasted Values using ARIMA Model

After studying the pre and post M&A results, ARIMA model was applied on all three ratios of all sample companies taken for the study. The data set used was for nine years for each parameter after merger and the values were forecasted for two years i.e. (2016 and 2017). The observation from the results were the forecasted value of ten firms for all three ratios were going up, for six firms the values for all three ratios were falling. In rest eight firms, mix results were found. ATR was the first with high values followed by ROA and NPM respectively.

2.5 DISCUSSION

In post-merger scenario, the profitability in terms of ROA has notably improved for one company, NPM for one company and both (ROA and NPM) for two companies respectively. Improvement in ROA clearly indicates companies have been benefited from M&A activity and able to generate higher returns and become more profitable. Higher NPM shows that firms took the advantage becoming bigger in size that equipped more bargaining power and achieving economies of scale lead to fetching better profit margins. Firms that have performed well on both parameters reveals that the merger has significant impact on overall profitability of the acquiring firm which can attribute to cost efficiencies, better sales mix and good market share.

With respect to efficiency, ATR of four acquirers has become better after merger which shows that these firms have effectively utilized the assets as compare to before merger. The probable reason could be with increased customer base the combined entity have generated more sales. The ROA and ATR has gone up for a firm after merger which shows that company along with better returns has also put the assets to productive use. This has happened because of cost measures have been implemented along with introduction of new operating matrices.

Finally, two companies have registered significant improvement in profitability and efficiency by performing better on all three parameters highlighting that proper integration process has been followed which has been well thought off before merger. As a result, the company has been able to achieve better results with enhanced financial performance. This also validates the Du Pont ROA framework which suggests that all three ratios are interrelated with each other.

3. EXPERIMENTAL

3.1 Data Collection and Methodology Applied

The current study is carried out solely on secondary database. In-depth information with repect to the M&A deals of F.Y. 2005-2006 and financial data about sales, net profit and total assets for computing ratios has been collected from Prowess – Centre For Monitoring Indian

Economics (CMIE) Database. Additionally annual reports and websites of the companies and stock excahnges has been referred to validate the deals. With a view of having comprehensible results, M&A deals between the companies having holding subsidiary relationship from inception has been excluded. Out of 168 deals, only 39 deals comprising of 33 companies were selected for second stage. Further companies that belonged to banking, financial services sectors and about whom financial data was not available were excluded. As a result the sample of 24 companies constituting 26 M&A pacts was finalized.

Table 1. Companies finalized for the study

S.No	Name of Acquirer	Main Sector of Acquirer	Name of Company(ies) Targeted & Merged	Main Sector of Target
1	Dabur India Ltd.	Consumer oods	Balsara Home Products Ltd.	Consumer Goods
			Balsara Hygiene Products Ltd.	
			Besta Cosmetics Ltd.	Misc. Services
2	Akar Tools Ltd.	Machinery	Ajanta Auto Inds. Pvt. Ltd.	Transport Equipment
3	Punjab Chemicals & Crop Protection Ltd.	Chemical and Chemical Products	Alpha Drug India Ltd.	Chemical and Chemical Products
4	V I P Industries Ltd.	Chemical and Chemical Products	Aristocrat Luggage Ltd.	Chemical and Chemical Products
5	Kesoram Industries Ltd.	Transport Equipment	Assam Cotton Mills Ltd.	Textiles
6	Larsen & Toubro Ltd.	Industrial and Infrastructural Construction	Datar Switchgear Ltd.	Machinery
7	Videocon Industries Ltd.	Consumer Goods	E K L Appliances Ltd.	Consumer Goods
8	J S W Steel Ltd.	Metals and Metals Products	Euro Coke & Energy Pvt. Ltd.	Mining
9	Forbes & Co. Ltd.	Machinery	F A L Industries Ltd.	Consumer Goods
10	Kamat Hotels	Hotels and	Himco (India) Ltd.	Hotels and

	(India) Ltd.	Tourism		Tourism
11	E I H Associated Hotels Ltd.	Hotels and Tourism	Indus Hotel Corpn. Ltd.	Hotels and Tourism
12	Lakshmi Machine Works Ltd.	Machinery	Jeetstex Engineering Ltd.	Machinery
13	Mphasis Ltd.	Information Technology	Kshema Technologies Ltd.	Information Technology
14	H I L Ltd.	Construction Materials	Malabar Building Products Ltd.	Construction Materials
15	Dhampur Sugar Mills Ltd.	Food and Agro Based Products	Mansurpur Sugar Mills Ltd.	Food and Agro Based Products
16	R S W M Ltd.	Textiles	Mordi Textiles & Processors Ltd.	Textiles
17	Universal Cables Ltd.	Machinery	Optic Fibre Goa Ltd.	Miscellaneous Manufacturing
18	Goa Carbon Ltd.	Chemical and Chemical Products	Paradeep Carbons Ltd.	Chemical and Chemical Products
19	Wanbury Ltd.	Chemical and Chemical Products	Pharmaceutical Products Of India Ltd.	Wholesale and Retail Trading
20	H M T Ltd.	Machinery	Praga Tools Ltd.	Machinery
21	Century Plyboards (India) Ltd.	Construction Materials	Shyam Century Ferrous Ltd.	Metals and Metals Products
22	Hindustan Unilever Ltd.	Consumer Goods	T O C Disinfectants Ltd.	Consumer Goods
23	Tata Global Beverages Ltd.	Food and Agro Based Products	Tata Tetley Ltd.	Food and Agro Based Products
24	Thermax Ltd.	Machinery	Thermax Babcock & Wilcox Ltd.	Machinery

Table 2. Sector wise classification of acquiring companies

S. No	Sectors	No. of M&A Deals	No. of Companies
1	Chemical and Chemical Products	4	4
2	Construction Materials	2	2
3	Consumer Goods	5	3
4	Food and Agro Based Products	2	2
5	Hotels and Tourism	2	2
6	Industrial and Infrastructural Construction	1	1
7	Information Technology	1	1
8	Machinery	6	6
9	Metals and Metals Products	1	1
10	Textiles	1	1
11	Transport Equipment	1	1
	Total	*26*	*24*

Total data was collected for fifteen years, out of six years were before and nine years after the merger. For comparing pre and post-merger performance six years data for each was used and forecasting technique was applied to total nine years subsequent to merger. The time frame of six years were fixed due to availability pre merger data in Prowess database for aforesaid duration only.

Afterwards values for all three ratios were calculated for both time frame- prior and post-merger and analysis was done with reference to mean, standard deviation and coefficient of variation to check the impact of M&A on the firms. Additionally paired t test were applied at 5% to check the significant effect. At last Autoregressive Integrated Moving Average (ARIMA) technique was deployed for forecasting the values of all three ratios for the companies that have remarkable effect of M&A in either of the direction.

3.2 Du Pont Return on Assets (ROA) Framework

In 1920s, Du Pont took over General Motors and F. Donaldson Brown who was with the company since 1909 as an explosive salesman and later on promoted to company's finance section was designated as a treasurer of General Motors. He was given the task of cleaning up the chiaotic finance of ailing auto manufacturing company. While working on same, he discovered that multiplication of Net Profit Margin (NPM) with Asset Turnover Ratio (ATR) leads to Return on Assets (ROA). Since then, this model gained popularity as Du Pont

Analysis.

Return on Assets (ROA) shows profit being earned in relation to assets being deployed into the business in percentage term. Net Profit Margin (NPM) highlights the net income earned by the company with respect to total sales made during a particular time frame. Asset Turnover Ratio (ATR) evince the firm's efficiency in utilizing the assets to generate sales.

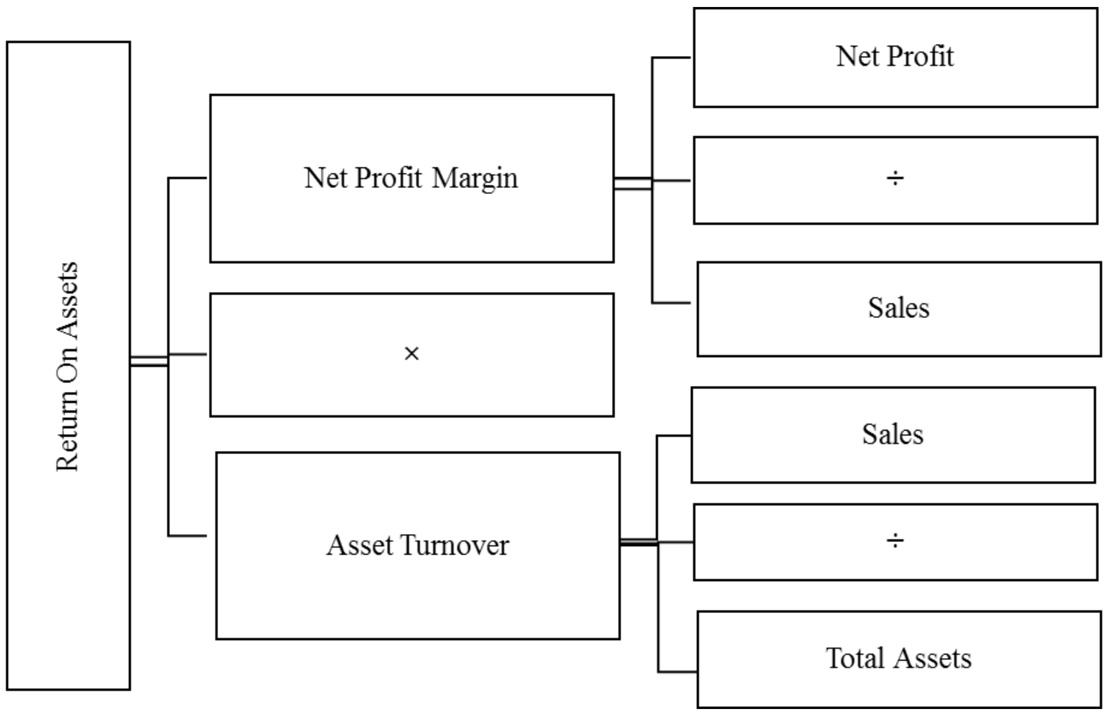

Fig.1. Du Pont ROA framework

4. CONCLUSION

In spite of the fact that across the globe M&A has become a prominent route for attaining inorganic growth for the corporates still they should choose a target for acquiring or merging after carefully analyzing the cost and benefits associated with the deal. A proper integration plan should be designed well in advance to facilitate merger. The current study carried out to measure the financial performance of M&A in long term with the help of Du Pont ROA Analysis and it is concluded that M&A is a long term pay off strategy and firms are able to make it long way provided that target selection was made wisely with a well thought plan. It also infers that the results are more specific to the companies rather than a particular sector.

Even from the forecasted value obtained by applying ARIMA model, it was found that M&A

is benefited in long term but it entirely dependent on the company who choose this path and the way take it forward. The findings confirmed with earlier results that not the sector but the companies are one who got advantage of M&A.

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Company Name	Return on Assets				Net Profit Margin				Asset Turnover Ratio		
	Pre-Merger Mean	Post-Merger Mean	Pre-Merger Std. Deviation	Post-Merger Std. Deviation	Pre-Merger Mean	Post-Merger Mean	Pre-Merger Std. Deviation	Post-Merger Std. Deviation	Pre-Merger Mean	Post-Merger Mean	Pre-Merg Std. Deviatio
Akar Tools Ltd.	2.8850	2.3717	1.2341	1.2368	3.1667	1.9300	2.0583	1.0010	0.9867	1.2217	0.1770
Century Plyboards (India) Ltd.	6.2317	8.9383	1.8522	4.1397	3.9150	6.0233	1.3524	2.9891	1.6200	1.5200	0.14464
Dabur India Ltd.	13.3850	23.6383	4.8320	5.4413	7.8117	14.4917	2.1424	1.1888	1.6850	1.6183	0.2230
Dhampur Sugar Mills Ltd.	-1.3783	0.2517	6.0592	2.4050	-2.5333	-0.0783	7.2723	4.9767	0.8550	0.7600	0.2094
E I H Associated Hotels Ltd.	-2.5900	2.7183	1.4567	0.8152	-11.1700	6.7933	6.4829	1.8063	0.2483	0.3967	0.0519
Forbes & Co. Ltd.	3.5433	-1.9350	2.1017	4.5386	4.4083	-4.5100	2.3834	9.8123	0.7917	0.5517	0.0462
Goa Carbon Ltd.	3.1867	3.2833	2.75168	2.22963	3.5983	2.8400	3.1814	2.1924	0.9783	1.2250	0.2564
H I L Ltd.	-0.7750	9.1300	2.4873	5.2622	-1.0867	6.1100	2.4147	3.3152	1.0267	1.4733	0.1988
H M T Ltd.	-4.7533	-3.0483	11.8452	3.0048	-8.2983	-26.8017	17.9903	25.4842	0.3083	0.1183	0.2154
Hindustan Unilever Ltd.	21.7733	25.1717	3.1126	2.8356	13.0850	12.1800	2.7569	1.1133	1.7000	2.0767	0.2987
J S W Steel Ltd.	1.2833	5.7150	5.8224	3.0963	-3.8717	8.9767	15.7898	4.5710	0.3667	0.6250	0.2472
Kamat Hotels (India) Ltd.	1.1433	1.9667	1.0641	2.5083	4.1467	7.4200	3.7199	8.5665	0.2550	0.2133	0.0288
Kesoram Industries	3.3233	5.0700	1.3169	7.9436	2.7683	4.21830	0.8410	7.3959	1.1867	0.9950	0.2125

Table 3: Paired Sample Statistics Results for all Ratios of Acquiring Firms

Table 4: Paired Sample Test Results for Return on Asset Ratio of Acquiring Firms

	Paired Differences							
	Mean	**Std. Deviation**	**Std. Error Mean**	**95% Confidence Interval of the Difference**		**t**	**df**	**Sig. (2-tailed)**
				Lower	**Upper**			
Pair 1Akar Tools Ltd.Post and Pre -Merger	0.5133	1.8560	0.7577	-1.4344	2.4611	0.677	5	0.528
Pair 2 Century Plyboards (India) Ltd.Post and Pre –Merger	-2.7066	4.1876	1.7096	-7.1013	1.6880	-1.583	5	0.174
Pair 3 Dabur India Ltd.Post and Pre -Merger	***-10.2533***	***9.7303***	***3.9724***	***-20.4647***	***-.04196***	***-2.581***	***5***	***0 .049***
Pair 4Dhampur Sugar Mills Ltd. Post and Pre -Merger	-1.6300	5.8797	2.4004	-7.8004	4.5404	-0.679	5	0.527
Pair 5 EIH Associated Hotels Ltd. Post and Pre -Merger	***-5.30833***	***1.54916***	***.63244***	***-6.93408***	***-3.68259***	***-8.393***	***5***	***0.000***
Pair 6 Forbes & Co. Ltd. Post and Pre -Merger	***5.4783***	***4.1038***	***1.6753***	***1.1716***	***9.7850***	***3.270***	***5***	***0.022***
Pair 7 Goa Carbon Ltd.Post and Pre -Merger	-0.0966	4.0872	1.6686	-4.3859	4.1926	-0.058	5	0.956
Pair 8 H I L Ltd.Post and Pre -Merger	***-9.9050***	***4.9599***	***2.0248***	***-15.1101***	***-4.6998***	***-4.892***	***5***	***0.005***
Pair 9 H M T Ltd.Post and Pre -Merger	-1.7050	14.6629	5.9861	-17.0928	13.6828	-0.285	5	0.787

Pair 10 Hindustan Unilever Ltd. Post and Pre -Merger	-3.3983	3.5258	1.4394	-7.0985	0.3018	-2.361	5	0.065
Pair 11J S W Steel Ltd. Post and Pre -Merger	-4.4316	7.2799	2.9720	-12.0714	3.2081	-1.491	5	0.196
Pair 12 Kamat Hotels (India)Ltd. Post and Pre -Merger	-0.8233	1.9907	0.8127	-2.9124	1.2657	-1.013	5	0.358
Pair 13 Kesoram Industries Ltd. Post and Pre -Merger	-1.7466	8.4804	3.4621	-10.6463	7.1530	-0.505	5	0.635
Pair 14 Lakshmi Machine Works Ltd. Post and Pre -Merger	***-4.4466***	***3.7100***	***1.5146***	***-8.3400***	***-0.5532***	***-2.936***	***5***	***0.032***
Pair 15 Larsen and Tubro Ltd. Post and Pre -Merger	-3.2333	3.3176	1.3544	-6.7149	.24832	-2.387	5	0.063
Pair 16 MphasisLtd.Post and Pre -Merger	***-11.2583***	***4.5264***	***1.8479***	***-16.0085***	***-6.5081***	***-6.093***	***5***	***0.002***
Pair 17 Punjab Chemicals & Crop Protection Ltd. Post and Pre-Merger	8.6500	14.3231	5.8474	-6.3812	23.6812	1.479	5	0.199
Pair 18 R S W MLtd. Post and Pre -Merger	1.2333	3.2850	1.3411	-2.2141	4.6807	0.920	5	0.400
Pair 19 Tata Global Beverages Ltd. Post and Pre -Merger	-0.6816	2.5990	1.0610	-3.4091	2.0458	-0.642	5	0.549
Pair 20 Thermax Ltd. Post and Pre - Merger	-4.2916	5.5629	2.2710	-10.1296	1.5463	-1.890	5	0.117

Pair 21 Universal Cables Ltd. Post and Pre - Merger	-4.3816	4.8535	1.9814	-9.4751	0.7117	-2.211	5	0.078
Pair 22 V I P Industries Ltd. Post and Pre - Merger	***-5.8283***	***5.2634***	***2.1487***	***-11.3519***	***-0.3047***	***-2.712***	***5***	***0.042***
Pair 23 Videocon Industries Ltd. Post and Pre – Merger	-0.6966	2.4588	1.0038	-3.2771	1.8837	-0.694	5	0.519
Pair 24 Wanbury Ltd. Post and Pre - Merger	0.5650	8.1934	3.3449	-8.0335	9.1635	0.169	5	0.872

Table 5: Paired Sample Test Results for Net Profit Margin Ratio of Acquiring Firms

	Paired Differences							
	Mean	**Std. Deviation**	**Std. Error Mean**	**95% Confidence Interval of the Difference**		**t**	**df**	**Sig. (2-tailed)**
				Lower	**Upper**			
Pair 1Akar Tools Ltd.Post and Pre -Merger	1.2366	2.3163	0.9456	-1.1941	3.6674	1.308	5	0.248
Pair 2 Century Plyboards (India) Ltd. Post and Pre – Merger	-2.1083	3.0838	1.2589	-5.3446	1.1279	-1.675	5	0.155
Pair 3 Dabur India Ltd.Post and Pre -Merger	***-6.6800***	***3.2863***	***1.3416***	***-10.1287***	***-3.2312***	***-4.979***	***5***	***0.004***
Pair 4 Dhampur Sugar Mills Ltd. Post and Pre -Merger	-2.4550	6.6332	2.7080	-9.4161	4.5061	-.907	5	0.406
Pair 5 EIH Associated Hotels Ltd. Post and Pre -Merger	***-17.9633***	***6.4279***	***2.6241***	***-24.7090***	***-11.2176***	***-6.845***	***5***	***0.001***

Pair 6 Forbes&Co.Ltd. Post and Pre -Merger	8.9183	9.2298	3.7680	-0.76776	18.6044	2.367	5	0.064
Pair 7 Goa Carbon Ltd. Post and Pre -Merger	0.7583	4.1132	1.6792	-3.5582	5.0748	0.452	5	0.670
Pair 8 H I L Ltd. Post and Pre -Merger	***-7.1966***	***3.0097***	***1.2287***	***-10.3552***	***-4.0381***	***-5.857***	***5***	***0.002***
Pair 9 H M T Ltd. Post and Pre -Merger	18.5033	41.9974	17.1453	-25.5703	62.5769	1.079	5	0.330
Pair 10 Hindustan Unilever Ltd. Post and Pre -Merger	0.9050	3.6032	1.4710	-2.8764	4.6864	0.615	5	0.565
Pair 11J S W Steel Ltd. Post and Pre -Merger	-12.8483	17.7202	7.2342	-31.4446	5.7479	-1.776	5	0.136
Pair 12 Kamat Hotels (India)Ltd.Post and Pre -Merger	-3.2733	7.2213	2.9481	-10.8516	4.3050	-1.110	5	0.317
Pair 13 Kesoram Industries Ltd. Post and Pre -Merger	-1.4500	7.4202	3.0292	-9.2370	6.3370	-0.479	5	0.652
Pair 14 Lakshmi Machine Works Ltd.Post and Pre -Merger	***-3.3600***	***1.6678***	***0.6809***	***-5.1103***	***-1.6096***	***-4.935***	***5***	***0.004***
Pair 15 Larsen and Tubro Ltd. Post and Pre -Merger	***-4.1316***	***2.0596***	***0.8408***	***-6.2931***	***-1.9702***	***-4.914***	***5***	***0.004***

Pair 16MphasisLtd.Post and Pre -Merger	1.59167	8.25078	3.36837	-7.06700	10.25033	0.473	5	0.656
Pair 17 Punjab Chemicals & Crop Protection Ltd.Post and Pre-Merger	10.1050	15.8777	6.4820	-6.5577	26.7677	1.559	5	0.180
Pair 18 R S W M Ltd. Post and Pre -Merger	0.9700	3.3040	1.3488	-2.4974	4.4374	0.719	5	0.504
Pair 19 Tata Global Beverages Ltd. Post and Pre -Merger	-7.6050	7.9929	3.2631	-15.9930	0.7830	-2.331	5	0.067
Pair 20 Thermax Ltd. Post and Pre - Merger	-1.9550	5.3339	2.1775	-7.5525	3.6425	-0.898	5	0.410
Pair 21 Universal Cables Ltd. Post and Pre - Merger	-3.7033	3.9941	1.6306	-7.8949	0.4882	-2.271	5	0.072
Pair 22 V I P Industries Ltd. Post and Pre - Merger	-3.3600	3.2365	1.3213	-6.7565	0.0365	-2.543	5	0.052
Pair 23 Videocon Industries Ltd. Post and Pre – Merger	-1.9950	3.2738	1.3365	-5.4307	1.4407	-1.493	5	0.196
Pair 24 Wanbury Ltd. Post and Pre - Merger	2.0166	15.9993	6.5317	-14.7736	18.8069	0.309	5	0.770

Table 6: Paired Sample Test Results for Asset Turnover Ratio of Acquiring Firms

	Paired Differences							
	Mean	**Std. Deviation**	**Std. Error Mean**	**95% Confidence Interval of the Difference**		**t**	**df**	**Sig. (2-tailed)**
				Lower	**Upper**			
Pair 1Akar Tools Ltd.Post and Pre -Merger	***-0.2350***	***0.0728***	***0.0297***	***-0.3114***	***-0.1585***	***-7.899***	***5***	***0.001***

Pair 2 Century Plyboards (India) Ltd. Post and Pre – Merger	0.1000	0.1739	0.0709	-0.0824	0.2824	1.409	5	0.218
Pair 3 Dabur India Ltd.PostandPre -Merger	0.0666	0.4638	0.1893	-0.4200	0.5533	0.352	5	0.739
Pair 4 Dhampur Sugar Mills Ltd. Post and Pre -Merger	0.0950	0.4271	0.1743	-0.3532	0.5432	0.545	5	0.609
Pair 5 EIH Associated Hotels Ltd. Post and Pre -Merger	***-0.1483***	***0.0256***	***0.0104***	***-0.1752***	***-0.1214***	***-14.179***	***5***	***0 .000***
Pair 6 Forbes& Co. Ltd. Post and Pre -Merger	***0.2400***	***0.0779***	***0.0318***	***0.1581***	***0.3218***	***7.539***	***5***	***0.001***
Pair 7 Goa Carbon Ltd. Post and Pre -Merger	-0.2466	0.3454	0.1410	-0.6092	0.1158	-1.749	5	0.141
Pair 8 H I L Ltd. Post and Pre -Merger	***-0.4466***	***0.2515***	***0.1026***	***-0.7106***	***-0.1827***	***-4.350***	***5***	***0.007***
Pair 9 H M T Ltd. Post and Pre -Merger	0.1900	0.2132	0.0870	-0.0338	0.4138	2.182	5	0.081
Pair 10 Hindustan Unilever Ltd. Post and Pre -Merger	-0.3766	0.4224	0.1724	-0.8199	0.0666	-2.184	5	0.081
Pair 11J S W Steel Ltd. Post and Pre -Merger	***-0.2583***	***0.2421***	***0.0988***	***-0.5124***	***-0.0042***	***-2.614***	***5***	***0.047***
Pair 12 Kamat Hotels (India)Ltd.Post and Pre -Merger	0.0416	0.0462	0.0188	-0.0068	0.0901	2.208	5	0.078

Pair 13 Kesoram Industries Ltd. Post and Pre -Merger	0.1916	0.3796	0.1549	-0.2067	0.5900	1.237	5	0.271
Pair 14 Lakshmi Machine Works Ltd.Postand Pre -Merger	-0.0466	0.3948	0.1612	-0.4610	0.3677	-0.290	5	0.784
Pair 15 Larsen and Tubro Ltd. Post and Pre -Merger	0.0116	0.3042	0.1241	-0.3075	0.3309	0.094	5	0.929
Pair 16MphasisLtd.Postand Pre -Merger	-0.4400	0.5309	0.2167	-0.9972	0.1172	-2.030	5	0.098
Pair 17 Punjab Chemicals & Crop Protection Ltd.Post and Pre-Merger	***0.4400***	***0.3391***	***0.1384***	***0.0841***	***0.7958***	***3.178***	***5***	***0.025***
Pair 18 R S W M Ltd. Post and Pre -Merger	***0.1600***	***0.1190***	***0.0485***	***0.0351***	***0.2848***	***3.294***	***5***	***0.022***
Pair 19 Tata Global Beverages Ltd. Post and Pre -Merger	***0.1733***	***0.0995***	***0.0406***	***0.0688***	***0.2777***	***4.266***	***5***	***0.008***
Pair 20 Thermax Ltd. Post and Pre - Merger	***-0.3383***	***0.1792***	***0.0731***	***-0.5264***	***-0.1502***	***-4.623***	***5***	***0.006***
Pair 21 Universal Cables Ltd. Post and Pre - Merger	***-0.3200***	***0.1099***	***0.0448***	***-0.4353***	***-0.2046***	***-7.132***	***5***	***0.001***
Pair 22 V I P Industries Ltd. Post and Pre - Merger	***-0.2200***	***0.0789***	***0.0322***	***-0.3029***	***-0.1371***	***-6.822***	***5***	***0.001***
Pair 23 Videocon Industries Ltd. Post and Pre – Merger	0.1583	0.1758	0.0718	-0.0262	0.3429	2.205	5	0.079
Pair 24 Wanbury Ltd. Post and Pre - Merger	0.1233	0.2118	0.0864	-0.0989	0.34562	1.426	5	0.213

Table 7: Forecasted Value of All Ratios based on ARIMA Model

Companies Name	Return on Assets (%)		Net Profit Margin (%)		Asset Turnover Ratio (Times)	
	2016	2017	2016	2017	2016	2017
Akar Tools Ltd.	0.62	0.10	0.30	-0.13	1.67	1.77
Century Plyboards (India) Ltd.	16.83	19.67	10.06	11.42	1.69	1.76
Dabur India Ltd.	18.10	19.47	13.91	14.14	1.29	1.36
Dhampur Sugar Mills Ltd.	-1.89	-3.90	-3.73	-7.90	0.48	0.29
EIH Associated Hotels Ltd.	7.44	8.94	12.62	14.84	0.62	0.67
Forbes & Co. Ltd.	1.46	3.43	3.17	7.32	0.71	0.82
Goa Carbon Ltd.	-7.99	-12.74	-8.71	-13.45	0.59	0.28
H I L Ltd.	6.17	4.27	4.51	3.41	1.41	1.38
H M T Ltd.	-6.45	-6.11	-188.97	-238.00	0.02	-0.01

Hindustan Unilever Ltd.	32.46	34.13	14.10	15.22	2.33	2.29
J S W Steel Ltd.	3.47	4.48	4.86	5.80	0.67	0.70
Kamat Hotels (India) Ltd.	3.47	4.48	4.86	5.80	0.67	0.70
Kesoram Industries Ltd.	-5.34	-4.77	-7.81	-8.39	0.81	0.85
Lakshmi Machine Works Ltd.	11.23	13.39	8.48	9.54	1.34	1.45
Larsen and Tubro Ltd.	4.82	3.89	8.01	7.01	0.63	0.62
MphasisLtd.	6.25	1.10	15.55	11.98	0.48	0.39
Punjab Chemicals & Crop Protection Ltd.	5.76	11.92	7.40	15.45	1.02	1.19
R S W M Ltd.	5.39	7.15	4.20	6.05	1.50	1.54
Tata Global Beverages Ltd.	6.53	7.36	10.50	11.08	0.62	0.69
Thermax Ltd.	6.10	5.62	6.75	6.87	0.92	0.86
Universal Cables Ltd.	-6.92	-8.54	-6.03	-7.52	1.10	1.04

V I P Industries Ltd.	8.45	6.91	3.37	1.94	2.29	2.46
Videocon Industries Ltd.	0.02	0.23	-0.44	-0.073	0.53	0.55
Wanbury Ltd.	-88.85	-115.62	-50.17	-61.13	2.04	2.50