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Comprehensive Research on the Performance of the Acquiring firms Pre and Post-Acquisition in the Pharmaceutical Industry

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Abstract :*The pharmaceutical industry has grown multi fold over the past few years. The globalization of the financial markets and the upsurge mount of lifestyle diseases in addition to the advancements in education levels have given a boost to the industry. Several eminent mergers and acquisitions have been witnessed in the Indian pharmaceutical sector. Mergers and acquisitions are widely used tools today by the firms to fortify and uphold their position in competitive market place. The paper examines the impact of two significant acquisitions in the recent past in the pharmaceutical sector considering the acquisition of Ranbaxy Laboratories Limited by Daiichi Sankyo Company, Limited and Piramal Healthcare Limited by Abbott Laboratories on the acquiring firms respectively to inspect whether the deal led to a profitable situation or not. The paper makes an attempt to draw a comparison between pre and post acquisition financial performance in terms of performance ratios of the acquiring firms. The outcomes suggest that the effect on operating performance of both the acquiring firms, post acquisition was not significant from statistical point of view.*
Keywords –*acquisition, mergers, performance ratios, pharmaceutical industry and profitability*

I. Introduction

In terms of volume of production, the Indian pharmaceutical market is the third largest in the world and India is currently the biggest supplier of generic drugs globally [1].Indian pharmaceutical industry consists of high quality manufacturers and many international corporations associated with this have promoted their dynamic development and assisted towards putting the country on the global pharmaceutical map. Post the liberalization and globalization introduced by the Indian Government since 1991, the rate of mergers and acquisitions have seen a sharp rise. Past few years have witnessed Indian pharmaceutical companies increasingly being targeted by major multinational companies for both joint venture agreements as well as for acquisition. The reason for this is that the firms have to take stringent actions to combat the cutthroat competition to survive in the global market.

Mergers and acquisitions are two faces of the same coin but are highly distinctive in nature. In a merger (or sometimes referred to amalgamation), two distinctive ventures join to come under one single umbrella. Whereas, in an acquisition, on the other hand, a business group buys another business group (smaller) and the smaller group is absorbed into the bigger parent group [2]. In India, the companies are bound to follow the legal procedure of mergers and acquisitions which are given by various laws such as The Companies Act, 1956, The Competition Act, 2002, Foreign Exchange Management Act, 1999, Mandatory permission by the court etc. [3]. Big multinational companies aim at securing access to the gateway of generic drugs developed by comparatively smaller Indian companies in order to carry out effective research and development and cutting down costs at the same time.

Mergers and acquisitions form a significant part of business strategy for Indian corporates, as found in a survey conducted by Grant Thornton [4].

Table 1: Objectives behind the Mergers and Acquisitions

S. No	Objectives behind the M&A Transaction	Responses (in %)
1	To improve revenues & Profitability	33%
2	Faster growth in scale and quicker time to market	28%
3	Acquisition of new technology or competence	22%
4	To eliminate competition and increase market share	11%
5	Tax shield and Investment saving	3%

Source: Grant Thornton (India), The M&A and Private equity Scenario, 2006

According to the report, the three major mottos forming the backbone of any merger and acquisition deal were recorded as:

- To improve revenues and profitability
- Faster growth in scale and quicker time to market
- Acquisition of new technology or competence.

One of the most noteworthy acquisitions in India was the acquisition of Ranbaxy laboratories Ltd, which topped the charts of the leading pharmaceutical companies in the Indian economy, by Daiichi Sankyo Company, Limited, a Japan based company, on 11 June 2008. Daiichi Sankyo Company, Limited, one of the largest pharmaceutical companies in Japan, acquired Ranbaxy for $4.6 billion [5]. The other eminent example of mergers and acquisitions is the acquisition of Piramal Healthcare Ltd, a renowned company based in India, by Abbott Laboratories, a leading pharmaceutical entity in the United States, on May 21, 2010. The consideration made for the deal amounted to $3.72 billion [6].

The paper makes a comparison in the performance of the acquiring company, in the above cases, considering three years before and three years after the acquisition to get a clear picture of the effects of the deal on the profitability of the firms

II. Literature Review

Various studies have been conducted with respect to mergers and acquisitions by various eminent researchers over the past few years and they have come up with varied theories relating to mergers and acquisitions. In order to progress on the path of success, a firm has to focus both on internal growth as well as external growth. Internal growth is when the key focus is on the expansion and diversification of operations and external growth may take the shape of foreign collaborations, mergers and acquisitions or joint ventures. The key objective has always been to ascertain whether a merged company has attained the performance goals or not.

One of the studies analyzing the effect of merger and acquisitions suggested that the bursting of stock market bubble has driven the investors to consciousness and provided affirmation, which recommends that in the phase of euphoric bubble period, the investors are prone to take more risk [7].

The influence of merger on the functioning performance of the acquiring firms in various industries with the help of pre and post performance ratios to study the impact of mergers on firms was assessed in the study conducted by Mantravadi Pramod & Reddy A Vidyadhar (2007)[8]. Considering diversified industries in India including pharmaceutical industry the results suggested that there were insignificant variations with respect to effect on functioning performance after mergers.

Lubatkin [9] scrutinized the results of studies that directly or indirectly cater to the question whether mergers provide significant benefits to the acquiring firms and came up with the result that the acquiring firms have a chance of being benefitted due to monetary, technical and diversified operations.

A report by A.T. Kearney [10] suggests that when a pharmaceutical company operating at a large scale joins hands with another major firm, it results in a consumer health giant with an expanded product portfolio and reach across the globe.Vidhish Vyas et al (2012) in their paper [11] made an attempt to study the various determinants of mergers and acquisitions in Indian pharmaceutical industry. They suggested that one form of gaining efficiency in M&A is the combined effect of organizational management if the managers of the acquiring company possess superior managerial capabilities.

Weston and Mansingka's study [12] revolved around operating performance of various conglomerate firms and their results suggest that the rate of earnings significantly underachieved those in the control sample group. But few years down the line, no noticeable differences were observed in the performance. The betterment in performance with respect to earnings of the firms was taken as the evidence for achievement of diversified operations.

III. Objectives Of The Research

The objectives of the research are:

1. To study the inbound and outbound eminent mergers and acquisitions in Indian pharmaceutical industry.
2. To study the motto forming the backbone of any merger and acquisition.
3. To ascertain the performance of a company in terms of operating net and gross profitability.
4. To compare a firm's performance pre and post merger with respect to return on equity and debt equity ratio.
5. To find out the effects of acquisition on shareholders considering earning per share (EPS) and dividend payout ratio.

IV. Research Methodology

The research methodology followed in this research was descriptive research. Secondary data has been used as the basis of the study. Annual reports of the selected pharmaceutical companies (Daiichi Sankyo Company, Limited and Abbott Laboratories) were used for collecting the data to study the impact of acquisitions on their performances respectively. These two companies form the sample base for the research. A period of three years has been taken pre merger and post merger to compare the performance of the companies. The year of acquisition has not been taken into consideration as that was considered as a base year. For Ranbaxy-Daiichi Sankyo deal (2008), the performance ratios for the year 2005-2007 have been compared with

the ratios of 2009-2011. For Piramal-Abbott deal (2010), the performance ratios for the year 2007-2009 have been compared with the performance from 2011-2013. For this purpose, the ratios taken into consideration are operating, net and gross profitability ratios which is a way to measure a companies performance. The other performance ratios used are return on equity, debt equity ratio, earning per share (EPS) and dividend payout ratio.

Before the merger, the performance ratios of only the acquiring firm have been taken into consideration whereas after the merger, the performance of both the acquired as well as the acquiring firm has been taken into account as one single unit. For drawing out the comparative results and studying the significant differences, the 'paired two sample t-test' has been used as a tool.

V. Data Collection And Tools For Analysis

V.1 Data Collection

The data on the operating performance ratios for pre-acquisition and post-acquisition considering three years in each scenario (Total six financial years) for each of the acquiring company (Daiichi Sankyo and Abbott Laboratories) was extracted from the financial statements of the respective companies. The financial statements were accessed from the official websites of the companies.

Table 2 depicts some of the notable examples of inbound mergers and acquisitions of the Indian pharmaceutical sector by various multinational companies.

Table 2: Notable Examples of Inbound M&A of Indian Pharmaceutical Companies

S. No	Acquirer Company	Acquired Company
1	Daiichi Sankyo	Ranbaxy
2	Abbott	Piramal
3	Sanofi Aventis	Shantha
4	Mylan	Matrix
5	Reckitt Benckiser	Paras
6	Hospira	Orchid
7	Fresenuis Kabi	Dabur Pharma
8	Abbott	Wockhardt

Table 3 depicts some of the prominent examples of outbound mergers and acquisitions by Indian pharmaceutical companies.

Table 3: Notable Examples of Outbound M&A by Indian Pharmaceutical Companies

S. No	Acquirer Company	Acquired Company
1	Biocon	Axicorp (German)
2	Dr. Reddy Laboratories	Trigenesis Therapeutics (USA)
3	Wockhardt	Esparma (German)
4	Wockhardt	C. P. Pharmaceuticals (UK)
5	Wockhardt	Negma Laboratories (France)
6	Wockhardt	Morton Grove Pharma (USA)
7	Zydus Cadila	Alpharma (France)
8	Ranbaxy	RPG Aventis (France)
9	Nicholas Piramal	Biosyntech (Canada)
10	Sun Pharma	Taro (Israel)
11	Cadila Healthcare	Quimica e Farmaceutica Nikkho

V.2 Tools for analysis

The mathematical tools used for data analysis are basically percentages and ratios. Two dimensional clustered column charts are used for the demonstration of the performance data. The performance of the companies before and after the acquisition has been compared using "paired two sample t-test" as a statistical tool for hypothesis testing.To test the objectives, the below given hypothesis were formulated:

H_0 (Null Hypothesis): There is no difference significant enough between the pre-acquisition and post-acquisition performance of the company considering the respective ratios.

H_A (Alternative Hypothesis): There is a difference significant enough between the pre-acquisition and post-acquisition performance of the company considering the respective ratios.

The different ratios to analyze the financial performance of the companies pre and post acquisition considered in this research are explained as follows.

I. Operating Profit Ratio:

It is computed to disclose operating margin. It is a useful tool in analyzing the performance of a firm and depicts the operational efficiency of the company.

$$Operating\ Profit\ Ratio = \frac{Operating\ \ Profit\ \times 100}{Revenue\ \ from\ \ Operations} \quad (1)$$

II. Gross Profit Ratio:

It is an indicator of the gross margin earned by a company on the products sold

$$Gross\ Profit\ Ratio\ = \frac{Gross\ Profit\ \times 100}{Net\ Sales} \quad (2)$$

III. Net Profit Ratio:

It indicates the net profit margin in relation to the revenue of a company.

$$Net\ Profit\ Ratio\ = \frac{Net\ Profit\ \times 100}{Revenue\ \ from\ \ Opera\ tions} \quad (3)$$

IV. Debt Equity Ratio: It measures the level of indebtedness of a company and acts as a tool to ascertain the security of the debt by the long-term lender.

$$Debt\ Equity\ Ratio\ = \frac{Long\ Term\ Debt}{Share\,holde\,r's\ Funds} \quad (4)$$

V. Earnings per share (EPS): It indicates the reasonableness and capacity of a company to pay dividend to shareholders.

$$Earnings\ Per\ Share(EPS) = \frac{Profit\ \ available\ \ for\ equity\ \ share\,holders}{Number\ \ of\ equity\ \ shares} \quad (5)$$

VI. Dividend payout ratio: ratio: It refers to the dividend policy of a company and depicts the growth in equity

$$Dividend\ Payout\ Ratio\ = \frac{Dividend\ \ per\ share}{Earnings\ \ per\ share} \quad (6)$$

VII. Return on Equity: It measures a company's profitability by revealing the profit generated with shareholders' money.

$$Return\ on\ Equity\ = \frac{Net\ Income}{Share\,holde\,r's\ Equity} \quad (7)$$

VI. Data Analysis And Interpretation

Daiichi Sankyo, a leading pharmaceutical business house in Japan, acquired a 34.8% stake in Ranbaxy Laboratories Limited in June 2008 [13]. Later in November 2008, the founding Singh family surrendered a 63.92% stake to Daiichi Sankyo, making it one of the most sought after M&A deals in the Indian pharmaceutical industry.

The table represents the performance of the acquiring company, i.e., Daiichi Sankyo Company, Limited, three years prior and three years subsequent to the acquisition, in context of various performance ratios.

Table 4: Performance Ratios for Daiichi Sankyo Company, Limited

S. No.	Performance Ratio	Pre-Acquisition of Ranbaxy				Post-Acquisition of Ranbaxy				t-value
		2005-06	2006-07	2007-08	Average	2009-10	2010-11	2011-12	Average	
1	Operating Profit Ratio	16.7	14.7	17.8	16.4	10	13	10	11	2.87
2	Gross Profit Ratio	68.6	71.5	73.3	71.13	70.8	71	71	70.93	0.15
3	Net Profit Ratio	9.5	8.5	11.1	9.7	4.4	7.25	1.1	4.25	2.15
4	Return on Equity	7.3	6.3	7.8	7.13	4.9	8.2	1.3	4.8	0.96
5	Debt Equity Ratio	0.28	0.28	0.3	0.286	0.33	0.29	0.32	0.313	-2.21
6	Earning Per Share (EPS)	119.4	107.7	135.5	120.86	59.4	99.6	14.8	57.93	1.93
7	Dividend Payout Ratio	40.5	55.7	51.7	49.3	100.9	60.2	406.8	189.3	-1.28

The analysis of the data in TABLE 4 has been made on the basis of the above-mentioned performance ratios. The results suggest that the mean operating profit ratio has seen a sharp decline after the merger from 16.4% to 11%, but it was not significant enough when seen from the statistical perspective as affirmed by the t-value of 2.87. A similar case was witnessed on observing the mean net profit ratio and mean earnings per share post acquisition, which saw a decline from 9.7% - 4.25% and 120.8% – 57.9% respectively. The t-values for these ratios were 2.15 and 1.93 respectively, indicating an insignificant statistical change. An evident reduction was also observed in the mean return on equity ratio subsequent to the merger from 7.13% - 4.8%, but the change again proved to be inconsequential with a t-value of 0.96. The mean gross profit ratio also saw a slight decline from 71.1% - 70.9% with a t-value of 0.15. The only parameters which suggested an increment or betterment in the performance of the company post acquisition were the mean debt equity ratio (0.28- 0.31) and mean dividend payout ratio (49.3 – 189.3), but the increment in numbers did not prove to be of statistical importance as the t-value for both the parameters was -2.21 and -1.2 respectively.

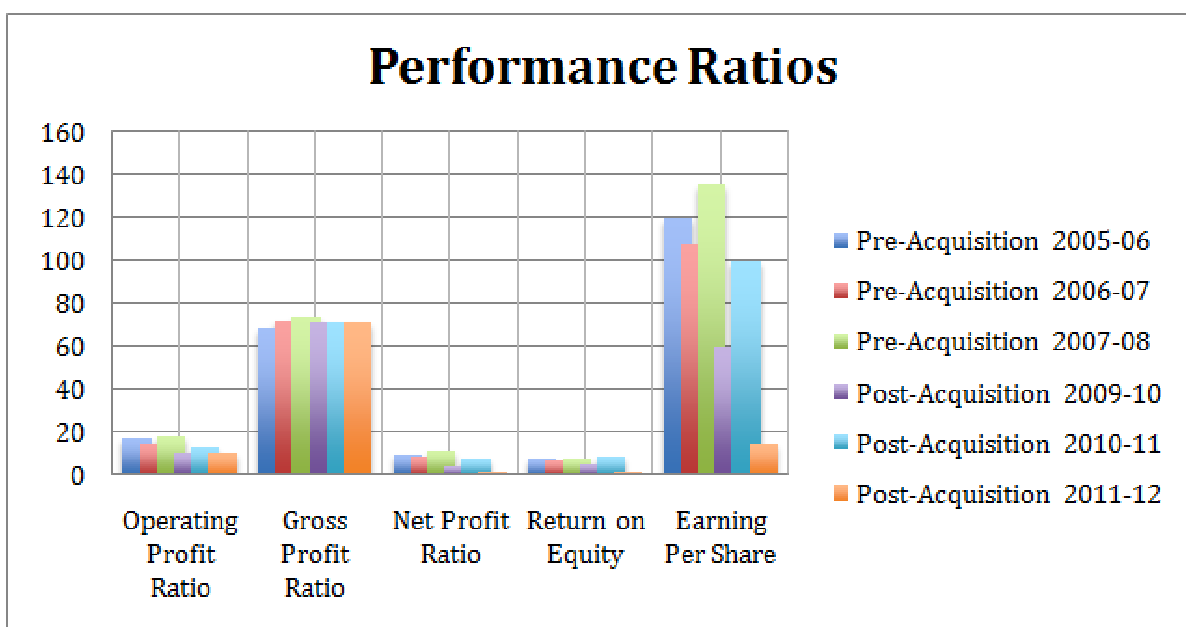

Figure 1: Performance Ratios for Daiichi Sankyo Company, Limited

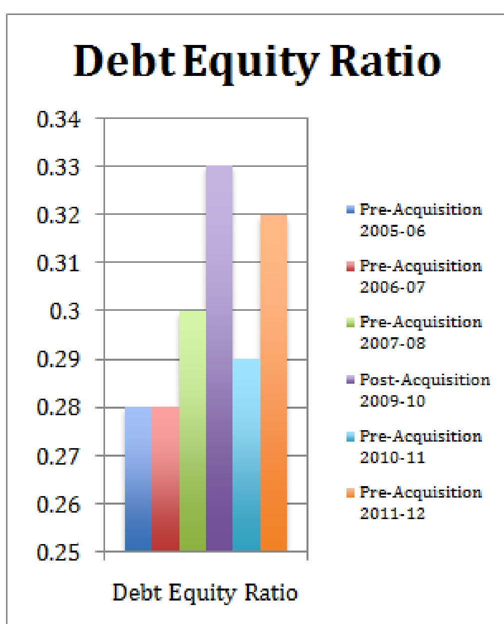

Figure 2: Debt Equity Ratio for Daiichi Sankyo Company, Limited

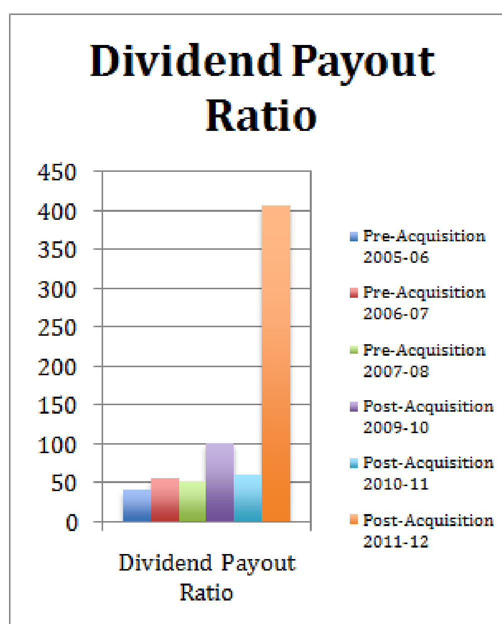

Figure 3: Dividend Payout Ratio for Daiichi Sankyo Company, Limited

From the results of the paired two sample t-test we reach at a conclusion that the difference in the various performance ratios, which are, operating profit ratio, gross profit ratio, net profit ratio, return on equity, Debt Equity ratio, earning per shareand dividend Payout ratio, is not of any significant value statistically,thus, Ho (null hypothesis) is accepted, which suggests that the difference between the pre and post acquisition performance of the company is not significant enough, considering the respective ratios.

This also suggests that though there is a significant change in the absolute mean values of the performance ratios of the company post acquisition, Ha (alternate hypothesis) is rejected, which states that there is a difference significant enough between the pre and post acquisition performance of the company, in respect of the various performance ratios.

On May 2010, Piramal healthcare, which was the 5th largest pharmaceutical company at that time, was acquired by the world's 7th largest drug maker, Abbott Laboratories for $3.72 billion, making it one of the most expensive deals in the Indian pharmaceutical sector. [14]

The table depicts the performance of Abbott laboratories, the acquiring company, 3 years prior and 3 years following the acquisition, with respect to various performance ratios.

Table 5: Performance Ratios for Abbott Laboratories Limited

S. No	Performance Ratio	Pre-Acquisition of Piramal Healthcare				Post-Acquisition of Piramal Healthcare				t-value
		2007-08	2008-09	2009-10	Average	2011-12	2012-13	2013-14	Average	
1	Operating Profit Ratio	17.7	19.3	20.3	19.1	14.8	20.3	12	15.7	1.26
2	Gross Profit Ratio	55.9	57.3	57.1	56.76	60	62.08	54	58.69	-0.76
3	Net Profit Ratio	13.92	16.53	18.68	16.37	12.17	14.95	11.79	12.97	1.95
4	Return on Equity	22.66	27.69	28.49	26.28	20.2	23.31	9.93	17.81	1.66
5	Debt Equity Ratio	0.53	0.5	0.49	0.50	0.49	0.68	0.13	0.43	0.46
6	Earning Per Share (EPS)	2.31	3.12	3.69	3.04	3.01	3.72	1.62	2.78	0.28
7	Dividend Payout Ratio	54.9	46.4	42.3	47.86	63.2	53.7	22.1	46.33	0.16

TABLE 5 depicts the performance of Abbott Laboratories preceding and following acquiring Piramal Healthcare. Various performance ratios have been used to make the analysis. It was observed while comparing the various ratios that the company has not witnessed an evident increase in any of the ratios, rather the mean ratios have declined post acquisition. The mean operating profit ratio saw a steep decline after the acquisition from 19.1%- 15.7%, but with a t-value of 1.2 it does not prove to be fruitful statistically. The mean net profit ratio and mean return on equity have also faced a downward trend by 3.4% and 8.4% respectively. These ratios again, fail to be statistically sound with a t-value of 1.9 and 1.6 respectively. The mean debt equity ratios, mean earning per share and mean dividend payout ratio have witnessed a decline, though not very large, from 0.5% - 0.4% , 3% - 2.7% and 47.8% - 46.3% respectively. Though the difference seems to be evident in numeric terms, these ratios are accompanied by low t-values of 0.4, 0.2 and 0.1 respectively. A noticeable difference was observed in the mean gross profit ratio, which proved to be the only parameter representing a positive change, from 56.7% - 58.6%, depicting an increase of 1.9%. But, when compared with statistical measures this was a marginal increase and could not be proved significant enough.

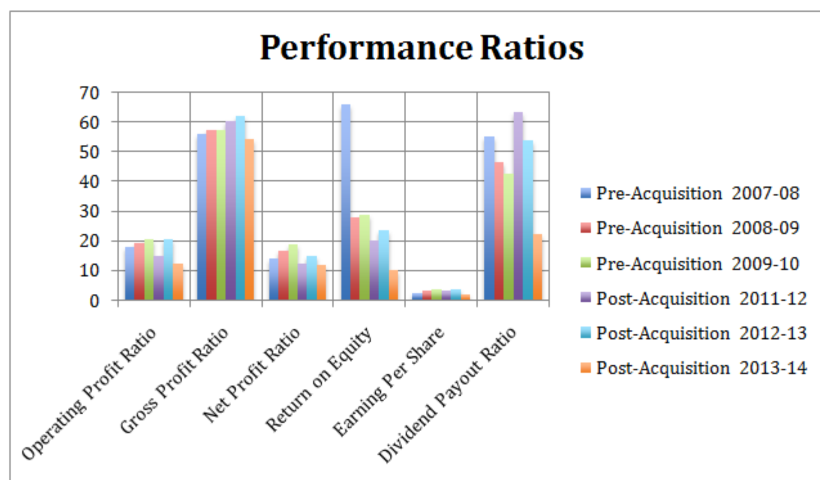

Figure 4: Performance Ratios for Abbott Laboratories Limited

After carefully analyzing the data with the paired two sample t-test, it was observed that the changes in the mean ratios prior to the acquisition and subsequent to it, did not hold much significance, i.e., operating profit ratio, net profit ratio, gross profit ratio, return on equity, debt equity ratio, earning per share and dividend payout ratio, failed to prove substantial statistically and therefore, H_0 (null hypothesis) was accepted. The null hypothesis states that there is no difference significant enough between the pre and post acquisition performance of the company, with respect to the performance ratios used.

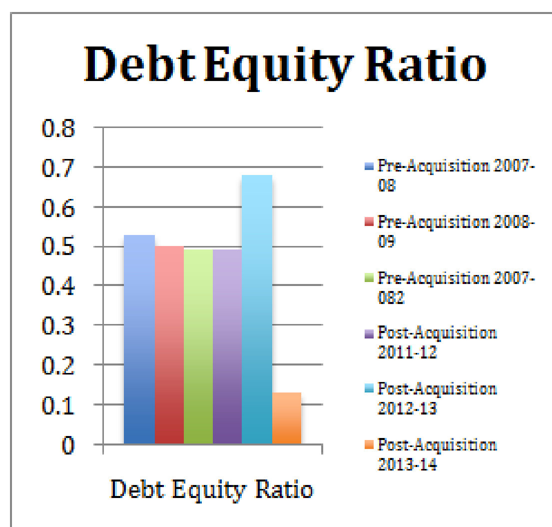

Figure 5: Debt Equity Ratio for Abbott Laboratories Limited

Though this deal was regarded one of the most expensive deals in the Indian pharmaceutical industry, it does not confirm with the statistical tests to be a profitable one. Therefore in this case, H_a (alternate hypothesis) has been rejected, which states that there is a difference, significant enough, before and after the acquisition in the performance of the company, considering the respective performance ratios.

VII. Conclusion

The Indian pharmaceutical sector has experienced various mergers and acquisitions over the years. The takeover of Ranbaxy Laboratories Limited by Daiichi Sankyo company, Limited and the acquisition of Piramal Healthcare by Abbot Laboratories are the most noteworthy after deals in the pharmaceutical industry of the Indian economy. The results drawn from the analysis of performance ratios pre and post acquisition suggests that there has been no evident or significant difference between the performances of both the companies subsequent to the acquisition. The research suggests that Mergers and Acquisitions (M&A) have not always proved to be beneficial for the acquiring firms, especially in the first few years after the deal. In case of Ranbaxy, the long-term effects have also not been convincing as, Daiichi Sankyo Company, Limited sold its stake in Ranbaxy to Sun Pharmaceutical Industries Ltd in 2014. We conclude that the acquiring company might enjoy the benefits of such deals in the long run but in the short run, especially in these two cases, the company's decision of entering into an acquisition deal has not proved to be of much significance on the grounds of performance and profitability.

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