Pre and Post Acquisition Performance of Select Indian Pharmaceutical Companies

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ABSTRACT

The main aim of any company is profitable growth and to maximize the wealth of its shareholders. Further to achieve profitable growth it is necessary for any company to limit competition, to gain economies of scale and thereby increase income with proportionally less investment to achieve diversification, enter new market and utilize underutilized market opportunities. In order to achieve goals, business needs to work towards its long term sustainability. Corporate restructuring is a strategy adopted by the companies to tackle dynamic business environment. This study aims to study the impact of acquisitions on the performance of Indian Pharmaceutical Industry by examining the pre and post financial performance of the companies. Also an attempt has been made to analyze and compare the impact of acquisition announcements on shareholders wealth using Event Study Methodology by calculating Cumulative Abnormal Return (CAR) and Buy and Hold out Abnormal Returns (BHAR). The results reveal that most of the companies did not show the improvement in financial health during the post acquisition period as compare to pre acquisition period. Also the study indicates that most of the companies were not able to generate wealth of their shareholders.

Key Words: Acquisition, Abnormal Return, Event Window, Profitability, Solvency

1. Introduction

Mergers and Acquisitions (M&A) are prevalent in India right from the post independence period, but due to Government regulations like Industrial Development and Regulation Act of 1951, MRTP Act, and FERA Act, only a very few M&A took place in India prior to 1990s. But policy of decontrol and liberalization coupled with globalization of the economy after 1980s, especially after liberalization in 1991 had exposed the corporate sector to severe domestic and global competition. In that context, Indian business houses increasingly resorted to M&A as a means to growth. With the increasing number of Indian companies opting for mergers and acquisitions as their growth strategy, India is now one of the leading nations in the world in terms of mergers and acquisitions. M&A volume is tremendously increasing with an estimated deal of worth more than $ 100 billion in the year 2007. This is known to be two times more than that of year 2002 and four times more than that of the deal in year 2000. Further to that, the percentage is continuously increasing with high end success in business operations. As for now the scenario has completely changed with increasing competition and globalization of business. It is believed that at present India has now emerged as one of the top countries entering into mergers and acquisitions.

Mergers and Acquisitions have become a common strategy to consolidate business. For many people, M&A simply mean sharing resources and costs. However, it is not as simple as it sounds. According to statistical reports, more than 64% of the times the M&A fail to accomplish the promised results. The result is decline in the shareholders' wealth and due to conflicts in management and lack of efficient management to unite different organizational cultures. The most challenging task is to bring together people and make them work as a team. Establishing a new organizational structure that fits all the employees is also difficult. Today's competitive marketplace makes it nearly impossible for an organization to achieve its growth objectives through organic growth only. Mergers and Acquisitions is the strategy adopted by the companies to tackle the dynamic business environment. Mergers and Acquisitions have been a very important market entry strategy as well as expansion strategy. This present era is known as competition era. In this era, companies, to avoid the competition, go for Mergers and Acquisitions and enjoy sometimes, monopoly.

Indian Pharmaceutical Industry: An Overview:

Over the past 50 years, the Indian pharmaceutical industry has undergone a massive makeover. The Indian pharmaceutical industry is part of the top six global pharmaceutical producers. It is third largest in terms of volume. Currently there are 3000 pharmaceutical companies and 10500 manufacturing units, growing at high rate. About 70 percent patients in the developing countries receive medicine from India through various NGO's like UNCTD, Doctors without Borders etc. The burden of diseases, higher disposable income due to good growth rate, and improvement in healthcare infrastructure are some of the reasons for the growth of the pharmaceutical sector in India.

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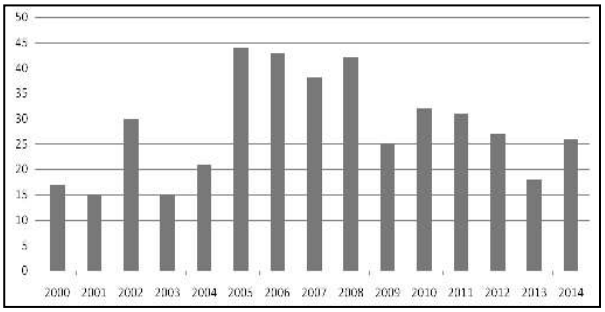
India has huge pool of scientists and engineers who have the capabilities to take high level. India's pharmaceutical export was US$ 15 billion in 2013-14.The Indian pharmaceutical industry is estimated to grow at 20 per cent annually over the next five years. Indian firms to market generics drugs to the US and other Western European countries. Indian drug manufacturers currently export their products to more than 65 countries worldwide.

Graph 1: Mergers and Acquisitions in the Pharmaceutical Sector for the period 2000-14



Source: Bloomberg Professional Services

2. Literature Review

There is enormous amount of literature available on impact of Mergers and Acquisitions on shareholders wealth, particularly in The United States. Many studies, analysing the stock prices around the announcement of acquisition report that acquired firms shareholders, gain significant positive excess returns, while the acquiring firm shareholders receive modest excess returns Jenson and Ruback, (1983); Asquith (1983); Jarell, Brickley and Netter (1988). However, research studies investigating accounting data show conflicting results. Some studies find no or negative impact on post acquisition earnings of the acquiring firms Hogarthy (1970); Bradford (1978); Raven Scraft and Scherer (1989). Some studies report positive impact on accounting profit of the acquiring firms Lev and Mandelker (1972); Smith (1990). The inconsistent results may be due to the different methodologies and sample periods adopted by the researchers.

McGowan and Zunaidah Sulong (2008) studied the impact of the effect of M&A completion announcements on the stock price behavior for two anchor banks in Malaysia and used event study show that the M&A completion announcements are treated as positive information by the market. Verma and Sharma (2014) studied the impact of mergers and acquisition on the performance of Indian Telecom industry by examining some pre and post-merger financial and operating variables. Mahesh and Prasad (2012) analyzed whether the Indian Airline Companies have achieved financial performance efficiency during the post merger and acquisition period and specifically in the areas of profitability, leverage, liquidity, and capital market standards. Kumara and Satyanarayana (2013) showed that Mergers and Acquisition are concerning the determinations of the synergetic effect through which firms undertake their domestic and global strategies. Semir and Pontus (2011) examined if the relationship between a target and an acquiring company´s abnormal return prior the transaction can affect the outcome in the future. The present study examines the comparative difference between pre and post merger and acquisition in India in terms of financial analysis.

3. Objectives of the Study

- To evaluate financial performance of selected Pharmaceuticals companies before and after acquisition.
- To examine the impact of acquisition on shareholders wealth.

4. Methodology

The data is mainly based on secondary data collected from Bloomberg Database with focus on acquisition transactions of pharmaceuticals companies in India for the years 2005-14. During the period, 10 companies were selected based on high value deals which are listed in Table 1. The companies were selected on the basis of availability of the necessary data required for analysis. The companies which are involved in the multiple mergers or acquisition activities during the study period have not been considered. The share price data is also collected using Bloomberg database. For examining impact on financial performance various financial ratios as given in Table 2, have been obtained from moneycontrol.com, way2wealth.com. To examine the performance, tools like mean, standard deviation, t test are considered.

The following techniques are used for studying announcement returns and long term share price performance

- Cumulative Abnormal Returns (CAR)
- Buy and Hold Abnormal Returns (BHAR)

Table 1: Acquisition Deals in the Pharmaceutical Sector Selected for Analysis

Target Name	Acquirer Name	Completion/Termination Date
Healthcare Solutions business	Abbott Laboratories	9/8/2010
Meditab Specialties Pvt Ltd	Cipla Ltd/India	10/1/2010
Chiron Behring Vaccines Pvt Ltd	Novartis India	12/23/2010
Grandix Pharmaceuticals Ltd	Strides Arcolab Ltd	6/11/2007
Intellectual ppty rights/i-pill brand	Piramal Enterprises Ltd	3/31/2010
Rubamin Laboratories Ltd	Lupin Ltd	9/27/2007
Asian Clinical Trials Ltd	Suven Life Sciences Ltd	12/6/2006
GVS Labs	Bliss GVS Pharma Ltd	5/2/2006
Zenotech Laboratories Ltd	Ranbaxy Laboratories Ltd	1/15/2008
Phlox Pharmaceuticals Ltd	Sun Pharmaceutical Industries Ltd	4/5/2005

Table 2: Financial Ratios Utilized for Analysis

Category	Ratios
Profitability Ratios	Operating Profit Margin (OPM)
	Net Profit Margin (NPM)
	Return on Net Worth (RONW)
	Return on Capital Employed (ROCE)
Liquidity / Solvency Ratios	Current Ratio (CR)
	Quick Ratio (QR)
	Debt- Equity Ratio (DER)
Efficiency & Asset utilization Ratios	Asset Turnover Ratio (ATR) Return on Total Asset (ROTA)

5. Data Analysis

5.1 Profitability Ratios

Profitability ratios are the most popular metrics used in financial analysis. They are used to assess a company's ability to generate earnings as compared to its expenses and other relevant costs incurred. These include Operating Profit Margin, Net Profit Margin, Return on capital Employed and Return on Net Worth. The ratios for Pre and Post acquisition period for the 10 selected companies are given in Table 3.

From the Table 3 it can be observed that operating profit margin (OPM) ratio of four companies out of ten Cipla Ltd, Lupin Ltd, Bliss GVS Pharma Ltd and Ranbaxy Laboratories Ltd have shown mean operating profit margin increase of 5.39%, 31.19%, 59.58 and 12.51% respectively for post merger period. For Lupin Ltd operating profit margin is significant at 5% level of significance. Whereas, Abbott Laboratories, Novartis India, Strides Arcolab Ltd, Primal Enterprises Ltd, Suven Life Sciences Ltd and Sun Pharmaceutical Industries Ltd have showed a decline in operating profit margin by 7.42%, 52.68%, 34.31%, 130.51%, 40.82% and 75.96%respectively. The major decrease came from Primal Enterprises of 130.51% and the result was at 5% level significant.

Net Profit Margin (NPM) ratio helps a company determine how much actual profit is made from its sales. Abbott Laboratories, Novartis India, Strides Arcolab Ltd ,Suven Life Sciences Ltd and Ranbaxy Laboratories have shown decline in the post acquisition NPM by 19.78%, 10.34%,44.98% and 67.06% respectively. Rest of the companies Cipla Ltd. , Primal Enterprises Ltd. , Bliss GVS Pharma Ltd and Sun Pharmaceutical Industries Ltd have positive post acquisition results and benefited from the event but statistically not significant.

Capital employed includes all the investment made by the company which includes fixed asset, current asset, capital reserves, revenue reserves etc. With regard to Return on capital employed only three companies have shown increase in the return on capital employed they are Lupin Ltd, Bliss GVS Pharma Ltd and Sun Pharmaceutical Industries Ltd. With increase in percentage mean by 19.76%, 74.30%,82.50% over the pre period mean. Primal Enterprises has shown the most decline of 94.43% for their post period compares to pre acquisition.

In case of Return on net worth, Piramal Enterprises Ltd., Lupin Ltd. and Bliss GVS Pharma Ltd. have resulted in increase in post acquisition mean RONW with increase as 53.98%,3.05% and 149.72% signifying net worth was added after taking over ownership. Abbott has shown

Table 3: Profitability Ratios of the Selected Pharmaceutical Companies

Name of the Company	Ratio	Mean		Change(%)	p-value	t-statistic
		Pre Acquisition	Post Acquisition			
Abbott Laboratories	OPM	12.12	11.22	-7.42	0.57	-0.68 NS
	NPM	9.56	8.25	-13.67	0.27	-1.52 NS
	ROCE	42.34	34.27	-19.06	0.02	-7.37 **
	RONW	28.75	23.22	-19.23	0.04	-4.79**
Cipla Ltd/India	OPM	22.57	23.78	5.39	0.58	0.65 NS
	NPM	16.42	16.53	0.71	0.96	0.06 NS
	ROCE	22.83	20.00	-12.40	0.32	-1.33 NS
	RONW	19.06	15.65	-17.88	0.15	-2.26 NS
Novartis	OPM	19.12	9.05	-52.68	0.23	-1.72 NS
	NPM	16.14	12.95	-19.78	0.23	-1.69 NS
	ROCE	31.69	18.58	-41.37	0.11	-2.76 NS
	RONW	20.45	13.04	-36.25	0.02	-7.66 **
STRIDES	OPM	22.53	14.80	-34.31	0.12	-2.59 NS
	NPM	10.28	9.22	-10.34	0.82	-0.26 NS
	ROCE	14.07	6.18	-56.10	0.02	-6.80 **
	RONW	12.72	6.10	-52.03	0.07	-3.57 **
	OPM	19.94	-6.08	-130.51	0.05	-4.52**
	NPM	12.49	215.50	1624.89	0.45	0.93 NS
Piramal Enterprises Ltd	ROCE	26.08	1.45	-94.43	0.02	-6.82 **
	RONW	23.64	36.41	53.98	0.78	0.32 NS
Lupin Ltd	OPM	15.67	21.18	35.19	0.03	5.60 **
	NPM	11.02	58.79	433.48	0.38	1.11 NS
	ROCE	22.83	27.34	19.76	0.43	0.98 NS
	RONW	26.41	27.21	3.05	0.91	0.12 NS
Suven Life Sciences Ltd	OPM	19.20	11.36	-40.82	0.10	-3.00*
	NPM	10.62	5.84	-44.98	0.11	-2.70 NS
	ROCE	8.67	6.36	-26.62	0.33	-1.27 NS
	RONW	7.36	6.88	-6.48	0.71	-0.42 NS
Bliss GVS Pharma Ltd	OPM	21.00	33.51	59.58	0.30	1.37 NS
	NPM	13.08	28.53	118.09	0.13	2.53 NS
	ROCE	23.22	40.47	74.30	0.29	1.42 NS
	RONW	14.79	41.41	179.92	0.13	2.44 NS
Ranbaxy Laboratories Ltd	OPM	12.25	13.79	12.51	0.83	0.24 NS
	NPM	9.55	3.15	-67.06	0.71	-0.43 NS
	ROCE	13.08	8.99	-31.31	0.66	-0.51NS
	RONW	12.38	2.45	-80.22	0.59	-0.63 NS
Sun Pharmaceutical Industries Ltd	OPM	11.11	2.67	-75.96	0.61	-0.60 NS
	NPM	26.35	29.71	12.75	0.36	1.18 NS
	ROCE	11.98	21.87	82.50	0.57	0.68 NS
	RONW	29.63	0.67	-97.75	0.07	-3.53 **

Note: ***significant at the 0.01 level, **significant at the 0.05 level, *significant at the 0.1 level and NS- Not significant.

negative post acquisition mean of 19.23% significant at 5%. Other companies like Cipla, Novartis India, Strides Arcolab Ltd., Suven Life Sciences Ltd., Ranbaxy Laboratories Ltd. and Sun Pharmaceutical Industries Ltd. have shown decline in post azquisition RONW and the worst was for the Sun Pharmaceutical Industries ltd with the decline of 97.75% significant at 5%.

5.2 Efficiency and Asset Utilization Ratios

Efficiency and asset utilization ratios for the pre and post acquisition periods for the selected companies are given in Table 4.

The Table 3 shows the impact of deals on Efficiency and Asset Utilization ratios of the sample companies. It is observed that asset turnover ratio of seven companies have shown decline in the operating efficiency. Cipla, Novartis India Ltd. , Strides Arcolab Ltd, Piramal, Lupin Ltd, Ranbaxy Laboratories Ltd, Sun Pharmaceutical Industries Ltd over mean of pre period by-51.46%, 17.65%, 46.11%, 89.15%, 2.34%, 45.48% and 36.70% respectively. Piramal Enterprises Ltd has shown the highest decline of 89.15 % and is significant at 1%.

Abbott Laboratories, Suven Life Sciences Ltd and Bliss GVS Pharma Ltd has shown increase in the mean ratio

Table 4: Operational Efficiency and Asset Utilization Ratio of the Indian Pharmaceutical Companies

Name of the Company	Ratio	Mean		Change(%)	p-value	t-statistic
		Pre Acquisition	Post Acquisition			
Abbott Laboratories	ATR ROTA	2.96 183.32	3.18 310.42	7.55 69.33	0.62 0.06	0.59 NS 4.03 **
Cipla Ltd/India	ATR ROTA	1.94 48.63	0.94 96.83	-51.46 99.12	0.00 0.01	-65.47*** 11.00 ***
Novartis India Ltd.	ATR ROTA	1.25 162.34	1.03 279.46	-17.65 72.14	0.01 0.00	-11.00 *** 66.59 ***
Strides Arcolab Ltd	ATR ROTA	0.64 94.02	0.35 289.77	-46.11 208.20	0.07 0.25	-3.62 ** 1.62 NS
Piramal Enterprises Ltd.	ATR ROTA	1.26 51.99	0.14 651.39	-89.15 1152.91	0.00 0.00	-19.42*** 22.73 ***
Lupin Ltd	ATR ROTA	1.28 131.90	1.25 173.75	-2.34 31.73	0.10 0.47	-3.00* 0.88NS
Suven Life Sciences Ltd	ATR ROTA	0.61 35.26	0.80 9.92	29.89 -71.87	0.12 0.00	2.57 NS -18.04***
Bliss GVS Pharma Ltd	ATR ROTA	1.17 12.87	1.63 10.65	39.43 -17.24	0.21 0.29	1.81NS -1.42 NS
Ranbaxy Laboratories Ltd	ATR ROTA	1.22 87.30	0.66 102.89	-45.48 17.86	0.08 0.67	-3.42 ** 0.49 NS
Sun Pharmaceutical Industries Ltd	ATR ROTA	0.89 20.56	0.56 192.82	-36.70 837.67	0.33 0.02	-1.27 NS 7.24 **

Note: ***significant at the 0.01 level, **significant at the 0.05 level, *significant at the 0.1 level and NS- Not significant.

by7.55%, 29.89% and 39.43% respectively. This shows that the acquiring companies are able to generate more assets.

The test of Return on Total Assets (ROTA) eight companies have shown increase in the post mean ratio. Abbott Laboratories, Cipla Ltd, Novartis India Ltd. Strides Arcolab Ltd, Piramal Enterprises Ltd. Lupin Ltd, Ranbaxy Laboratories Ltd and Sun Pharmaceutical Industries Ltd by 69.33%,99.12%,208.20%,115.91,31.73%,17.89% and 837.67% respectively, but Cipla ltd, Novartis India and Piramal Enterprises Ltd is highly significant at 1% . Other companies Piramal Enterprises and Suveen life science has shown decline in their post mean performance indicating underutilization of their assets.

5.3 Liquidity and Solvency Ratios

Liquidity and solvency ratios for pre and post acquisition periods for the selected companies are reported in Table 5.

It can be observed from the Table 5 that the Current Ratio of four companies Abbott Laboratories, Suven Life Sciences Ltd, Bliss GvsPharma Ltd and Sun Pharmaceutical Industries Ltd have shown post acquisition increase in mean. They have shown increase of 31.35%, 0.96%, 64.24%, 22.21% respectively. The result was positive but was not statistically significant. Quick ratio of six companies has improved which are Abbott Laboratories, Strides Arcolab Ltd, PIRAMAL, Bliss GVS Pharma Ltd, Ranbaxy Laboratories Ltd, and Sun Pharmaceutical Industries Ltd, by 107.22%, 5.42%, 227.08%, 96.32%,

Table 5: Liquidity and solvency ratios of select Indian pharmaceutical companies

Name of the Company	Ratio	Mean		Change(%)	p-value	t-statistic
		Pre Acquisition	Post Acquisition			
Abbott Laboratories	CR	2.24	2.95	31.35	0.21	1.83 NS
	QR	0.92	1.91	107.22	0.10	2.91*
	DE	0.00	0.00	0.00	0.00	0.00
Cipla Ltd/India	CR	2.36	2.33	-1.41	0.77	-0.33 NS
	QR	1.85	1.73	-6.83	0.54	-0.73 NS
	DE	0.13	0.06	-53.85	0.37	-1.15 NS
NOVARTIS	CR	4.21	3.83	-9.10	0.72	-0.41NS
	QR	3.76	3.46	-8.07	0.73	-0.40 NS
	DE	0.00	0.00	0.00	0.00	0.00
Strides Arcolab Ltd	CR	1.35	0.99	-26.49	0.51	-0.79 NS
	QR	2.40	2.53	5.42	0.93	0.11NS
	DE	1.12	1.95	73.59	0.46	0.92 NS
PIRAMAL	CR	1.76	1.34	-23.91	0.62	-0.58 NS
	QR	1.72	5.64	227.08	0.16	2.19 NS
	DE	0.58	0.18	-68.79	7.06	-119.00 NS
Lupin Ltd	CR	1.03	0.96	-7.10	0.48	-0.87 NS
	QR	13.84	1.48	-89.28	0.18	-2.02 NS
	DE	1.09	0.45	-59.02	0.12	-2.56 NS
Suven Life Sciences Ltd	CR	1.04	1.05	0.96	0.93	0.09 NS
	QR	0.94	0.81	-13.83	0.08	-3.22 **
	DE	0.24	0.43	76.71	0.02	6.84 **
Bliss GVS Pharma Ltd	CR	2.01	3.31	64.24	0.34	1.24 NS
	QR	1.72	3.38	96.32	0.30	1.40 NS
	DE	0.06	0.09	55.56	0.66	0.52 NS

Ranbaxy Laboratories Ltd	CR QR DE	1.66 0.97 0.61	1.63 1.01 0.91	-2.00 4.11 48.63	0.87 0.90 0.57	-0.19 NS 0.15 0.67 NS
Sun Pharmaceutical Industries Ltd	CR QR DE	2.90 2.72 0.64	3.54 3.23 0.15	22.21 18.60 -75.92	0.71 0.81 0.51	0.43 NS 0.28NS -0.79 NS

Note: ***significant at the 0.01 level, **significant at the 0.05 level, *significant at the 0.1 level and NS- Not significant.

4.11%, 18.60% respectively. Abbott Laboratories was significant level 10%.

Debt to equity Ratio - Test revealed that four companies reduced their debt in the post acquisition period namely, Cipla, Piramal Enterprises, Lupin Ltd and Sun Pharmaceuticals by 53.85%, 68.79% and 75.92 % respectively. This indicates that the funds brought in from the acquired companies were able to meet debt claims. On the other hand, debt to equity ratio had increased for the companies like, Strides Arcolab Ltd, Suven Life Sciences Ltd, Bliss GVS Pharma Ltd and Ranbaxy Laboratories Ltd by 73.49%, 76.71%, 55.56% and 48.63% respectively as these companies added long term debt to their balance sheet. It indicates that the acquisitions were financed by the debt and the acquisition company already had debt in their balance sheets.

6. Impact of Acquisition on Shareholders Wealth of Select Indian Pharmaceutical Companies.

The impact of acquisition announcement has been studied using Event study methodology. Event study is a statistical method to gauge the impact of a various corporate event and announcements. It has become a standard method of measuring security price reaction to such announcements. The event study methodology assesses whether the specific events create abnormal returns for shareholders of a firm. The stock return on the days around the announcement that are surely due to the occurrence of the mergers and acquisition announcement are called Cumulative Abnormal returns (CAR).

Applying well established methodology of event study, we divide the total period of analysis in respect of each acquirer into two major time periods viz. estimation window and event window as depicted in the figure below:

Estimation window		Event Window	
t- 30	t		t+30

The event window covers period surrounding the announcement of merger. The date of announcement of merger is termed as 't'day. Period before 't-'day is called as pre-announcement period while period after 't+'day is called as post-announcement period.

Three event windows are selected for pre-announcement period viz t-5(5 days before announcement date), t-15 (15 days before announcement date) & t-30 (30 days before announcement date) similarly three event windows are selected in post-announcement period t+5 (15 days after announcement date), t+15 (15 days after announcement date) & t+30 (30 days after the announcement date).

Once event windows are identified, the abnormal returns are computed in respect of each acquirer firm during these event windows. Abnormal return is the difference between expected return and the actual return on acquirer firm's stock during an event an event window. Thus

AR it = Rit - E (Rit) ………………………….(1)

Where, AR it is the abnormal returns on acquirer i's stock at time t in the event window, Rit is the actual returns on acquirer I 'stock and E(Rit) is the expected returns. For the purpose of computing expected returns E (Rit) the market model depicting a linear relationship between acquirer's stock return and the market returns is used. Thus,

E (Rit) = αi + βi Rmt

Where Rmt is the return on market index (Nifty index in this study) during the estimation window period and αi and βi are the firm specific coefficients. The alpha (αi) and beta (βi) components in the above model are computed by regressing market returns on stock returns during estimation window. Estimation window comprises of time period of 180days prior to t-30. The estimation window period is thus a 'clean period' so selected to avoid including stock returns in regression model that are included with merger news. The abnormal returns so computed in Eq.(1) above are then used to compute Cumulative Abnormal Returns (CARs)as under:-

CARs = $\sum_{t=K}^{L} AR$, t ………..(2)

The event window determines the number of days over which we measure the possible abnormal return caused by the event. Any shift in the stock price caused by the event will happen immediately due to rational behavior which talks in favour of short event window since a long window could risk diluting the possibility if finding any significant evidence, however if the event window is too short the effect of the event if the information comes out only after closing of the market and therefore, does not reach the public and in some cases the information is leaked day before announcement date and therefore, causes effect before the actual date. Therefore, the period needs to be long enough to measure the returns

The pre and post acquisition period of CARs are analyzed in order to examine the impact of acquisition on the shareholders wealth of selected Pharmaceutical companies in India. The results show that Piramal Enterprises Ltd did not have any negative impact on CAR values for all post announcement window periods signifying that the company was successful in adding value to their shareholders wealth. In case of Sun Pharmaceuticals which had given negative returns in all the pre window period has resulted in positive in the positive returns in the post period. But in case of Ranbaxy Laboratories Ltd which had given positive returns in the pre period resulted in negative retuns in the post period.

As can be observed from the Table 6 for the window period t-5, four companies have negative CAR values in the pre announcement period and five companies have negative CAR in the post announcement period. The CAR value in case of Novartis India which was negative (-0.42) in the pre announcement period have shown positive results in the post-announcement period (0.21%). Suven life science which had positive return (0.07%) has shown negative returns in the post announcement period (-0.6%).

Strides Arcolab Ltd and Bliss GvsPharma Ltd which had given positive returns has resulted in the negative returns in the post announcement period. When it comes to piramal it has given positive returns.

The 30 days window period is the longest window period of the study. It shows the long term impact on the shareholders return to the announcement of acquisition. In this period the companies like Abbott Laboratories, Bliss GVS Pharma Ltd, Ranbaxy Laboratories Ltd has shown the negative returns. On the other hand, the companies like Sun Pharmaceutical which had given the negative returns of -0.13% has resulted in positive returns of 0.16%. Piramal which had given the returns of 0.20% in the pre announcement period has resulted to incredible returns of 0.84% in the post-announcement period.

7. Impact of Acquisition on Long Term Share Price Performance.

The long term effect of acquisition on share prices of acquirers is studied using Buy and Hold Abnormal Returns (BHAR) methodology. To study the long term wealth creation effect of acquisition BHAR methodology has been used. The BHAR essentially indicates the excess returns over the industry average that an investor buying the shares of acquiring firm will be enjoying if he makes the purchase of those shares after acquisition.

Three different event windows have been constructed for the purpose of examining long term wealth creation effect

Table 6. Calculation of CAR (%) of the Pharmaceutical Companies during Pre and Post Announcement Window Period

Name of the Company	Pre Announcement			Post Announcement		
	t-30	t-15	t-5	T+5	T+15	T+30
Abbott Laboratories	0.28	0.58	2.11	-1.00	0.16	-0.19
Cipla Ltd/India	-0.29	-0.29	0.60	-0.81	-0.41	-0.10
NOVARTIS	-0.29	-0.47	-0.42	0.21	0.06	-0.09
Strides Arcolab Ltd	-0.09	0.26	0.24	0.22	-0.24	-0.42
PIRAMAL	0.20	-0.02	-0.52	0.39	0.72	0.84
Lupin Ltd	-0.60	-1.01	-1.22	-0.15	-0.32	-0.15
Suven Life Sciences Ltd	-0.05	-0.79	0.07	-0.60	-0.90	-0.58
Bliss GVS Pharma Ltd	0.76	1.60	2.16	0.08	-0.89	-0.96
Ranbaxy Laboratories Ltd	0.23	-0.16	0.81	-1.31	-0.56	-0.41
Sun Pharmaceutical Industries Ltd	-0.13	-0.36	-0.04	-0.56	0.10	0.16

of mergers with length of 1 year, 2 year and 3 year holding period during post merger period. The BHAR over the relevant event window is then computed by following the standard model given below:-

$$BHAR_i = \prod_{t=1}^{T}(1+R_{i,t}) - \prod_{t=1}^{T}(1+R_{benchmark,t}) \quad \ldots\ldots\ldots\ldots(3)$$

Where, BHARi is abnormal returns due to buy and hold of shares of sample acquirer firm, Ri,t is the raw weekly return on share prices of acquirer firm (i) for period t, Rbenchmark , t is the weekly return on benchmark index for period t. It essentially implies that the cumulative returns on share of acquiring company are computed by compounding the weekly returns on the acquiring company's returns during the selected event window or holding period. The Benchmark index selected for the purpose of calculation of BHAR are the nifty relevant to a given acquirer in the sample. The selection of index is more appropriate as the long term abnormal returns are computed in comparison to industry average returns. Finally, the average buy and hold returns across the portfolio of acquirer companies in a given sector during a holding period T is computed as:

$$\overline{BHAR_T} = \frac{1}{N}\sum_{i=1}^{N} BHAR_{i,T} \quad \ldots\ldots\ldots\ldots\ldots\ldots(4)$$

Where N is the total number of acquirer companies in the sample.

The (BHAR) Buy and Hold Abnormal Return is used to explain the long term effect of acquisition . The BHAR explain that the investor buying the share of the acquiring firm will be enjoying if the acquiring company improves profit after merger and acquisition.

Three different event window have been defined for the purpose of examining long term wealth creation effect of merger with length of 1 year, 2 year and 3 year holding period during post merger period.

For the first year after the event, Abbott, Cipla, Novartis India, Piramal, Lupin and Suven life sciences ltd have shown positive returns of 0.06%, 0.003%, 0.10%, 0.01%, 0.18%, 0.06% respectively. With varying amount of standard deviation indicating that holding the share of

Table 7: BHAR of Pharmaceutical Companies After Post-Acquisition Period

Name of the Company	Holding Period after Merger and Acquisition				
	Holding Period (Years)	BHAR	Standard Deviation	Standard Error	t-statistics
Abbott Laboratories	1	0.060	2.07	0.13	-0.07
	2	0.050	1.86	0.08	-0.03
	3	0.002	1.65	0.06	-0.06
Cipla Ltd/India	1	0.003	1.39	0.09	-0.08
	2	0.030	1.46	0.07	-0.03
	3	0.030	1.46	0.05	-0.02
Novartis AG	1	0.100	1.80	0.11	-0.01
	2	0.005	1.70	0.08	-0.07
	3	-0.070	1.72	0.06	-0.13
Strides Arcolab Ltd	1	-0.370	3.44	0.22	-0.59
	2	-0.280	3.67	0.17	-0.44
	3	-0.060	3.46	0.13	-0.19
Piramal Enterprises Ltd	1	0.010	2.15	0.14	-0.12
	2	0.010	1.99	0.09	-0.08
	3	0.020	1.92	0.07	-0.05

Lupin Ltd	1 2 3	0.180 0.130 0.140	2.52 2.77 2.52	0.16 0.13 0.09	0.02 0.01 0.04
Suven Life Sciences Ltd	1 2 3	0.060 -0.030 -0.120	3.11 3.23 3.39	0.20 0.14 0.12	-0.13 -0.18 -0.25
Bliss GvsPharma Ltd	1 2 3	-0.030 0.310 0.100	3.69 3.90 4.25	0.23 0.17 0.16	-0.26 0.14 -0.06
Ranbaxy Laboratories Ltd	1 2 3	-0.100 -0.050 -0.010	3.07 3.50 3.00	0.19 0.16 0.11	-0.30 -0.21 -0.12
Sun Pharmaceutical Industries Ltd	1 2 3	-0.960 -0.970 -0.970	1.71 1.64 1.94	0.11 0.07 0.07	-1.07 -1.04 -1.04

these companies was profitable. Rest of the companies have shown negative results the lowest was -0.03% of Bliss GVS Pharma Ltd followed by -0.10% of Ranbaxy Laboratories Ltd.

For the second year some of the companies which had recorded positive return during the first year have shown positive return also for the next year like Cipla. However, some companies have shown decline in the returns as compared to the previous year like Abbott Laboratories (from 0.06% to 0.05%), Novartis India, lupin Ltd.(from 0.18% to 0.13%), Suven Life Sciences (from 0.6% to -.0.03%) in the second year. On the other side, Bliss GVS Pharma Ltd which had negative return of -0.03% has given 0.31% return in the second year.

For the third year Abbott Laboratories, Cipla, Piramal Enterprises Ltd, Lupin Ltd continued to give positive returns. Novartis India returns decrease from 0.005% to -0.07%. Strides Arcolab Ltd further gave negative returns as compare to first two year. Returns from Lupin India increase as compare to the first two years. Bliss GVS Pharma Ltd showed decline in returns to 0.10% which was less compare to previous two years, Ranbaxy Laboratories Ltd also resulted in further negative returns as compare to first and second years.

8. Conclusion

The study aimed to understand the impact of the acquisition of the selected pharmaceutical companies by examining the financial performance by comparing the pre and post-acquisition performance. The study reveals that the some companies have already started gaining the benefit of the acquisition. But some of the companies have shown negative result which indicated that these companies have not actually benefited which might further impact the performance of the companies or these companies might get the benefit from the deal in the future time period.

The CAR (cumulative abnormal returns) which helps to understand the impact of the acquisition on the share price has shown positive result for Piramal Enterprises Ltd. On the other hand, it has shown negative results for rest of the three companies post acquisition window period. The other strategy that is used is the buy and hold abnormal return which evaluates whether holding the existing share in the post-acquisition period results in positive returns. The study reveals that most of the companies did not show the improved financial health during the post-acquisition period as compare to pre acquisition period. Also the study indicates that most of the sample companies were not able to generate value for the shareholders

It has been seen that the performance ratios of few companies have shown an increase in returns in post-acquisition period, rest have resulted in the decline. It appears that it requires longer period, exceeding three years, for realisation of actual benefits of acquisition. The decline might be because of the management differences and other factors which affect the working of the companies in the effective manner.

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