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Impact of Mergers and Acquisitions Announcement on Shareholders' Wealth: Evidence from Indian Corporate Sector

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Abstract

To combat the emerging competition from all over the world in the post liberalized era, mergers and acquisitions is resorting by a number of firms as a powerful tool to strengthen their competitiveness. The present study tries to evaluate the effectiveness of mergers and acquisitions on the short term performance of the eight companies taken from Indian corporate sector for the years 2017 and 2018. Using market model of event study methodology, the study finds that abnormal and cumulative abnormal returns do not sustain for longer time. Short term windows have been proved more beneficial when a comparison is made among varied sizes windows in respect of providing returns to an investor The negative average abnormal and cumulative abnormal returns obtained in the study in case of most of the companies implies for the failure of the mergers and acquisitions, an important instrument usually adopted by many firms to increase their wealth and competitive power in the market proved that the strategy may be ineffective under certain market situations.

Keywords: abnormal returns, mergers and acquisitions, investors, merger announcement, event window

1. Introduction

Mergers and Acquisitions are the steps taken by the corporations as an instrumental factor in order to turn corner for the better. It is generally accepted by the corporate sector as an important business strategy to expedite competitiveness. In rising industries like information technology, pharmaceuticals, outsourcing, telecommunication etc, this strategy is extensively used to achieve strength, increasing the customer base, decelerating competition and more important to make its place more sustain in new market (Rani et al., 2015). Albeit, it was not a new feature for the Indian economy, as it existed in India before independence. But the competition at global and national level motivated and pressurized the Indian corporate sector to speed up its domestic, inbound and outbound merger activities to enhance its core competence and increasing market share. At present Mergers & acquisitions activities of Indian Corporate Sector are increasing day by day and became an integral part of the business strategy for the firms operated in India. In order to examine the possible effects of mergers & acquisitions announcement on the shareholder's wealth, extensive research on the performance of share market has been conducted. Brown and Warner (1985) were among the pioneering group who used an event study methodology to check out the likely effectiveness of mergers & acquisitions announcement.

1.1 Need of the study

It is observed that mergers and acquisitions have been adopted as a growth strategy at large scale at a global level and India is not an exception to it. But to what extent this practice has benefited the companies in terms of different parameters of performance has long been a matter of debate. A number of studies talked different issues related to the performance of the companies entered into collusion in the form of mergers and acquisitions without any consensus. So giving due importance to the topic, it is very justifiable and relevant to conduct a study to find out the detailed impact of mergers and acquisitions on the profitability of the concerned companies. The primary objective of the study is to systematically discover evidence to answer a question. "Do Mergers and acquisitions have a positive impact on the firm's performance in the Indian Corporate sector? The results and conclusions of the study will go a long way to help the corporate sector to make policy in future related to mergers and acquisitions. The study is divided into five sections. In the very first section, general background of the topic and need of the study has been discussed while Section two devoted to the review of existing relevant literature. Section three gives description of research design and methodology. Section four akin to data analysis and interpretation. Findings and suggestions and concluding observations and policy implications have been taken up in section 5.

2. Review of Related Literature

The main objective of the present study is to find out impact of mergers and acquisitions announcement on shareholders' wealth. Therefore the main focal point of the review of literature is the studies related to the measurement of short run performance of an event which has an impact on wealth of shareholders.

Lowinski *et al.*, (2004) analyzed the domestic and international acquisitions of 114 Swiss corporations listed on Swiss Stock Exchange during the time period from 1990 to 2001 and highlighted the fact that the event has generated significant average abnormal and cumulative abnormal return in the short time and found that there was no difference between results of domestic and cross border mergers.

Anand and Singh (2008) analysed the responsiveness of the Indian share market to the announcement of the merger of five private sector banks of India. Fama and Miller (1972) market model and Cox and Portes (1998) two factors model were applied to the secondary data to draw the results. The study found that merger announcement in the Indian banking industry had positive and significant effect on the shareholders wealth of the bidder and target banks except only the case of merger of Global trust Bank with the Oriental Bank.

Shah (2014) examined the reaction of market on announcement of mergers for 37 companies of Asia Pacific Region with the help of Constant mean return model, Market model, Capital Assets Pricing Model. The time period of the study was may 2013 to September 2013. The result of the study indicated that during different event windows results were not remained positive in terms of cumulative average abnormal returns.

Rani *et al.*, (2015) highlighted the impact of merger and acquisitions on the returns of Indian companies from Jan 1 2003 to Dec 2008.The empirical research had given the proof that the announcement of merger has a positive impact on the stock market. Cumulative average return also showed positive return over small multiday event window around the event announcement.

Aamukta and Ghatak (2016) conducted a study of 52 companies of IT sector during the time period from 2006 to 2015 to find out whether a merger announcement helped in fetching the abnormal return. To calculate the abnormal return, Mean adjusted and market adjusted model was employed. The study concluded that the shareholder of acquiring firms got positive and insignificant abnormal return.

Rahman *et al.*, (2018) examined the effect of the announcement of mergers and acquisitions on the behaviour of stock prices of 57 companies of the banking sector of Pakistan by adopting market study method. The time period of the study ranged from 2000 to 2012. The overall picture did not present favorable results in post merger period as the response of market towards the phenomenon of mergers and acquisitions was negative in banking sector of Pakistan.

In spite of the plenty of literature related to measuring the impact of mergers and acquisitions announcement in short run, the conclusive results has not been found yet. Burner (2002) in his review paper studied 130 researches related to the above stated concept and summed up that results are broadly inconclusive. Moreover, the advantage of the huge merger waves in the Indian corporate sector has not been explored properly and leaves behind an ample scope for researchers in this area. So the current study will present the effect of the merger on the performance of firm in Indian Corporate sector in short term.

2.2 Objectives of the study

The main aim of the study is to examine the abnormal return, resulting from mergers and acquisitions announcement for acquirer firms using short term approach.

2.3 Research Hypotheses

H_{01}: There is no significant average abnormal return accrue to acquirer firms around merger announcement.

H_{02}: There is no significant cumulative average abnormal return accrue to acquirer firms around merger announcement.

3. Data and Research Methodology

3.1 Sample Description

The sample consists of eight companies of Indian Corporate Sector which undergone through the process of mergers and acquisitions in the period ranging from Jan 1 2016 to Dec31, 2017. The mergers and acquisitions deals for the present study have collected from Venture Intelligence, Merger and Acquisitions deal database administered by TSJ Media Pvt Ltd. The announcement date of the announcement of the companies selected for the study has been verified manually from the archives of corporate announcement of the Bombay stock exchange to find out the clean period data.

The main source of secondary data for scrip prices and market indices are the official website of Bombay Stock exchange and yahoo finance. The market return used for regression is calculated from Bombay Stock Exchange SENSEX. The description of the sampled companies is included in the table 3.1.1.

3.2 Research Design and Methodology

The study under consideration will be empirical in nature and it will give detailed information about the results of merger and acquisition of selected companies of Indian corporate sector. The study attempted to know the role of mergers in enhancing shareholder wealth by applying event study methodology.

Table 3.1.1 Profile of the companies taken as a sample

	Acquiring company	Target company	Sector	Date of announcement
1	ONGC	Gujarat State Petroleum Corporation	Energy	23-12-2016
2	Berger paints India	Saboo Hesse Wood Coatings	Manufacturing	30-05-2017
3	Mahindra CIE	Bill Forge	Manufacturing	8-09-2016
4	Birla Corporations	(Reliance Infrastructure)	Engg& Construction	04-02-2016
5	Essel Propack	Essel Deutschland Germany	Manufacturing	21-09-16
6	Kirloskar oil Engines	La-Gajjar Machineries	Manufacturing	21-6-17
7	Borosil glass Works	Hopewell Tableware	Manufacturing	28-1-16
8	Navneet Education	Encyclopaedia Britannica	Education	26-10-16

Source: Merger and Acquisitions deal database administered by TSJ Media Pvt Ltd.

3.3 Event study methodology

The main motive of event study is to measure the abnormal return of a security around event announcement. Abnormal returns are computed by deducting estimated normal returns from actual return of each day of event window for 41 days window period i.e. ∓ 20 window with the help of market model. Under market model the expected return is calculated by using clean period share price data. The clean period in this study consists of 120 days starting from -21 day to -141 day. Brown and Warner (1985, as cited in Elad and Bongbee 2017) stated that the estimation period of 120 days is enough for developing standards for fetching normal returns on daily basis return. The estimating return or expected return is calculated by regressing the stock return to market return. Abnormal return of a security is assessed as the difference between the actual return and expected return.

$AR_{it} = R_{it} - E(R_{it})$

Where,

AR_{it} = Abnormal return on security for day t

R_{it} = Actual return on security for day t

$E(R_{it})$ = expected return on security for day t

For measuring the expected return, the following model has been applied.

$E(R_{it}) = \alpha_1 + \beta_1 R_{mt} + e_{it} =$ for 1---------------N

Where,

α_1 = intercept of the regression line (The intercept is the expected mean value of Y when all X=0).

β_1 = slope of the line (The slope of the line representing the sensitivity of return on security to market returns.

R_{mt} = return on market portfolio

Average Abnormal Return

To know the impact of merger announcement on the entire sample collectively, Average Abnormal Return is calculated for each day of the event window.

$$AAR_t = \frac{1}{N_t}\sum_{i=1}^{N_t} AR_{it}$$

AAR_t = Average abnormal returns of merger announcement

N = Number of firms in the acquiring blocks (i.e., 8))

Cumulative Abnormal Return

The addition of abnormal return for different period around the announcement of event resulted in Cumulative Abnormal Return.

$CAR_i = \sum_{t=1}^{T}(AR_{it})$

CARi – cumulative abnormal return for company i over time period T;

T – Observation period, time period measured in days or months;

AR_{it} as above.

t- Statistics of Average Abnormal Return:- $\frac{AR_i}{\hat{S}(AR)}$

Where $\hat{S}$ is the standard deviation of average abnormal returns of acquiring company during the clean period.

t- Statistics of Cumulative Abnormal Return:- $\frac{CAR}{\hat{S}(AR)\sqrt{t}}$

Where t is the respective window period

4. Data Analysis and Interpretation

The results related to the stipulated objective are furnished and presented through the tables given in the present section.

4.1 Average Abnormal Returns of the Acquiring Companies

The final results related to average abnormal returns in terms of Market model are reflected through the figures presented in table 4.1.

Table 4.1 Average Abnormal Returns of the Acquiring Companies under study

DAY	AAR(market model)	t-statistics	Day	AAR(market model)	t-statistics
-20	-0.0039	-0.1568	1	0.0058	0.2331
-19	-0.0091	-0.3647	2	-0.0078	-0.3112
-18	-0.0066	0.2633	3	-0.0025	-0.0989
-17	0.0054	0.2156	4	-0.0035	-0.1392
-16	0.0090	0.3586	5	-0.0169	-0.6755
-15	0.0020	0.0798	6	0.0126	0.5022
-14	-0.0036	-0.1444	7	-0.0078	-0.3130
-13	-0.0048	-0.1922	8	-0.0014	-0.0547
-12	-0.0134	-0.5355	9	-0.0028	-0.1127
-11	0.0036	0.1424	10	-0.0047	-0.1880
-10	-0.0080	-0.3200	11	0.0003	0.0110
-9	0.0650	**2.5990********	12	0.0091	0.3624
-8	-0.0418	-1.6712	13	-0.0075	-0.3012
-7	-0.0095	-0.3780	14	0.0057	0.2262
-6	-0.0056	-0.2248	15	-0.0053	-0.2135
-5	-0.0147	-0.5872	16	-0.0066	-0.2621
-4	0.0032	0.1270	17	-0.0014	-0.0540
-3	0.0007	0.0274	18	0.0087	0.3480
-2	0.0011	0.0420	19	0.0089	0.3574
-1	0.0094	0.3744	20	-0.1337	**-5.3424****
0	0.0168	0.6721			

*****significant at 1% level, *significant at 5% level.***

It is noteworthy that during the 41 days window period, the abnormal returns using market model for the selected companies under consideration have not proved fruitful regarding increasing the returns of the companies. The result of the event study shows that prior to announcement day, it was eleven days during which abnormal returns were recorded in negative figures and during post announcement day, the number of days showing negative abnormal returns has been more in comparison to the days during pre-announcement period. Besides 17th, 18th, 15th and 11th, 9th have been the days prior to the event day and 11th, 12th, and 18th, 19th days during post event have been the days for which positive abnormal results were shown respectively. The results for the ninth day before merger and twentieth day have been shown significant results at one percent level of significance as indicated by the t- statistics.

4.2 Analysis of Cumulative Abnormal Returns

To get the importance of the perfect period for the investment opportunities, the analysis of the cumulative average abnormal returns has been made over various size windows period and presented through figures in Table 4.2.

Table 4.2: Cumulative Average Abnormal return across various event window

Company	One day window	Two days window	Five days window	Ten days window	Fifteen days window	Twenty days window
	CAR	CAR	CAR	CAR	CAR	CAR
ONGC	-0.0682	-0.0537	-0.0870	-0.1559	0.1762	0.1959
Berger Paints India	-0.0293	0.0253	-0.0009	-0.0531	-0.0819	-0.1091
Mahindra CIE	**0.0920***	0.0580	0.0831	0.0451	0.0712	**-0.8455***
Birla Corporations	0.0110	**-1.8260***	**-6.9943****	-0.1513	**-0.3437****	0.3623
Kirloskar Oil Engines	**0.0661****	**0.0594***	**0.0368****	0.0181	-0.0063	-0.2227
Navneet Education	**0.1053****	**0.0843***	**0.0843***	-0.0078	0.0846	0.0575
Borosil Glass works	**0.4381****	**0.6938***	**0.3827****	**-1.6840****	**-0.9254****	-0.0094
Essel Propack	**4.0281****	**3.659***	**0.1411****	**-3.6720****	**-5.0313****	-0.0450
CAAR	0.0320	0.0253	-0.0084	-0.0124	-0.0266	-0.1426
t-Statistics	0.7388	0.4519	-0.1014	-0.1085	-0.1907	-0.8901

*****significant at 1% level, *significant at 5% level.***

It is indicated by the results for ONGC, the cumulative abnormal return have been remained negative and insignificant for all windows except (-15, +15 window) and (-20, +20) days window. In case of Berger Paints India and Birla Corporation, Same picture has been surfaced by the cumulative abnormal returns barring only (-2, +2) and (1, +1) window period. But a very impressive picture has been surfaced in case of Mahindra CIE in which the positive values for cumulative abnormal returns were calculated as 0.0920, 0.0580, 0.0831, 0.0451, and 0.0712 for the short terms window like (-1, +1), (-2, +2), (-5, +5), (-10,+10) and (-15,+15) signify the paramount importance for the investors that wish to invest in Mahindra CIE stock. The final results for cumulative average returns in case of Navneet Education, Borosil Glass works and Essel Propack have been positive which were remained consistent with the expectations of the investors and the managers of the companies that aim at leveraging from economies of the scale as a result of mergers & acquisitions of the concerned companies so as to make optimum use of the available resources of the target and bidder firms. The sustainability of the positive abnormal returns cannot be visible in case of long term window period and it has been proved true in most of the cases under consideration. The cumulative average abnormal returns have also found to be significant in case of Mahindra CIE in three days (-1.+1) window while highly significant results have been calculated for Birla Corporation in five days(-2,+2), eleven days(-5,+5) and thirty one days Window(-15,+15). In case of Kirloskar Oil Engines, Navneet Education, Borosil Glass Works and Essel Propack, a mixed of significant and non significant level has been recorded. It is also worth mentioning here that short windows have been proved important for the investors as over all cumulative average abnormal returns have been registered positive figures for the event windows (-1,+1) and (-2,+2) respectively. But it has turned into negative figure with the longer event windows. It is also worth mentioning here that the results for cumulative average abnormal return across all various sizes event windows have been insignificant at 5% and 1% level of significance.

Conclusion

The empirical research showed that companies engaged in mergers and acquisitions experienced positive but insignificant average abnormal return on the day and few days before the announcement of the event by using both market and market adjusted model. Keeping in view the potential for investment in mind, it seems rational on the part of an investor to make early purchasing of a stock when an announcement becomes public. As far as the analysis of cumulative abnormal is concerned in multi windows, the Mahindra CIE, Navneet Education and Kirloskar Oil Engines has come out as best investment destination for the investors in the different window used under study. In case of ONGC, Berger paints, and Birla paint and Birla Corporation, the value of cumulative abnormal return is negative in almost all windows showing the merger announcement has negative impact on shareholders wealth. It is also revealed by the study that positive average abnormal returns and cumulative average abnormal returns did not persist for longer windows. The outcomes are compatible with studies with regard to acquiring firms guided by Zhu & Malhotra, 2008; Ma et al., 2009; Chu (2009); Shah and Arora, 2014; Stunda, 2014.

The major conclusions drawn on the basis of the findings of the study have some basic and implicit implications for the corporate world and policy makers at national and international market. The goodness of the short term windows indicated by the results works as a motivational guide for the managers and decision -makers to accept acquisitions and mergers as a tool and strong option to build in themselves by raising the level of their competitiveness in the market merely by making quick response to the announcements. The negative results in terms of average abnormal returns and cumulative average returns signify that it is not always proved beneficial for all kinds of companies that enter in mergers & acquisitions activities. The returns of these companies may start to decline as against the positive expectation of the event.

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