M&A in the Indian Manufacturing Industry: A Study of Stock Return Reactions Using Event Study Analysis

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Abstract

The current research analyzes 69 M&A Announcements in the Indian manufacturing industry from 2013 to 2021 to determine the impact of M&A announcements on company stock returns. The study calculated the excess returns, AAR, and CAAR of the company's stock returns over various event periods using the CAPM model's event study methodology. During the study period, the study found that the majority of the M&A companies belonged to the chemical sector, with positive AR. Based on the study, the event period of 81 days (-40 to +40) has significant positive average abnormal returns (AAR) and the after-M&A returns are significantly higher than the before-M&A returns, which indicates that there is an immediate stock price reaction to the M&A announcement and companies yield significant positive average abnormal returns (CAAR) in different event windows like ±1, ±2, ±5, ±10, ±15, ±25 and ±40 days. Finally, the study concludes that an M&A announcement significantly positively impacts shareholder wealth in both the before-Announcement and after-Announcement phases.

Keywords: Event Study, CAPM Model, Manufacturing Industry, M&A, Event Window, CAAR, Indian Manufacturing Industry, Post-Facto Impact, Company Stock Returns

Introduction

A business can grow both internally as well as externally. In either case, the company's goal is to increase the wealth of its current shareholders. The majority of an organization's economic expansion occurs through internal growth, which occurs when a company's current divisions develop via standard corporate finance activities. Mergers, on the other hand, are the most significant instances of growth. Corporate strategy, which includes mergers, acquisitions, transfers of assets, spin-offs, and other transactions, has grown to be a significant force in the global economy and financial environment.

Significant issues regarding business practices and the creation of government policy have been raised by industrialization. On the plus side, M & may be essential to a business firm's positive improvement as it moves through various advancement and growth phases. A company may at some point in its development need M & As in order to successfully enter new market segments and different geographic markets. Competitors' ability to compete successfully in global markets may be dependent on their ability to acquire those skills quickly and effectively through mergers and acquisitions. In essence, mergers transfer funds to their most efficient and effective uses, thereby growing value for shareholders. They also significantly raise productivity and value.

Many of the researchers concluded that merger and acquisition activities lead to financial gain The long-term profitability of acquiring companies is typically increased through mergers and acquisitions. Substantial long-term returns will also be expected to be received by the investors of the acquired firm by investing in the overall benefits anticipated from the acquirers. shareholders of the acquired company also anticipate realizing significant long-term returns. In contrast, the acquiring companies report mixed profits in the short term. While creating value for the targets due to announcements of M&A, bidders have only short-term value retention instead of value creation or value destruction. Thus, the aim of present research is to study the reaction of share prices in Indian manufacturing industries in particular.

Review of literature:

Rai et al. (2021) investigated the impact of the news of the merger of 6 selected banks into the 4 largest banks using the event study technique and the market model on a sample of 4 bidders and 6 target banks. The findings of the study discovered that the merger announcement has a considerable influence on both the bidder and target institutions. While the target banks have good results on the event day and the day after, the bidder banks suffer negative effects later on. It shows that no prior research has looked into how merger announcements affect Indian bidders and target banks' stock returns.

Suman Monga and Amanpreet (2021) evaluated the impact of M&A on 8 Indian corporate sector industries' short-term performance in 2017 and 2018. The study finds that AR and CAR do not survive for a longer period using the market model of event study methodology. Short-term windows have consistently shown to be more useful when compared to various sizes of windows in terms of offering returns to an investor.

Amit Sharma (2017) investigated the merger of British Salt and Tata Chemicals using an event study approach to examine the short-term shareholder value of Tata Chemicals before and after the event date, i.e., December 20, 2010. A study shows that global merger announcements in Indian industries impact shareholder wealth, which is positive and significant for bidders and companies.

Timcy Sachdeva et al. (2015) examined a sample of the impact of 85 M&A between 1991 and 2010 on the short-term wealth of Indian acquiring shareholders. The authors concluded that following the announcement of a M&A, shareholders of acquiring firms experienced short-term negative but insignificant returns.

Arti et al., (2013) studied the comparison and contrast of the acquiring company's operating results, shareholder value and before- and after-merger performance. Finally, the study showed that M&A does not increase the acquiring company's short-term earnings or shareholder wealth.

V. K. Shobhana & N. Deepa (2012) analyzed shareholder value growth as a result of merger announcements for the six bank that took place in the post-liberalization era between 1991 and 2005. The effect of bank merger announcements on the value of their shareholders was evaluated based on AR and the CAR using various event study tools. The study findings showed that while shareholder wealth increases when certain banks' systematic risks rise, share prices fall when their stocks become more vulnerable to market risk.

Neelam Rani et al. (2011) studied the short-run excess returns of Indian-based M&A focused on the pharmaceutical sector between 2001 and 2007. The instant market opportunities that generated short-term effects made them interesting. The study also discovered that on the event day, shareholders of the acquiring company benefited significantly from acquisitions of foreign firms. The CAR for acquisition activity by Indian companies targeting foreign-based targets is positive across the entire event window.

Adnan & Rizwan (2011) examined the performance record of 45 M&A in different sectors in Pakistan between 2004 and 2010 using an event research methodology. The overall survey showed that neither the target nor the acquirer created value for shareholders during the 11-day window period.

Manoj & Jagandeep (2008) An event study tool was used to examine the benefits provided to shareholders upon the press release of five bank mergers in India. They discovered that both the bidders and the targeted banks had positive and significant shareholder value. The combined bank portfolio's market value-weighted CAR for the 3-day (-1 to 1) and 11-day (-5 to 5) event windows showed 4.29% and 9.71%, respectively.

Duso et al., (2006) examined 167 mergers that occurred between 1990 and 2002. The measures of merger profitability on the basis of event studies and financial information were compared in this study. There was a significant positive correlation for longer periods around the competitor's announcement date in case of anti-competitive mergers.

Yuce & Ng (2003) examined merger announcements by Canadian companies during the extraordinary merger boom of 1994–2000. The results indicated that during this period, together the target and the bidder produced substantial positive excess returns. Excess returns for target firms, however, are non-significant and positive, whereas they became significant and negative for acquiring firms.

Pandey Ajay (2001) In the light of management changes during 1997 – 2001; he examined the share price evolution for open offers in relation to large target firms subject to open bids. The research consists of a sample of 16 open bids worth more than Rs. 1 billion. The survey found that the valuations of the companies covered had risen in the lead-up to the announcement. The stock price of the target firm attained a high return of 8.7% on days -2 and 0, 12.1% on days -10 and 0, and 18.43% on days -30 and 0.

Overall, the research points to a substantial impact on the stock returns of firms after the announcement of an M&A. To better identify the long-term impacts of M&A on Indian companies, however, further study is required.

Research Gap

The few existing studies on the consequence of M&A Announcement on shareholders' wealth have absorbed largely on the merger and acquisition of banks, with limited studies examining the impact on Indian manufacturing companies in different window periods. This present study attempts to close the gap by examining the stock return reactions of Indian manufacturing companies to M&A announcements and how they are affected by different window periods. The current study will provide a more comprehensive understanding of how stock prices function during mergers and acquisitions events in the Indian manufacturing industry.

Objective

- To ascertain how the M&A event in the Indian manufacturing industry maximize the wealth of company shareholders.

Hypothesis of the study

H_0: The shareholders of Indian manufacturing companies do not benefit from mergers and acquisitions.

H1: The shareholders of Indian manufacturing companies benefit from mergers and acquisitions.

Research Methodology

The study relies on 69 M&A announcements in the Indian manufacturing industry from 2013 - 2021. The present study determines the impact of companies' stock returns involved in the selected M&A announcements in an event window of 81 days consisting of a before-window period of -40 days and an after-window period of +40 days. The window estimation period is 100 days. The event study of the CAPM model is used to calculate the abnormal returns of the companies. For this, ten-year 364 days Treasury bill rate has been used as a risk-free rate of returns. The study basically relies on secondary data which is collected from companies' official websites, sebi.gov.in, bseindia.com, investing.com, and rbi.org.in. Apart from this various research papers and books are referred to this research.

Calculation of Expected and Abnormal Returns

$$AR_{i,t} = R_{i,t} - E[R_{i,t}] \quad \text{.....} \quad (1)$$

There are several approaches to determining expected returns, Viz Market model, Market Adjusted Model, CAPM model, Constant average return Model, Three-factor model, and Five-factor model.

The present study uses the CAPM where normal returns on each vent window are intended.

In investment, a unique model known as CAPM is used to assess the relationship between the risk of making an investment in a specific equity and its normal returns. The risk-free and risk-premium returns are used. The formula for calculating the CAPM model is

$$R_s = R_f + \beta (R_m - R_f) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (2)$$

The various components of this equation are as follows:

R_s(normal returns), R_f (risk-free rate of returns), Beta(slope), Rm (market returns)

Computation of AAR

The AAR are generated for every day of the window period to assess the effect of the M&A announcement on the total study in general.

$$AAR_t = \frac{1}{Nt} \sum_{i=1}^{Nt} ARit \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (3)$$

Calculation of CAAR

CAAR is determined by adding excess stock returns over normal returns for various periods involving the M&A announcement.

$$CAAR_i = \sum_{t=1}^{T} (ARit) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (4)$$

t- Statistics of Cumulative Abnormal Return

$$CAR/\ (SD^*(\text{no of days in window})\ \hat{}\ (1/2)) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (5)$$

The significance of the results is tested by the t-statistics. Paired t-test is used to compare the before-and after-announcement of M&A.

In addition to the event study tool, sector-wise analysis is also conducted to analyse the effect of M&A Announcements on different industries. The study also includes a graphical representation of the results to better illustrate the findings.

Empirical results

Table 1 shows that a total of 69 M&A Companies were selected for the study, out of which 53.62% of the companies had positive abnormal returns. The chemical sector had the highest percentage of companies with positive abnormal returns, at 83.78%. The food, machinery, textile, and miscellaneous sectors also had 100% of companies with positive abnormal returns. On the other hand, 7 companies, which is 10.14% of the total companies, had negative abnormal returns. Table 1 indicates that the majority of the selected M&A companies had positive abnormal returns, which suggests that these companies had better-than-expected returns based on their risk level and the market's overall performance. The chemical sector had the highest percentage of companies with positive abnormal returns, which may be attributed to the high demand for chemical products in the Indian market. The food, machinery, textile, and miscellaneous sectors also had 100% of companies with positive abnormal returns, which may be due to the positive growth prospects of these sectors in the Indian market. Overall, the table highlights that the selected M&A companies in different sectors had positive abnormal returns, which is a positive indication for investors.

Table 2 presents the outcomes of the analysis of AAR in the pre- and post-announcement of M&A. The table shows the AAR, t-statistics, and p-value for each day in the before- and after-announcement. The before-event window ranges from -40 days to -1 day before the event day, while the post-announcement window ranges from +1 day to +40 days post the event day. The consequences in Table 2 indicate that the AAR for all days in both the before- and after-event window are positive and statistically significant. The AAR ranges from 0.97 to 1.83, with the highest value being observed on the event day. This suggests that the stock returns of the companies in the sample are higher than the expected returns based on the CAPM model, indicating a positive reaction of shareholders to the M&A announcements. Furthermore, the results in Table 2 also show that the AAR for the post-event window is consistently higher than that for the pre-event window. This indicates that stock returns are positively impacted when shareholders take action after learning about M&A announcements become publicly available. Overall, the outcomes in Table 2 sustenance the hypothesis that M&A announcements lead to positive abnormal returns for shareholders.

Table 3 presents the analysis of CAAR in the before-announcement of M&A. The table shows the CAAR for different event windows, including (-1 day), (-2 to -1 day), (-5 to -1 day), (-10 to -1 day), (-15 to -1 day), (-25 to -1 day), and (-40 to -1 day). The table also includes the no of days in the event, t-statistics, and p-value for each event window. From the table, it is obvious that the CAAR for all window periods are positive and increases with the increase in the no of days in the event. For example, the CAAR for (-1 day) is 1.678, and it increases to 48.592 for (-40 to -1 day). This indicates that the selected M&A companies are producing higher-than-actual returns based on their risk level and the market's overall performance. Additionally, the t-statistics and p-value for all event windows are significant, by a p-value of 0. This suggests that the results are reliable and not due to chance. Furthermore, the increase in the CAAR with the increase in the no of days in the event indicates that the consequence of the m&a announcement on the stock returns of the firms is significant and prolonged. This is a positive indication for investors, as it suggests that the company or security is a good investment opportunity.

Table 4 presents the study of CAAR during the post-event of M&A. The table shows the CAAR for different event period range from one day after the event to 40 days after the event. The table also includes the number of days in the window period and the t-statistics and p-values. The data in the table shows that the CAAR is positive for all event periods, by the maximum CAAR of 70.644 recorded for the event period of 40 days after the event. This indicates that the stock returns of the firms studied are higher than expected based on the risk level and the market's overall performance. The t-statistics and p-values for all event windows are statistically significant, further supporting the positive effect of M&A events on the stock returns of the firms studied. Overall, this table suggests that investors in the companies studied can expect to see positive returns following an M&A announcement, with the returns increasing as the event window extends further from the announcement date. This is a positive indication for investors, as it suggests that the company or security is a good long-term investment opportunity.

Table 5 presents the results of the CAAR during the before- and after-event periods of the selected M&A in the manufacturing sector in India. The table shows the CAAR for various event windows, including the no of days in the event, t-statistics, and p-value. The results show that the CAAR is optimistic for all windows period, indicating that the selected M&A companies are producing higher-than-actual returns based on their risk level and the market's overall performance. The CAAR increases as the event window increases, with the highest CAAR of 122.393 recorded for the event of -40 to +40 days. The t-statistics and p-value also indicate that all event windows are significant. This advises that investors can expect to see a positive impact on their returns in the short-range succeeding an M&A announcement. The increase in CAAR over time also indicates that the positive effects of the M&A announcements continue to be present even post the initial event. Overall, the outcomes of this table provide evidence that mergers and acquisition announcements Indian manufacturing sector have a favourable short-term effect on shareholders' wealth.

Table No 6: Paired Comparison t- test of Pre- and Post-mergers and acquisitions Announcement of Average Abnormal Returns (AAR)

Degree of freedom	39
t- statistics	-415.734
P value	0.000
Critical value	2.023

Table 6 demonstrates the outcomes of a paired t-Test, which compares the AAR of the companies in the before-and after-announcement of M&A. The table shows the CAAR, no of days in the event, t-statistics, and p-value for different event windows.

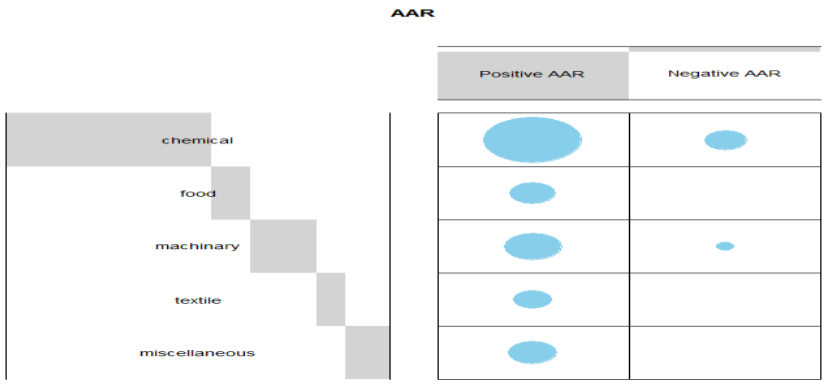
The table illustrates that the AR returns before the event are significantly changed from those during the after-event. The t-statistics values are all larger than the critical value of 1.96, indicating that the results are significant. The p-values are all below 0.05, further supporting the significance of the study.

This suggests that the stock returns of companies in the before-announcement are different from those during the after-announcement. The positive CAAR in the post-announcement period shows that the M&A has a positive impact on the stock returns of the companies. Overall, the outcomes of the t-test are in favor of the assertion that mergers and acquisitions announcements boost stock returns.

Table No 7: Sector-Wise Chi-Square Test of AAR during Before- and After-Announcements of M&A

S. No	Particulars	Values
1	chi-square test	3.797
2	df	4.000
3	p-value	0.434

Figure 7: Graphical Representation of Sector-Wise Chi-Square Test of AAR during Before and After-Announcements of M&A



The chi-square test in Table No 7 is used to determine significant association in the AAR of the selected companies in the before-and after-event of M&A across different sectors. A 5% significant level is used to compare the chi-square test value of 3.797 to the critical value. The p-value for the test is 0.434, and the degree of freedom (df) is 4.

The statistical significance is exceeded by the p-value of 0.434. (0.05), shows that there is no significant association in the AAR across different sectors during the before-and after-announcement of M&A. This suggests that the AAR of the selected companies does not vary significantly across different sectors, and the impact of m&a on the stock returns is consistent across all sectors.

Conclusion

The study examines the reaction of m&a on stock returns of the firms both before-and after-announcement of mergers and acquisitions. The study focuses on 69 announcements that occurred in the Indian manufacturing sector between 2013 and 2021. Utilizing event windows that were approximately 40 days pre and post-announcement date, the analysis is conducted using the event study tool. Using the CAPM, the AR, AAR, and CAAR have been measured. Moreover, a hypothesis test was run on the sample's AAR to determine whether or not it is significantly positive.

Furthermore, the outcomes also revealed that the majority of the M&A companies belonged to the chemical sector, with positive AR. In line with the study, the event period of 81 days (-40 to +40) has significant positive average abnormal returns (AAR) and the before-announcement returns are significantly greater than that of after-announcement, which indicates that there is an immediate stock return's reaction to the M&A announcement and companies yield significant positive CAAR in different event windows like ±1, ±2, ±5, ±10, ±15, ±25 and ±40 days. The t-test and chi-square test also supported the results of the study, indicating that the mergers and acquisitions announcements had a positive effect on the stock returns of Indian manufacturing companies.

In summary, the study provides evidence that the m&a announcements have a positive effect on the stock returns of Indian manufacturing firms. The study also highlights that investors can gain abnormal returns by trading on the basis of information. The present study's findings can assist investors in identifying profitable investment opportunities in the Indian manufacturing sector. The AAR of before- and after-announcements differ significantly. there is no significant association in the AAR across different sectors during the pre-and post-announcement of M&A. These outcomes are consistent with previous study, such as, (Amit Sharma 2017, Shah & Arora 2014, Neelam Rani et al. 2011, Duso et al., 2006, Yuce & Ng 2003, Pandey Ajay 2001) and in contrast with studies like, (Timcy Sachdeva et al. 2015, Arti et al., 2013). Finally, the study concludes that an M&A announcement significantly positively impacts shareholder wealth in both the before-announcement and after-announcement phases.

Implications and further study

The study's results have a number of implications for businesses, shareholders, and decision-makers. The study provides valuable insights for companies considering M&A activities as a growth strategy. The outcomes indicate that announcements have a positive effect on shareholder wealth, which suggests that companies involved in M&A activities are producing higher-than-actual returns based on their risk level and the market's overall performance. This information can help companies evaluate the potential benefits of M&A activities and make informed decisions about whether to pursue such activities.

The study also has implications for investors. The results suggest that investors can expect positive returns from companies involved in M&A activities. The study provides useful information for investors to assess the potential returns from companies involved in M&A activities, which can help them make more informed investment decisions.

The study has implications for policymakers as well. The study provides valuable information on the effect of M&A activities on the share prices of businesses in the Indian manufacturing sector. This information can be used to develop policies that promote and regulate M&A activities in the country. Additionally, policymakers can use the information to develop regulations and guidelines to protect investors and ensure that M&A activities do not lead to market manipulation or other forms of fraud.

It should be noted that the analysis only considers the effect of m&a on shareholders returns and does not take into account other factors such as operating performance or management changes. Future studies could explore these areas further. t would also give a much more detailed knowledge of how M&A activities affect businesses and the economy.

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Appendix:

Table No 1: Sector-wise Analysis of the Abnormal Returns of Selected M&A Companies.

Sectors	Total		Positive		Negative	
	No of M&A	(%)	No of M&A	(%)	No of M&A	(%)
Chemical	37	53.62 %	31	83.78%	6	16.22%
Food	7	10.14%	7	100.%	-	0.00%
Machinery	12	17.39%	11	91.67%	1	8.33%
Textile	5	7.25%	5	100.%	-	0.00%
Miscellaneous	8	11.59%	8	100.%	-	0.00%
Total	69	100.%	62	89.86%	7	10.14%

Source: Author's compilation

Figure 1: Graphical Representation of the Sector-wise Analysis of the Abnormal Returns of Selected M&A Companies.

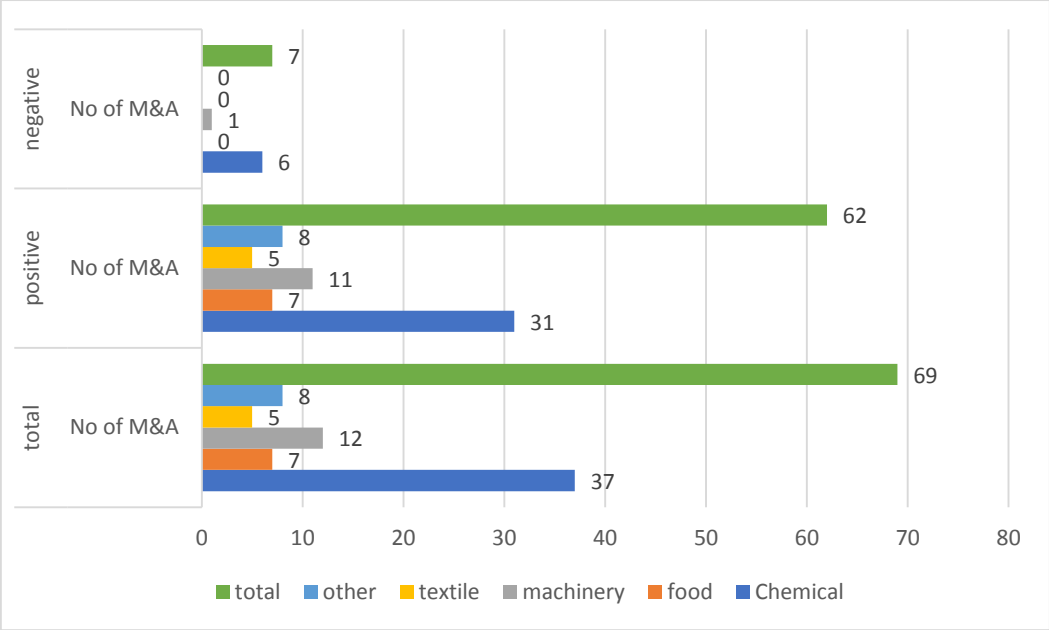

Table No 2: Analysis of AAR During before- and after-Announcement of Mergers and Acquisitions

Pre-window period	AAR	t-statistics	p value	Post-window period	AAR	t-statistics	p value
-40	1.077	6.791	0.000	1	10.974	69.174	0.000
-39	1.053	6.636	0.000	2	11.134	70.186	0.000
-38	1.046	6.595	0.000	3	10.920	68.834	0.000
-37	1.060	6.681	0.000	4	10.918	68.820	0.000
-36	1.017	6.409	0.000	5	11.029	69.520	0.000
-35	1.013	6.387	0.000	6	11.043	69.608	0.000
-34	0.957	6.035	0.000	7	10.989	69.271	0.000
-33	0.992	6.250	0.000	8	11.031	69.533	0.000
-32	0.976	6.155	0.000	9	11.003	69.356	0.000
-31	0.994	6.266	0.000	10	11.061	69.724	0.000
-30	1.003	6.320	0.000	11	11.041	69.599	0.000
-29	0.995	6.274	0.000	12	11.128	70.143	0.000
-28	1.037	6.535	0.000	13	11.162	70.357	0.000
-27	1.022	6.443	0.000	14	11.088	69.891	0.000
-26	1.009	6.358	0.000	15	11.060	69.713	0.000
-25	1.014	6.389	0.000	16	11.119	70.088	0.000

-24	1.021	6.438	0.000	17	11.094	69.931	0.000
-23	1.088	6.857	0.000	18	11.183	70.488	0.000
-22	1.017	6.408	0.000	19	11.213	70.680	0.000
-21	1.124	7.085	0.000	20	11.130	70.157	0.000
-20	1.275	8.035	0.000	21	11.066	69.752	0.000
-19	1.359	8.566	0.000	22	11.109	70.028	0.000
-18	1.375	8.665	0.000	23	11.121	70.102	0.000
-17	1.269	8.001	0.000	24	11.064	69.740	0.000
-16	1.256	7.917	0.000	25	11.004	69.363	0.000
-15	1.252	7.895	0.000	26	11.085	69.874	0.000
-14	1.222	7.703	0.000	27	10.964	69.111	0.000
-13	1.284	8.091	0.000	28	11.068	69.764	0.000
-12	1.361	8.578	0.000	29	11.029	69.522	0.000
-11	1.508	9.508	0.000	30	11.105	69.998	0.000
-10	1.503	9.472	0.000	31	11.205	70.631	0.000
-9	1.468	9.256	0.000	32	11.234	70.815	0.000
-8	1.445	9.106	0.000	33	11.424	72.010	0.000
-7	1.468	9.254	0.000	34	11.325	71.388	0.000
-6	1.429	9.008	0.000	35	11.310	71.289	0.000
-5	1.439	9.071	0.000	36	11.327	71.397	0.000
-4	1.443	9.094	0.000	37	11.315	71.324	0.000
-3	1.416	8.923	0.000	38	11.335	71.447	0.000
-2	1.629	10.268	0.000	39	11.460	72.237	0.000
-1	1.678	10.575	0.000	40	11.438	72.096	0.000
0	1.667	10.508	0.000				0.000

Source: Author's compilation

Figure 2: Graphical Representation of AAR During before and after-Announcement of Mergers and Acquisitions

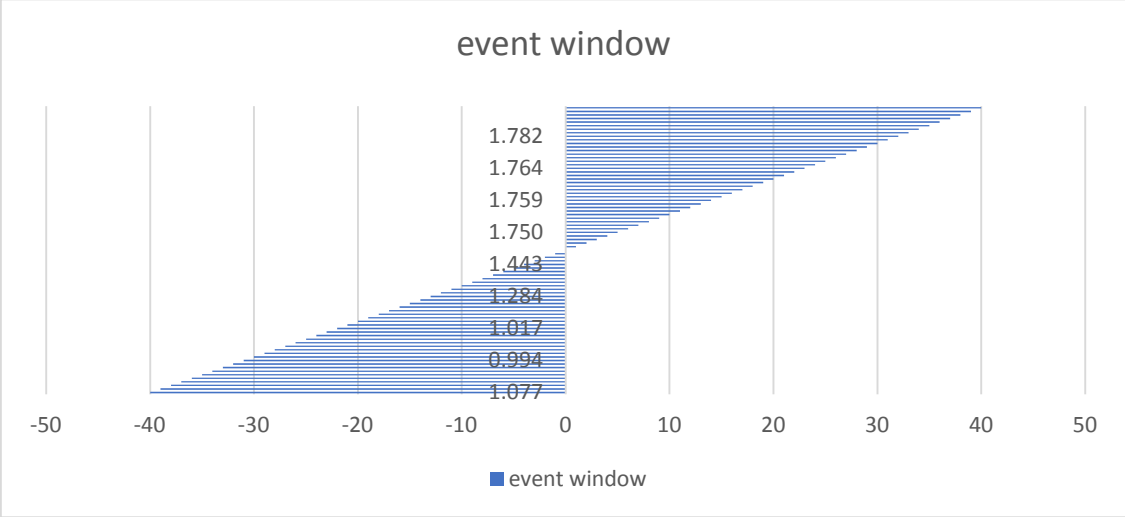

Table No 3: Analysis of CAAR during before -Announcement of M&A

Before-Event Window	CAAR	No of days in window	t-Statistics	P-value
(-1 day)	1.678	1	10.575	0
(-2 to – 1 day)	3.307	2	14.738	0
(-5 to – 1 day)	7.604	5	21.435	0
(-10 to – 1 day)	14.916	10	29.733	0
(-15 to – 1 day)	21.544	15	35.063	0
(-25 to – 1 day)	33.340	25	42.032	0
(-40 to – 1 day)	48.592	40	48.430	0

Source: Author's Compilation

Figure 3: Graphical Representation of Cumulative Average Abnormal Returns during Pre -Announcement of M&A

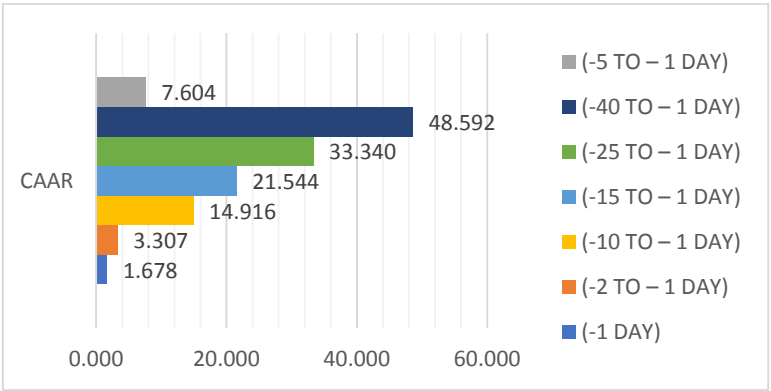

Table No 4: Analysis of CAAR During after -Announcement of M&A

After Event Window	CAAR	No of days in Window	t-Statistics	P-value
(+1 day)	1.741	1	10.974	0
(+2 to + 1 day)	3.507	2	15.633	0
(+5 to +1 day)	8.721	5	24.586	0
(+10 to + 1 day)	17.467	10	34.817	0
(+15 to +1 day)	26.268	15	42.753	0
(+25 to +1 day)	43.894	25	55.336	0
(+40 to + 1 day)	70.644	40	70.409	0

Source: Author's Compilation

Figure 4: Graphical Representation of Cumulative Average Abnormal Returns During Post -Announcement of M&A

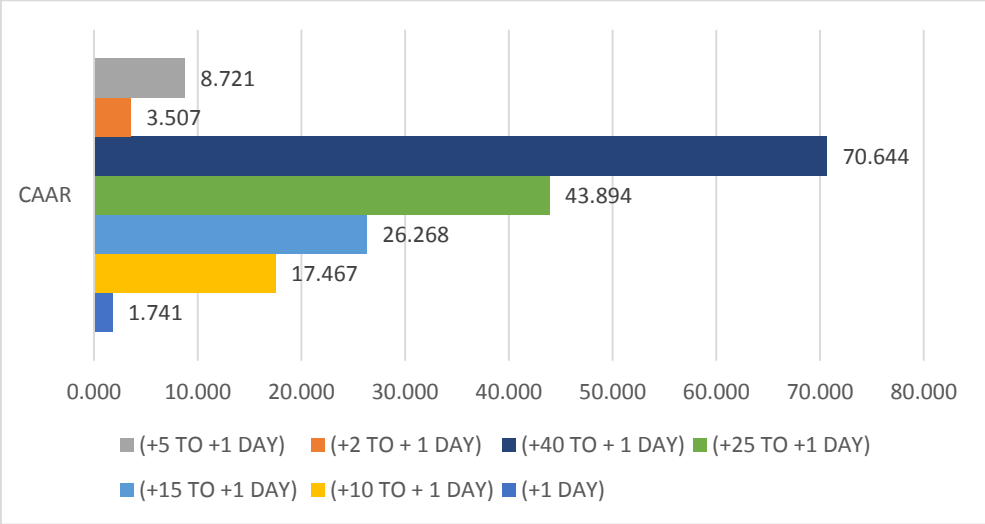

Table No 5: Analysis of CAAR During Before and After -Announcement of M&A

Pre & Post Event Window	CAAR	No of Days in Window	t-Statistics	P-value
-1 to +1	5.140	3	16.528	0
-2 to +2	8.571	5	21.348	0
-5 to +5	18.193	11	30.552	0
-10 to +10	34.433	21	41.849	0
-15 to +15	50.045	31	50.061	0
-25 to +25	79.836	51	62.263	0
-40 To +40	122.393	81	75.741	0

Source: Author's Compilation

Figure 5: Graphical Representation of CAAR During Before and After -Announcement of M&A