

CORPORATE MERGERS AND ACQUISITIONS IN INDIA'S AUTOMOTIVE AND ANCILLARY INDUSTRY: SHAREHOLDER WEALTH AND PERFORMANCE PERSPECTIVES

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ABSTRACT

Mergers are an essential part of a company's life cycle. This paper investigates whether merger announcements have a positive share price reaction. Using the market model event study the study finds a positive shareholder's wealth creation upon merger announcement. The paper further looks into the improvement of the financial performance of a company post-merger. The research finds that there is only an improvement in the return of assets three years post-merger announcement in a statistically significant manner. The study focuses on automotive and ancillary industries and studies merger announcements from 2010-11 to 2019-20 in the Indian economy.

Keywords: Mergers, automotive and ancillary industry, firm performance, shareholders' wealth creation, event study.

INTRODUCTION

As the global environment changes, the level of competition that companies are facing in the market for their product is dramatically increasing. The magnitude, and frequency of these changes in the global environment compel companies to make strategic decisions to outperform their rivals (Leepsa & Mishra, 2012). Under this competitive pressure, businesses use various corporate strategies to derive strategic advantage. For instance: entering new product lines, tapping new markets, strategic alliances, mergers, acquisitions, and takeovers (Reddy et al., 2013). Of all these strategies, Mergers & Acquisitions are substantially employed by corporations worldwide to expand operations and increase the profitability of these operations (Gulati & Garg, 2022).

Mergers can differ from each other in terms of relatedness, their motive behind merging, and their primary source for synergy (Alhenawi & Krishnaswami, 2015). As per Hromei (2013), the common thread behind each merger is the desire for development. The reasons behind mergers include eliminating competition and eventually strengthening market position, increasing production capacity and synergies from operating economies of scale, access to strategic, technical, and specialized resources, risk diversification into separate geographical regions or product lines, better capital accessibility due to expansion of internal capital availability and renewed image of the firm.

The automotive industry refers to the sector involved in designing, developing, manufacturing, marketing, and selling motor vehicles such as cars, motorcycles, scooters, trucks, buses, and other similar vehicles. The ancillary industry, often known as the automotive supply chain or the automotive suppliers, complements the automotive sector by manufacturing various components, parts, and accessories used in the production of vehicles. The Indian automotive sector has the potential to become the world's third-largest passenger vehicle producer in the international automotive industry, because of the provision of fundamental opportunities for growth (Meena et al., (2020).

The present study aims to tap the potential area of study i.e., the impact analysis of merger announcements on short-term wealth creation of shareholders of select companies in the automotive and ancillary industry in India automotive and ancillary industry in India. This research incorporates a quantitative approach to provide a comprehensive understanding of the impact of merger activity on the financial performance of the automotive and ancillary industries in India.

LITERATURE REVIEW

Literature in the arena of mergers has focused on digging out the motives for undertaking a strategic decision to merge with another company and what factors lead this decision towards success. Regarding the outcome of mergers and acquisitions, numerous empirical researchers have agreed that mergers tend to boost shareholder wealth while decreasing target firm efficiency. The acquiring company is likely to experience an overall increase in efficiency. Authors have remarked that after the merger loss of efficiency by the target is gained by the acquirer. Mostly as a result of significant cost savings from the elimination of redundant processes that result from business mergers (Li, 2016). Various authors have given varied reasons

for the efficiency achieved as a consequence of merging activities. For instance, market power enhancement (Chapin and Schmidt, 1999), cost savings due to the removal of duplicate processes (Arnold, 2014), firm's capabilities via experience and R&D (Wu et al., 2016), operational effectiveness (Gachigo et al., 2022).

Hromei, (2013) suggested that mergers are very complex and a challenging strategic alternative, intensive analysis is necessary before committing resources to ensure the success of the merging decision. Umashankar et al. (2022) attempted to demonstrate customer dissatisfaction after Mergers and Acquisitions (M&A). This negative impact has been attributed to the distraction of executives towards financial issues rather than customers. The study thus highlighted the negative relationship among customer satisfaction using an attention-based view. To mitigate this unfavorable relationship, the authors suggested attention to market leadership and customer issues.

An altogether different set of studies have focused on international mergers. In an exploratory attempt to understand the patterns of Multinational enterprise (MNE) associated M&As due to liberalization policy, Kumar (2000) concluded that there exists more M&A from MNE sectors like advertising, financial services, business services, and travel agencies. Research revealed that FDI in the form of mergers is generally inferior in quality to greenfield investment. Findings suggested an urgent need for a comprehensive competition policy-related framework.

Zheng & Sheng, (2015) brought forward suggestions to combat the challenges in merging entities in the automobile sector in Chinese. The research figured out various facts like target entities used to operate inefficiently and more concentrated. They found a lack of strategies, difficulties procuring core effective technologies, and inaccurate cost & benefit analysis. The research suggested measures like improving regulations by the government, innovation capacity, clarity in objectives and strategies, enhancing regional culture, and integration of corporate culture. Authors listed that there are a lot of risks in the process of cross-border M&A such as regulatory and political barriers, social differences, labor mindset, and cultural conflicts.

Mehrotra and Sahay (2018) attempted to present a systematic review of models to conduct financial research in areas of M&A and governance of M&A. Authors explained the theoretical foundations of various pieces of research namely combination topologies, organizational fit, strategic intent, and integration topologies. The study concluded that mergers have either failed to yield significant positive returns or earned negative returns in the post-merger period. Wu et al., (2016) presented that the development phase of host countries directly relates to positive wealth effects. All these studies tried to understand the factors causing the success of mergers where the authors pre-supposed that mergers result in efficient returns for the company and the shareholders.

Other literature has looked into whether mergers generate positive results for the company. The studies in this regard inquired about the outcomes of merger activity and analyzed whether there was an improvement in the performance of the company or not post-merger. Authors have found a diverse range of results. Most of the studies concluded there to be a negative impact of merger or failure to achieve positive returns. Chapin and Schmidt (1999) used data envelopment analysis and 14-year panel data to check if mergers have resulted in technical and scale efficiency improvement. The study concluded that mergers have a mixed impact on production efficiency. On one side technical efficiency showed improvements after the merger, on the other hand, scale efficiency reduced.

Leepsa & Mishra, (2012) with the use of descriptive statistical tools and paired t-tests concluded that the solvency position deteriorated after the merger but was not statistically significant. The liquidity position showed statistically insignificant improvements after the merger. Improvement occurred in the financial performance of the companies after the merger concerning the current ratio, quick ratio, return on capital employed, and interest coverage ratio. However, all these results were not statistically significant. Srinivasa Reddy et al., (2013) reported significant superior performance in the long run during the post-merger period in the manufacturing as well as services sector. Inoti (2014) concluded that mergers and acquisitions do not have an impact on the profitability and long-term solvency of the acquiring firms.

Alhenawi & Krishnaswami, (2015) found that there was positive excess value generated in the case of related mergers while for unrelated mergers there was negative value creation. Research evidence showed that synergies from mergers crystalize over time but it is different in related and unrelated mergers. The authors concluded that the lack of synergies from capital market activity and market power enhancements was the reason that related mergers were motivated by the transfer of innovation and technical know-how rather than synergy generation. Poddar (2019) researched the area of mergers and acquisitions to understand the impact of M&A on the operating efficiency of acquiring firms and understand the role of the macroeconomic environment in influencing the performance of acquirers. Their results indicated that M&A added lesser value than expected to the acquirer company.

Mashkour (2021) revealed positive changes indicating the synergy obtained by merging the two companies. Gachigo et al., (2022) indicated significant improvement in financial performance due to operational effectiveness. Jubaedah Nawir et al., (2023) concluded that M&A created made no difference in firm value and other measures, whereas differences were observed in current ratios. The study concluded that M&A cannot be used as an indicator of higher profitability in the future. Adhikari et al. (2023) to examine the restructuring and consolidation effect through merger and acquisition reported that financial performance improved significantly in terms of liquidity and leverage ratios. However, profitability ratios

experienced no statistically significant change.

From the above discussion, it is evident that Srinivasa Reddy et al., (2013), Mashkour (2021), Gachigo et al., (2022) and Adhikari et al. (2023) have arrived at the same conclusion that mergers yield positive results. But Inoti (2014), Poddar (2019), and Jubaedah Nawir et al., (2023) have presented the exact opposite results depicting that mergers have failed to create the expected value. However, Chapin and Schmidt (1999), Leepsa & Mishra, (2012) and Alhenawi & Krishnaswami, (2015) found that mergers lead to mixed results. Based on this discussion, the following hypotheses can be framed about the impact of the merger on the financial performance of the companies:

H1: There is a significant difference between pre-merger and post-merger financial performance.

There is another group of literature that tries to look into how stock markets respond to the merger announcement. These studies find that signals like merger announcements generate fluctuations in the stock market and help the shareholders earn abnormal returns around the announcement day. Kyriazopoulos, G. (2016) found that generally, merger announcements do not yield statistically significant abnormal returns. Similarly, Fadlitama, L., & Adawiyah, W. (2017), and Rahman et al., (2018) reported that merger announcements do not yield statistically significant abnormal returns. Adhikari et al. (2023), reported that acquired banks did not perform well in the period after the merger. It can be derived that the fundamentals of mergers and acquisitions failed to provide the intended benefits because most firms experienced a fall in their market value. Wu et al., (2016) reveal that vertical M&As are specifically favored by the market as they can gain easier access to marketing channels, resources, and distribution networks. Teti and Tului (2020) researched to analyze whether mergers and acquisitions create shareholder value or not. The study found that the effect of mergers in the infrastructure sector is positive. Additionally, findings suggested that M&A is perceived favorably by the market for creating shareholder value. Comprehensively, shareholders of acquiring firms do not lose value and shareholders of target companies gain positive Cumulative Average Abnormal returns (CAARs). Gulati & Garg, (2022) examined the impact of mergers to find out if the mergers turn out to be a successful corporate restructuring technique or not. Analysis implied that mergers lead to significant improvement in the Economic Value Added (EVA) of firms and stock market returns to acquiring firms in the long run.

Li (2016) remarked that there remains to be a debate as to whether value was created for shareholders from the merger or not. The results of the study are positive in a few cases and negative in many others. Fich et al., (2018) employed Multivariate Analysis to determine the probability of executing large gain/loss around acquisitions and concluded that M&A is more likely to yield large gain/loss when supply-demand dependence exists between acquirer and target companies. Authors found out that loss-making deals are less likely to be private or all-cash transactions, while these all-cash deals did not impact the probability of large gain deals. Lozada et al., (2022) concluded that a merger announcement leads to positive CARs in a few days and negative CARs in others, and also volatility is decreased after the merger announcement.

Similar to the studies regarding financial performance, researchers have arrived at contradictory results. Where one group of researchers emphasizes positive returns post-merger, and another group argues that markets have failed to yield positive abnormal returns for the shareholders. Certain studies highlight that there are sometimes positive returns and sometimes negative daily returns. Based on this, we have arrived at the following hypotheses for share price movements in response to the announcement of the merger on the stock exchange:

H2: There is a significant impact of merger announcements on shareholders' wealth creation.

METHODOLOGY

The study uses a final data set of 28 transactions between 2010-11 and 2019-20 in India's automotive and ancillary industries. Event study methodology was applied to analyses of abnormal returns around the date of the event (merger announcement in this study) announcement. Daily normal return is deemed to be in line with benchmark security returns. However, due to the occurrence of events, the actual returns deviate from predicted returns. The magnitude of deviation gives the value of profit or loss of shareholders. The ability of the market to respond to these events reflects the efficiency of markets. (Fama et al., 1969)

The study conducted by Binder (1997) to explore various methods of event study and their performance, concluded that the market model is the most widely used method and no better substitute has yet been discovered. So, based on this the market model is used to estimate abnormal returns around the announcement of a merger on the stock exchange (Rahman et al., 2018). Event day is the day on which the event takes place and around which the effect is to be analyzed. In this current study, the announcement of the merger on the Bombay Stock Exchange is taken as event day (t_0).

The event window period refers to the period adjacent to the event date over which the effect of the event is expected to reflect in market reactions. A window period of 21 days has been taken including 10 days before and 10 days after the

announcement. The estimation period is also known as the comparison period. It is taken to estimate values that would have occurred if the event had not happened. An estimation period of the previous 240 days starting from the 11th day before the merger announcement.

$$R_{it} = \text{Log}(p_{it} - p_{i(t-1)})$$

Where R_{it} is the return of stock I on day t.

p_{it} is the closing price of stock I on day t.

$p_{i(t-1)}$ is the closing price of stock I on the day before t i.e. t-1.

$$R_{mt} = \text{Log}(I_{it} - I_{i(t-1)})$$

Where R_{mt} is the market return or return on benchmark index m on day t.

I_{it} is the index value at time t.

$I_{i(t-1)}$ is the index value at time t-1.

Normal returns are calculated using the market model; establishing a regression equation between company returns and market returns.

$$NR_{it} = \alpha^*I + \beta^*I * R_{mt}$$

Where NR_{it} is the normal/expected return on stock I on day t calculated based on the market model.

R_{mt} is the market return or return on benchmark index m on day t.

α^*I is the measure of average returns not explained by the market, from the estimation window.

β^*I is the sensitivity of stock i to market return.

Abnormal return refers to actual returns over and above the normal return or market return.

$$AR_{it} = R_{it} - NR_{it}$$

Where, AR_{it} = abnormal returns on stock i on day t.

R_{it} is the return of stock i on day t.

NR_{it} is the normal or expected return on stock i on day t calculated based on the market model.

Average Abnormal Returns are aggregated and averaged for each day in the window period.

$$AAR_t = 1/N (\sum AR_{it})$$

Where N is the number of stocks for which abnormal return is calculated for day t.

CAAR: is calculated to measure the cumulative effect of AAR on days in the event window. It is obtained by aggregating AARs for day -20 to +20.

$$CAAR_t = \sum AAR_k$$

where, k = days from -20 to +20 days around the event date.

T-statistics for AAR is calculated as follows:

$$t = (AAR_t) / (S_t / \sqrt{N})$$

Where S_t is the standard deviation of AAR over the estimation period and N is the number of days in the event window.

Financial performance is measured by the study of various financial ratios before and after the merger announcement. The effective date as conveyed by each company is the day the merger or combined entity will start functioning together. Thus, for the sake of financial performance analysis, the year in which the effective date falls is the base year for the study. The year of the merger is considered the base year and not considered for data analysis. Data from 3 years before and 3 years after this base year is used to analyze financial performance post-mergers and acquisitions. The average performance for both periods is analyzed using a 'paired sample t-test'.

The current ratio is used as one of the measures of liquidity position of a company. The current ratio is a liquidity measure used to determine the extent to which a company's current assets can meet short-term obligations (Hertina, 2021). It is calculated as follows:

$$\text{Current ratio} = \text{current assets} / \text{Current liabilities.}$$

Quick Ratio is also called the acid-test ratio, the Quick ratio indicates the extent to which a company's short-term liabilities are covered by the most liquid portion of current assets to (Supriatman & Judiarni, 2023). This quick ratio also serves as a basis for measuring of liquidity position of the company. It can be calculated as follows:

$$\text{Quick Ratio} = \text{Quick assets} / \text{Current liabilities}$$

Where quick assets = Cash & Cash equivalents + Marketable Securities + Net Trade Receivables

According to Manoppo & Arie, (2016), profitability measures present a picture to depict how well a company is generating

profits from operations to ensure the going concern of the company in the future. Net profit margin measures the company's income generated from sales (Anton et al., 2023). It depicts the ability to generate profits at a given level of sales. This ratio is used as a measure of profitability of the company. It is calculated as below:

$$\text{Net Profit Margin} = (\text{Net profit} / \text{Total revenue}) * 100$$

Where, Net Profit = Revenue – Cost of goods sold – Operating and other expenses – Interest – Taxes.

Return on assets is the ability of the firm to obtain a return on assets owned and operations carried out through the use of these assets in various activities. It depicts the utility received by maintaining investment in assets. (Ardhana, et al., 2023). It is calculated as follows:

$$\text{Return on assets} = (\text{Profit after tax} / \text{Total Assets}) * 100$$

Iliemena et al. (2023), define Return on Capital Employed as an efficiency gauge that measures the level of efficiency. It shows the intensity and profitability of total employed capital. It is measured as below:

$$\text{Return on Capital Employed} = (\text{EBIT or Net Profit Before Interest and Tax} / \text{Capital employed}) * 100$$

According to Yenni et al., (2021), Solvency refers to a company's ability to meet its long-term obligations. A solvent company's assets exceed liabilities adequately to provide for reinvestment. Debt to Equity ratio compares total debt i.e. short-term and long-term debt to equity fund. It provides a comparison between funds provided by creditors and owners of the business. It provides insights into the financial risk and viability of the company (RusdiyantoWidi, 2020). It is calculated as:

$$\text{Debt-equity ratio} = (\text{Outstanding debt/equity}) * 100$$

Findlay and Williams (1975) say, that as the Debt-service coverage ratio includes principal payments, this measure is a better indicator of a company's ability to service its debt on time than the times-interest-earned ratio. It is a financial measure that represents the ability of a borrower to fulfill debt obligations. It is calculated as:

$$\text{Debt-service-coverage ratio} = \text{Net Operating Income} / \text{Annual debt service payments}$$

FINDINGS AND DISCUSSION

Impact Of Merger Announcement on Shareholders' Wealth Creation

Table 1 shows the value of the average abnormal return (AAR), cumulative average abnormal return (CAAR), and t-statistics of CAAR of each day of the event window. It is clear from the table that CAAR is maximum on the 4th day after the merger announcement, which means that gains to shareholders are maximum four days after the announcement.

Further, the signaling effect is evident from the fact that market reactions are positive to the merger announcement. Information leakage can be observed because due to this information leakage, the market starts reacting positively to the merger announcement even before the announcement of the merger i.e. from the day (-9) the values are significant. AAR is maximum on day -2 i.e. 2 days before the merger announcement. These results are similar to the results of the study by Gulati and Garg (2022). The values of t-statistics are significant from 9 days before the announcement till 2 days before the announcement. After the merger's announcement, there were significant abnormal returns on the 4th, 6th, 8th, and 10th day.

Thus, it can be concluded that a merger announcement creates positive fluctuations in merging companies' stock prices and generates positive returns to shareholders. These positive abnormal returns signify the creation of wealth for the shareholders. As there is a spread of information before the stock exchange announcement, it gets reflected in stock prices which eventually generates abnormal returns to the shareholder. The results are similar to the study conducted by Teti and Tului (2020).

Merger Announcement on Financial Performance

Financial performance has been compared for 3 years before the merger with 3 years post the merger for each company individually. Further, overall comparison was carried out by combining results of all companies in the sample for 3 years before and after the merger. The following table shows the mean financial ratios of all the companies together. The column showing the p-value gives the probability of the difference between averages being insignificant. Only the return on asset ratio experiences statistically significant improvement during the post-merger period. It is an indicator of improvement in the utilization of assets post-merger. Means of net profit margin and returns on capital employed fell sharply after the merger. Still, these findings are statistically insignificant and thus cannot be generalized to all mergers in the automotive and ancillary industries. Even though liquidity ratios improved in the post-merger period, improvement is statistically insignificant.

CONCLUSION

From these results and discussion, we can conclude that merger announcement in automotive and ancillary industries create positive abnormal return for the company with some indication of information leakage into the market before the Merger's announcement. We can also see that mergers in the automotive and ancillary industries fail to achieve the intended objectives of improvement in the financial performance of the company as measured via its financial ratios except in the case of return on assets. The results of the study are similar to Inoti (2014), Nawir et al. (2023), Leepsa et al. (2012) and

Rahman et al. (2018). These results can be due to various reasons such as faulty choice of target, integration challenges, management neglect, tempered optimism, etc. Thus, mergers while a significant event in a company's trajectory, have failed to provide synergy benefits to the companies.

ANNEXURE

Table 1: Results of the Event Study

Ratios	Pre-Merger Mean	Post-Merger Mean	T-Stat	P- Value
Day	AAR	CAAR	T-Statistic of CAAR	
-10	-0.00016507	-0.00016507	-0.137541779	
-9	0.006997889	0.006832819	5.830879461***	
-8	0.002512665	0.009345485	2.093638137**	
-7	-0.003393828	0.005951657	-2.827852894***	
-6	0.00284123	0.008792887	2.367409785**	
-5	0.006542069	0.015334956	5.451074416***	
4	-0.000656351	0.014678605	-0.546894085	
-3	0.004045127	0.018723731	3.370537255***	
-2	0.007930435	0.026654167	6.607908777***	
-1	-0.001485765	0.025168402	-1.237989787	
event date	-0.002237024	0.022931378	-1.863964935	
1	0.002061534	0.024992912	1.717740449	
2	-8.33555E-05	0.024909556	-0.069454648	
3	0.002278415	0.027187972	1.8984533	
4	-0.014998806	0.012189166	-2.49751555**	
5	0.002211604	0.01440077	1.84278398	
6	0.007083112	0.021483883	5.901890365***	
7	-0.000142846	0.021341037	-0.119024043	
8	-0.002802642	0.018538395	-2.335256679	
9	-0.001084471	0.017453924	-0.903618246	
10	-0.002600268	0.014853655	-2.166632208	

** significant at 95% level of confidence, *** significant at 99% confidence level

Current Ratio	1.0978	1.1234	0.6313	0.5293
Quick Ratio	0.7168	0.7117	0.1383	0.8903
Net Profit Margin	2.2065	-5.8425	1.3332	0.1856
Return on Capital Employed	7.1112	-3.4702	1.4265	0.1570
Return on Assets	5.3018	2.7644	2.4017	0.0183**
Debt to Equity Ratio	0.7907	0.9301	0.7739	0.4409
Debt Service Coverage Ratio	16.0963	12.6145	0.2294	0.8190

Table 2: Comprehensive analysis of financial performance along with T-Stat of different ratios.

**** significant at 95% level of confidence, *** significant at 99% confidence level**

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