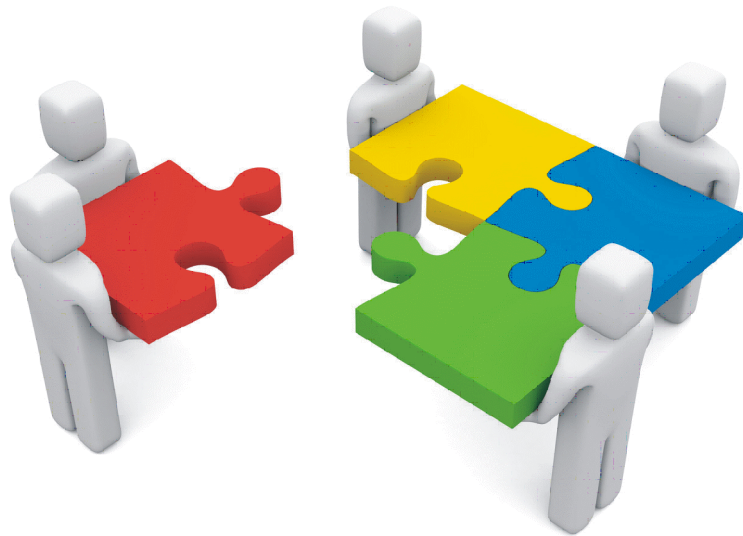# STUDY OF STOCK PRICE DYNAMICS AROUND MERGER & ACQUISITION CASE OF TATA MOTORS AND JAGUAR LAND ROVER

STUDY OF STOCK PRICE DYNAMICS AROUND MERGER & ACQUISITION CASE OF TATA MOTORS AND JAGUAR LAND ROVER

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ABSTRACT

The Merger and Acquisition (M&A) has become a significant restructuring strategy for acquirer companies, around the globe to increase their market value and inter nationalise themselves in the process. The rationale of these M&A has always been increase in stock prices of the acquirer companies in long run signifying the synergies in the M&A process, but the fact is most of the M&A cases are not successful, while few are quite successful. The study of stock price dynamics around M&A of acquirer companies gives an insight into success or un-success of the merger strategy. The Tata Motors M&A with JLR (Jaguar Land Rover) in March 2008 worth $2.3 billion is one of the most significant Indian MNC M&A case. This paper attempts to study the impact of this M&A on the stock price of Acquirer Company viz. Tata Motors, so as to observe the stock price dynamics and the impact of merger process reflected through stock prices.

The case study applies research methodology of Event study involving paired t-test for pre-merger and post-merger study of stock price for explaining stock price dynamics. The stock price dynamics of Tata Motors reflects this merger as being of limited success as initially for one month there is cumulative stock price decrease followed by cumulative stock price increase for six months and then again decreases in cumulative stock price for three months, covering a total span of one year after merger date.

KEYWORDS: Merger & Acquisition, Synergy, Acquirer Company, Event study, Paired t-test.

INTRODUCTION

Mergers and acquisitions, by which two companies are combined to achieve certain strategic and business objectives, are transactions of great significance not only to the companies themselves but also to many others constituencies, such as workers, managers, competitors, communities and the economy. Their success or failure has enormous consequences for shareholders and lenders as well as mentioned constituencies.

Shareholders wealth gains are usually measured by abnormal returns i.e. return in excess of an appropriate benchmark return. An extensive review of the value-creating performance of acquisitions reported in numerous studies from the US to UK and some continental European countries provides clear evidence that shareholder of acquirers experience wealth losses on average, or at best, break even. On the other hand, shareholders of target companies are better off with abnormal return in the order of 20% to over 43%. The poor wealth experience of acquirer is common to many countries, in particular the UK. In many of the studies there is sharp deterioration in acquirer performances several years after the deal completed.

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Evidence from management studies confirms the view that a high proportion, if not the majority, of acquisitions fail to deliver their objectives. Merger and Acquisition more often destroy, rather than enhance, value for the acquirer shareholders. The odds of positive and significant value creation for acquirer shareholders may even be less than 50% which is what one would get with the toss of a fair coin. The M&A transactions are high risk corporate transactions.

However, one striking aspect of the post-acquisition performance is due to some variation in acquirer and target shareholder wealth performance across merger types. In the US, tender offers, i.e. offer to buy shares made directly to the target company shareholders often without the support of the target management, generate more wealth for the acquirer shareholders than merger made with management support. In the UK, hostile acquisition generates larger wealth gains than friendly mergers. This suggest that certain types of acquisition are more successful than others and the transactional characteristics of an acquisition influence the performance outcome.

REVIEW OF LITERATURE

There have been numerous studies on mergers and acquisitions abroad, in the last four decades, and several theories have been proposed and tested for empirical validation. Researchers have studied the economic impact of mergers and acquisitions on industry consolidation, returns to shareholders following mergers and acquisitions, and the post-merger performance of companies. Whether or not a merged company achieves the expected performance is the critical question that has been examined by most researchers.

Healy, Palepu & Ruback (1992) examined post-acquisition performance for 50 largest U.S. mergers between 1979 and 1984 by measuring cash flow performance, and concluded that operating performance of merging firms improved significantly following acquisitions, when compared to their respective industries.

Ghosh (2001) examined the question of whether operating cash flow performance improves following corporate acquisitions, using a design that accounted for superior pre-acquisition performance, and found that merging firms did not show evidence of improvements in the operating performance following acquisitions.

Healy, Palepu & Ruback (1992) also correlated their post-merger cash flow performance and merger-announcement related stock market performance and found a significant positive correlation between these two measures indicating that the stock market correctly revalue the merging firms at announcement in expectation of the improvements in operating performance in the future. Since this study sampled the 50 largest acquisitions in the US, its results may not be generalizable across the entire gamut of mergers which might present quite a mix of organizations in terms of size and motives for mergers. This is especially true for the Indian context where most of the acquisitions are relatively small.

Franks and Harris (1989) found that a target firm's shareholders benefit and the bidding firm's shareholders generally lose. Shiller (1989) states that a major problem with the event study approach is that changes in market valuations around the time of takeover could reflect not only the benefits of an efficiently operating market for corporate control, but also other factors such as undervaluation due to investors overlooking the stock or an overvaluation by those who acquire the firm . If stock prices incorporate random valuation errors, then at a given time, a firm can be undervalued or overvalued. In the former case, acquisition may well occur and the rise in the share price of the target firm reflects not efficiency gains from the merger but merely a market correction (Scherer 1988). Further, the reliability of event studies are questioned on the premise that it's the longer term results that matter (Copeland et al., 2005).

Studies of the post-merger performance usually follow either of the two general approaches: share-price analysis or analyzing the operating performance. Empirical research on share-price performance suggests that anticipated mergers gains are not accomplished. The acquiring firm generally earns positive returns prior to announcements, but less than market portfolio in the post-merger period (Servaes, 1994; Bhagat, Shleifer & Vishny, 1990; Asquith, 1983). Positive excess returns to the target shareholders and zero or negative excess returns to the bidders also raises the issue of net gains arising from the merger transaction. To resolve this issue, excess return for the combined firm becomes an important indicator. However, studies seem to conclude different reasons for zero, negative or positive combined excess return to the combined entity post merger.

The Hubris hypothesis predicts that acquisition announcements have zero combined excess return, as acquisition would be only a transfer of wealth from bidder's shareholders to target's shareholders. The Synergy hypothesis predicts that an acquisition announcement has positive combined excess returns. Synergy is realised when the value of the combined firm is greater than the sum of the values of the individual firms. The target firms capture the lion's share of the gains as compared to bidder firms. Moreover, the degree of competition among the bidding firms reduces the average gain to the bidders to a level equal to zero.

The above studies are based on the assumption that the capital market is an efficient one. In an efficient capital market, any new information relating to a firm is expected to be immediately incorporated into the share prices of the firm. If the market is certain about the scope, timing and success of the merger, then the value of synergy gains expected to be generated is immediately incorporated into the share prices of both the acquiring firm and the target firm when the merger deal is announced. However, if the market is doubtful about the success of the merger, it will react as and when it receives any new information related to the merger. The market will create merger value if the new information affirms the success of the merger, but will destroy merger value if the information is negative.

OBJECTIVES OF THE STUDY

1. To determine the impact of M&A activity on select case Tata Motors financial health.

2. To determine the impact of M&A activity on select case Tata Motors stock price.

3. To determine the dynamics of stock price around M&A of select case Tata Motors.

HYPOTHESIS

For the case under study, i.e., Tata Motors with Jaguar Land Rover, following hypothesis is postulated:

H0: There is no significant impact of Merger and Acquisition on select case Tata Motors stock price.

RESEARCH METHODOLOGY

Event-Study:

In order to study the merger of Tata Motors with Jaguar Land Rover (JLR) the post-merger share price of Tata Motors, the Event study requires, merger confirmation date, Abnormal Return for Tata Motors and Cumulative Abnormal Return; which are calculated as follows:

Merger confirmation date: (t=0) is the date on which the Tata Motors acquired Jaguar Land Rover (JLR), after much deliberations, which is taken as event day, 27.March.2008 being the confirmation date on which both Tata Motors and JLR has confirmed their M&A, has been taken as event day. t = -1,-2 and t = +1,+2 are the 1-day,2-day share price of Tata Motor before 27.March.2008 and 1-day, 2-day share price of Tata Motor after 27.March.2008, which constitute 2-day event window.

Likewise 5 day, 10 day, 15 day, 20day, 30 day, 50 day, 70 day, 100 day, 150 day, 200 day and 245 day event windows are taken as event study, which are share prices of Tata Motor up to 5 day, 10 day, 15 day, 20 day, 30 day, 50 day, 70 day, 100 day, 150 day, 200 day and 245 day before and after event day 27.March.2008. 245 trading days before 27.March.2008 is 5.April.2007 and 245 trading days after 27.March.2008 is 31.March.2009, so the share price data of Tata Motor is taken from 5.April.2007 to 31.March.2009 constituting 245 day, pre-merger and post-merger window, which is further divided into 200,150,100,70,50, 30,20,15,10,5 and 2 day pre-merger and post-merger event window. The share price of Tata Motor is taken from BSE website for the said period.

To choose the event window for merger event is crucial. If the event window is too large or far removed from merger date, the risk characteristics of the sample firm may have changed in the interval or if the event window is too short, the total impact of the merger would have been missed. Therefore 245 day window (covering approximate 1 year before and after the event day) is considered for the event study.

Abnormal Return (AR): It measures the stock market's initial reaction to a merger event and division of any gains from any new information which becomes available to the market. Daily share price changes are tracked to compute daily Abnormal Return (AR) for the security i as on a particular day (t) by employing Market Model.

$$AR = R - E(R) \qquad\qquad .... (1)$$

Where,   t= Day measured relative to an event.

AR = Abnormal Return on security i for day t.

R = Return on Security i during t.

It is calculated by taking, (stock price on day (t) – stock price on (t-1) day/ stock price on (t-1) day).

E(R)= Expected rate of return on security i that it would ordinarily earn for a given level of market performance for day t.

This is measured using the market model denoted by the equation (2)

$$E(R) = \alpha + \beta \ R \qquad\qquad\qquad ....(2)$$

The study deduced the market performance by taking the BSE Sensex as the market benchmark. Values of á and â were estimated by regressing R (dependent variable) on R (independent variable) for the one year period ranging from the period 14.March.2006 to 5.April.2007 (one year of event window), this is estimation window, to ensure that the parameter estimates were not contaminated with the confirmation day of the merger process. Market model parameters were calculated based on these one year period data points.

The Expected Return is calculated on excel sheet using intercept function on R (Tata Steel return, x-axis) and R (BSE return, y-axis) as á adding with slope function using R and R as â and multiplying by R (BSE return).

Finally Abnormal Return (AR) is calculated on excel sheet using equation (1), by subtracting Expected Return from actual Tata Steel return, R .

Cumulative Abnormal Return (CAR): In the days surrounding the merger (equation 3) were needed to examine whether shareholders of merging firm (Acquirer firm) gained from the merger.

$$CAR = \sum_{t=K}^{T} AR_{it} \qquad\qquad\qquad ....(3)$$

Where CAR is the cumulated excess return from day –K through T.

Using SPSS software, for every 2, 5, 10, 15 up to 252 day window, pre-merger and post-merger AR paired t-test and in the same order pre-merger and post-merger CAR t-test is carried out and tabulated for share price dynamics analysis.

BACKGROUND CASE STUDY

Tata Motors acquired the Jaguar Land Rover business from the Ford Motor Company for a net consideration of $2.3 billion, as announced on March 26, 2008 (Being Sunday, 27.March.2008, the trading day is considered as event day) in an all-cash transaction. Ford has contributed about $600 million to the Jaguar Land Rover pension plans.

Ratan Tata, Chairman of Tata Sons and Tata Motors, was present at the handing over ceremony at the headquarters of Jaguar Land Rover at Gaydon in the UK, along with Don Leclair, the executive vice president and chief financial officer of Ford Motor Company. Also present was Lewis Booth, executive vice president of Ford Motor Company, who has responsibility for Ford of Europe, Volvo and Jaguar Land Rover.

Commenting on the occasion, Mr. Tata said, "This is a momentous time for all of us at Tata Motors. Jaguar and Land Rover are two iconic British brands with worldwide growth prospects. We are looking forward to extending our full support to the Jaguar Land Rover team to realise their competitive potential. Jaguar Land Rover will retain their distinctive identities and continue to pursue their respective business plans as before. We recognise the significant improvement in the performance of the two brands and look forward to this trend continuing in the coming years. It is our intention to work closely to support the Jaguar Land Rover team in building the success and pre-eminence of the two brands."

Tata Motors confirmed that David Smith, the acting chief executive officer of Jaguar Land Rover, would be the new CEO of the business. Mr Smith has 25 years of experience with Jaguar Land Rover and Ford. Before returning to Jaguar Land Rover recently, as its chief financial officer, he was director, finance and business strategy, for PAG and Ford of Europe.

Mr Smith said, "We are very pleased with the association with Tata Motors. We look forward to a sustained bright future for the company and its stakeholders."

Jaguar Land Rover has been acquired at a cost of $2.3 billion on a cash-free, debt-free basis. The purchase consideration includes the ownership by Jaguar and Land Rover, or perpetual royalty-free licenses of all necessary intellectual property rights, manufacturing plants, two advanced design centers in the UK, and a worldwide network of national sales companies.

Long-term agreements have been entered into for supply of engines, stampings and other components to Jaguar Land Rover. Other areas of transition support from Ford include IT, accounting and access to test facilities. The two companies will continue to cooperate in areas such as design and development through sharing of platforms and joint development of hybrid technologies and power train engineering. The Ford Motor Credit Company will continue to provide financing for Jaguar Land Rover dealers and customers for a transition period. Tata Motors is in an advanced stage of negotiations with leading auto finance providers to support the Jaguar Land Rover business in the UK, Europe and the US, and is expected to select financial services partners shortly.

EVENT STUDY ANALYSIS & DISCUSSION

Table 1: Event Analysis of Tata Motors with JLR: Event Date: 27.March.2008.

S. No.	Day Window	Abnormal Return (AR) / Cumulative Abnormal Return (CAR)	Pre-Merger Mean	Std. Error Mean (SE)	Post-Merger Mean	Std. Error Mean (SE)	Correlation	t-value	Degree of Freedom (df)	Sig.(2-tailed) p-value	Significance Yes (Y) / No(N)
1	2 Day	Abnormal Return (AR)	-0.0155	.0254	-0.0103	.0275	1.0000	-2.4760	1	0.2440	N
		Cumulative Abnormal Return (CAR)	0.1249	.0049	0.0716	.0086	1.0000	14.5890	1	0.0440	Y
2	5 Day	Abnormal Return (AR)	0.0054	.0135	-0.0042	.0103	0.1970	-0.5160	4	0.6330	N
		Cumulative Abnormal Return (CAR)	0.1394	.0093	0.0822	.0059	0.1080	5.4260	4	0.0060	Y
3	10 Day	Abnormal Return (AR)	0.0011	.0083	-0.0012	.0052	0.3180	0.2660	9	0.7960	N
		Cumulative Abnormal Return (CAR)	0.1109	.0108	0.0881	.0034	0.5220	2.4030	9	0.0400	Y
4	15 Day	Abnormal Return (AR)	0.0061	.0068	-0.0053	.0039	-0.3860	1.2450	14	0.2340	N
		Cumulative Abnormal Return (CAR)	0.1112	.0073	0.0742	.0065	0.0160	2.9480	14	0.0110	Y
5	20 Day	Abnormal Return (AR)	0.0046	.0051	-0.0036	.0033	0.4170	1.6830	19	0.1090	N
		Cumulative Abnormal Return (CAR)	0.0915	.0095	0.0654	.0061	-0.3320	2.0100	19	0.0590	Y

Source: Author's computation and compilation using SPSS software.

2-Day: Two days afterwards, Tata Motors and JLR M&A confirmation date 27.March.2008, on average the increase in post-merger Abnormal Return (AR) (M = - 0.0103, SE = 0.0275) than pre-merger AR (M = - 0.0155, SE = 0.0254) is statistically of no significance as t(1) = - 2.4760, p(.24) > .05, r = 1.00; validating Null Hypothesis of no significant impact (increase) in post-merger AR.

On average, two days afterwards, the post-merger Cumulative Abnormal Return (CAR) is decreased (M = 0.0716, SE = 0.0086) than pre-merger CAR (M = 0.1249, SE = 0.0049) and this decrease in statistically significant as t(1) = 14.5890, p(.04) > .05, r = 1.00; validating Alternate Hypothesis of significant decrease in post-merger CAR.

5-Day: On average, the decrease in post-merger AR (M = - 0.0042, SE = 0.0103) than pre-merger AR (M=0.0054, SE = 0.0135) is statistically of no significance as t(4) = 0.5160, p(.63) > .05, r = - 0.1970; validating Null Hypothesis of no significant decrease in post-merger AR.

On average, the decrease in post-merger CAR (M = 0.0822, SE = 0.0059) than pre-merger CAR (M= 0.1394, SE = 0.0093) is statistically significant as t(4) = 5.4260, p(.006) < .05, r = 0.1080; thus validating Alternate Hypothesis of significant decrease in post-merger CAR.

10-Day: On average, the decrease in post-merger AR (M = - 0.0012, SE = 0.0052) than pre-merger AR (M = 0.0011, SE = 0.0083) is statistically of no significance as t(9) = 0.2660, p(.79) > .05, r = 0.3180; validating Null Hypothesis of no significant decrease in post-merger AR.

On average, the decrease in post-merger CAR (M = 0.0881, SE = 0.0034) than pre-merger CAR (M= 0.1109, SE = 0.0108) is statistically significant as t(9) = 2.4030, p(.04) < .05, r = 0.5220; thus validating Alternate Hypothesis of significant decrease in post-merger CAR.

15-Day: On average, the decrease in post-merger AR (M = - 0.0053, SE = 0.0039) than pre-merger AR (M = 0.0061, SE = 0.0068) is statistically of no significance as t(14) = 1.2450, p(.23) > .05, r = - 0.3860; validating Null Hypothesis of no significant decrease in post-merger AR.

On average, the decrease in post-merger CAR (M = 0.0822, SE = 0.0059) than pre-merger CAR (M = 0.1394, SE = 0.0093) is statistically significant as t(14) = 5.4260, p(.006) < .05, r = 0.1080; thus validating Alternate Hypothesis of significant decrease in post-merger CAR.

20-Day: On average, the decrease in post-merger AR (M = - 0.0036, SE = 0.0033) than pre-merger AR (M = 0.0046, SE = 0.0051) is statistically of no significance as t(19) = 1.6830, p(.10) > .05, r = 0.4170; validating Null Hypothesis of no significant decrease in post-merger AR.

On average, the decrease in post-merger CAR (M = 0.0654, SE = 0.0061) than pre-merger CAR (M = 0.0915, SE = 0.0095) is statistically significant as t(19) = 2.0100, p(.05) d" .05, r = - 0.3320; thus validating Alternate Hypothesis of significant decrease in post-merger CAR.

S. No.	Day Window	Abnormal Return (AR)/ Cumulative Abnormal Return (CAR)	Pre-Merger Mean	Std. Error Mean (SE)	Post-Merger Mean	Std. Error Mean (SE)	Correlation	t-value	Degree of Freedom (df)	Sig.(2-tailed) p-value	Significance Yes (Y) / No (N)
6	30 Day	Abnormal Return (AR)	0.0030	.0038	0.0004	.0029	-0.0210	0.5340	29	0.5980	N
		Cumulative Abnormal Return (CAR)	0.0786	.0074	0.0715	.0052	0.1360	0.8360	29	0.4100	N
7	50 Day	Abnormal Return (AR)	0.0050	.0029	-0.0023	.0028	0.0020	1.7840	49	0.0810	N
		Cumulative Abnormal Return (CAR)	0.0378	.0094	0.0652	.0051	0.4060	-2.1960	49	0.0330	Y
8	70 Day	Abnormal Return (AR)	0.0036	.0024	-0.0030	.0023	-0.0580	1.8750	69	0.0650	N
		Cumulative Abnormal Return (CAR)	-0.0072	.0109	0.0389	.0069	-0.6370	-2.8260	69	0.0060	Y
9	100 Day	Abnormal Return (AR)	0.0028	.0018	-0.0015	.0020	-0.1860	1.4230	99	0.1580	N
		Cumulative Abnormal Return (CAR)	0.0499	.0102	0.0049	.0074	-0.8580	-3.2100	99	0.0020	Y
10	150 Day	Abnormal Return (AR)	0.0010	.0015	-0.0032	.0022	0.1070	1.6330	149	0.1050	N
		Cumulative Abnormal Return (CAR)	-0.0439	.0070	-0.0339	.0092	-0.3130	-0.7530	149	0.4520	N

Source: Author's computation and compilation using SPSS software.

30-Day: On average, the decrease in post-merger AR (M = 0.0004, SE = 0.0029) than pre-merger AR (M = 0.0030, SE = 0.0038) is statistically of no significance as t(29) = 0.5340, p(.59) > .05, r = - 0.0210 ; validating Null Hypothesis of no significant decrease in post-merger AR.

On average, the decrease in post-merger CAR (M = 0.0715, SE = 0.0052) than pre-merger CAR (M = 0.0786, SE = 0.0074) is statistically of no significance as t(29) = 0.8360, p(.41) > .05, r = 0.1360; thus validating Null Hypothesis of no significant decrease in post-merger CAR.

50-Day: On average, the decrease in post-merger AR (M = - 0.0023, SE = 0.0028) than pre-merger AR (M = 0.0050, SE = 0.0029) is statistically of no significance as t(49) = 1.7840, p(.081) > .05, r = 0.0020; validating Null Hypothesis of no significant decrease in post-merger AR.

On average, the increase in post-merger CAR (M = 0.0652, SE = 0.0051) than pre-merger CAR (M = 0.0378, SE = 0.0094) is statistically significant as t(49) = - 2.1960, p(.03) < .05, r = - 0.4060; thus validating Alternate Hypothesis of significant increase in post-merger CAR.

70-Day: On average, the decrease in post-merger AR (M = - 0.0030, SE = 0.0023) than pre-merger AR (M = 0.0036, SE = 0.0024) is statistically of no significance as t(69) = 1.8750, p(.06) > .05, r = - 0.6370; validating Null Hypothesis of no significant decrease in post-merger AR.

On average, the increase in post-merger CAR (M = 0.0389, SE = 0.0069) than pre-merger CAR (M = - 0.0072, SE = 0.0109) is statistically significant as t(69) = - 2.8260, p(.006) < .05, r = - 0.6370; thus validating Alternate Hypothesis of significant increase in post-merger CAR.

100-Day: On average, the decrease in post-merger AR (M = - 0.0015, SE = 0.0020) than pre-merger AR (M = 0.0028, SE = 0.0018) is statistically of no significance as t(99) = 1.4230, p(.15) > .05, r = - 0.1860; validating Null Hypothesis of no significant decrease in post-merger AR.

On average, the increase in post-merger CAR (M = 0.0049, SE = 0.0074) than pre-merger CAR (M = - 0.0499, SE = 0.0102) is statistically significant as t(99) = - 3.2100, p(.002) < .05, r = - 0.8580; thus validating Alternate Hypothesis of significant increase in post-merger CAR.

150-Day: On average, the decrease in post-merger AR (M = - 0.0032, SE = 0.0022) than pre-merger AR (M = 0.0010, SE = 0.0015) is statistically of no significance as t(149) = 1.6330, p(.10) > .05, r = 0.1070; validating Null Hypothesis of no significant decrease in post-merger AR.

On average, the increase in post-merger CAR (M = - 0.0339, SE = 0.0092) than pre-merger CAR (M = - 0.0439, SE = 0.0070) is statistically of no significance as t(149) = - 0.7530, p(.45) > .05, r = - 0.3130; thus validating Null Hypothesis of no significant increase in post-merger CAR.

S. No.	Day Window	Abnormal Return (AR) / Cumulative Abnormal Return (CAR)	Pre-Merger Mean	Std. Error Mean (SE)	Post-Merger Mean	Std. Error Mean (SE)	Correlation	t-value	Degree of Freedom (df)	Sig.(2-tailed) p-value	Significance Yes (Y) / No (N)
11	200 Day	Abnormal Return (AR)	0.0010	.0012	- 0.0023	.0020	0.0100	1.3840	199	0.1680	N
		Cumulative Abnormal Return (CAR)	-0.0425	.0054	-0.1246	.0134	-0.3430	5.0940	199	0.0000	Y
12	245 Day	Abnormal Return (AR)	0.0005	.0011	- 0.0009	.0019	0.0950	0.6790	244	0.4980	N
		Cumulative Abnormal Return (CAR)	-0.0356	.0045	-0.1566	.0122	0.4230	10.9160	244	0.0000	Y

Source: Authors computation and compilation.

200-Day: On average, the decrease in post-merger AR (M = - 0.0023, SE = 0.0020) than pre-merger AR (M = 0.0010, SE = 0.0012) is statistically of no significance as t(199) = 1.3840, p(.16) > .05, r = 0.0100; validating Null Hypothesis of no significant decrease in post-merger AR.

On average, the decrease in post-merger CAR (M = - 0.1246, SE = 0.0134) than pre-merger CAR (M = - 0.0425, SE = 0.0054) is statistically significant as t(199) = 5.0940, p(0.00) < .05, r = - 0.3430; thus validating Alternate Hypothesis of significant decrease in post-merger CAR.

245-Day: On average, the decrease in post-merger AR (M = - 0.0009, SE = 0.0019) than pre-merger AR (M = 0.0005, SE = 0.0011) is statistically of no significance as t(244) = 0.6790, p(.49) > .05, r = 0.0950; validating Null Hypothesis of no significant decrease in post-merger AR.

On average, the decrease in post-merger CAR (M = - 0.1566, SE = 0.0122) than pre-merger CAR (M = - 0.0356, SE = 0.0045) is statistically significant as t(244) = 10.9160, p(0.00) < .05, r = 0.4230; thus validating Alternate Hypothesis of significant decrease in post-merger CAR.

FINDINGS OF THE STUDY

Table 2: Findings

S.No.	Day Window	Post-Merger Abnormal Return (AR)	Post-Merger Cumulative Abnormal Return (CAR)
1.	2-Day	Increase (↑), Statistically of no-significance.	Decrease (↓) , statistically significant.
2.	5-Day	Decrease (↓), Statistically of no-significance.	Decrease (↓) , statistically significant.
3.	10-Day	Decrease (↓), Statistically of no-significance.	Decrease (↓) , statistically significant.
4.	15-Day	Decrease (↓), Statistically of no-significance.	Decrease (↓) , statistically significant.
5.	20-Day	Decrease (↓), Statistically of no-significance.	Decrease (↓) , statistically significant.
6.	30-Day	Decrease (↓), Statistically of no-significance.	Decrease (↓) ,Statistically of no-significance.
7.	50-Day	Decrease (↓) ,Statistically of no-significance.	Increase (↑), Statistically significant.
8.	70-Day	Decrease (↓) ,Statistically of no-significance.	Increase (↑), Statistically significant.
9.	100-Day	Decrease (↓) ,Statistically of no-significance.	Increase (↑), Statistically significant.
10.	150-Day	Decrease (↓) ,Statistically of no-significance.	Increase (↑), Statistically of no significance.
11.	200-Day	Decrease (↓) ,Statistically of no-significance.	Decrease (↓), statistically significant.
12.	245-Day	Decrease (↓) ,Statistically of no-significance.	Decrease (↓) , statistically significant.

As is observed in above event analysis of Tata Motors with JLR for the period spanning one year (number of trading days in one year) after event day 27.March.2008, all through these years the Abnormal Return on the share prices of Tata Motors is decreased than one year pre-merger period but the decrease is abysmal, of no statistical significance. It means the stock price of Tata Motors has not gained during all the post-merger period of 2, 10, 15, 20, 30, 50, 100, 150, 200 and 245 days spanning one year.

On the contrary the dynamics of Tata Motors stock price as is observed through Cumulative Abnormal Return (CAR) which is accumulation of all the increase and decrease, whether statistically significant or insignificant for the post-merger one year period is mixed. The CAR continuously decreased for 2, 5, 10, 15 and 20 days post-merger period and which is also statistically significant, it means market was not certain about the impact of this merger but on 30 day the post-merger CAR decrease is statistically of no significance which indicates the ambiguity of the market about the merger.

Then the CAR starts increasing for post-merger period of 50, 70 and 100 days and this increase is also statistically significant which means market starts responding positively to this merger and on 150 day post-merger period the CAR increase is statistically of no significance which reflects the ambiguity in overall market response to this Tata Motors–JLR merger. And finally for 200and 245 days post merger period the CAR has decreased with statistically significance which is reflective of negative response of market for this merger.

Thus the post-merger CAR decreases for one month period 30 days) then increases till six months (150 days) and finally again decreases for last three months (200 and 245 days),therefore the dynamics of stock price of Tata Motors for one year post-merger period is mixed. The Tata Motors stock price does not provides a clear judgement about the impact of merger for one year post-merger period.

CONCLUSION

This event analysis has also indicated that Tata Motors-JLR merger is not unsuccessful and its impact is not entirely negative as there is increase in CAR for a period of six months. The post five years (2009-2014) financial position of Tata Motors also validated the outcome of one year post-merger event analysis. Even up till present time (2016-17) this Tata Motors-JLR merger is considered relatively successful as is indicated by mixed stock price dynamics through one year post-merger event analysis.

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