A STUDY ON DOMESTIC VS CROSS-BORDER ACQUISITIONS IN THE CONSUMER CYCLICAL SECTOR IN ASIA

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How to cite this paper: Goel, K., Oswal, S., & Khandwala, D. (2024). A study on domestic vs cross-border acquisitions in the consumer cyclical sector in Asia. *Corporate Governance and Sustainability Review, 8*(1), 8–19. https://doi.org/10.22495/cgsrv8i1p1

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ISSN Online: 2519-898X
ISSN Print: 2519-8971

Received: 30.11.2023
Accepted: 15.03.2024

JEL Classification: E44
DOI: 10.22495/cgsrv8i1p1

Abstract

The work aims to study and analyze the impact of domestic and cross-border acquisitions in the consumer cyclical sector of Asia with particular emphasis on Indian markets on the shareholder return and the financial performance of the acquiring companies. The study employs two quantitative methods. The first method which is the event study method is used to evaluate whether the mergers and acquisitions (M&As) deal has generated any positive abnormal return for the shareholders and compare which acquisition had a superior impact on the shareholder return — cross-border or domestic M&As. The second method is the analysis of the M&A deal with the help of six major financial ratios which have proven to directly impact the financial performance of the company's merger and post-merger performance. Pre-merger and post-merger averages of these ratios are analyzed for the sample companies to understand whether the M&As had a positive or negative impact on the financial performance of the company. This would ultimately help infer whether cross-border or domestic M&As are superior for consumer cyclical companies in India.

Keywords: Acquisition, Merger, Cross Border, Consumer, Cash Flow

Authors' individual contribution: Conceptualization — D.K.; Methodology — K.G.; Formal Analysis — D.K.; Data Curation — S.O.; Writing — Original Draft — S.O. and D.K.; Writing — Review & Editing — K.G. and D.K.; Visualization — K.G.

Declaration of conflicting interests: The Authors declare that there is no conflict of interest.

1. INTRODUCTION

Mergers and acquisitions (M&As) refer to the integration of companies. While mergers combine two companies into one, acquisitions involve one company taking over another. M&As are an essential component of the corporate finance world, driven by the belief that two separate companies can create more value together than they would individually. Companies constantly assess M&A opportunities to maximize wealth. The joining of two companies results in synergy value, which can be evaluated by looking at revenues, cost of capital, or expenses. Both parties in an M&A deal have differing views on the worth of the target company: the seller aims to value the company as highly as possible, while the buyer aims to acquire it at the lowest price possible. Various legitimate methods, such as comparing companies in an industry, are used to assess target companies in M&A deals. Dealmakers also use a range of other techniques and tools to evaluate target companies.

Comparative ratios are metrics that acquiring companies use to determine the value of the target company. Two examples of such ratios are the price-earnings ratio (P/E ratio) and the enterprise-value-to-sales ratio (EV/Sales). Besides one should refer to the replacement cost approach and discounted cash flow.

Acquiring companies nearly always pay a substantial premium on the stock market value of the companies they buy for. The justification for doing so nearly always boils down to the notion of synergy; shareholders benefits from a merger when a company's post-merger share price increases by the value of potential synergy.

When acquiring a company, the acquiring company typically pays a substantial premium on the target company's stock market value. The rationale behind this is the belief that

the merger will create synergies that will increase the post-merger share price, benefiting shareholders. It is unlikely that rational owners would sell if they would benefit more by not selling, so buyers must offer a premium to acquire the company, regardless of the pre-merger valuation. For sellers, the premium represents their company's prospects, while for buyers, the premium represents part of the expected post-merger synergy. Companies engage in M&As for strategic business reasons that are primarily economic. These reasons may include taking advantage of economies of scale in research and development (R&D), production, and marketing (horizontal mergers); expanding distribution capabilities or entering new markets to increase market share; diversifying product and service offerings (business diversification); acquiring professional leadership by being acquired (by a smaller company); weathering systemic and macro-environmental challenges by joining forces. Other factors may also be considered, such as achieving pricing efficiency in the supply chain by acquiring a channel partner (vertical merger) or excluding future competition.

Cross-border mergers involve the merging of two companies located in different countries, resulting in a third company. This could involve an Indian company merging with a foreign company or vice versa, and the local company can be private, public, or state-owned. Domestic mergers, on the other hand, involve the merging of two companies located in the same region.

M&As have led to the internationalization of business operations, and they are increasingly used as a fast and effective consolidation strategy, particularly in the cross-border landscape.

In addition to maximizing shareholder value, there are other strategic motivations that drive M&As. For example, M&As can also be driven by the desire to acquire new technologies or intellectual property, gain access to new markets, or achieve greater bargaining power with suppliers and customers. Additionally, M&As can be used as a defensive strategy to prevent the entry of new competitors into the market or to respond to competitive pressures from existing competitors. Ultimately, the success of a merger or acquisition depends on a variety of factors, including the strategic fit between the two companies, the ability to integrate operations and cultures, and the ability to achieve the expected synergies and cost savings.

India's M&A market crossed USD160 billion in 2022 and India's M&A activity is expected to remain strong in 2023, even as there are global headwinds from rising interest rates and elevated inflation levels leading to increased margin pressures for companies. Strategic M&A deals grew 126% by value in 2022 as compared to 2021 attributable primarily to strong domestic demand and healthy corporate cashflows as compared to the second half of 2021, as well as low-interest rates up to the first half of 2022 which provided a suitable environment for companies pursuing inorganic growth opportunities. Outbound deal activity increased by 25% between 2021–2022 attributable to medical and pharma, technology, media, and telecommunications (TMT) sectors drove M&A activity contributing 70% to outbound deals by value. Inbound deal activity, historically driven by the United States (US) and United Kingdom (UK), was reduced by 44% in value due to a fall in investments by these countries as firms focused on conserving cash in an inflationary environment.

The research questions of this study are as follows:

RQ1: What is the value delivered by both domestic and cross-border M&A?

RQ2: What is the comparison of the divergence in acquirer, and share price fluctuations over the short and long terms?

RQ3: How have acquisition events in the Indian consumer cyclical industry affected the share prices of the acquiring company?

The rest of the paper is structured as follows. Section 2 reviews the literature and develops the hypotheses. Section 3 presents the methodology used for the research. Section 4 provides the research results. Section 5 discusses the results. Section 6 concludes the paper.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Chilukuri (2018) explores the financial performance of M&A in the UK market, with a focus on cross-border and domestic M&As. The study examines whether cross-border M&As or domestic M&As provide greater returns to the acquirer in terms of financial performance.

Poddar (2019) explores the impact of M&A on the operating efficiency of Indian acquiring companies. The authors examine the financial performance of Indian acquiring companies before and after M&A activity and investigate the factors that influence the success of M&As in the Indian market. The paper begins by discussing the importance of M&A as a strategic tool for firms to achieve growth, improve profitability, and gain competitive advantage. The authors highlight the increasing trend of M&A activity in India, particularly in the post-liberalization period, and the need for research on the impact of M&As on the operating efficiency of Indian acquiring companies.

Kar and Soni (2010) aimed to analyze the strategic impact of M&A on Indian corporate enterprises in the post-liberalization period. The authors examine the factors driving M&A activity in India and the challenges faced by Indian firms in pursuing M&As as a growth strategy. The paper then presents a detailed analysis of the impact of M&As on Indian corporate enterprises in the post-liberalization period, based on a survey of 60 Indian firms that have engaged in M&A activity between 1991 and 2005. The authors use various financial ratios, including return on equity (ROE), return on assets (ROA), and net profit margin (NPM), to compare the financial performance of firms before and after M&A activity. Overall, this paper contributes to the literature on M&As in India by providing insights into the strategic impact of M&As on Indian corporate enterprises in the post-liberalization period.

Karora and Sahni (2011) provide an analysis of the performance of Indian firms engaged in cross-border M&As. The authors aim to determine the impact of cross-border M&A on the performance of Indian firms by comparing their pre- and post-merger financial performance. The authors provide an overview of the Indian cross-border M&A landscape and discuss the key factors that have contributed to the increase in cross-border M&A activity by Indian firms in recent years. They note that Indian firms have been particularly active in acquiring firms in developed countries and that the information technology (IT) and pharmaceutical

sectors have seen the most cross-border M&A activity. The paper then presents the authors' analysis of the performance of Indian firms engaged in cross-border M&As.

Ananda (2017) provides an analysis of the performance of domestic and cross-border M&As and the gains of acquiring companies using a sample of Chinese-listed firms. The author aimed to determine whether domestic or cross-border M&As result in greater gains for acquiring companies. This paper provides a comprehensive overview of previous research on the performance of domestic and cross-border M&As. The author cited studies that have shown that M&As can result in a number of benefits for firms, including increased market power, economies of scale, and access to new markets and resources. However, it was noted that M&As can be risky and that many deals fail to deliver the expected benefits.

Deng and Yang (2015) investigate the financial performance of cross-border versus domestic acquisitions by emerging market firms. The authors argue that emerging market firms engage in cross-border acquisitions to acquire strategic assets, such as technological knowledge or brand recognition, and to gain access to foreign markets. The study utilizes a sample of nine major emerging economies (Brazil, China, India, Indonesia, Mexico, Russia, South Africa, Thailand, and Turkey) in developed and developing countries from 2000 to 2012. The authors employ a difference-in-differences (DID) methodology to compare the financial performance of firms that engage in cross-border acquisitions with those that engage in domestic acquisitions. The study's results suggest that, on average, cross-border acquisitions by emerging market firms lead to better financial performance than domestic acquisitions.

Singla et al. (2012) investigate the financial performance of Indian firms that engage in cross-border M&As. The authors argue that cross-border M&A activities can provide Indian firms with access to new technologies, knowledge, and markets, which may lead to improved financial performance. The study uses a sample of 15 Indian firms that engaged in cross-border M&A activities between 2005 and 2008. The authors employ a range of financial performance measures, including ROA, ROE, and earnings per share (EPS), to evaluate the performance of these firms before and after the cross-border M&A activities.

Goergen and Renneboog (2004) investigate the impact of domestic and cross-border takeover bids on shareholder wealth in European firms. The authors argue that cross-border takeovers can create more value for shareholders than domestic takeovers because they allow firms to access new markets and technologies, as well as exploit economies of scale and scope. The study uses a sample of 621 takeover bids from 17 European countries between 1992 and 2006 and employs event study methodology to measure the impact of takeover bids on shareholder wealth. The authors compare the shareholder wealth effects of domestic and cross-border takeover bids, as well as the effects of different types of cross-border takeover bids, including horizontal and vertical takeovers.

There are research gaps in the existing literature. There is not any major study that discusses divergence in acquirer, and share price fluctuations over the short and long terms especially for the Indian market. Also, no study compares the performance of the acquiring company pre- and post-acquisition events to understand the change in efficiency and financial parameters.

The hypotheses of this study are the following:

$H1_0$: The average abnormal returns generated by the M&A transaction are equal to zero.

H1: The average abnormal returns generated by the M&A transaction are not equal to zero.

$H2_0$: There is no significant difference in the mean efficiency ratio of the selected acquirer company pre- and post-merger.

H2: There is a significant difference in the mean efficiency ratio of the selected acquirer company pre- and post-merger.

3. RESEARCH METHODOLOGY

In this study, we will analyze a sample of 10 companies that participated in cross-border M&As and 10 companies in domestic M&As. The performance of the companies will help get more insights into the hypotheses and will add to the existing body of knowledge.

The research objective is to evaluate acquisitions done by Indian consumer cyclical companies and understand whether domestic acquisition vs cross-border acquisition has generated a significant value for the acquiring firm in terms of shareholder wealth and mid-term financial performance.

The aim of the research is:

- To determine the value delivered by both domestic and cross-border M&As.
- To compare the divergence in the acquirer, share price fluctuations over the short and long terms.
- To understand how acquisition events in the Indian consumer cyclical industry have affected the share prices of the acquiring company.
- To determine which of the domestic and cross-border M&As provides the acquiring shareholders with higher value.
- To compare the performance of the acquiring company pre- and post-acquisition events to understand the change in efficiency and financial parameters.

This study analyzes a sample of Indian consumer cyclical acquirer firms that are involved in cross-border and domestic M&As. As 22 discussed in the literature, this study tries to fill the gap by analyzing the outcomes of M&As from an Indian market perspective.

So, the time frame considered is the acquisitions announced between January 1st, 2014 to December 31st, 2016. All the information about Indian firms' M&As during the considered period is obtained from the Bloomberg database. Daily stock price data of companies involved, and NIFTY market index prices are obtained from Yahoo Finance and returns are calculated on a daily basis.

There are several M&A transactions announced from 2014 to 2016. But for this study companies which met the following conditions are considered:

- Acquirer firms are publicly traded companies from the National Stock Exchange and Bombay Stock Exchange.
- They have stock data for at least 252 days prior to the announcement date and 40 days after the announcement date.
- Target firms are Indian consumer cyclical firms for domestic M&A transactions and non-Indian consumer cyclical firms for cross-border M&A transactions.
- M&A deal value worth USD8 million or more.

The list of M&A deals is provided below.

Table 1. The list of M&A deals: Domestic firms

Announce date	Target name	Acquirer name	Seller name	Value (in millions)	Payment type	Reason for merger/acquisition
21/05/14	Kar Mobilies Ltd.	Rane Engine Valve Ltd.	-	8.78	Stock	To expand its product portfolio and customer base in the automotive industry
30/07/14	Satyam Cineplexes Ltd.	Inox Leisure Ltd.	-	30.12	Cash	To strengthen its position as one of the leading cinema chains in India and expand its presence in key markets
20/11/14	Film &media services business	Prime Focus Ltd.	Reliance MediaWorks Ltd	56.52	Stock	To expand its service offerings and establish in a stronger presence in the Indian market
13/02/15	CaratLane Trading Pvt Ltd.	Titan Co Ltd.	-	57.52	Cash	To enter the online jewelry retail segment and expand product offerings
04/05/15	Retail Infrastructure Business/Baharti Retail	Future Enterprises Ltd.	Bharti Enterprises Ltd	73.27	Stock	To strengthen its retail business and expand its presence in the hypermarket and supermarket segments
09/06/15	DT Cinemas Ltd.	PVR Ltd.	DLF Ltd	67.67	Cash	To consolidate its position as a leading cinema chain in India and expand its presence in key markets
28/09/15	Emirates Technologies Pvt Ltd.	Majestic Auto Ltd.	-	11.05	Cash	To enhance its product portfolio and expand its capabilities in the automotive components industry
12/10/15	Corolla Realty Ltd.	Kolte Patil Developers Ltd.	Private Investor, ICICI Venture Funds Management Co Ltd	25.32	Cash	To expand its presence in the real estate market and strengthen its position in key regions
25/05/16	Forever 21 Brand	Aditya Birla Fashion and Retail Ltd.	Diana Retail Pvt Ltd	26	Cash	To strengthen its position in the fast fashion segment and expand its product offerings
12/09/16	Bill Forge Pvt Ltd.	Mahindra CIE Automotive Ltd.	-	348.14	Cash and stock	To expand its product offerings and enhance its capabilities in the automotive components industry

Table 2. The list of M&A deals: Foreign firms

Announce date	Target name	Acquirer name	Seller name	Value (in millions)	Payment type	Reason for merger/acquisition
27/05/14	Wiring Business segment assets	Samvardhana Motherson International Ltd.	Stoneridge Inc.	65.7	Cash	To expand its presence in the automotive industry and enhance its product offerings
13/05/15	Jetset Group Holding Ltd.	Cos & Kings Ltd.	TUI AG	13.18	Cash	To strengthen its position in the outbound travel market and expand its customer base
09/06/15	Holiday Club Resorts Oy	Mahindra Holidays & Resorts India Ltd.	-	31.56	Undisclosed	To expand its presence in the vacation ownership segment and establish a stronger presence in Europe
27/07/15	Valcambi SA	Rajesh Exports Ltd.	Newmont Corp, Investor Group	400	Cash	To enhance its product portfolio and establish a stronger presence in the gold refining industry
07/08/15	Kuoni Travel China Ltd.	Thomas Cook India Ltd.	VFS Global Investments AG	80.43	Undisclosed	To expand its presence in the Chinese travel market and establish a stronger position in Asia
14/09/15	Cavendish Industries Ltd.	JK Tyre & Industries Ltd.	Kesoram Industries Ltd.	331.07	Cash	To expand its presence in the automotive industry and enhance its product offerings
16/11/15	Reifencom GmbH/Bielefeld	Apollo Tyres Ltd.	-	48.76	Cash	To expand its presence in the European tire market and enhance its product offerings
14/12/15	Pininfarina SpA	Mahindra & Mahindra Ltd., Tech Mahindra Ltd.	Pincar Srl	74.93	Cash	To enhance its design capabilities and expand its product offerings in the automotive industry
25/01/16	Precision Die Casting Inc.	Rane Madras Ltd.	-	8.9	Cash	To enhance its capabilities in the automotive components industry and expand its product offerings
09/09/16	Wescon Controls LLC	Suprajit Engineering Ltd.	Shell Topco LP	44.4	Cash	To expand its presence in the automotive components industry and enhance its product offerings

This study in the first part utilizes the event study methodology, which is commonly employed to gauge the impact of an event on a particular variable. The key assumption of the event study is that the market processes information impartially and efficiently, leading to unbiased results. In this specific study, the event under examination is the announcement of M&As, and the performance of share prices for the involved companies is measured. This analysis enables the identification of the effect of the M&A announcement on the wealth of shareholders, considering both short-term and long-term impacts, while assuming the unbiased reaction of the market as discussed previously. The event study provides valuable insights by capturing information and facilitating the determination of stock returns, thereby increasing the firm's value.

The event window represents the time period that is examined in an event study, with the announcement date typically designated as day 0. A wider event window around the announcement date is preferred for a more thorough examination of the event's impact. The study at hand seeks to consider both short-term and long-term effects of the event, with the short-term window being more straightforward and less complicated. However, short-term fluctuations in stock prices may reflect only temporary investor expectations. A longer window, on the other hand, captures the post-event effects and provides a more accurate measure of share price performance, although it may also be subject to the side effects of economic and fiscal events and industry fluctuations.

To conduct the study, four different event windows are examined, ranging from -1 to +1, -5 to +5, -10 to +10, and -40 to +40 days, with the day of the event designated as day 0. Two of the windows are short-term, ranging from 3 to 11 days, while the other two are long-term, ranging from 21 to 81 days.

Once the event windows have been selected, the next step is to calculate the impact of the M&A event on the share price, which is achieved by calculating abnormal returns. Abnormal returns represent returns that exceed normal returns and are the difference between the expected return of a stock or portfolio and its actual return. Abnormal returns can be either positive or negative, depending on the event and investor expectations. Mathematically, abnormal returns can be expressed as:

$$Abnornal\ return = Actual\ return_t - Expected\ or\ nornal\ return_t \quad (1)$$

To calculate normal returns, the market model is used, where the expected return on a stock is based on the benchmark index. A clean period before the event period is considered and the normal returns on that day for the benchmark index are treated as the expected return. In this study, Indian firms are being analyzed, so the NIFTY 50 index returns are used to calculate the normal or expected returns in the market model. The abnormal returns are then calculated using the formula:

$$AR_t = R_t - \alpha - \beta R_{mt} \quad (2)$$

where:

- AR_t = abnormal return on day t,
- R_t = actual return on day t,
- R_{mt} = return on the market index (NIFTY 50),
- α and β = market parameters that determine the price of the stock.

The NIFTY 50 returns for 252 days before and 40 days after the M&A announcement are used to calculate abnormal returns using the market model. The average abnormal return is also calculated for further analysis. Once the abnormal returns for both cross-border and domestic companies are obtained, they are analyzed separately, and the average abnormal returns are calculated to determine which type of company provides better returns for shareholders across different event windows.

After analyzing the mean and standard deviation, a t-test is conducted to check the statistical significance. A one-sample t-test is used, as the student t-distribution is appropriate for small samples, assuming that the underlying population is normally distributed. The t-statistic is based on the following characteristics along with the associated t-statistic:

$$t = (\bar{x} - \mu)s/\sqrt{n} \quad (3)$$

where:
$\bar{x}$ = the sample mean;
μ = the specified population mean,
n = the sample size,
s = the sample standard deviation.

To analyze the change in the financial performance of the company post-merger, we would analyze the following six variables under our study which would cover all aspects of performance ranging from operating efficiency to return to the shareholders. An average of four years of pre-merger and post-merger data has been compared. The data includes selected efficiency ratios.

Fixed asset turnover: The fixed asset turnover ratio is calculated by dividing net sales by average total fixed assets. This ratio helps in understanding how the revenue of the company is generating with respect to its total fixed assets. It is a measure of the efficiency. Thus, an improvement in these ratios post-merger would mean an improvement in the efficiency of the company.

Profit after tax (PAT) margin: PAT margin is an important metric that indicates the company's net profit after all expenses, taxes, and other charges. It shows the percentage of sales that are converted into profits. A higher PAT margin indicates a more profitable company, making it an essential variable to consider while analyzing an M&A deal.

Operating margin: Operating margin is a profitability ratio that shows how much profit a company makes on each dollar of revenue. A higher operating margin indicates that the company is efficient in managing its operating expenses, which is crucial in analyzing an M&A deal.

Revenue per employee: Revenue per employee is a critical variable in measuring a company's productivity and efficiency. A higher revenue per employee ratio shows that the company is generating more revenue from its employees, making it an essential metric to consider while analyzing an M&A deal.

Return on capital employed (ROCE): ROCE is a metric that measures the company's efficiency in utilizing its capital. A higher ROCE indicates that the company is generating a higher return on its invested capital, making it an important variable to consider while analyzing an M&A deal.

EV/EBITDA: Enterprise value-to-earnings before interest, taxes, depreciation, and amortization (EV/EBITDA) is a valuation metric that measures the company's value relative to its earnings. If a deal has a positive impact on the acquiring company, the company should trade at a higher EV/EBITDA multiple.

To statistically prove that the merger has had an impact on the efficiency of the acquirer company post-merger, the paired t-test has also been used. This test will show whether the post-merger performance is statistically different from the pre-merger performance.

4. RESEARCH RESULTS

From the tables of abnormal returns given in the Appendix for both cross-border as well as domestic M&As, the returns have varied a lot from each other.

The period of time of the (-1,+1) event has a significant effect on returns, particularly in domestic M&As, due to the announcement of the event. While there are favorable abnormal returns in cross-border M&As, they are constrained by a larger number of negative abnormal returns. This trend persists in the broader time frame of five days before and after the event, and firms that experienced losses during the (-1,+1) window tended to have even more negative returns.

In the longer window of (-10,+10) of domestic M&As, the returns of the acquirer who already generated positive abnormal returns remained positive and for the negative abnormal return acquirers it remained in the negative territory. The same remains true for cross-border acquires as well. However, there is no major change in the abnormal return for cross-border acquires vis-à-vis its short-term return.

In the event window of (-40,+40), all the factors are captured and market reactions to the event are also included. At this point, the market has adequately priced in the impact of the M&A deal, this period would help us clearly evaluate the impact on the shareholder return which in turn would impact the shareholder wealth. For domestic M&As, five out of 10 companies have generated positive abnormal returns compared to only four out of six for cross-border acquirers. Overall domestic acquisitions have generated superior returns than cross-border acquirers in the long period.

Table 3. Returns related to domestic acquisitions

Mean	-0.01%	3.45%	3.86%	7.31%
Std. Error	2.25%	3.77%	5.16%	9.98%
Median	-1.94%	-1.20%	-0.38%	-2.09%
Std. Dev.	7.11%	11.94%	16.32%	31.57%
Sample variance	0.51%	1.42%	2.66%	9.97%

Table 4. Returns related to cross-border acquisitions

Mean	1.02%	1.78%	-2.35%	-3.07%
Std. Error	1.14%	3.10%	4.22%	6.41%
Median	0.01%	-0.12%	-7.90%	-7.46%
Std. Dev.	3.62%	9.81%	13.35%	20.26%
Sample variance	0.13%	0.96%	1.78%	4.11%

Table 3 and Table 4 help in providing the overall aspect of each model in M&A transactions. Cross-border acquisitions gave good returns as compared to domestic acquisitions in the short term (-1,+1). The accounting rate of return (ARR) is around 1.02% for cross-border as compared to -0.01% for domestic. The deviations of returns are also lower for cross-border than domestic.

However, with an increase in the time period, the average abnormal returns for foreign acquisitions decrease and drop to negative territory for a long period of (-10,+10) and (-40,+40) period. The ARR for domestic M&As is around 7.31% which is very high as compared to -3.07% for foreign indicating company undertaking domestic acquisitions in the consumer cyclical space generate higher and positive returns than companies undertaking foreign acquisitions for the given period.

To statistically signify if domestic or cross-border M&As produce abnormal returns, we perform a single t-test on the average abnormal returns for all the different event windows for both of our segments — domestic acquisitions and cross-border acquisitions. Table 5 and Table 6 show the outcomes of the t-test:

Table 5. T-test outcomes: Domestic acquisitions

Event window	*Test-statistic*	*P-value*
(-1,+1)	0.01	49.79%
(-5,+5)	0.91	19.25%
(-10,+10)	0.75	3.69%
(-40,+40)	0.73	4.14%

Table 6. T-test outcomes: Cross-border acquisitions

Event window	*Test-statistic*	*P-value*
(-1,+1)	0.89	19.77%
(-5,+5)	0.58	28.97%
(-10,+10)	0.56	29.58%
(-40,+40)	0.48	32.16%

In both domestic as well as cross-border transactions the abnormal returns generated are statistically insignificant for the 3 and 11-day period.

Thus, we fail to reject the null hypotheses ($H1_0$) for the shorter periods and infer that M&A transactions have not generated significant abnormal returns for both domestic and cross-border transactions in the short period.

While analyzing the longer periods for domestic transactions, we can infer that the p-value is below the 5% significance level. Thus, rejecting our null hypotheses and claiming that domestic M&As generate abnormal returns in the consumer cyclical space in the long run.

However, for cross-border transactions, the p-value is insignificant indicating statistically insignificant abnormal returns for cross-border transactions and thus, in the long run, abnormal returns for cross-border transactions are zero.

Thus, overall domestic M&As have been a better return generator for shareholders in the long run as compared to cross-border transactions in the Indian consumer cyclical sector.

5. DISCUSSION

Four out of the 10 companies have generated better ratios post-acquisition for all the variables who have done domestic acquisitions. All companies have generated higher revenue per employee post-acquisition. Both fixed asset turnover and operating margin have seen a positive change for seven out of 10 companies of five companies have improved post acquisition generating higher returns for shareholders. The EV/EBITDA multiple has improved for six out of 10 companies.

We now analyze each of the variables through a paired t-test of equal means to understand if there is any change in the ratios post-acquisitions for domestic acquisitions. The summary of the t-test is presented in Table 7.

Table 7. Hypotheses testing of acquirer companies: Domestic acquisitions

Variables	*N*	*Mean*	*Std. Dev.*	*t*	*Signal (2-tailed)*
Fixed asset turnover					
PRE	10	2.115	3.115071784	-0.073	94.28%
POST	10	2.218	3.214380189		
PAT margin					
PRE	10	0.01974	0.076252915	0.450	65.81%
POST	10	-0.00444	0.151853257		
Operating margin					
PRE	10	0.1183	0.089773555	-1.065	30%
POST	10	0.16314	0.098373621		
Revenue per employee					
PRE	10	6139569.5	6997102.259	-2.465	2%
POST	10	24669784.2	22719932.1		
ROCE					
PRE	10	0.09349	0.19475953	0.047	96.29%
POST	10	0.09034	0.081950069		
EV/EBITDA					
PRE	10	15.522	10.13542281	-0.516	61.2%
POST	10	18.156	12.55910135		

It can be noted that except for *Revenue per employee*, all other variables are statistically insignificant as the p-value is greater than our 5% significance level, indicating that only revenue per employee has changed post-acquisition and other variables have not changed significantly. This could be due to various reasons. One of the prime reasons is the impact of acquisition may take some more time greater than three years to reflect in the financial performance and the second is that there could be other variables that could have been impacted other than the ones tested for significance. Hence, we fail to reject the null hypothesis ($H1_0$) of change in efficiency and performance ratios post acquisitions statistically for domestic companies.

Next, we analyze the impact of the ratios on companies undertaking cross-border transactions.

The financial ratios calculated for cross-border acquisition companies are presented in the tables below:

Table 8. The financial ratios for Samvardhana Motherson International Ltd.

Variables	*PRE-merger*	*POST-merger*
Fixed asset turnover	2.16	1.42
PAT margin	2.51%	2.38%
Operating margin	6.83%	4.49%
Revenue per employee	537370	4482358
ROCE	29.15%	13.74%
EV/EBITDA	9.41	13.29

Table 9. The financial ratios for Cox & Kings Ltd.

Variables	*PRE-merger*	*POST-merger*
Fixed asset turnover	3.8	16.59
PAT margin	23.51%	5.92%
Operating margin	49.45%	10.26%
Revenue per employee	112254421	273244479
ROCE	11.32%	9.27%
EV/EBITDA	8.61	7.87

Table 10. The financial ratios for Thomas Cook India Ltd.

Variables	*PRE-merger*	*POST-merger*
Fixed asset turnover	1.03	1.04
PAT margin	8.51%	3.44%
Operating margin	8.54%	1.78%
Revenue per employee	21266160	36410305
ROCE	11.37%	12.60%
EV/EBITDA	37.6	29.46

Table 11. The financial ratios for JK Tyre & Industries Ltd.

Variables	*PRE-merger*	*POST-merger*
Fixed asset turnover	1.18	0.83
PAT margin	3.60%	2.33%
Operating margin	8.68%	7.88%
Revenue per employee	8822687	13072032
ROCE	22.24%	9.60%
EV/EBITDA	2.78	8.37

Table 12. The financial ratios for Mahindra Holidays & Resorts India Ltd.

Variables	*PRE-merger*	*POST-merger*
Fixed asset turnover	0.31	0.48
PAT margin	11.74%	5.27%
Operating margin	10.91%	8.12%
Revenue per employee	2401271	4232796
ROCE	13.02%	19.77%
EV/EBITDA	17.31	15.18

Table 13. The financial ratios for Rajesh Exports Ltd.

Variables	*PRE-merger*	*POST-merger*
Fixed asset turnover	182.4	166.76
PAT margin	1.32%	0.64%
Operating margin	2.57%	0.95%
Revenue per employee	4900420480	5287635635
ROCE	17.09%	19.67%
EV/EBITDA	6.26	6.43

Table 14. The financial ratios for Rane Madras Ltd.

Variables	*PRE-merger*	*POST-merger*
Fixed asset turnover	1.69	1.59
PAT margin	2.54%	0.93%
Operating margin	5.93%	3.72%
Revenue per employee	6936209	11274932
ROCE	10.77%	6.14%
EV/EBITDA	5.65	8.7

Table 15. The financial ratios for Suprajit Engineering Ltd.

Variables	*PRE-merger*	*POST-merger*
Fixed asset turnover	1.29	1.16
PAT margin	8.79%	9.22%
Operating margin	14.88%	13.55%
Revenue per employee	4713786	9548821
ROCE	24.96%	21.87%
EV/EBITDA	13.35	16.96

Table 16. The financial ratios for Apollo Tyres Ltd.

Variables	*PRE-merger*	*POST-merger*
Fixed asset turnover	1.49	0.85
PAT margin	6.67%	5.06%
Operating margin	10.90%	7.41%
Revenue per employee	24617982	14320095
ROCE	21.73%	8.78%
EV/EBITDA	4.26	8.27

Table 17. The financial ratios for Mahindra & Mahindra Ltd., Tech Mahindra Ltd.

Variables	*PRE-merger*	*POST-merger*
Fixed asset turnover	0.89	0.72
PAT margin	6.54%	5.40%
Operating margin	3.80%	9.90%
Revenue per employee	33471708	37423298
ROCE	12.03%	12.48%
EV/EBITDA	28.69	13.65

Table 18. Consolidated financials

Company parameters	*Fixed asset turnover*	*PAT margin*	*Operating margin*	*Revenue per employee*	*ROCE*	*EV/EBITDA*
Number of companies	10	10	10	10	10	10
Positive impact	3	1	1	9	4	6
Negative impact	7	9	9	1	6	4
P-value	30%	10%	10%	90%	40%	60%

From the tables above, no company out of all 10 has generated a better ratio post-acquisition for all the variables that have done cross-border acquisitions. Nine out of 10 companies have generated higher *Revenue per employee* post-acquisition. Both *PAT margin* and *Operating margin* have seen a positive change for one out of 10 companies. Three of five companies have improved post-acquisition in terms of efficiency derived through asset turnover. The *EV/EBITDA* multiple has improved for six out of 10 companies; however, this may not be due to better company performance considering the other variables have overall declined for major companies in the pool.

Next, analyze each of the variables through a paired t-test of equal means to understand if there is any change in the ratios post-acquisition for domestic acquisitions. The summary of the t-test is provided in Table 19.

Table 19. Hypotheses testing of acquirer companies: Domestic acquisitions

Variables	*N*	*Mean*	*Std. Dev.*	*t*	*Signal (2-tailed)*
Fixed asset turnover					
PRE	10	19.624	57.201	-0.058	95.46%
POST	10	21.113	54.863		
PAT margin					
PRE	10	0.076	0.065	1.583	13.08%
POST	10	0.041	0.026		
Operating margin					
PRE	10	0.122	0.136	1.217	24%
POST	10	0.068	0.04		
Revenue per employee					
PRE	10	511544207	1542446832	-0.08	94%
POST	10	569164475	1659907281		
ROCE					
PRE	10	0.174	0.067	1.466	15.98%
POST	10	0.134	0.054		
EV/EBITDA					
PRE	10	13.392	11.455	0.136	89.30%
POST	10	12.818	6.858		

From Table 19, it can be noted that all variables are statistically insignificant as the p-value is greater than our 5% significance level, indicating that no variables have changed significantly. This could be due to various reasons. One of the prime reasons is that the impact of acquisition may take some more time greater than three years to reflect in the financial performance and the second is that there could be other variables that could have been impacted other than the ones tested for significance.

Hence, we fail to reject the null hypothesis ($H1_0$) of change in efficiency and performance ratios post acquisitions statistically for cross-border companies as well.

If we compare the average values of all the six variables under our study for both domestic and cross-border acquisitions, we can clearly see that domestic acquisitions have a higher and positive impact on the acquirer company because there is an improvement in four of the six major variables.

For a similar comparison for cross-border acquisitions, there is an improvement in only two of the six major variables. This indicates if we compare the financial performance of the company in absolute ratio terms for domestic and cross-border acquisitions for the Indian consumer cyclical sector, domestic acquisitions have generated higher returns for the acquirer than cross-border acquisitions.

6. CONCLUSION

In our study, we analyzed a sample of 10 companies that participated in cross-border M&As and 10 companies in domestic M&As. The performance of the companies is analyzed in two parts: the first where by returns to shareholders of acquired companies and the second is the analysis of the ratios pre- and post-merger of companies in both segments.

In the first part of the event study, considering different window periods, the results in individual samples show significantly higher results in domestic M&A (7%) compared to cross-border (3%) M&A events. For domestic M&As five out of 10 companies have generated positive abnormal returns compared to only four out of six for cross-border acquirers. There are considerably negative returns to few shareholders of acquirer companies in cross-border M&As. Thus, domestic M&As have generated higher returns for shareholders of the acquirer companies than cross-border M&As. Also, the impact of an M&A event is higher in the long-term window period and generates positive returns to acquirers in both domestic and cross-border M&As. To verify this statistically, we performed a t-test which indicated that abnormal returns are insignificant in the short run for both domestic as well as cross-border companies. However, for domestic acquirers, abnormal returns in the long-term window are significant. For cross-border companies, the abnormal returns are insignificant in the long time period as well. Thus, this helps us infer that domestic acquisitions were better than cross-border transactions in generating superior returns for the shareholders in the consumer cyclical space in India.

While analyzing the financial ratios of companies that did domestic acquisitions vs companies that did cross-border acquisitions, it can be noted that the six major ratios which are strategically important from an M&A performance point of view gave better output for domestic acquisitions than the cross-border acquisitions. This is visible while analyzing the six ratios individually for all companies. The efficiency ratios and margin ratios have shown a positive impact on domestic acquisitions while analyzing in absolute terms. The ratios of the majority of cross-border acquirers have desaturated with time while only two of the 10 sample companies showed an overall positive impact vs four of the domestic acquirers. However, while running the statistical tests, it is found that the change in the ratios is statistically insignificant for both domestic and cross-border acquires which could be due to a limited time period under study of four years. However, individually the domestic acquirers have performed better than the cross-border acquirers in the Indian consumer cyclical space.

The main limitations of the study are the following. Only 10 sample companies each for domestic and cross-border deals could be selected for the analysis due to limited M&A deals in 2014–2016 in the consumer cyclical space.

The study may not fully consider the long-term impact of domestic vs cross-border acquisitions on the financial performance of the acquirer company as only four years is considered under our study.

There can be many other financial variables that could affect the performance of the acquirer companies.

External factors such as economic, political, and regulatory changes may affect the findings of the study which may not be captured by the financial variables or stock performance of the companies.

Fluctuations in currency exchange rates may affect the accuracy of the financial performance of the acquirer company for cross-border transactions.

These results from the study will help analyze the sample companies from both the above perspectives, it can be concluded that domestic acquisitions have generated superior performance and shareholder returns than cross-border acquisitions in the consumer cyclical space. This will assist the regulators in framing the public policies in the respective domains.

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APPENDIX

Table A.1. Actual and expected returns

Stock	Actual return				Expected normal return			
	(-1,+1)	(-5,+5)	(-10,+10)	(-40,+40)	(-1,+1)	(-5,+5)	(-10,+10)	(-40,+40)
MOTHERSON	7.43%	18.89%	10.98%	47.02%	1.05%	3.89%	10.40%	28.38%
COX&KINGS	-0.37%	-2.69%	-5.64%	-15.94%	1.03%	3.50%	5.20%	19.63%
MHRIL	0.35%	-2.77%	-1.85%	14.08%	-0.61%	-2.23%	-2.77%	-8.64%
RAJESHEXPORTS	1.13%	24.09%	40.27%	63.01%	1.47%	5.29%	10.70%	39.48%
THOMASCOOK	-2.60%	-9.81%	-7.71%	-12.23%	0.49%	2.28%	4.55%	16.78%
JKTYRE	-2.88%	1.98%	-5.75%	3.37%	0.46%	1.68%	3.12%	11.91%
APOLLOTYRE	3.49%	-0.49%	-15.80%	-21.64%	-0.80%	-2.08%	-3.83%	-12.95%
M&M	-0.13%	-2.81%	-6.62%	-7.54%	0.04%	0.16%	0.31%	1.13%
RML	6.43%	-6.83%	-14.40%	-7.38%	-0.30%	-1.23%	-1.67%	-8.64%
SUPRAJIT	0.10%	10.87%	11.73%	6.78%	-0.07%	1.34%	2.66%	13.17%

Table A.2. Cross-border acquisitions

Stock	Event date	Close	NIFTY	Stock return	NIFTY return	Intercept	Slope	ER	AR
MOTHERSON	27/05/14	30.21	7359.05	3.54%	-0.11%	0.003	0.437	0.22%	3.32%
COX&KINGS	13/05/15	253.25	8325.25	0.12%	1.62%	0.003	0.310	0.76%	-0.64%
MHRIL	09/06/15	97.61	8114.70	-0.99%	-0.20%	-0.001	0.270	-0.15%	-0.84%
RAJESHEXPORTS	27/07/15	533.61	8589.80	1.57%	-0.51%	0.005	0.122	0.43%	1.13%
THOMASCOOK	07/08/15	77.08	8567.95	0.02%	0.60%	0.002	-0.277	0.05%	-0.02%
JKTYRE	14/09/15	94.18	7788.10	-1.79%	-0.39%	0.001	0.014	0.14%	-1.94%
APOLLOTYRE	16/11/15	137.30	7783.35	1.66%	-1.68%	-0.002	0.134	-0.38%	2.04%
M&M	14/12/15	601.78	7683.30	1.80%	0.93%	0.000	0.006	0.02%	1.78%
RML	25/01/16	295.54	7276.80	3.52%	-0.45%	-0.001	-0.202	-0.02%	3.54%
SUPRAJIT	09/09/16	180.72	8917.95	-0.97%	-0.28%	0.002	-0.370	0.28%	-1.25%

Table A.3. Abnormal returns: Cross-border M&A deals

Stock	(-1,+1)	(-5,+5)	(-10,+10)	(-40,+40)
MOTHERSON	6.38%	15.00%	0.58%	18.64%
COX&KINGS	-1.40%	-6.19%	-10.85%	-35.57%
MHRIL	0.96%	-0.54%	0.92%	22.72%
RAJESHEXPORTS	-0.34%	18.81%	29.57%	23.53%
THOMASCOOK	-3.09%	-12.10%	-12.26%	-29.00%
JKTYRE	-3.34%	0.30%	-8.87%	-8.54%
APOLLOTYRE	4.28%	1.58%	-11.98%	-8.69%
M&M	-0.17%	-2.97%	-6.93%	-8.67%
RML	6.73%	-5.60%	-12.73%	1.26%
SUPRAJIT	0.18%	9.53%	9.07%	-6.39%

Table A.4. Actual and expected returns

Stock	Actual return				Expected normal return			
	(-1,+1)	(-5,+5)	(-10,+10)	(-40,+40)	(-1,+1)	(-5,+5)	(-10,+10)	(-40,+40)
RANEENGINE	10.11%	34.00%	48.55%	101.45%	0.49%	1.93%	3.81%	13.04%
INOXLEISUR	-6.58%	0.67%	3.51%	27.18%	0.58%	4.31%	9.34%	32.60%
PFOCUS	-0.10%	-0.61%	3.21%	9.23%	0.33%	2.10%	4.00%	13.66%
TITAN	-2.07%	0.47%	-6.86%	9.29%	1.61%	2.68%	3.95%	18.02%
FEL	14.63%	10.30%	6.63%	-12.27%	-0.12%	-0.61%	-1.14%	-2.86%
PVR	-3.72%	-3.79%	0.23%	21.86%	-0.08%	-0.29%	0.21%	1.84%
MAJESAUT	-3.36%	-0.33%	-3.27%	0.21%	0.08%	-0.14%	-0.71%	-0.03%
KOLTEPATIL	-0.28%	5.81%	11.23%	-28.68%	-0.07%	-0.46%	-0.54%	0.19%
ABFRL	-7.65%	-11.27%	-13.75%	0.11%	-0.39%	-0.70%	-1.67%	-7.75%
MAHINDCIE	0.90%	6.57%	3.61%	2.59%	-0.43%	-1.46%	-2.73%	-10.83%

Table A.5. Domestic acquisitions

Stock	Event date	Close	NIFTY	Stock return	NIFTY return	Intercept	Slope	ER	AR
RANEENGINE	21/05/14	223.71	7275.50	4.88%	0.16%	0.001	0.07	0.16%	4.72%
INOXLEISUR	30/07/14	151.75	7748.70	-1.82%	-0.54%	0.003	0.75	-0.09%	-1.74%
PFOCUS	20/11/14	48.80	8382.30	0.21%	-0.52%	0.001	0.34	-0.03%	0.23%
TITAN	13/02/15	407.98	8711.55	0.22%	0.97%	0.002	0.36	0.56%	-0.33%
FEL	04/05/15	127.48	8239.75	11.19%	-0.55%	0.000	0.06	-0.07%	11.26%
PVR	09/06/15	659.81	8114.70	0.20%	-0.20%	0.000	0.14	0.00%	0.20%
MAJESAUT	28/09/15	48.73	7845.95	-4.54%	0.43%	0.000	-0.07	-0.04%	-4.50%
KOLTEPATIL	12/10/15	170.57	8129.35	0.14%	-0.59%	0.000	-0.08	0.04%	0.10%
ABFRL	25/05/16	146.65	7731.05	0.38%	-0.24%	-0.001	0.12	-0.14%	0.52%
MAHINDCIE	12/09/16	186.65	8952.50	-3.04%	0.39%	-0.001	0.03	-0.12%	-2.91%

Table A.6. Abnormal returns: Domestic M&A deals

Stock	(-1,+1)	(-5,+5)	(-10,+10)	(-40,+40)
RANEENGINE	9.62%	32.07%	44.74%	88.41%
INOXLEISUR	-7.15%	-3.65%	-5.83%	-5.43%
PFOCUS	-0.43%	-2.71%	-0.79%	-4.43%
TITAN	-3.69%	-2.21%	-10.81%	-8.73%
FEL	14.75%	10.91%	7.77%	-9.41%
PVR	-3.64%	-3.50%	0.02%	20.02%
MAJESAUT	-3.44%	-0.20%	-2.55%	0.24%
KOLTEPATIL	-0.21%	6.28%	11.77%	-28.87%
ABFRL	-7.26%	-10.57%	-12.08%	7.85%
MAHINDCIE	1.33%	8.03%	6.34%	13.42%

Table A.7. The financial ratios for Rane Engine Valve

Variables	PRE-merger	POST-merger
Fixed asset turnover	1.12	1.76
PAT margin	-1.34%	-41.13%
Operating margin	12.50%	4.84%
Revenue per employee	2260623	2760871
ROCE	8.25%	-3.20%
EV/EBITDA	13.6	25.5

Table A.8. The financial ratios for Future Enterprises Ltd.

Variables	PRE-merger	POST-merger
Fixed asset turnover	3.10	1.43
PAT margin	0.71%	0.33%
Operating margin	8.67%	18.70%
Revenue per employee	24626043	31870239
ROCE	11.67%	7.88%
EV/EBITDA	7.57	6.28

Table A.9. The financial ratios for Inox Leisure Ltd.

Variables	PRE-merger	POST-merger
Fixed asset turnover	1.07	1.52
PAT margin	3.52%	6.66%
Operating margin	9.33%	16.25%
Revenue per employee	1560961	77348121
ROCE	9.34%	11.80%
EV/EBITDA	10.94	13.94

Table A.10. The financial ratios for PVR Ltd.

Variables	PRE-merger	POST-merger
Fixed asset turnover	1.07	1.36
PAT margin	5.44%	5.68%
Operating margin	15.74%	17.43%
Revenue per employee	3718747	6768841
ROCE	9.33%	15.30%
EV/EBITDA	13.51	17.06

Table A.11. The financial ratios for Prime Focus Ltd.

Variables	PRE-merger	POST-merger
Fixed asset turnover	0.62	0.64
PAT margin	5.65%	-8.49%
Operating margin	23.45%	16.27%
Revenue per employee	1653738	41273267
ROCE	11.56%	6.50%
EV/EBITDA	8.39	9.12

Table A.12. The financial ratios for Majestic Auto Ltd.

Variables	PRE-merger	POST-merger
Fixed asset turnover	0.79	0.39
PAT margin	-10.39%	5.20%
Operating margin	11.40%	38.58%
Revenue per employee	1739957	33701952
ROCE	-6.54%	2.62%
EV/EBITDA	14.38	11.74

Table A.13. The financial ratios for Titan Co Ltd.

Variables	PRE-merger	POST-merger
Fixed asset turnover	10.73	11.17
PAT margin	6.88%	6.40%
Operating margin	10.82%	11.28%
Revenue per employee	8410655	14710655
ROCE	57.68%	27.20%
EV/EBITDA	26.4	46.2

Table A.14. The financial ratios for Kolte-Patil Developers Ltd.

Variables	PRE-merger	POST-merger
Fixed asset turnover	0.36	0.43
PAT margin	16.17%	10.82%
Operating margin	27.42%	24.26%
Revenue per employee	7919801	19218836
ROCE	7.99%	9.56%
EV/EBITDA	5.03	9.89

Table A.15. The financial ratios for Aditya Birla Fashion and Retail Ltd.

Variables	PRE-merger	POST-merger
Fixed asset turnover	1.05	2.55
PAT margin	-8.22%	4.39%
Operating margin	-2.67%	6.78%
Revenue per employee	3115329	3463303
ROCE	-18.50%	9.00%
EV/EBITDA	39.00	31.23

Table A.16. The financial ratios for Mahindra CIE Automotive Ltd.

Variables	PRE-merger	POST-merger
Fixed asset turnover	1.24	0.93
PAT margin	1.32%	5.70%
Operating margin	1.64%	8.75%
Revenue per employee	6389841	15581757
ROCE	3.50%	3.68%
EV/EBITDA	16.40	10.60

Table A.17. Returns

Company parameters	Fixed asset turnover	PAT margin	Operating margin	Revenue per employee	ROCE	EV/EBITDA
Number of companies	10	10	10	10	10	10
Positive impact	7	5	7	10	5	6
Negative impact	3	5	3	0	5	4
P-value	70%	50%	70%	100%	50%	60%