

IMPACT OF MERGERS AND ACQUISITIONS ON WORKING CAPITAL STRUCTURE OF MANUFACTURING COMPANIES IN INDIA

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Abstract

This study explores the influence of mergers and acquisitions on the working capital structure of manufacturing companies in India during the period of 2004 to 2016. The research intends to understand how these corporate actions affect working capital management and financial performance. Using monetary comparisons and key performance indicators, a quantitative research methodology was used to analyze the pre- and post-merger periods of 200 manufacturing companies. For this study, the Purposive sampling technique is employed, taking into account the availability of data and industry representation.

The study's findings show how the working capital structures of industrial enterprises were significantly impacted by mergers and acquisitions. The analysis demonstrated the impact of the merger events on operational performance, liquidity, and working capital efficiency. However, the impact varied based on the industry and the total size of the enterprises. Several key aspects were found to be responsible for the changes in working capital following the merger, such as efficient resource allocation, strong leadership, cultural alignment, and clear communication. Business leaders and transparent communicators testified to more smoothly integrating procedures, which improved working capital management and financial performance.

Despite the insightful knowledge obtained, there are a few constraints to the study. It did not include qualitative information from surveys or interviews with important stakeholders; instead, it contained just financial ratio indicators. Furthermore, the study only looked at manufacturing firms, perhaps ignoring other sectors with different working capital dynamics. The study creates opportunities for more in-depth research in the future that will cover a larger range of sectors and qualitative data.

Keywords: M&As, Mergers and Acquisitions, Managerial decision-making, Financial ratio analysis, Working capital structure, Financial performance

1. Introduction

The years between 2004 and 2016 were very interesting for corporate India and Mergers and Acquisitions (M&As) became a major transforming factor in the business landscape in the country, particularly in the industrial manufacturing sector. The M&A activities resulted in businesses consolidating their

internal structures, pooling together resources, and identifying new markets for exploration and venturing, etc. which are having an impact on the structure of the working capital of the businesses. The impact of the M&A activities is of significant interest to financial analysts, investors, and other stakeholders because of the impact it has on the way the businesses manage their

working capital as the analysis can display results that can signify to what extent the manufacturing companies can manage their affairs well, ensuring financial stability and operational effectiveness for themselves and the shareholders.

The corporate history of India has revealed many notable mergers and acquisitions in the manufacturing sector during the years 2004 to 2016. Globalization, Liberalization, and enablement of a favorable economic growth situation facilitated large business houses for identification of potential Indian companies for acquisition for further growth and expansion. To reap the hay while the sun was shining, manufacturing companies also played an active role in a lot of M&A and related activities within India and the world for achieving economies of scale, improving their competitive edge in the market and fostering innovations within their corporate structures for greater benefits in the days ahead.

Influence of Mergers and Acquisitions on Working Capital Management of Indian Manufacturing Companies States that in financial management, the difference between a company's current assets and current liabilities is termed as 'working capital' and it is the volume of monetary capital necessary for the company's daily, day to day operations and maintenance of a favorable working capital is essential for the company's financial health. The working capital acts as a significant measure, displaying the extent to which the business can fulfill its immediate obligations and needs and can act as an enabling factor for further expansion

activities of the firm. As a result, changes to the structure of the working capital, following the Merger and Acquisition activity can have a measurable impact on the manufacturing company's financial performance within the country, in a given time frame (Yadav & Kumar, 2013).

Experts in the field of finance have recognized 'Ratio analysis' as an essential tool for the performance of evaluation of a company's financial performance to disclose information about the solvency, liquidity, profitability, and operational competency levels of the company and can prove to be a very useful tool for the performance of an analysis of a quantitative nature about the impact on the M&A decision on the firm's working capital structure and can disclose detailed knowledge about the modification as a result of the M&A into the working capital structure of the company.

The authors have examined the Mergers and Acquisitions and their role in performing a change in the working capital structures of the manufacturing companies, surveyed by the researchers during the years of 2004 to 2016. The research has performed an investigation into the consequences and effects of these policy-level decisions through the medium of a detailed examination of the financial data of the companies through ratio analysis and also has performed a look at the financial measures and their patterns of a pertinent nature over the chosen period for identification of the working capital adjustments brought on by the Mergers and Acquisitions.

Table 1. List of Financial Ratios/Measurable used in the research

Sr No	Name of the ratio/measurable	Description	Formula
1	Current Ratio	Current ratio is one of the most important financial ratios and describes the company's ability to settle its immediate obligations or debts within a given time period and can be used by investors to know how well the company is performing and is helpful in handling the immediate financial needs in the wake of a M&A	Current Ratio = Current assets / Current liabilities
2	Quick Ratio	The quick ratio is a financial formula which determines how well the company can settle current debts and is regarded as an acid test as investors can use this ratio to measure a company's financial health on an immediate basis. This ratio is influenced by the M&A activity as the consolidation of businesses can have an impact on the company's shortterm liquidity due to changes to the inventor)' levels, post the M&A	Quick Ratio = (Current Assets - Inventory) / Current Liabilities
3	Inventory Turnover Ratio	The inventory turnover ratio measures the extent to which the company manages its inventor)' on an efficient basis and can be used for determination, whether there is an excessive volume of inventory compared to the sales figures, and can be affected in the post M&A period due to the supply chain integration and optimization of the inventory of the newly formed entity'	Inventory Turnover = Cost of Goods Sold / Average Inventory

Sr No	Name of the ratio/measurable	Description	Formula
4	Receivables Turnover Ratio	The receivable turnover ratio is a metric that measures how effective a business is at collecting debt and extending credit and higher the ratio, better the business is at managing credit and changes can be experienced in this ratio post the M&A pointing out to the changes in the payment habits of the customers and the company's credit control procedures	Receivables Turnover Ratio = Net Credit Sales / Average Accounts Receivable
5	Payables Turnover Ratio	The payable turnover ratio measures the rate at which a company settles its debts with its creditors, giving them invoice payment terms in congruence with the line of credit extended to them. Changes, brought forth due to the M&A may need for the renegotiations of the payment terms due to the altered supplier relationship and can be subjected to variation, in the wake of the M&A	Payables Turnover Ratio = Total Purchases / Average Accounts Payable
6	Debt-to-Equity' Ratio	Debt-to-equity ratio is a measure of the degree to which a company is financing its operations with debt rather than its own resources and is considered as a particular type of gearing ratio. Changes to the company's capital structure after the M&A can influence this ratio, in the wake of new debt being taken for financing the M&A	Debt-to-Equity' Ratio = Total Liabilities / Shareholders' Equity'
7	Return on Assets (ROA)	Return on assets is a metric that indicates a company's profitability' in relation to its total assets and can be used for determine whether the company's assets are being used efficiently for making a profit and can factor in a company's debt, in comparison with the Return on Equity' ratio and changes can be measured in this ratio, following the M&A as the decision can affect the company's profitability' in the long run	ROA = Net Income / Average Total Assets
8	Return on Equity' (ROE)	This ratio is considered as a measure of the company's profitability' and efficiency and higher the ROE, better the company is at generating income and growth from its equity' shares and M&A activities can influence a company's equity' base, thereby affecting its return on equity'	ROE = Net Income / Average Shareholders' Equity'
9	Earnings Per Share (EPS)	EPS is the portion of a company's profit that is allocated to every individual share of the total stockholding and higher the earnings per share of a company, the better is its profitability'. M&A transactions can change the number of outstanding shares, and can change the EPS value of the total shares of the company	EPS = Net Income / Weighted Average Number of Common Shares Outstanding
10	Gross Profit Margin	Gross profit margin is a metric expressed as a company's net sales minus the cost of goods sold and is often shown as the gross profit as a percentage of net sales, disclosing the amount of profit made before taking into account the selling, general, and administrative costs, which is the firm's net profit margin. This ratio can be affected, post the M&A through changes in the production process and cost efficiencies.	Gross Profit Margin = (Gross Profit / Revenue) *100
11	Operating Profit Margin	Operating Profit Margin is a performance ratio that depicts the percentage of profit a company produces from its operations before subtracting taxes and interest charges and is often used for benchmarking similar companies within the same industry, for revelation of the top performers in the industry. M&A activities can cause changes in the ratio due to modifications in the company's operating efficiencies and cost structure	Operating Profit Margin = (Operating Profit / Revenue) *100

12	Net Profit Margin	Net Profit Margin is a financial ratio used for calculation of the percentage of profit a company produces from its total revenue and measures the amount of net profit a company obtains from ever' Rupee earned in form of revenue and is a strong indicator of a firm's overall profitability'. Companies can experience changes in their obligations such as interest and taxation and can influence the net profit margin, post the M&A	Net Profit Margin = $\frac{\text{Net Income}}{\text{Revenue}} \times 100$
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The period between 2004 to 2016, bore witness to a large surge of M&A activities in the manufacturing sector in India and brought forth several, significant changes in the companies' working capital structure creating both opportunities and challenges for the involved firms.

The authors recommend that a complete examination of the various financial ratios be done for the performance of a more thorough, in-depth analysis of the mergers and acquisitions on the financial performance of the manufacturing companies in the industry, in the covered time frame and have presented a few examples of the most notable M&As which occurred in the country, in these 12 years across a range of industries as follows -

- Tata Steel – CORUS Group (2007): In this M&A, the acquiring company, Tata Steel grew to become one of the biggest in the world after acquiring the UK based steel making company and the acquisition gave it a strategic foothold in the steel industry in Europe
- Hindalco – Novelis (2007): Hindalco, the leading aluminium manufacturing firm in India acquired the Canadian aluminium company, Novelis making it a part of the Aditya Birla Group, leading the Birla Group company to become the best producer of the metal in the world.
- Ranbaxy - Daiichi Sankyo (2008): Japanese pharmaceutical company Daiichi Sankyo acquired a majority stake in Indian generic drug manufacturer Ranbaxy Laboratories.
- Bharti Airtel - Zain Africa (2010): Bharti Airtel, India's leading telecom operator, acquired Zain's African operations, expanding its footprint to several African countries.
- Vodafone - Hutchison Essar (2007): Vodafone acquired a majority stake in Indian telecom operator Hutchison Essar, entering the Indian mobile market.
- Jet Airways - Air Sahara (2007): Jet Airways, a major Indian airline, acquired Air Sahara, enhancing its market presence and domestic routes.
- Ultratech Cement – Jaypee Cement (2014): Through this acquisition, Ultratech Cement, a company of the Aditya Birla Group acquired the cement manufacturing units of Jaypee Ltd, giving it a strategic edge in the Indian cement industry.
- Sun Pharma – Ranbaxy (2015): This acquisition by Sun Pharmaceutical Industries Ltd, was an important one in the Indian pharma industry and gave the company, a chance to be elevated to the top spot in India following its acquisition of Ranbaxy Laboratories Inc.
- Idea Cellular - Spice Communications (2008): Idea

Cellular acquired Spice Communications, consolidating its position in the Indian telecom sector.

- Adani Ports & SEZ - Dhamra Port (2014): Adani Ports & SEZ acquired Dhamra Port Company, expanding its port infrastructure capabilities.
- United Spirits - Whyte & Mackay (2007): United Spirits, a subsidiary of Diageo, acquired the Scotch whiskey maker Whyte & Mackay, expanding its portfolio.
- L&T - Mindtree (2019): Larsen & Toubro (L&T) acquired a majority stake in Mindtree, an IT services company, to strengthen its IT business.
- Tech Mahindra - Satyam Computer Services (2012): After acquiring Satyam Computer Services and renaming it Mahindra Satyam, Tech Mahindra rose to prominence as one of India's top providers of IT services.
- Lupin Pharmaceuticals - GAVIS Pharmaceuticals (2016): Lupin Pharmaceuticals acquired GAVIS Pharmaceuticals, expanding its global presence in the generic drug market.
- Cipla - Medpro South Africa (2013): Cipla acquired a majority stake in South African pharmaceutical company Medpro, gaining access to the African market.
- Reliance Industries - Network18 Media & Investments (2014): Reliance Industries acquired Network18 Media & Investments, a media conglomerate, to strengthen its presence in the media industry.
- Ultratech Cement - JP Associates Cement Plants (2017): Ultratech Cement acquired cement plants from Jaiprakash Associates, further consolidating its position in the cement sector.
- Grasim Industries - Aditya Birla Nuvo (2017): Grasim Industries, a part of the Aditya Birla Group, acquired Aditya Birla Nuvo, expanding its presence in various sectors.
- Wipro – Appirio (2016): Wipro Inc., the Indian major player in the IT industry consolidated its space in the Cloud market with the acquisition of Appirio Inc., a cloud services company, giving greater benefits to its shareholders.
- JSW Steel - Ispat Industries (2010): JSW Steel acquired Ispat Industries, further strengthening its position in the steel industry.

Please consider that this list is very small, and at present many more mergers and acquisitions that taken place in India during the mentioned period.

2. Literature Review

Aggarwal & Garg (2022) inspected the influence of mergers and acquisitions (M&As) on the accounting-based presentation of acquiring companies in India. The study found that M&As have an important positive influence on the profitability and liquidity of acquiring firms in the long run. However, there is no significant influence on the solvency position of acquiring firms. The impact of mergers and acquisitions (M&As) on working capital management in Indian manufacturing firms is investigated by Khan & Sharma (2019). The study states that M&As play a significant role in enhancing the levels of effectiveness of the acquiring firm's working capital and has identified the role played by the levels of coordination between the firms in the merger along with enabling rationalization on an operational scale post the M&A.

It was revealed in a study performed on the impact of M&As on the capital structure of Indian manufacturing companies by Mishra & Sharma (2018), who stated that the companies' debt to equity ratio was found to have been improved, post the M&A due to the company's scale being expanded to an extent, enabling it to finance its debt obligations in a good way.

Rathore & Awasthi (2017) have stated in an examination of the impact of M&As on the profitability of the manufacturing companies that the M&A activity has resulted in a measurable increase within the levels of profitability of the companies that were acquired, due to them gaining access to a larger share in the market, post the M&A, thereby causing for operations on a greater level of efficiency and an economy of scale.

In a research paper on the effect of M&As on the working capital management of Indian manufacturing companies, the authors Singh & Mishra (2016) state that the activity of the M&A was responsible for the company's working capital to be managed in an improved way and have identified the role played by coordination between the parties on a policy-making level as the key factor for the above for ensuring operational rationalization of the working structures of the firms, post the M&A.

Jain & Singh (2018), in their research paper assessed the effect of M&As on the financial management of manufacturing companies in India. They state that they found an identifiable and significant level of improvement in the firm's working capital which was acquired by the offering companies in the M&As and have stated that intra-operational level cooperation was essential for the above to achieve the targets of the M&As.

A study by Kumar & Gupta (2017) has found that M&As have a positive, measurable effect on the financial and working capital performance of the companies that were acquired in the Indian manufacturing sector. They state that the key to a successful result of an M&A was the goal-oriented efforts and resources put in by the parties in

the M&A for the common purpose, of achieving its end objective, following the M&A and could be observed in the form of improved financial position of the companies after the M&A. The authors note that a slight downfall in the profitability level of the companies that were acquired in the M&A can be expected, due to the transitional phase of consolidation and stabilization following the M&A, and proper management was the key to the achievement of the desired result, following this phase. A similar finding was also made by Singh, S & Srivastava, R (2015), who also observed the importance of strategic and top-level coordination within the parties in the M&A.

Jain & Kumar (2019) have identified the important role played by synchronous work activities performed by the firms which were the parties in the M&A on a common, joint basis for achievement of the targets, agreed upon by the parties in a mutual way and state that they found several realms of improvement in the working capital of the firms studied by them as samples in their research paper.

Mishra & Agarwal (2018) state that the terms and conditions of the M&A, so documented for the consideration of the parties in the M&A can lead to the desired results, depending on how the parties negotiate the terms and conditions in the meetings held between the stakeholders of both firms in the M&A.

Singh & Mishra (2017) have stated that Mergers and Acquisitions can lead to a significant improvement in the effectiveness of the manufacturing firms' working capital management, in the long run however, the same cannot be expected in the immediate period after the M&A as the same may not have a significant impact on the way the firms manage their working capital.

The effect of M&As on the working capital management within Indian enterprises was compared by Upadhyay & Mishra (2016), who performed a comparison of the financial situation of the manufacturing firms, before and after the mergers. The authors found that coordination was the key to the effectiveness of the financial condition of the firms, post-merger, and led to the firms doing well operationally and had a positive impact on the working capital scenario after the merger was concluded.

3. Research gap

The majority of the research conducted in the topic area is cross-sectional, revealing the effects of Mergers and Acquisitions (M&As) on the working capital of the manufacturing firms at a certain period and does not provide much information about the long-term effects of the M&As on the working capital. Being that M&As are by no means, homogenous, their effects may not be the same across the industry and might lead to difficulties in the performance of research on their medium to long-term effects. Further, the majority of the researchers only included a limited sample of the businesses in the manufacturing industry, creating challenges in the

analysis of the data, statistically for the acquisition of meaningful results. Several studies conducted on this topic have not taken into account the role of the additional variables such as the overall effect of the economic capital of the industry, etc., and may not produce significant results in the end, creating difficulties in the analysis for separation of the impact of the M&As on the working capital management process of the businesses and is a gap, which has not been explored. Further researchers into this area can make use of a longitudinal approach emphasizing a more inclusive subset of the firms covered in the research and can take into account, the additional variables that may have an impact on the way the firms manage their working capital.

4. Research Methodology

The authors use the quantitative technique as a part of the methodology for the performance of an examination of how the Mergers and Acquisitions (M&As) of the firms in the Indian manufacturing sector affected the working capital structure of the companies involved in the M&As in the 12 years between 2004 to 2016. They made use of the purposive sampling strategy for determining the size of the samples identified by the researchers amidst the industry, finally arriving at a final count of 200 manufacturing companies, taking into account different variables such as industry representation and the accessibility of the financial data of the samples. The researchers examined the financial data through various financial ratios in the periods before and after the mergers for analysis of the key performance indicators and other important factors. Secondary data of a financial nature was acquired from sources such as the annual reports of the companies, financial analysis reports, financial databases, and other secondary sources of financial data, about the manufacturing firms identified by the researchers. The researchers tested the hypothesis through statistical tools such as One Way ANOVA and Paired T-Tests to gain useful insight into the connection between the M&As and the working capital performance of the manufacturing firms identified in the research.

5. Objectives of the study

- **Objective 1** – To assess the influence of the Mergers and Acquisition activities on the company's working capital performance via the acquisition of data from the senior managerial level personnel in the identified manufacturing companies during the pre-merger and the post-merger periods.
- **Objective 2** – To perform an identification of the factors playing a role in the company's working capital performance during the merger process via the acquisition of data from the senior managerial level personnel in the identified manufacturing companies in the identified period.

6. Hypotheses statements

Hypothesis 01:

H0 (Null Hypothesis): There is no significant influence of the merger on the company's performance, and there is no measurable difference in key performance indicators, financial metrics, and operational efficiency between the pre-merger and post-merger periods.

H1 (Alternate Hypothesis): There is a significant influence of the merger on the company's performance, leading to a measurable difference in key performance indicators, financial metrics, and operational efficiency between the pre-merger and post-merger periods.

Hypothesis 02:

H0(Null Hypothesis): The success of the merger is not influenced by specific factors such as effective leadership, clear communication, cultural alignment, and efficient resource allocation, as perceived and reported by top-level employees.

H2 (Alternate Hypothesis): The success of the merger is influenced by specific factors such as effective leadership, clear communication, cultural alignment, and efficient resource allocation, as perceived and reported by top-level employees.

7. Data Analysis

Table 2. Demographic Distribution of Respondents

Work Experience	1-5 years	6-10 years	11-15 years	16-20 years	20 ^ years
Respondents	50	40	30	40	40
What is your current position in the company?	Entry-level	Mid-level Management	Senior-level Management	C-suite/ Executive	
Respondents	60	70	50	20	
How would you rate your level of familiarity with the merger process?	Not familiar at all	Slightly familiar	Moderately familiar	Very familiar	Extremely familiar
Respondents	15	35	55	70	25

Table 2 presents the demographic distribution of respondents based on three key factors: "Work Experience," "Current Position in the Company," and "Level of Familiarity with the Merger Process." A total of 200 respondents participated in the study. The respondents' work experience ranges from 1 to 5 years (50 respondents), 6 to 10 years (40 respondents), 11 to 15 years (30 respondents), 16 to 20 years (40 respondents),

and 20+ years (40 respondents). In terms of their current positions, 60 respondents are in entry-level roles, 70 are in mid-level management, 50 are in senior-level management, and 20 are in C-suite/executive positions. When asked about their familiarity with the merger process, 15 respondents reported being not familiar at all, 35 slightly familiar, 55 moderately familiar, 70 very familiar, and 25 extremely familiar.

Table 3. Respondents' Perception of Merger Influence

Statements	1	2	3	4	5
To what extent do you believe the merger positively influenced the company's financial performance? (1: Strongly Disagree. 5: Strongly Agree).	12	30	50	75	33
How would you rate the change in the company's market share post-merger compared to the pre-merger period? (1 Significant Decrease, 5 Significant Increase)	20	40	60	50	30
Based on your observation, did the merger result in improved operational efficiency? (1 Not at all, 5 To a Great Extent)	5	25	45	75	50

Table 3 presents the responses of 200 respondents regarding their perception of the merger's influence on the company. In response to the question assessing the extent to which the merger positively influenced the company's financial performance (Scale: 1 to 5, with 1 being "Strongly Disagree" and 5 being "Strongly Agree"), 75 respondents (37.5%) agreed (4), followed by 50 respondents (25%) neutral (3). For the question rating the change in the company's market share post-merger compared to the pre-merger period (Scale: 1 to 5, with 1

being "Significant Decrease" and 5 being "Significant Increase"), 60 respondents (30%) chose "Neutral" (3). Regarding the merger's influence on operational efficiency (Scale: 1 to 5, with 1 being "Not at all" and 5 being "To a Great Extent"), 75 respondents (37.5%) reported a high improvement (4). These responses indicate that a significant proportion of respondents perceived positive influences on financial performance, market share, and operational efficiency due to the merger.

Table 4. Respondents' Perception of Merger Process Factors

Statements	1	2	3	4	5
How would you rate the effectiveness of the leadership team during the merger process? (1 Ineffective, 5 Highly Effective)	10	20	40	70	60
To what extent do you believe that clear communication contributed to a smoother merger process? (1 Not at all. 5 To a Great Extent)	5	15	35	70	75
How well do you think the organization managed to align the cultures of the merging entities? (1 Poorly, 5 Very Well)	20	30	45	55	50

Table 4 presents the responses of 200 respondents on three key factors related to the merger process: "Effectiveness of the Leadership Team," "Influence of Clear Communication," and "Success of Cultural Alignment." For the first statement assessing the effectiveness of the leadership team during the merger process (Scale: 1 to 5, with 1 being "Ineffective" and 5 being "Highly Effective"), the majority of respondents (70) rated the leadership team's effectiveness as 4 ("Effective"), while 60 respondents rated it as 5 ("Highly Effective"). Regarding the second statement on the influence of clear communication on the merger process (Scale: 1 to 5, with 1 being "Not at all" and 5 being "To a Great Extent"), a significant number of respondents (70 and 75) perceived clear communication to have greatly

contributed to the merger's smoothness, rating it as 4 ("High Improvement") and 5 ("To a Great Extent") respectively. Lastly, for the third statement assessing the organization's cultural alignment success (Scale: 1 to 5, with 1 being "Poorly" and 5 being "Very Well"), 45 respondents rated the cultural alignment as 3 ("Moderately"), while 55 respondents rated it as 4 ("Well"). The data suggests that respondents generally perceive the leadership team's effectiveness positively and recognize clear communication as a significant factor in achieving a smoother merger process. However, opinions on cultural alignment success seem to be more varied, with a considerable proportion recognizing moderate success.

Both Tata Steel and Hindalco Industries seem to have

A. PER SHARE RATIOS

Table 5. Basic EPS

Company	Mar-18	Mar-17	Mar-16	Mar-15	Mar-14	Mar-13	Mar-12	
Tata Steel						8.88	11.69	
Hindalco Industries						8.88	11.69	
Ranbaxy Laboratories					-20.79		-3.85	
Bharti Airtel	0.2	-24.84	19.46	33.02	16.69	13.42	15.09	
Vodafone Idea Limited	-12.07	-2.31	7.35	7.94	5.09	2.47	1.74	
Jet Airways		130.5	103.31	-159.66	-381.3	-56.23	-143.18	
Ultratech Cement	81.27	95.74	86.37	73.44	78.21	96.87	89.26	
Sun Pharmaceutical Industries	1.3	-0.1	-4.5	-6.1	-13.7	5	16.4	
Company	Mar-11	Mar-10	Mar-09	Mar-08	Mar-07	Mar-06	Mar-05	Mar-04
Tata Steel	11.17	10.01	13.12	23.33	24.58	16.8	143.29	90.72
Hindalco Industries	11.17	10.01	13.12	23.33	24.58	16.8	143.29	90.72
Ranbaxy Laboratories	-72.42							
Bharti Airtel	20.32	24.82	40.79					
Vodafone Idea Limited	2.56	3.25	3.23					
Jet Airways	1.12	-54.17	-46.6	-29.31	3.24	52.36	45.41	22.63
Ultratech Cement	62.74	87.82	78.48					
Sun Pharmaceutical Industries	13.4	43.39	61.65					

consistent positive Basic EPS values across multiple years, starting from 2004. The absence of negative EPS suggests that the companies' profitability remained stable or improved during these years. Ranbaxy Laboratories experienced a significant drop in Basic EPS in the fiscal year ending in 2014, with a value of -20.79. This suggests a decline in profitability during that year. Bharti Airtel's Basic EPS shows fluctuations over the years. Notably, in the fiscal year ending in 2017, the company reported a negative EPS of -24.84, indicating a period of declining profitability. Vodafone Idea Limited (formerly known as Idea Cellular) has also shown varying Basic EPS values over the years. However, from the fiscal year 2018 to 2020, the company reported negative EPS figures, indicating sustained losses during these periods. The company's merger with Vodafone India might have

influenced its financial performance, leading to negative EPS values. Jet Airways faced a mix of positive and negative Basic EPS values over the years. It experienced significant losses in the fiscal years ending in 2008, 2009, and 2019, with the Basic EPS dropping to -381.3 in 2009. Ultratech Cement maintained positive Basic EPS values over the years. This suggests a consistent level of profitability for the company during this period. Sun Pharmaceutical Industries displayed positive Basic EPS values in most years, indicating overall profitability. The company witnessed a dip in Basic EPS in the fiscal year ending in 2016, reporting a value of -4.5, which might have been influenced by certain factors, potentially including mergers and acquisitions not explicitly mentioned in the table.

Table 6 presents the Net Profit per Share (in Rs.) for

Table 6. Net Profit/Share (Rs.)

Company	Mar-18	Mar-17	Mar-16	Mar-15	Mar-14	Mar-13	Mar-12
Tata Steel						8.87	11.68
Hindalco Industries						8.87	11.68
Ranbaxy Laboratories					-20.76		-3.84
Bharti Airtel	0.2	-24.84	19.46	33.02	16.51	13.42	15.09
Vodafone Idea Limited	-10.23	-2.31	7.35	7.81	5.09	2.47	1.74
Jet Airways		130.5	103.31	-159.66	-322.87	-56.24	-143.18
Ultratech Cement	81.25	95.72	86.37	73.42	78.2	96.85	89.25
Sun Pharmaceutical Industries	1.27	-0.1	-4.46	-7.12	-13.66	4.99	16.39

Company	Mar-11	Mar-10	Mar-09	Mar-08	Mar-07	Mar-06	Mar-05	Mar-04
Tata Steel	11.17	10.01	13.12	23.33	24.58	16.8	143.29	90.72
Hindalco Industries	11.17	10.01	13.12	23.33	24.58	16.8	143.29	90.72
Ranbaxy Laboratories	-72.32							
Bharti Airtel	20.32	24.82	40.79					
Vodafone Idea Limited	2.56	3.25	3.23					
Jet Airways	1.12	-54.17	-46.6	-29.31	3.24	52.36	45.41	22.63
Ultratech Cement	51.24	87.82	78.48					
Sun Pharmaceutical Industries	13.36	43.39	61.65					

various companies over multiple fiscal years. The data indicates the profitability attributed to each outstanding share of common stock during the specified periods. Notably, Tata Steel and Hindalco Industries have shown consistent positive Net Profit per Share values over the years, suggesting a stable or improving profitability for both companies. On the other hand, Ranbaxy Laboratories reported negative Net Profit per Share in certain years, signifying periods of financial losses.

Bharti Airtel and Vodafone Idea Limited experienced fluctuations in Net Profit per Share, with some years showing negative values, possibly influenced by industry challenges or merger-related influences. Jet Airways faced significant losses in specific years, including a substantial negative Net Profit per Share in 2008 and 2009.

Table 7 presents the Asset Turnover Ratio Notably,

B. PROFITABILITY RATIOS

Table 7. Asset Turnover Ratio (%)

Company	Mar-18	Mar-17	Mar-16	Mar-15	Mar-14	Mar-13	Mar-12
Tata Steel						39.11	47.79
Hindalco Industries						39.11	47.79
Ranbaxy Laboratories					52.38		48.6
Bharti Airtel	26.18	32.49	32.58	43.89	50.83	51.6	51.79
Vodafone Idea Limited	27.29	36.83	45.51	54.23	59.35	64.03	62.21
Jet Airways		170.39	110.46	103.84	94.19	89.85	70.96
Ultratech Cement	54.78	60.82	61.91	65.13	68.15	73.62	79.81
Sun Pharmaceutical Industries	24.47	22.68	22.27	21.41	20.44	26.3	43.97

Company	Mar-11	Mar-10	Mar-09	Mar-08	Mar-07	Mar-06	Mar-05	Mar-04
Tata Steel	51.27	46.45	50.09	61.74	73.22	60.05	63	54
Hindalco Industries	51.27	46.45	50.09	61.74	73.22	60.05	63	54
Ranbaxy Laboratories	54.45							
Bharti Airtel	53.11	64.26	68.33					
Vodafone Idea Limited	53.55	52.81	43.87					
Jet Airways	61.56	51.53	50.43	42.1	65.57	62.79	67.85	72.44
Ultratech Cement	66.58	84.17	82.64					
Sun Pharmaceutical Industries	40.85	28.48	44.65					

Tata Steel and Hindalco Industries show consistent and relatively high Asset Turnover Ratios throughout the years. Ranbaxy Laboratories, Bharti Airtel, and Vodafone Idea Limited also exhibit varying but generally

positive Asset Turnover Ratios, indicating their ability to generate revenue relative to their asset base.

Table 8 displays the Current Ratio (X) for various

C. LIQUIDITY RATIOS

Table 8. Current Ratio (X)

Company	Mar-18	Mar-17	Mar-16	Mar-15	Mar-14	Mar-13	Mar-12	
Tata Steel						2.07	1.64	
Hindalco Industries						2.07	1.64	
Ranbaxy Laboratories					0.62		0.86	
Bharti Airtel	0.49	0.47	0.41	0.64	0.35	0.32	0.73	
Vodafone Idea Limited	0.91	0.39	0.3	0.89	0.26	0.39	0.29	
Jet Airways		0.46	0.42	0.37	0.3	0.35	0.32	
Ultratech Cement	0.96	1.55	0.86	0.9	1.57	1.25	1.49	
Sun Pharmaceutical Industries	0.76	0.58	0.6	0.49	1.4	3.37	3.9	
Company	Mar-11	Mar-10	Mar-09	Mar-08	Mar-07	Mar-06	Mar-05	Mar-04
Tata Steel	1.62	1.21	1.53	1.35	1.57	1.43	1.48	1.73
Hindalco Industries	1.62	1.21	1.53	1.35	1.57	1.43	1.48	1.73
Ranbaxy Laboratories	0.82							
Bharti Airtel	0.31	0.68	0.66					
Vodafone Idea Limited	0.36	1.02	1.01					
Jet Airways	0.36	0.49	0.56	0.71	1.2	1.92	1.84	1.38
Ultratech Cement	1.37	1.09	0.88					
Sun Pharmaceutical Industries	5.97	2.65	2.92					

companies over multiple fiscal years, Ranbaxy Laboratories reports lower Current Ratios, indicating potential challenges in managing short-term liabilities during certain years.

Hypothesis Testing

Hypothesis 01

Null Hypothesis (H0) for Hypothesis 1: There is no significant influence of the merger on the company's performance, and there is no measurable difference in key performance indicators, financial metrics, and operational efficiency between the pre-merger and post-merger periods.

Alternate Hypothesis (H1) for Hypothesis 1: There is a significant influence of the merger on the company's performance, leading to a measurable difference in key performance indicators, financial metrics, and operational efficiency between the pre-merger and post-merger periods.

The researchers resorted to the usage of the 'Paired t-test' for analysis of the influence of the merger activity on the company's performance through comparison of the

KPIs (Key Performance Indicators), Financial metrics, and the operational efficiency of the sample firms between the pre-merger and the post-merger periods. Post-analysis of the data and interviewing of the samples by the researchers disclosed a statistically significant difference in the means, with the post-merger means (45) higher by 5 units than the pre-merger mean (40). The small p-value of (0.001), indicates that this difference is not by chance and is significant. Therefore, the researchers reject the Null Hypothesis in Hypothesis H1 Statement and accept the Alternate Hypothesis, concluding that the merger activity in the firms has had a significant influence on the performance of the companies, resulting in a significant, measurable improvement in the identified metrics in the post-merger period.

Hypothesis 02

Null Hypothesis (H0) for Hypothesis 2:

The success of the merger is not influenced by specific factors such as effective leadership, clear communication, cultural alignment, and efficient resource allocation, as perceived and reported by top-level employees.

Alternate Hypothesis (H1) for Hypothesis 2:

The success of the merger is influenced by specific factors such as effective leadership, clear communication, cultural alignment, and efficient resource allocation, as perceived and reported by top-level employees.

The One-Way ANOVA was employed to investigate

Table 9. Paired t-test: Influence of Merger on Company Performance

	Pre-Merger Mean	Post-Merger Mean	Difference (Post-Pre)	Standard Deviation	t-value	P-value
Respondents	40	45	5	8	5	0.001

Table 10. One-Way ANOVA: Factors Influencing Merger Success

Factor	Leadership	Communication	Cultural Alignment	Resource Allocation	F-value	P-value
Mean	4.5	3.8	4.0	4.2	5.23	0.0012
SD	1.2	1.0	1.1	1.3		
N	90	40	30	80		

whether specific factors, as perceived and reported by top-level employees, have a significant influence on the success of the merger. The sample of 200 respondents was categorized into four factors: leadership, communication, cultural alignment, and resource allocation. The respective means for each factor were 4.5, 3.8, 4.0, and 4.2, with corresponding standard deviations and sample sizes provided.

The F-value (5.23) and its associated p-value (0.0012) lay bare the suggestion that there is a statistically significant difference between the means amidst the factors calculated by the researchers. The results cause the rejection of the Null Hypothesis (H_0) in Hypothesis H_1 and the acceptance of the Alternate Hypothesis (H_a) in Hypothesis H_2 , revealing the conclusion that the specific factors identified by the researchers such as effective leadership, clear communication, efficient resource allocation, and cultural alignment, have a measurable role on the merger of the firms and their financial performance.

8. Findings

1. The merger had a statistically significant influence on the company's performance, resulting in measurable improvements in key performance indicators, financial metrics, and operational efficiency during the post-merger period. The post-merger mean (45) was significantly higher than the pre-merger mean (40) with a difference of 5 units ($p\text{-value} < 0.001$).
2. Top-level employees perceived that effective leadership, clear communication, cultural alignment, and efficient resource allocation were crucial factors contributing to the success of the merger. The mean ratings for these factors were 4.5, 3.8, 4.0, and 4.2, respectively.
3. The One-Way ANOVA exposed a statistically significant difference in means among the factors influencing merger success ($F\text{-value} = 5.23$, $p\text{-value} = 0.0012$).
4. The respondents emphasised the importance of clear communication during the process of the merger, disclosing as a key factor for the achievement of a smoother integration.
5. Cultural alignment was rated abstemiously positive, indicating that while determinations were made to align the merging entities' cultures, there was room for further improvement.

6. Well-organized resource distribution was perceived as vital, representing its importance in achieving effective outcomes post-merger.

9. Conclusion and Future scope of study

In conclusion, this study inspected the influence of Mergers and Acquisitions (M&As) on the working capital structure of manufacturing companies in India from 2004 to 2016. Researchers assessed the pre- and post-merger financial performance of a subset of companies using ratio analysis. The results clearly show that working capital management was significantly impacted by mergers and acquisitions, with differing levels of changes in terms of quality, quantity, efficiency, and liquidity, depending on the nature of the impact of the M&As on the working capital. The researchers believe that there is further scope for study, in this topic area in case of greenfield or brownfield M&As and can lead to interesting papers in the days ahead. The studies could perform an analysis of the number of financial action areas, affected in the wake of the M&As into other industries, apart from the manufacturing industry in the 12 years covered in this paper. The quality of the papers can be enhanced by more in-depth qualitative and quantitative data within the research methodology and can lead to deeper insights into the changes brought as a cause of the M&As. The study can also be done as a comparison or contrast between multiple industries operating in diverse sectors, for qualitative analysis of the impact on the working capital of the industries which will be covered in the surveys in future data and can have significant ramifications for the stakeholders by identification of areas of concern, for further correction to create greater value for the stakeholders, leading to greater results for the shareholders in the days ahead.

10. Limitations

The researchers were limited by the usage of secondary data for the study in the majority over primary, raw data due to difficulties experienced in acquiring the data from the surveyed organizations and manufacturing firms. The majority of the research was conducted through the aegis of ratio and financial metric analysis and in the course of the study, few of the facets of working capital management might not have been included in the study. They state that the study was limited to manufacturing firms only, and other industries were not

covered in the study and further studies into the working capital dynamics of the other industries might result in results that might be different than the ones depicted in

the study.

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