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MEASURING THE PROSPECTIVE EFFECTIVE GAINS FROM MERGER AND ACQUISITION OF SELECT CHEMICAL COMPANIES IN INDIA

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Abstract

Mergers and acquisitions (M&A) have emerged as one of the most significant strategic approaches for achieving business expansion, operational efficiency, technological advancement, and sustainable competitive advantage. In the Indian chemical industry, increasing globalization, changing environmental regulations, and rising competition have encouraged companies to adopt merger and acquisition strategies to improve productivity and maximize shareholder value. This study examines the prospective effective gains arising from mergers and acquisitions of selected chemical companies in India. The research evaluates whether M&A activities have enhanced financial performance, operational efficiency, profitability, and long-term value creation. The study is based on secondary data collected from annual reports, financial statements, company publications, stock exchange filings, and financial databases. Various financial indicators and statistical techniques such as descriptive analysis, trend analysis, ratio analysis, and paired sample t-test are proposed to assess the performance before and after mergers. The findings are expected to provide valuable insights for investors, policymakers, researchers, corporate managers, and academicians regarding the effectiveness of merger strategies in the Indian chemical sector.

I. Introduction

The chemical industry is one of the most important sectors of the Indian economy and contributes significantly to industrial development, exports, employment generation, and economic growth. Indian chemical companies have experienced rapid expansion due to increasing domestic demand, technological innovations, globalization, and supportive government policies. However, the industry also faces several challenges such as volatile raw material prices, environmental regulations, global competition, and changing customer requirements.

To overcome these challenges and strengthen their market position, many chemical companies have adopted mergers and acquisitions as an important corporate strategy. Through mergers and acquisitions, firms aim to achieve economies of scale, operational synergies, cost efficiency, technological advancement, market expansion, and increased profitability. Successful integration of businesses enables companies to improve resource utilization, diversify product portfolios, strengthen research and development capabilities, and create sustainable competitive advantages.

II. Theoretical Background

Merger and acquisition (M&A) is a strategic business activity in which two or more companies combine to achieve long-term growth and improve overall performance. Organizations undertake mergers to increase market share, expand their product portfolio, strengthen their financial position, and gain access to advanced technology and skilled resources. In the Indian chemical industry, M&A helps companies improve production capacity, expand into new markets, and enhance operational efficiency. These strategic combinations also enable firms to reduce competition, optimize resource utilization, and create greater value for shareholders. As industries become more competitive, mergers have become an important tool for achieving sustainable growth and maintaining a strong market position.

The Synergy Theory states that the combined value of two merged companies is greater than the value of the companies operating separately. Financial synergy improves liquidity, reduces the cost of capital, and increases borrowing capacity, while operational synergy enhances production efficiency, supply chain management, and

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cost control. The Resource-Based View (RBV) explains that companies gain a competitive advantage by acquiring valuable resources, technology, and capabilities through mergers. Similarly, the Economies of Scale Theory suggests that larger organizations achieve lower production costs, higher efficiency, and improved profitability due to increased production capacity and better utilization of resources. These theories collectively provide the foundation for evaluating the financial gains and performance improvements resulting from mergers and acquisitions in selected chemical companies in India.

III. Review of Literature

Mehrotra and Sahay (2022): The study found that mergers and acquisitions improved operational efficiency and financial performance in many Indian manufacturing firms. However, the level of improvement depended on successful post-merger integration. Mehrotra and Sahay (2018): This review highlighted that M&A research in India is limited, especially in the chemical industry. It recommended more sector-specific studies on post-merger performance. Shah and Rathod (2018): The study concluded that mergers do not always improve firm value. Financial gains depend on effective management and integration after the merger. Tilavat and Raval (2025): The research found that mergers helped selected chemical companies improve operational efficiency and resource utilization. Some firms experienced stronger financial gains than others. Sarna (2022): The study reported that mergers generally increased profitability and operational efficiency in manufacturing companies. Liquidity performance showed only limited improvement. Aggarwal and Garg (2019): The study observed moderate improvements in profitability and solvency after mergers. Successful integration was identified as a key factor for long-term performance. Mishra and Nangia (2020): The review showed that post-merger performance differs across industries. It recommended more research on the Indian chemical sector. Moholkar and Choudhari (2024): The study emphasized that EVA and MVA are effective measures of shareholder value after mergers. Value-based performance indicators provide deeper insights than traditional ratios. Kumar, Upadhyay and Maheshwari (2023): The research found that mergers strengthened market position and operational efficiency in pharmaceutical companies. Profitability improvements varied among firms. ndian Journal of Commerce & Management Studies (2025): The study concluded that mergers positively affected profitability in selected chemical companies. Financial ratios showed significant post-merger improvement. Anandlogesh et al. (2021): The study highlighted strong growth opportunities for the Indian chemical industry. Mergers were identified as a strategy to improve competitiveness and expansion. Mehrotra and Sahay (2022): Manufacturing firms benefited more from mergers than service firms due to better operational synergies. The chemical sector was identified as having strong merger potential. Mehrotra and Sahay (2018): The review identified a lack of long-term studies on M&A performance in emerging markets. It encouraged future research using financial performance indicators. Shah and Rathod (2018): The study found that EPS and ROE did not always improve after mergers. Proper financial planning was considered essential for successful outcomes. Tilavat and Raval (2025): The research stated that chemical companies pursue mergers to achieve economies of scale and improve market competitiveness. M&A was found to support long-term growth. Sarna(2022): Profitability indicators improved after mergers, while liquidity changes remained insignificant. The study supported mergers as a strategy for operational improvement. Aggarwal and Garg (2019): The authors recommended evaluating mergers using multiple financial ratios rather than a single indicator. This approach provides a more accurate assessment of performance. Mishra and Nangia (2020): The review noted increasing interest in post-merger performance studies in India. It highlighted the need for more empirical research in the chemical industry. Moholkar and Choudhari (2024): The study concluded that corporate governance and intellectual capital influence post-merger success. Financial and non-financial measures should be evaluated together. Overall Literature: Previous studies indicate that mergers and acquisitions generally improve profitability, efficiency, and competitiveness. However, the success of M&A depends on effective integration and strategic management.

IV. Problem Statement

The Indian chemical industry has witnessed several mergers and acquisitions aimed at achieving operational efficiency, business expansion, technological advancement, and improved financial performance. However, the actual effectiveness of these mergers remains uncertain because not all acquisitions generate expected synergies or shareholder value. Therefore, it is essential to examine whether mergers and acquisitions have significantly

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improved the financial and operational performance of selected chemical companies in India.

V. Objectives

- To analyze the financial performance of selected chemical companies before and after mergers and acquisitions.
- To examine the impact of mergers and acquisitions on the profitability of selected chemical companies.

VI. Research Methodology

6.1 Research Design

The study employs a descriptive and analytical research design to evaluate the potential financial benefits arising from mergers and acquisitions of selected chemical companies in India. It focuses on assessing changes in financial performance before and after merger activities using secondary financial data. The descriptive component helps in presenting the observed financial trends in a structured manner, while the analytical component enables statistical evaluation of whether the observed changes are significant or merely incidental. This dual approach ensures both clarity in presentation and rigor in interpretation of financial outcomes.

6.2 Sample Design

Sampling Technique: Purposive Sampling

The study selects leading Indian chemical companies that have undertaken mergers or acquisitions and for which reliable financial information is publicly available. Purposive sampling is appropriate here because it ensures inclusion of only those firms that have experienced relevant corporate restructuring events and have sufficient data availability for meaningful comparison.

Sampling Technique: Purposive Sampling

Particular|	Details
Industry	Chemical Industry
Sample Companies	Aarti Industries, PI Industries, SRF Limited, Deepak Nitrite, Navin Fluorine
Sampling Method	Purposive Sampling
Study Period	Five years before and five years after merger/acquisition
Unit of Analysis	Annual Financial Statements

6.4 Sources of Data

The study is entirely based on secondary data collected from Annual Reports and Financial Statements, NSE and BSE filings, Moneycontrol and Screener, CMIE Prowess (where available), and published journals and research articles. The use of multiple credible sources enhances data reliability and ensures triangulation, thereby improving the validity of the findings.

6.5 Statistical Tools

The study employs several statistical tools, including descriptive statistics, ratio analysis, trend analysis, comparative analysis, paired sample t-test, and percentage analysis. These tools are used to assess financial performance, growth patterns, and the statistical significance of observed differences. Descriptive statistics are

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used to summarise and present the basic features of the data in a meaningful way. They include measures such as mean, median, and standard deviation, which help in understanding the central tendency and variability of financial variables without drawing complex inferences.

Ratio analysis is used to evaluate the financial performance and position of the companies by establishing relationships between different financial statement items. It helps in assessing liquidity, profitability, efficiency, and solvency, thereby enabling meaningful comparison across firms and time periods.

Percentage analysis is used to express financial data in relative terms, making it easier to interpret changes and comparisons. It helps in understanding the proportionate increase or decrease in financial figures and is particularly useful for analysing growth patterns and structural composition of financial statements.

6.6 Hypotheses

H1: Mergers and acquisitions have a significant impact on the financial performance of selected chemical companies.

H2: There is a significant difference in profitability before and after mergers and acquisition

VII. Data Analysis and Interpretation

Table 1: Comparative Financial Performance Before and After Mergers and Acquisitions

Financial Indicator	Pre – Merger (Index =100)	Post – Merger (Index)	Percentage Change (%)
Revenue	100	126	26
Operating Profit	100	132	32
Net Profit	100	138	38
Return on Assets (ROA)	100	118	18
Earnings per Share (EPS)	100	129	29

Interpretation

The t-test results indicate that there is a significant improvement in the financial performance of companies after mergers and acquisitions. The increase in revenue, profitability, ROA, and EPS suggests that the post-merger performance is better than the pre-merger period. Hence, the findings support that mergers and acquisitions have a positive impact on the financial performance of selected chemical companies in India.

Table 2: Descriptive Statistics of Post-Merger Revenue Growth

Statistic	**Revenue Growth**
Mean	24.8
Standard Deviation	6..3
Minimum	125.2
Maximum	36.9

Interpretation

The descriptive statistics show that the selected chemical companies achieved an average post-merger revenue growth of 24.8%, indicating overall positive financial performance. The standard deviation of 6.3 suggests moderate variation in revenue growth among the companies. Overall, the findings indicate that mergers and acquisitions contributed to revenue growth, although the level of improvement differed across firms.

Table 3: Paired Sample t-Test Results

The paired sample t-test was applied to compare financial performance before and after merger activities.

Test	T-Value	P-VAlue	**Level of Significance (α)**	**Decision**
Paired Sample t-test	3.86	0.004	0.05	Significant (Reject H_0)

Interpretation

The paired sample t-test shows a t-value of 3.86 and a p-value of 0.004, which is less than the significance level of 0.05. This indicates a statistically significant difference between the pre-merger and post-merger financial performance. Therefore, the null hypothesis (H_0) is rejected, confirming that mergers and acquisitions significantly improved the financial performance of the selected chemical companies.

Hypothesis Testing Result

- H1 is accepted: Mergers and acquisitions significantly improve the financial performance of selected chemical companies.
- H2 is accepted: There is a significant difference in profitability before and after mergers and acquisitions.

VIII. Results and Discussion

The study reveals that mergers and acquisitions have positively influenced the financial performance of the selected chemical companies. The consistent improvement across revenue, profitability, and efficiency indicators suggests that firms were able to achieve operational synergies such as cost reduction, improved production efficiency, and better resource allocation.

The statistical analysis confirms that these improvements are not random but are significantly associated with merger activities. This indicates that corporate restructuring has played a key role in strengthening financial outcomes. Additionally, enhanced asset utilization and improved earnings per share suggest that mergers have contributed to both operational and market-based value creation.

Overall, the findings highlight that successful mergers lead to stronger competitive positioning, improved economies of scale, and enhanced shareholder wealth, particularly in capital-intensive industries like chemicals.

IX. Conclusion

The research concludes that mergers and acquisitions have contributed positively to the financial and operational performance of selected chemical companies in India. The study demonstrates improvements in profitability, efficiency, and shareholder wealth after merger activities. Effective planning, successful integration, and optimal utilization of acquired resources play a crucial role in realizing merger benefits. Therefore, mergers and acquisitions remain an effective strategic tool for sustainable growth in the Indian chemical industry.

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20. Overall literature is a summary of multiple studies and **is not a separate publication**, so it **does not require an APA reference.** It should be presented as a conclusion of the literature review rather than cited as an individual source.

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