REVIEW ARTICLE

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Mergers, Acquisitions and the Financial Performance: An Empirical Analysis from Indian Manufacturing Sector

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Abstract

Mergers and Acquisitions (M&A) are one of the most preferred strategies of corporate restructuring across the globe. Companies opt for M&A as they tend to generate operational synergies as well as improve the financial performance of the firms. The present study evaluates the financial performance of fifty four acquiring manufacturing firms in India that occurred between the financial year 2006-07 and 2013-14. The study follows positivist approach with focus on quantitative analysis of financial data over the period of ten years (five years pre and five years post) for five parameters. Determinants of financial performance of acquiring firms before and after the M&A have also been examined. Paired Samples t-test, Principal Component Analysis and Principal Component Regression have been employed for the analysis. Findings suggest that profitability and cost of utilization significantly decline after M&A. Efficiency, Profit Margin, Cost of Utilization, Interest Cover have remained significant factors contributing to the Return on Capital Employed both pre and post M&A. Failure of M&A in creation of synergies in Indian manufacturing sector suggests lack of strategic fit between the firms. It is important for managers to clearly define the motives behind the M&A not just for growth but survival as well.

Keywords: Mergers and Acquisitions; Corporate Restructuring; Financial Performance; Manufacturing Sector; Efficiency; Profitability; Liquidity; Cost of Utilization.

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Introduction

With the advent of the Fourth Industrial Revolution and rising industry consolidation, economies are becoming more interdependent, integrated and complex than before. Due to globalization, technological advancements, new institutional mechanisms, global competition, dynamic economic policies, and regulatory changes, corporate sector in India and worldwide is undergoing substantial structural changes (Akbulut and Matsusaka, 2010;Du and Sim, 2015). To foster industrial development and economic growth, number of economic and industrial reforms have been initiated across the globe. Amidst the changing business environment, companies in developed and developing countries are facing numerous challenges to survive and grow.

In order to survive in the complex and dynamic environment, strategy formulation plays a very significant role. Indian companies are changing their strategic focus and reorienting their business operations through restructuring to improve efficiency and profitability (Azhagaiah and Sathishkumar, 2014; Manuela et al., 2016). Corporate restructuring is not a new concept. Businesses have gone for restructuring to meet the increased demand of goods and services, decrease costs, improve organizational structure, meet objectives of increased profitability, and increase wealth of shareholders as well as market price of the share. Corporate restructuring has become an integral part of business strategy. It refers to corporate actions taken to modify ownership structure, business mix, assets mix, and debt operations of the organization. It is a strategic process involving redesigning of one of more aspects of

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the firm. The primary objective behind corporate restructuring is to improve operations of the business and increase value of the firm.

Mergers and acquisitions are the most preferred route of external growth and restructuring all around the globe (Dube et al., 2007; Beena, 2008). Mergers and Acquisitions have become regular phenomenon as they can be seen every day as major headlines in the newspaper. With the advent of globalization, changing business environment and technological advancement, mergers and acquisitions have become favourite strategy for the companies to grow externally and stay ahead of their competitors. Earlier it was considered as a one-time dauntless event until General Electric Capital in 1990s made mergers and acquisitions a routine part of their strategy by acquiring more than 100 companies in just five years. They turned this complex phenomenon into competitive advantage and their core competency by knowing the nuts and bolts of the integration process and excellently utilizing the synergies created by the process (Ashkenas, DeMonaco and Francis, 1998).

Indian economy is currently witnessing numerous changes in form of novel economic policies and is moving gradually from controlled and protected economy towards more liberal and market driven economy. To sustain and grow in such competitive environment, Indian corporates are formulating strategies to remain ahead of their competitors and increase value of shareholders. One of the primary objectives underlying any strategic corporate decision is the maximization of shareholders value. To empirically evaluate the ability of mergers and acquisitions in adding value to the firm, researchers across the globe have examined the short term and long term performance of the firms post mergers and acquisitions. A variety of approaches have been used by the researchers to measure the impact of M&A on the corporate performance (Zola and Meier, 2008; Sinha et al., 2010). But there are two most common types of analyses of pre-merger and post-merger performance/returns (Mehrotra and Sahay, 2018). First one is the short term analysis through event study methodology which analyzes stock market reaction to the announcements of merger (Srinivas, 2010; Malabika and Shah, 2011). Most studies related to this approach report that the target firm's gain through abnormal returns when announcements of mergers and acquisitions are made (Rani et al., 2013). But there is no or less evidence of gains accruing to acquirer companies (Yuce and Ng, 2005; Ehsan, Kim and Raab, R, 2005;Ravichandran et al., 2010; Duggal, 2015). The second approach is the long term operating performance approach that is based on the accounting and financial data of the firm (Kumar and Bansal, 2008; Lau et al., 2008; Wilson, 2010)The operating performance approach compares the pre-merger and post-merger performance of the companies usually three years before and after the merger (Selcuk, and Yilmaz, 2011; Sharma, 2013). The results obtained by various researchers using this technique are mixed conveying lack of consensus among their findings (Fraser and Zhang, 2009;Mogla and Singh, 2011; Gagnon and Volesky, 2017; Trujillo et al., 2020).

Therefore, till date, there has been no consensus among the researchers around the world about whether performance of firms improve after mergers and acquisitions. Generally, firms opt for mergers and acquisitions to derive various advantages such as increased operational and financial synergy, profitability, liquidity, operating and financial leverage and reduced cost of utilization (Donker and Ng, 2008; Gurusamy and Radhakirishnan, 2010; Jain and Raorane, 2011; Jayaram, 2014). Other motives include taxation benefits, economies of scale and scope, increase in market share, and resource transfer (Mishra and Chandra, 2010). Whether the objective with which mergers and acquisitions tend to happen is fulfilled? Also, most of the previous studies have attempted to analyze the short-run impact of mergers and acquisitions on the corporate performance of the firms. To do so, researchers have mostly applied event study methodology (Kumar, 2009; Kaur and Kaur, 2010; Sufian et al., 2012). Therefore, there exists lack of studies that intend to study long run impact of mergers and acquisitions on the corporate performance of the firms especially in India. Mergers and acquisitions, theoretically should lead to change in structure in the financial performance of acquiring firms (Peng and Wang, 2004; Kumar and Suhas, 2010). There is also lack of studies that investigate the structural change in the financial performance of firms in India after mergers. Most of the above discussed questions and research gaps are valid in case of India.

With these evidences, the present paper attempts to bridge the research gaps in the existing literature by empirically studying the long run impact (five years pre and post) of mergers and acquisitions on the corporate financial performance of the acquiring firms in India. Various factors that determine the financial performance of the acquiring manufacturing firms in pre-merger and post-merger period have been examined. The present paper has seven sections. The next section discusses the recent trends of mergers and acquisitions in India. Section three provides the comprehensive review of literature based on studies conducted all around the globe. Section four presents various objectives of the study based on the research gaps identified through review of literature. Detailed explanation of methodology, statistical tools and models used in the present study is provided in section five. In section six, results and findings of the study are demonstrated and discussed. Finally, section seven concludes from a broad policy perspective.

Recent trends of mergers and acquisitions in India

Owing to stable macroeconomic environment, favourable impact of economic reforms, and easy credit conditions, the present business environment has been conducive for mergers and acquisitions. Introduction of Companies Act, 2013, has made the process of mergers and acquisitions smoother and transparent. Scheme of Arrangement can now be easily implemented and cross border mergers can now happen easily and rapidly New concepts such as fast track merger introduced under Companies Act 2013 has increased the financial restructuring as well as cross border deals. It is a significant change in last six decades replacing the old provisions in Companies Act 1956.

Recently, Government of India, introduced Insolvency and Bankruptcy Code (IBC) in 2016 which changed the landscape for mergers and acquisitions. This is resulting in another wave of mergers and acquisitions especially in sectors that are most affected by non-performing assets (NPAs) such as manufacturing, services and energy sector. Corporate sector in India, due to relaxing regulatory provisions and introduction of new encouraging provisions has resorted to mergers and acquisitions to divest non-core assets and expand into newer markets to increase efficiency and shareholders wealth. Now companies under debt stress can easily liquidate under IBC and financially sound companies can expand by acquiring their competitors at reasonable valuations. Compared to 2015, financial year 2016 was robust for mergers and acquisitions specifically in manufacturing sector.

With improvement in ease of doing business, cross border mergers and acquisitions increased both in volume and value. Inbound deal value increased from US $ 9.9 billion in 2015 to US $ 21.48 in 2016. The number of deals decreased but the value of deals increased in 2016. Oil and gas sector, financial services, cement and building products, pharmaceuticals, and infrastructure were the top five sectors according to deal value. According to deal numbers, technology and infrastructure sector stole the show. The driving force in the year 2016 behind mergers and acquisition was the focus on consolidation especially in sectors such as telecom and online retail. Cement and power sectors focused to dispose-off their non-core businesses and reduce debt burden. Due to big ticket announcements such as Essar-Rosneft consortium deal, the year was vibrant for mergers and acquisitions attaining record level deal value (EY, 2017).

In 2018, all previous records were broken when India Inc. announced that deals crossed USD 100 billion in value and across 1640 transactions (Dhillon, 2018). It happened across both private equity and mergers and acquisitions transactions. This was the result of major economic reforms taken under Modi Government such Goods and Services Act (GST), Real Estate (Regulation and Development) Act (RERA) and efforts to facilitate ease of doing business. Deals such as acquisition of seventy seven percent stake of Flipkart by Walmart for $ 16 billion, Oil and Natural Gas Corporation Ltd. (ONGC's) Acquisition of fifty one percent stake in Hindustan Petroleum Corporation Ltd. To meet the target of disinvestment for Government, Vodafone's acquisition of Idea Cellular marked the year.

Review of Literature

The present paper attempts to study and highlight the significant studies conducted all across the world so that readers can have an idea regarding the work done in this field and various developments that have been made till date.

One of the prominent studies in mergers and acquisitions dates back to when Healy, Palepu, and Ruback (1992) through their study evaluated the post-merger operating performance of fifty largest U.S. mergers that happened between 1979 and mid 1984 through pre-tax operating cash flow return on assets. Accounting and stock return data were integrated to use richer tests of corporate control theories. Their findings showed significant improvements in merged firms' asset productivity when compared to their industries. Azhagaiah and Sathishkumar (2014) analyzed the impact of mergers and acquisitions on the long term operating performance of the thirty nine selected acquiring manufacturing firms in the year 2006-2007. After mergers and acquisitions, significant shift (improvement) in operating performance was found and it was suggested that efficiency of equity shareholders could be increased if the acquiring manufacturing firms focused more on decreasing the debt funds and utilizing the physical resources to the fullest. Kar, Soni, and Singh (2014) investigated the long term impact on listed fifteen companies in India in the post-liberalization period from 1990-1991 to 2000-2001. Forty two cases have been investigated thoroughly that happened amongst these fifteen companies. Bivariate OLS regression was used. Turnover increased as post liberalization companies were able to grasp bigger market share and increased in size post-merger. But no significant and sustainable increase in book value and profitability was found. Verma and Sharma (2014) tested the impact of mergers and acquisitions on financial and operating performance of the companies in telecom sector in India for six years. Three years pre and three years post data is analyzed for fifty nine deals based on eight parameters. On an average, a significant under performance in financial performance and an insignificant improvement in operational performance was found. It was concluded that M&A decisions are not fully undertaken for improvement in financial performance but other reasons like achieving market consolidations and bigger size could be dominant.

Du and Sim (2015) examined the impact of M&A on the efficiency of acquiring banks and target banks separately in six emerging countries. Panel regression and Data envelopment analysis (DEA) approach was used on 960 observations collected from 120 banks spread across six emerging countries (China, India, Indonesia, Malaysia, Russia and Thailand) between 2002 and 2009. Results showed that most efficient banks during 2002-2009 were Chinese banks and least efficient were Indonesian Banks. Pervan, Visic and Barnjak (2015) investigated the impact of mergers on the profitability of the target companies in Croatia and the performance of the target companies was compared to the peer companies. Sample of one hundred and sixteen companies that were acquired between 2008 and 2011 were studied. Paired sample t-test was applied to achieve the objective. Costs and profitability of the acquired companies did not change significantly after the merger. Yanan, Hamza and Basit (2016) through their paper studied the hundred sample firms in U.S. by applying descriptive mean analysis and paired t-test on financial parameters like Return on Equity, Net Profit Margin, Earning per Share, and Sales Growth. Results concluded that mergers increased the profits and stockholders value by increasing the demand dividend in the stock market.

Gathuku and Njeru (2016) studied the impact of synergy, access to intangible assets and cost reductions on financial performance of fourteen commercial banks in Kenya during the period 2000-2011. They also concluded that mergers should be supplemented by other measures such as improving expertise of banking personnel and more effective corporate governance for better results. Rashid and Naeem (2016) examined the effect of merger on profitability, liquidity and leverage position on firms in non-financial sector companies in Pakistan. Regression analysis was applied on twenty five firms' data during the period 1995-2012. Empirical Bayesian estimation method and ordinary least squares technique were tested. Results showed that mergers did not have any significant impact. Gupta and Banerjee (2017) assessed the post-merger impact on operating performance ratios, financial and liquidity indicators of selected seven companies during the period 2006-2012. To achieve the study's objective secondary data of three years prior and post-merger collected from annual audited financial statements from period 2000-2015. Paired sample t-test was used to evaluate the significance. Post-merger profitability performance declined and deteriorated after the merger.

After thoroughly reviewing the literature, it can be concluded that there has been no consensus among the researchers about the impact of mergers and acquisitions on corporate performance of acquiring firms.

Research Objectives

The present study investigates the impact of mergers and acquisitions on the financial performance of select acquiring manufacturing firms in India. The study focuses on the benefits that the acquiring firms derive from mergers and acquisitions in terms of the financial and operational synergies, tax benefits as well as financial and operating risk reduction. Whether mergers and acquisitions result in any significant shift in structure in the financial performance of the firms and does the financial performance of the acquiring firms improve after mergers and acquisitions is empirically examined in the present study.

Based on these research gaps, following objectives have been formulated:

1. To evaluate the financial performance of the acquiring manufacturing firms in India in Pre-Merger and Post- Merger period.

2. To analyze the determinants of financial performance of acquiring manufacturing firms in India before Merger.

3. To examine the determinants of financial performance of acquiring manufacturing firms in India after Merger.

Research Methodology

To evaluate the financial performance of M & A activity, the current study follows positivist approach with focus on quantitative analysis of financial data obtained from the balance sheets of sample companies. The nature of data collected for the present study is pooled in nature, where one section represents one parameter performance data over the period of ten years for fifty four sample firms. Similarly, other parameters also generate other sections of the data over a period of ten years for all the sample firms, and altogether all twenty seven variables generate pooled data for fifty four sample firms over the period of ten years.

Period of Study

In view of limited time and resources, it was decided to study the mergers and acquisitions that occurred between the financial year 2006-07 and 2013-14. The study includes analysis of companies listed on Bombay Stock Exchange. The empirical analysis of individual merger events has been carried out using ten years data that is five years prior to the merger and five years after the merger event (that is why 2013-14 is taken as the upper limit so that five years post-merger recent data can be analyzed). Long term impact of mergers on the firms' performance has been studied to give a clear picture of their success or failure. This period is chosen to examine any potential economic gains realized from the mergers and also makes the study recent.

The Sample

The study began with a universe of all manufacturing companies which are listed on Bombay Stock Exchange and initiated the process of mergers and acquisitions in India between the financial year 2006-07 and 2013-14. There were one hundred and twenty three firms that initiated the process. Companies which could not complete the merger deal and companies which had undergone series of mergers during the financial year 2006-07 and 2013-14 were eliminated. Further, companies whose financial data was not available for the time period chosen for the study were also eliminated. In all, 54 companies have been analyzed in the present study.

The Database

Only the companies listed on Bombay Stock Exchange (BSE) were sampled because comprehensive data regarding different aspects of their working becomes available owing to various legal compliances required from such listed companies. The study uses secondary sources of data to collect information about sample companies that opted for Mergers and Acquisitions. CMIE PROWESS database has been used to collect financial data about the sample companies.

Selection of Variables

Data for 54 acquiring manufacturing companies has been collected for different parameters such as Liquidity, Efficiency, Profitability, Leverage and Cost of Utilization. Different ratios are used to represent above mentioned parameters. All the twenty seven variables selected for the study based on past researches imply different aspects of companies' financial performance. For instance, to observe the **liquidity** performance of the company, financial ratios such as Quick Ratio, Current Ratio, Cash to Current liabilities Ratio, Cash to Average cost of sales per day Ratio, Working Capital to Total Assets Ratio, and Current Assets to Total Net Assets Ratio have been considered.

Similarly to assess the long run **efficiency** performance of the sample firms, financial ratios such as Working capital turnover Ratio, Finished goods turnover Ratio, Debtors turnover Ratio, Creditors turnover Ratio, Gross fixed assets utilization Ratio, and Net fixed assets utilization Ratio have been used. For measuring profitability, variables such as Net Profit Margin, Gross Profit Margin, Return on Net Worth, Return on Total Assets, Return on Capital Employed and Cash Profit Ratio are employed. In case of **leverage**, variables such as Debt to equity ratio, Interest cover, Net fixed assets to Net worth, and Total liabilities to Net Worth are calculated. For the parameter, **Cost of Utilisation**, variables such as Power and fuel expenses to Net sales, Selling and distribution expenses to Net sales, Raw material expenses to Net sales, Total expenses to Net sales, Total taxes to Net Sales are used. The data on all the financial performance indicators have been extracted over the period of ten years for all fifty four sample firms.

Statistical Tools Applied

To satisfy the objectives of the study and to evaluate the financial performance, the Paired samples t-test and Principal Component Analysis as well as Principal Component Regression have been applied. Paired-sample t-test is used here to examine whether there has been significant difference in the mean values of the particular parameter (as indicated by set of ratios) under two different scenarios that is pre-merger and post-merger for all the companies collectively for comprehensive analysis. Principal Component Analysis has been done to see how different set of ratios group together to form different components and also to avoid the problem of multi-collinearity. Using these components, Principal Component Regression is used to determine the impact of different components on the performance of the selected acquiring firms.

Hypotheses of the Study

Different hypotheses have been formulated to accomplish the above stated objectives. The following null hypotheses are formulated to conduct the study and empirically investigate the research questions put forward.

Hypotheses formulated to empirically examine the improvement in financial performance of acquiring manufacturing firms in India in terms of liquidity, efficiency, profitability, leverage and cost of utilization in the post-merger period:

H_0^1: There is no significant difference between the liquidity position of the acquiring manufacturing firms in India pre and post mergers and acquisitions.

H_0^2: There is no significant difference between the efficiency position of the acquiring manufacturing firms in India pre and post mergers and acquisitions.

H_0^3: There is no significant difference between the profitability of the acquiring manufacturing firms in India pre and post mergers and acquisitions.

H_0^4: There is no significant difference between the leverage of the acquiring manufacturing firms in India pre and post mergers and acquisitions.

H_0^5: There is no significant difference between the cost of utilization of the acquiring manufacturing firms in India pre and post mergers and acquisitions

Hypotheses formulated to examine the factors which determine the financial performance of acquiring manufacturing firms in India prior to Merger:

H_0^6: There is no significant impact of efficiency on the financial performance of acquiring manufacturing firms in India pre-merger.

H_0^7: There is no significant impact of profit margin and cost of utilization on the financial performance of acquiring manufacturing firms in India pre-merger.

H_0^{8}: There is no significant impact of liquidity on the financial performance of acquiring manufacturing firms in India pre-merger.

H_0^{9}: There is no significant impact of leverage on the financial performance of acquiring manufacturing firms in India pre-merger.

H_0^{10}: There is no significant impact of marketing and tax expenses on the financial performance of acquiring firms in India pre-merger.

H_0^{11}: There is no significant impact of cash margin and interestcover on the financial performance of acquiring firms in India pre-merger.

Hypotheses formulated to empirically investigate the factors which determine the financial performance of acquiring manufacturing firms in India after Merger:

H_0^{12}: There is no significant impact of efficiency on the financial performance of acquiring manufacturing firms in India post-merger.

H_0^{13}: There is no significant impact of leverage and profit margin on the financial performance of acquiring manufacturing firms in India post-merger.

H_0^{14}: There is no significant impact of liquidity on the financial performance of acquiring manufacturing firms in India post-merger.

H_0^{15}: There is no significant impact of taxes on the financial performance of acquiring manufacturing firms in India post-merger.

H_0^{16}: There is no significant impact of marketing and production expenses on the financial performance of acquiring manufacturing firms in India post-merger.

H_0^{17}: There is no significant impact of cost of utilization on the financial performance of acquiring manufacturing firms in India post-merger.

Findings and Discussion

Findings of Paired Samples t-test:

Paired samples t-test has been applied on the data of firms in both pre-merger period and post-merger period. The results of paired samples t-test has been presented in the table 1 as follows:

Table 1: Results of Paired Samples t-test

Variables			Mean	Std. Deviation	Std. Error Mean	t	p-value
Pair 1	Quick Ratio_PRE-POST	Pair 1	0.066	1.422	0.089	.750	.414
Pair 2	Current Ratio_PRE-POST	Pair 2	0.040	2.349	0.146	0.277	.782
Pair 3	Cash To Current Liabilities_PRE-POST	Pair 3	0.077	1.072	0.067	1.154	.249
Pair 4	Cash To Average Cost Of Sales Per Day_PRE -POST	Pair 4	1.662	3.609	0.225	7.398	0.000***
Pair 5	Working_Capital To Total_Assets_PRE-POST	Pair 5	-0.040	0.174	0.012	-3.307	0.001***
Pair 6	Current_Assets To Total_Net_Assets_PRE-POST	Pair 6	-0.542	4.743	0.330	-1.645	.101
Pair 7	Working_Capital Turnover Ratio_PRE-POST	Pair 7	0.034	2.235	0.139	.247	.805
Pair 8	Finished Goods Turnover Ratio_PRE-POST	Pair 8	-6.643	11.727	0.730	-9.099	0.000***
Pair 9	Debtors Turnover Ratio_PRE-POST	Pair 9	1.320	8.293	0.516	2.557	0.01**
Pair 10	Creditors Turnover Ratio_PRE-POST	Pair 10	0.433	7.731	0.481	.900	.369
Pair 11	Gross Fixed Assets Utilisation Ratio_PRE-POST	Pair 11	0.011	4.880	0.304	.036	.971
Pair 12	Net Fixed Asstes Utilisation Ratio_PRE-POST	Pair 12	0.464	3.809	0.237	1.956	0.05**
Pair 13	Net Profit Margin_PRE-POST	Pair 13	3.341	2.227	0.761	4.389	0.000***
Pair 14	Gross Profit Margin_PRE-POST	Pair 14	0.026	0.231	0.016	1.138	.257
Pair 15	Return On Net Worth_PRE-POST	Pair 15	6.491	4.761	2.416	2.687	0.000***
Pair 16	Return On Total Assets_PRE-POST	Pair 16	5.394	6.015	0.766	5.675	0.000***
Pair 17	Return On Capital Employed_PRE-POST	Pair 17	5.759	5.698	1.091	3.445	0.000***
Pair 18	Cash_ProfitRatio_PRE-POST	Pair 18	0.145	1.654	0.115	1.258	.210
Pair 19	Debt To Equity Ratio_PRE-POST	Pair 19	0.036	2.669	0.186	.780	.828
Pair 20	Interest Cover_PRE-POST	Pair 20	2.506	1.715	0.777	3.227	0.001***
Pair 21	Net_Fixed_Assets To Net_Worth_PRE-POST	Pair 21	-0.229	3.343	0.139	-1.125	.261
Pair 22	Total_Liabilities To Net_Worth_PRE - POST	Pair 22	-0.323	5.821	0.279	-0.911	.363
Pair 23	Power_And_Fuel_Exp To Net_Sales_PRE-POST	Pair 23	0.013	0.100	0.006	2.163	0.09*
Pair 24	Selling_Distribution_Exp To Net_Sales_PRE-POST	Pair 24	0.008	0.032	0.002	3.704	0.000***
Pair 25	Rawmat_Exp To Net_Sales_PRE-POST	Pair 25	-0.033	0.188	0.012	-2.798	.481
Pair 26	Total_Expense To Net_Sales_PRE-POST	Pair 26	-0.080	3.588	0.218	-0.364	.716
Pair 27	Total_Taxes To Net_Sales_PRE-POST	Pair 27	1.301	6.162	0.375	3.470	0.000***

Note: $*p<0.10$, $** p<0.05$, $*** p<0.01$ and are all statistically significant
Source: Author's Compilation

From the table 1, following analysis is done. Liquidity position of the firms has not been impacted significantly in the post-merger period as seen in case of conventional liquidity ratios. Conventional liquidity ratios such as quick ratio, current ratio, cash to current liabilities, and current assets to total net assets have not been impacted significantly after mergers and acquisitions. Only cash to average cost of sales per day and working capital to total assets have been impacted significantly in the post-merger period. As only two ratios out of six ratios have been impacted significantly in the post-merger period. Cash relative to current assets is same but has gone down relative to sales and funds blocked in working capital has increased indicating poor performance of acquiring firms in the post-merger period. No significant difference is found out in respect of efficiency of firms in post-merger period when compared with pre-merger period. Variables such as working capital turnover ratio, creditors turnover ratio, and gross fixed assets utilization ratio have not been impacted significantly in post-merger period. Only finished goods turnover ratio, debtors turnover ratio and net fixed assets utilization ratio have changed significantly in the post-merger period. More importantly, credit sales have increased after the merger.

Analyzing the results of profitability, most of ratios have reported significant difference in the post-merger period. Net profit margin, return on net worth, return on total assets, and return on capital employed have reported difference in mean values in the post-merger period when compared with pre-merger period. But the point to notice here is that all of these ratios have declined after the merger indicating poor performance of sample firms. Evaluating the results of leverage ratios, most of them have reported no significant change in the mean values after mergers and acquisitions. To specify, debt to equity ratio, net fixed assets to net worth ratio, and total liabilities to net worth ratio has not been impacted significantly after the merger. But interest cover ratio has changed significantly in the post-merger period. Although it has declined in the post-merger period which again is not a good sign. Most of the leverage ratios have reported significant difference in the post-merger period. Power and fuel expenses to net sales ratio, selling and distribution expenses to net sales ratio, and total taxes to net sales have reported significant difference in mean values in the post-merger period when compared with pre-merger period. Moreover, all of these ratios have declined after the merger which is a good sign indicating intention of the sample firms to reduce the expenses. This indicates better performance of sample firms with respect to cost of utilization after mergers and acquisitions. The overall analysis with respect to acceptance/rejection of hypotheses is provided in table 2.

Table 2: Analysis of Results of Paired Samples t-test

S. No.	Null Hypothesis	Test Applied	Decision
1	There is no significant difference between the liquidity position of acquiring firms pre and post-Merger	Paired Samples t-test	Do not Reject
2	There is no significant difference between the efficiency of acquiring firms pre and post-Merger	Paired Samples t-test	Do not Reject
3	There is no significant difference between the profitability of acquiring firms pre and post-Merger	Paired Samples t-test	Reject
4	There is no significant difference between the leverage of acquiring firms pre and post-Merger	Paired Samples t-test	Do not Reject
5	There is no significant difference between the cost of utilization of acquiring firms pre and post-Merger	Paired Samples t-test	Reject

Source: Author's Compilation

Findings of Principal Component Analysis: Pre-Merger Financial Performance

Principal Component Analysis has been applied to analyze how different set of variables (ratios) group together to form different components. It is also used to avoid the problem of multi-collinearity in the data set. In the current study as there are initially 27 variables as defined above, principal component analysis is used to reduce the set of linear variables into fewer more manageable components that indicate set of variables. Varimax rotation with Kaiser Normalization is applied to see which ratios are highly correlated with each other and thus form components. Theoretically, we know that which ratios group together to be classified under one of the parameters chosen that are liquidity, efficiency, profitability, leverage and cost of utilization. But to analyze how variables in our data are grouping together to form components and form part of above mentioned parameters is very important. Therefore, we have applied principal component analysis. Results of principal component analysis before the merger is shown below in table 6.8 and 6.9. The sampling adequacy for analyzing the results reported by Principal Component Analysis was verified by the Kaiser- Meyer-Olkin measure, KMO = 0.603 and is significant (p = 0.000) as reported by Bartlett's test of Sphericity. The results show that 6 components are extracted through the

Varimax Rotation as they had Eigen values greater than 1 and in combination explained 74.613 percent of the variance. After analyzing the results of Principal Component Analysis, we have clubbed the individual ratios to make a specific components as indicated by the factor analysis as shown in table 3 and 4.

Table 3: Findings of Principal Component Analysis: Pre-Merger Financial Performance-I

Rotated Component Matrix[a]							
Component	**Variables**	**1**	**2**	**3**	**4**	**5**	**6**
Efficiency	Gross fixrd assets utilisation ratio PRR	.981	.042	-.019	-.017	.006	.001
	Net fixed asstes utilisation ration PRE	.968	.051	-.010	-.025	.005	-.029
	Working capital turnover ratio PRE	.961	-.005	-.017	-.018	.015	.077
	Debtors turnover ratio PRE	.961	.001	-.026	-.022	.031	.077
	Current assets to Total net assets PRE	.709	.070	.182	-.038	-.186	-.111
	Creditors turnover ratio PRE	.461	.035	-.076	.006	-.044	-.056
Profit Margin and cost Utilization	Gross profit Margin PRE	.029	.957	-.033	.027	.172	.015
	Toatal expense to Net sales PRE	-.003	.931	.022	-.032	.089	-.0184
	Net Profit margin PRE	.047	.927	-.085	.043	.036	-.107
	Raw mat exp to Net sales PRE	-.068	.766	-.132	.148	-.102	-.100
	Power and fuel exp to Net sales	-.095	-.646	-.059	-.185	.324	.375

Table 4. Findings of Principal Component Analysis: Pre-Merger Financial Performance-II

Rotated Component Matrix[a]							
Component	**Variables**	**1**	**2**	**3**	**4**	**5**	**6**
Liquidity	Quick ration PRE	-.059	.007	.912	-..044	.-.104	-.093
	Cash to current liabilities PRE	-.043	.025	.883	-.017	.148	.095
	Current ratio PRE	.130	.018	.856	-.061	-.201	-.124
	Cash to average cost of sales per day PRE	-.057	-.031	.697	-.050	.088	.280
Leverage	Total liabilities to Net worth PRE	-.060	.077	-.028	.962	-.050	-.057
	Net fixed assets to Net worth PRE	-.030	.102	-.026	.924	-.047	-.014
	Debt to equity ratio PRe	.004	-.138	-.089	.743	.014	.147
Marketing and Tax expense	Total taxes to Net Sales PRE	-.093	-.130	.006	-.056	.845	-.164
	Selling distribution exp to Net sales PRe	-.037	.167	-.071	-.013	.701	.039
Cash Margin and Interest Cover	Cash profit ratio PRE	-.018	.122	.238	.110	-.003	.817
	Interest cover PRE	.019	.051	.113	.003	.266	-.354

Source: Author's Compilation

After analyzing the results from principal component analysis, six components were extracted that had Eigen values greater than one. These components form the independent variables for running the regression. The financial performance is measured through return on capital employed (Verma and Sharma, 2014). Return on capital employed is the comprehensive measure that considers not only equity but also debt capital making it a better measure of financial performance. Therefore, return on capital employed is the dependent variable in the regression equation. First, we are studying the impact of mergers and acquisitions in the pre-merger period. To study the impact of mergers and acquisitions on the corporate performance of acquiring firms in India, following equation is formulated to run principal component regression.

$$ROCE_{BM} = \alpha + \beta_1 E + \beta_2 PMCOU + \beta_3 LI + \beta_4 LE + \beta_5 MTE + \beta_6 CMIC + \varepsilon$$

Where, $ROCE_{BM}$ = Return on Capital Employed (Before Merger)

E = Efficiency

PMCOU = Profit Margin and Cost of Utilization

LI = Liquidity

LE = Leverage

MTE = Marketing and Tax Expenses

CMIC= Cash Margin and Interest Cover ? = Regression Constant; = Regression Coefficient; = Error term

The results of principal component regression for pre-merger period are shown in table 5.

Table 5: Findings of Principal Component Regression: Pre-Merger Financial Performance

Cpmponents	B	Beta	t	p
(Constant)	11.100		14.361	.000
Efficiency	5.833	.362	7.547	0.000*
Profit Margin & Cost of Utilization	-4.270	-.265	-5.524	0.000*
Liquidity	1.234	.076	1.596	.112
Leverage	-.947	-.059	-1.225	.222
Marketing & Tax Expenses	4.139	.256	5.350	0.000*
Cash Margin and Interest Cover	-5.642	-.349	-7.293	0.000*
Note : R^2 = 0.398, Adjusted R^2 = 0.385, F = 28.912, DW statistics = 1.140, VIF = 1 for all components, *ps<0.001				

Source: Author's Compilation

The results of principal component regression indicate that components such as efficiency, profit margin and cost of utilization, marketing and tax expenses, and cash margin and interest cover have significant impact on the (dependent variable) return on capital employed in the pre-merger period at 1 percent level of significance. Components such as liquidity and leverage have not significantly impacted return on capital employed in the pre-merger period. Overall analysis related to hypotheses is shown in table 6.

Table 6: Analysis of Results of Principal Component Regression: Pre-Merger Financial Performance

S. No.	Null Hypothesis	Test Applied	Decision
6	There is no significant impact of efficiency on the financial performance of acquiring firms in pre-merger period	Principal Component Regression	Reject
7	There is no significant impact of PMCOU on the financial performance of acquiring firms in pre-merger period	Principal Component Regression	Reject
8	There is no significant impact of liquidity on the financial performance of acquiring firms in pre-merger period	Principal Component Regression	Do not Reject
9	There is no significant impact of leverage on the financial performance of acquiring firms in pre-merger period	Principal Component Regression	Do not Reject
10	There is no significant impact of MTE on the financial performance of acquiring firms in pre-merger period	Principal Component Regression	Reject
11	There is no significant impact of CMI on the financial performance of acquiring firms in pre-merger period	Principal Component Regression	Reject

Source: Author's Compilation

Findings of Principal Component Regression: Post-Merger Financial Performance

After running Principal Component Analysis post-merger, six components are extracted through the Varimax Rotation as they had Eigen values greater than 1 and in combination explained 79.426 percent of the variance. Based on the same, Regression Equation is formulatedas follows:

$$ROCE_{AM} = \alpha + \beta_1 E + \beta_2 LEPM + \beta_3 LI + \beta_4 T + \beta_5 MPE + \beta_6 COU + \varepsilon$$

Where,

$ROCE_{AM}$ = Return on Capital Employed (After Merger)

E = Efficiency

LEPM = Leverage and Profit Margin

LI = Liquidity

T = Taxes

MPE = Marketing and Production Expenses

COU = Cost of Utilization

α = Regression Constant; β= Regression Coefficient; ε = Error term

The results of principal component regression for post-merger period are shown as follows in table 7:

Table 7: Findings of Principal Component Regression: Post-Merger Financial Performance

Cpmponents	B	Beta	t	p
(Constant)	5.622		11.023	.000
Efficiency	2.450	.206	4.795	0.000*
Leverage & Profit Margin	-4.618	-.389	-9.038	0.000*
Liquidity	-.204	.017	-4.00	.690
Taxes	2.244	-.147	3.177	0.000*
Marketing & Production Expenses	2.408	.203	4.713	0.000*
Cost of Utilization	6.226	-.524	12.184	0.000*
Note : R^2 = 0.613, Adjusted R^2 = 0.602, F = 46.226, DW statistics = 1.140, VIF = 1 for all components, *ps<0.001				

Source: Author's Compilation

The results of principal component regression indicate that components such as efficiency, leverage and profit margin, taxes, marketing and production expenses, and cost of utilization have significant impact on the (dependent variable) return on capital employed in the post-merger period at 1 percent level of significance. Liquidity does not significantly impact return on capital employed in the post-merger period. Therefore, except liquidity all other components have impacted return on capital employed. Liquidity does not determine return on capital employed both in pre and post-merger periods. Value of R^2 and adjusted R^2 in the pre-merger periodis 0.613 and 0.602 respectively. The value of F statistic is 46.226. These values have improved in post-merger period when compared to pre-merger. The value of Durbin Watson statistic is 1.140 and indicates that there is no concern related to the serial correlation between the residuals. Variance inflation factor (VIF) for all the independent components is less than 10 (here it is 1 for all components) and therefore there is no concern of multicollinearity.Talking about the hypotheses, we can conclude the following in table 8.

Table 8: Analysis of Results of Principal Component Regression: Post-Merger Financial Performance

S. No.	Null Hypothesis	Test Applied	Decision
12	There is no significant impact of efficiency on the financial performance of acquiring firms in post-merger period	Principal Component Regression	Reject
13	There is no significant impact of LEPM on the financial performance of acquiring firms in post-merger period	Principal Component Regression	Reject
14	There is no significant impact of liquidity on the financial performance of acquiring firms in post-merger period	Principal Component Regression	Do not Reject
15	There is no significant impact of taxes on the financial performance of acquiring firms in post-merger period	Principal Component Regression	Reject
16	There is no significant impact of MPE on the financial performance of acquiring firms in post-merger period	Principal Component Regression	Reject
17	There is no significant impact of COU on the financial performance of acquiring firms in post-merger period	Principal Component Regression	Reject

Source: Author's Compilation

Conclusion and Managerial Implications

Indian economy is currently witnessing numerous changes in form of novel economic policies and is moving gradually from controlled and protected economy towards more liberal and market driven economy. To sustain and grow in such competitive environment, Indian corporates are formulating strategies to remain ahead of their competitors and increase value of shareholders. Mergers and acquisitions are one of the most popular inorganic corporate strategies undertaken by firms to remain competitive and synergistic in the corporate landscape.

To empirically evaluate the ability of mergers and acquisitions in adding value to the firm, researchers from all over the world have examined the short term and long term performance of the firms post mergers and acquisitions. Till date, there is lack of consensus among researchers regarding the impact of mergers and acquisitions on the financial performance of the firms. Theoretically, mergers and acquisitions lead to generation of financial and managerial synergies resulting in increased profitability and improved financial performance. To empirically examine the same, the present study evaluated the impact of mergers and acquisitions on the financial performance of fifty four acquiring firms in India during the financial year 2006-07 and 2013-14.

Impact of mergers and acquisitions on the financial performance of the firms has been analyzed in respect of liquidity, efficiency, profitability, leverage and cost of utilization. Results indicate that Liquidity position of the companies is not impacted after mergers significantly. This implies that companies have not been able to manage their capital structure to improve their liquidity after merger. Therefore, companies should reorient their strategies on improving the liquidity position. No significant difference is found out in respect of efficiency of firms in post-merger period when compared with pre-merger period. Finished goods turnover ratio increased significantly after the merger process whereas debtors turnover ratio and net fixed assets utilization ratio have decreased significantly after the merger process.

More importantly, credit sales have increased after the merger. This is not a good signal. This suggests that mergers have not increased the efficiency of the firms. M&A activity had significant negative impact on the profitability position of the firms indicating ineffective utilization of assets to generate earnings. Firms are not able to efficiently utilize their assets to increase the profitability of the firms. Leverage position of the firms did not change significantly in the post-merger period except the Interest Cover which declined significantly in the post-merger period implying the decreased ability of the firms in servicing its debt obligation than before.

Most of the expenses declined significantly in the post-merger period indicating better ability of the firms in controlling their expenses in the post-merger period. A comparison of the pre and post-merger performance of firms indicate that Efficiency, Profit Margin, Cost of Utilization, Interest Cover have remained significant factors contributing to the Return on Capital Employed both before and after merger. Leverage has a significant impact on Return on Capital Employed only after mergers. Liquidity is not significantly impacting Return on Capital Employed in both the periods indicating a worrisome situation. As no profound positive impact of mergers on the financial performance of the firms is witnessed in the present study, it becomes important to clearly determine the real motives behind mergers and acquisitions. Firms have not been able to come to fruition. The reasons for which companies opt for mergers and acquisitions have not been satisfied indicating failure of merger activity. This also indicates impact of other factors other than objective factors on the performance of firms which is not captured through the balance sheet of companies (Patrick et al., 2004). Post-merger integration issues, cultural issues and many such soft issues play a significant role in the success of the merger (Stahl and Voigt, 2008). It is the people who constitute any organization and if their concerns like culture, communication, satisfaction are not considered, the outcome of this strategy will never be successful. Culture directs the behaviour of the individuals and group as a whole which in turn improves the productivity, efficiency, effectiveness, quality of work done leading to positive results in the form of increased profitability and growth. These non-financial parameters should be handled by companies much before the merger activity (Epstein, 2005).

It is also a fact supported by many studies that 60-70% of the mergers are abysmal failures. Despite everyday growth in merger activity, mergers and acquisitions that appear to be very attractive strategy turn out to be disappointing for many companies in reality. Companies most of the time for maintaining their dominant position in the market or for acquiring larger share go for mergers and acquisitions without proper planning regarding how and what it will lead to in the long run. Immediate increase in size and other benefits could be visible in the short run but gradually managers come to know that they made wrong decision just under pressure for growth. Eventually stakeholders disappointed with continued poor results end up selling the acquired company at loss.

Failure of merger in creation of synergies suggests lack of strategic fit between the firms. Therefore managers need to strategically and comprehensively evaluate both financial and non-financial aspects of mergers and acquisitions. It is important for managers to clearly define the motive behind the mergers and acquisitions. Like the pike (a fierce carnivorous fish that eats other smaller fish), institutions and organizations have to continuously learn and adopt to changing circumstances for not just the growth, but survival as well. As Darwin rightly said, "Evolve or Die".

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