

**IMPACT OF MERGER AND ACQUISITION
ON SHAREHOLDERS' WEALTH AND
CORPORATE PERFORMANCE**

Thesis

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DOCTOR OF PHILOSOPHY IN COMMERCE

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October 2022

DECLARATION

I, **NADEER P**, do hereby declare that this thesis entitled “**IMPACT OF MERGER AND ACQUISITION ON SHAREHOLDERS’ WEALTH AND CORPORATE PERFORMANCE**” is a bonafide record of research work done by me under the guidance of **Dr. P MOHAN**, Professor (Rtd.), Department of Commerce and Management Studies, University of Calicut. I further declare that this thesis has not previously formed the basis for the award of any degree, diploma, associateship, fellowship or other similar title of recognition.

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Certificate

This is to certify that the thesis entitled “**IMPACT OF MERGER AND ACQUISITION ON SHAREHOLDERS’ WEALTH AND CORPORATE PERFORMANCE**” submitted to the University of Calicut in partial fulfilment of the requirements for the award of the Degree of Philosophy in Commerce, is a bona fide record of research work carried out by Sri. **NADEER P.** under my supervision and guidance and no part of this thesis has formed the basis for the award of any degree, diploma, associateship, fellowship or other similar title to any candidate in any university. He is permitted to submit the thesis to the University for evaluation.

Calicut,
26.10.2022

Dr. P. MOHAN

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Kunjumoideen P*

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LIST OF ABBREVIATIONS

B	-	Beta (Co-efficient of the systematic risk)
ε	-	Error term
AAARs	-	Acquirer Average Abnormal Returns
AAR	-	Average Abnormal Return
ACAARs	-	Acquirer Cumulative Average Abnormal Returns
ACR	-	Acquirer Current Ratio
ADE	-	Acquirer Debt Equity Ratio
ADT	-	Acquirer Debtors Turnover Ratio
AEV	-	Acquirer Enterprise Value
AEVA	-	Acquirer Economic Value Added
AEVM	-	Acquirer Enterprise Value Multiple
AFL	-	Acquirer Financial Leverage
AG	-	Acquirer Gain
AIC	-	Acquirer Interest Coverage Ratio
AKO	-	Acquirer Overall Cost of Capital
AMVA	-	Acquirer Market Value Added
ANPM	-	Acquirer Net Profit Margin
AOL	-	Acquirer Operating Leverage
AQR	-	Acquirer Quick Ratio
AR	-	Abnormal Return
ARCH	-	Autoregressive conditional Heteroskedasticity
AROA	-	Acquirer Return on Asset
AROCE	-	Acquirer Return on Capital Employed
AROW	-	Acquirer Return on Net worth
ART	-	Acquirer Raw material Turnover Ratio
ASE	-	Asian Stock Exchange
ASE/AMSE	-	Amsterdam Stock Exchange

ASL	-	Acquirer Sales
ASS	-	Acquirer Size
ATA	-	Acquirer Tax Amount
BARBHR	-	Beta Adjusted Real Buy and Hold Returns model
BHAR	-	Buy and Hold Abnormal Returns
BMP test	-	Boehmer, Musumeci and Poulson
BSE	-	Bombay Stock Exchange
CAAARs	-	Cash Acquirer Average Abnormal Returns
CAAR	-	Cumulative Average Abnormal Return
CACAAR	-	Cash Acquirer Cumulative Average Abnormal Return
CAMELS	-	Capital adequacy, Asset quality, Management, Earnings, Liquidity and Sensitivity
CAPM	-	Capital Assets Pricing Model
CAR	-	Cumulative Abnormal Return
CE	-	Capital Employed
CEO	-	Chief Executive Officer
CFA	-	Cash Flow Approach
CMIE	-	Centre for Monitoring Indian Economy
CMNE	-	Centre for Monitoring Nigerian Economy
COCE	-	Cost of Capital Employed
COMPUSTAT	-	Financial Data Base
CR	-	Current Ratio
CRSP	-	Centre for Research in Stock Prices
CTAARs	-	Cash Target Average Abnormal Returns
CTCAARs	-	Cash Target Cumulative Average Abnormal Returns
DCF	-	Discounted Cash flow
DE	-	Debt-Equity Ratio
DEA	-	Data Envelopment Analysis
DMU	-	Decision Making Units

DPS	-	Dividend Per Share
DT	-	Debtors Turnover Ratio
EBIT	-	Earnings Before Interest and Tax
EBITDA	-	Earnings Before Interest Tax Depreciation and Amortisation
EL	-	External Liabilities
EMH	-	Efficient Market Hypothesis
EMIS	-	Equated Monthly Instalment System
EPS	-	Earning Per Share
EU	-	European Union
EV	-	Enterprise Value
EVA	-	Economic Value Added
EVM	-	Enterprise Value Multiple
FCF	-	Free Cash Flow
FD	-	Fixed Deposit
FL	-	Financial Leverage
FRM	-	Fixed Regression Model
FTSE	-	Financial Times Stock Exchange
G	-	Growth
GARCH	-	Generalised Autoregressive Conditional Heteroskedasticity
GCC	-	Gulf Co-operation Council
GDP	-	Gross Domestic Product
GAMS	-	General Algebraic Modellings
GJR-GARCH	-	GJR-Generalised Autoregressive Conditional Heteroskedasticity
GLIP	-	Globalisation Liberalisation and Privatisation
GPDEA	-	Goal Programming Data Envelopment Analysis
HDAP	-	High Deal Activity Period
HML	-	High stock minus Low stock
HR	-	Human Resource

IC	-	Interest Coverage Ratio
IT	-	Information Technology
ITeS	-	Information Technology enabling Services
JB	-	Jarque Bera Test
JV	-	Joint Venture
KO	-	Overall Cost of Capital
LDAP	-	Low Deal Activity Period
M&A	-	Merger and Acquisition
M&As	-	Mergers and Acquisitions
MAJV	-	Mergers & Acquisitions and Joint Venture
M-GARCH	-	Multi Generalised Autoregressive Conditional Heteroskedasticity
M_{it}	-	Stock market index at the end of the day t
M_{it-1}	-	Stock market index at the end of the day t-1
MNC	-	Multi National Companies
MPS	-	Market Price Per Share
MRTP	-	Monopoly Restrictive Trade Practices
MTBV	-	Market to Book Ratio Value
MVA	-	Market Value Added
MV_T	-	Market value of target companies
NI	-	Net Income
NPM	-	Net Profit Margin
NPV	-	Net Present Value
NSE	-	National Stock Exchange
NYSE	-	New York Stock Exchange
OL	-	Operating Leverage
OLS	-	Ordinary Least Square
OSIRIS	-	OSIRIS Database
OTC	-	Over the Counter

P/E Ratio	-	Price Earning Ratio
P_{it}	-	Price of the share of firm i on the end of the day t
P_{it-1}	-	Price of the share of firm i on the end of the day t-1.
PNB	-	Punjab National Bank
PV_T	-	Present value of target companies
PWCAAR	-	Precision Weighted Cumulative Average Abnormal Return
QR	-	Quick Ratio
R&D	-	Research & Development
RBI	-	Reserve Bank of India
REM	-	Random Effects Model
R_{it}	-	Daily return
R_{mt}	-	Market return
ROA	-	Return on Assets
ROCE	-	Return on Capital Employed
RoR	-	Rate of Return
ROW	-	Return on Net Worth
RT	-	Raw material Turnover Ratio
S&P	-	Standard & Poor
SAAARs	-	Share Acquirer Average Abnormal Returns
SACAAR	-	Share Acquirer Cumulative Average Abnormal Returns
SAS	-	Statistical Analysis System
SBI	-	State Bank of India
SDC	-	(Thomson) Securities Data Corporation
SEBI	-	Security Exchange Board of India
SG-SSB	-	Society General – Social Security Banks
SL	-	Sales
SMB	-	Small stock Minus Big stock
SMEs	-	Small and Medium Enterprises
Solver CPLEX	-	Computer Software

SPSS	-	Statistical Packge for Social Science
SS	-	Size
STAARs	-	Share Target Average Abnormal Returns
STCAAR	-	Share Target Cumulative Average Abnormal Return
SWOT	-	Strength Weakness Opportunities Threat
TA	-	Tax Amount
TAARs	-	Target Average Abnormal Returns
TA	-	Total ASSET
TCAARs	-	Target Cumulative Average Abnormal Returns
TCR	-	Target Current Ratio
TDE	-	Target Debt to Equity Ratio
TDT	-	Target Debtors Turnover Ratio
TEV	-	Target Enterprise Value
TEVA	-	Target Economic Value Added
TEVM	-	Target Enterprise Value Multiple
TFL	-	Target Financial Leverage
TG	-	Target Gain
TIC	-	Target Interest Coverage Ratio
TKO	-	Target Overall Cost of Capital
TMVA	-	Target Market Value Added
TNPM	-	Target Net Profit Margin
TOL	-	Target Operating Leverage
TQR	-	Target Quick Ratio
TROA	-	Target Return on Asset
TROCE	-	Target Return on Capital Employed
TROW	-	Target Return on Net Worth
TRT	-	Target Raw Material Turnover Ratio
TSL	-	Target Sales
TSS	-	Target Size

TTA	-	Target Tax Amount
TTG	-	Total Gain
UK	-	United Kingdom
US	-	United States
USA	-	United States of America
USD	-	U S Dollar
V_A	-	Value of acquiring company
V_{AT}	-	Combined value of new entity
V_T	-	Value of the target company
WACC	-	Weighted Average Cost of Capital
α_i	-	Intercept

CHAPTER 1

INTRODUCTION

The safest way to double your money is to fold it over once and put it in your pocket

– Frank Mckinsey Hubbard

1.1 Introduction

In the age of globalization and increased competition, companies are adopting various practices that abet in expansion and technological advancement. Corporate restructuring strategies such as Merger and Acquisition (M&A), spin-offs, amalgamation, takeover and leveraged buyouts facilitate expansion, consolidation and revival of corporate entities. Among them, Merger and Acquisition holds significance as it navigate companies to a wider market base by joining forces. Since the beginning of the millennium, India has followed suit where we witnessed several M&A taking place in the sub-continent. M&A can be divided into domestic as well as cross border mergers, which can be favourable or unfavourable in nature. M&A can also be seen in different formats such as horizontal, backward, forward integration (vertical), conglomerate and congeneric mergers depending upon the objectives of the companies.

M&A has a long history dating back to the nineteenth century. Since 1897, many M&A have occurred in the steel, construction, and metal industries and were horizontal and anti-competitive in nature. However, economic slowdown during this period highly impacted the efficiency of these mergers. From 1916, the M&A increased at a rapid pace with the financial boom in the aftermath of the First World War. These mergers were predominantly between oligopolies. These mergers and acquisitions were primarily in the science and technology and automobile sectors, and were horizontal or global in nature. But the Great Depression of 1929 affected the pace of M&A, after which, business favoured conglomerate merger. After 1965,

the most common type was M&A backed by the equity, thereby eliminating the role of banks from the investment activities. The majority of the mergers during this time were horizontal mergers motivated by rising stock prices, interest rates, and the enforcement of anti-trust rules and regulations. Also the bidding firms were smaller in size and had stronger financial standing than the target companies. From 1981, domestic and cross-border M&A with big companies became common among industries like oil, gas, banking, aviation and pharmaceuticals. Post 1992, the impact of globalization and liberalised economic policies of Government encouraged the promotion of M&A. As a result, India's M&A market grew, and corporations began to place a greater emphasis on long-term rewards rather than short-term goals. (business.mapsofIndia.com, 2020).

M&A were unfamiliar with the Indian businesses till 1988. Prior to that, there were only a few integrations between public sector banks and enterprises under the Monopolies Restrictive Trade Practices (MRTP) Act, 1969. The year 1988 witnessed hostile acquisitions in India, which were neither successful nor effective. The Indian market got greater stability after the introduction of globalisation in 1991, and it attempted to secure more prospects for progressive growth. As a result, Indian industries welcomed M&A, which resulted in a massive expansion in both volume and number. During the period 1999-00, India witnessed about 185 M&A, which further led to several ups and downs in the corporate sector.

The most recent data on M&A in India reveals a positive trend in the Indian corporate sector. The sector witnessed deals valued at \$129 billion in 2018. There was an increase of 17.2% compared to the previous year. The average deal size increased from \$82.8 (2017) million to \$127.8 million in 2018. In domestic M&A, it went up by 17% and the value of deals doubled to \$ 57.3 billion. As a result of the increase in inbound M&A (Indian companies acquired by foreign companies) and outbound M&A (Foreign companies acquired by Indian companies- \$13.4 billion), the total cross-border M&A increased to \$69.2 billion (inbound M&A of \$ 55.8 billion and outbound M&A of \$ 55.8 billion).

This increasing M&A activities have direct impact on the shareholders wealth as well the financial and operational performance of the company. Hence, this study attempts to explain how M&A influence shareholders' returns as well as wealth of acquirer firms and target firms and their corporate performance with a focus on the M&A transactions in the manufacturing sector.

1.2 Statement of the problem

According to the hubris theory (Roll, 1986), M&A activity affects the value of the firm as well as shareholder wealth (Sugiarto, 2000). This theory explains that the payment made by the acquirer firm's shareholders to the target firm's shareholders are at a premium. They exhibit overconfidence, expecting high returns from their investment in future (Sugiarto, 2000). There are also some other essential motives (synergy and agency) involved in M&A which are related to the management of the organisation. Eventually, the success and failure of M&A depend on the attitude or the approach of the managers.

In the year 2015, there were 600 M&A deals, out of which 300 deals were domestic and the remaining were cross border transactions. In 2014, the number of such transactions was 569. But in 2015, the value of such M&A transactions (USD 30 billion) decreased by 18% compared to that of 2014 (USD 37.05 billion). The average deal size in 2015 was \$28 million whereas in 2014, it was \$103 million. In 2015, Domestic M&A activity showed a declining trend, and the inbound Merger and Acquisition showed an upward trend. An analysis is required to determine whether the major decline in the value (amount) of M&A during 2014 – 2015 justifies the hubris theory argument (the argument that in most of the merger deals, managers of acquirer may behave with overconfidence and would be ready to pay higher premiums to the target firm in expectation of recouping it in the future which would further increase the share price of the target firm above the deserving price.). Furthermore, there is a need to identifying whether there is any relevance to the agency or synergy motives (defined in section 1.7 of this chapter) in the performance of firms in M&A. This study also analysed the effect of M&A on a firm's valuation and the impact on the wealth of shareholders of the acquirer firm.

Therefore this study explored the hubris theory and the M&A motives like agency motive and synergy motive in M&A transactions of the Indian manufacturing sector.

The study attempted to answer the following research questions:

- Why do companies go for to Mergers & Acquisitions?
- How do M&A affect the corporate performance?
- How does valuation affect the combined entity valuation?
- What kind of synergic benefits accrue to the merged entities?
- How does M&A activity affect shareholders' wealth?

1.3 Objectives of the Study

Based on the above, objectives set for the study are as given below:

Primary Objectives

The primary objectives of the study are shown below:

1. To evaluate the impact of M&A on corporate performance and valuation of firms involved in M&A transactions.
2. To evaluate the impact of M&A activity on shareholders' wealth due to the merger announcement/event.

Secondary Objectives

Based on the primary objectives, the study also considered some secondary objectives which are shown below:

1. To estimate the returns of shareholders of the bidding and targeting firms involved in M&A.
2. To evaluate the impact of Hubris theory on M&A transactions analysed in this study.

3. To examine the synergy motives and agency motives of the combined entity.
4. To evaluate the financial and operating synergy of the combined entities as the result of M&A.

1.4 Hypotheses

Based on the objectives mentioned above, the study formulated the following hypotheses:

1.4.1 Impact of M&A on Corporate Performance

This objective asserts that M&A have a favourable long-term impact on success of businesses. The analysis of corporate performance aims to find whether there are any long-term gains for the companies from the M&A. The M&A transactions in manufacturing sector during the period of 2003 – 2015 along with the financial data three years prior and post the transactions was considered for the study. The above analyses are undertaken from the views of acquirer firms as well as of target firms with same hypothesis.

H₀: There is no significant impact of M&A on corporate performance.

1.4.2 Estimation of Abnormal Return

This objective on estimation of abnormal return argues that all shareholders of acquirer and target companies get significant abnormal returns from their investment as a result of the M&A announcement. The estimation of abnormal return is prepared under two categories; first section estimates the returns for the acquirer and the other estimates returns for target firms. Under these two categories, the study is evaluated through four different stages: firstly, for the entire sample, Secondly then based on the payment mode i.e., cash, thirdly then based on the payment mode i.e., share payment and final stage deals with estimation of abnormal returns during financial crisis. Thus, the hypotheses prepared for this study are:

H₀: There is no significant abnormal return to shareholders due to the merger (first stage).

H₀: There is no significant abnormal return to shareholders due to the merger paid by cash (second stage).

H₀: There is no significant abnormal return to shareholders due to the merger paid by stock (third stage).

H₀: There is no significant difference in abnormal return to the shareholders during-financial crisis period due to the merger and acquisition event (fourth and final stage).

1.4.3 Impact of M&A on Shareholders' Wealth

Under this objective, the study argues that if the shareholders are getting significant abnormal returns from their investments, these returns are significant in different event windows. It also indicates that there is no early information leakage regarding the Merger and Acquisition in the market. Hypotheses under this objective is given in general terms. It comes under the analysis of M&A and its impact on acquirer and target firms, in both category-based studies on the entire sample as well as through the different modes of payment. The hypotheses are given below.

H₀: Acquirer returns are not significantly different from zero

H₀: Target returns are not significantly different from zero

1.4.4 M&A Motives

Three different hypotheses set for the M&A motives are synergy, agency and hubris theory. If M&A is motivated by the synergy, both firms (acquirer and target) will maximize positive results to the shareholders. This will indicate a positive correlation between samples (target gain, acquirer gain and total gain). If M&A is motivated by the agency motive i.e., if motivated by the welfare of managers, the company might mostly rely on the specialized managers, causing agency cost, which will reduce the value of the combined entity in the market. This indicates negative relation between samples (target gain, acquirer gain and total gain). And finally, if M&A is motivated by the hubris motive (lack of synergy) M&A may be motivated by the acquirer firms' managers' overconfidence or overestimation of valuation of

the target firm. This indicates negative relation between target and acquirer gains while synergy is zero (i.e., no correlation between the target and total gain). The study argues that M&A is primarily motivated by synergy, agency or managers' faults and thereby significantly it influences the shareholders' wealth. These hypotheses are analysed with two regression analysis and interpreted according to the results (detailed discussion under the head Research Methodology). The formulated hypotheses are given below.

H₀: Synergy is not a primary motive of M&A.

H₀: M&A is not primarily motivated by agency.

H₀: Target and acquirer gains are not negatively correlated in the subsample of negative total gains.

H₀: Target and acquirer gains are not positively correlated in the subsample of positive total gains.

1.4.5 The Combined Effect on Entity Value

This objective expresses how the valuation of combined entity in long period makes an effect on entity value. Instead of evaluating the performance of the acquirer and target firm separately, the combined value of both organisations is calculated. The combined effect of M&A on entity value is also calculated to find whether the value has improved or not. Therefore, the study sets the hypothesis as:

H₀: There is no significant difference in the entity value after M&A.

1.4.6 Synergy

The study argues that the organisations appreciate synergy due to M&A. Two types of synergy can be identified i.e. financial synergy and operating synergy. The combination of financial resources of merged/acquired entities will result in financial synergy and the consolidation of different operational activities of the organisations will exhibit operating synergy as a result of M&A. Based on the results of M&A motives, the study attempts to examine the synergy or consolidation

impact of M&A to that of the acquirer firm. This is mainly executed through the classification of financial and operating synergy. The hypotheses are:

H₀: There is no operating synergy for the M&A transaction.

H₀: There is no financial synergy for the M&A transaction.

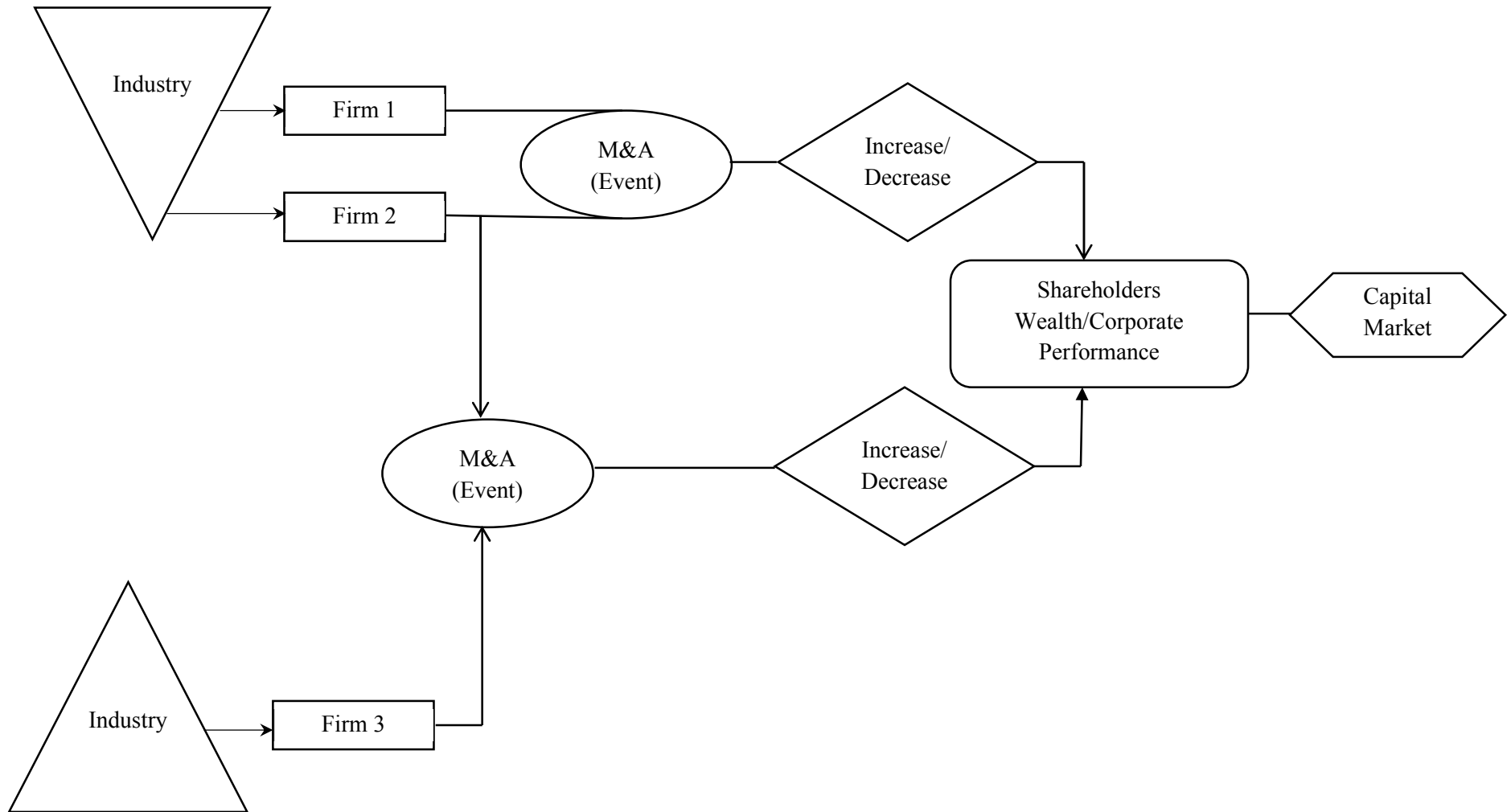
1.5 Scope and Significance of the Study

As businesses look for opportunities to grow rapidly to capture a larger share of the global market, M&A is a relevant strategy. M&A ensure that companies can reap several benefits such as expanding their business into worldwide markets, lowering competition, gaining access to technology and capital, and maintaining an uninterrupted supply of resources, among other things.

Shareholders are crucial stakeholders of any business organization since they are the owners of the company. That is, shareholders are the ultimate beneficiaries of the business. So M&A are expected to result in positive outcomes for the business firm. But how much they benefit from the M&A is to be identified and measured for convincing the uninitiated. This study covers the Mergers and Acquisitions that took place during the time period 2003 to 2015 in the Indian manufacturing sector. The study solely considered the domestic M&A. How much a company can justify M&A activity to its shareholders, along with its succeeding performance is the crux of this study.

Figure 1.1

Conceptual Model of Merger and Acquisition



1.6 List of Study Variables

The study used different variables, which are listed below:

- ❖ Stock price
- ❖ Value of Market Index
- ❖ Profitability Ratio
 - Return on Net Worth
 - Return on Assets
 - Return on Capital Employed
- ❖ Efficiency Ratio
 - Debtors Turnover Ratio
 - Raw Material Turnover Ratio
- ❖ Liquidity Ratio
 - Current Ratio
 - Quick Ratio
- ❖ Leverage Ratio
 - Debt to Equity Ratio
 - Interest Coverage Ratio
- ❖ Tax Value
- ❖ Cost of Capital
- ❖ Sales
- ❖ Financial Leverage

- ❖ Operating Leverage
- ❖ Economic Value Added
- ❖ Net Profit Margin
- ❖ Enterprise Value Multiple

(See: detailed explanation about these variables in Chapter three)

1.7 Operational Definitions

1. **Merger** is defined as the process of combining/integrating two existing companies into one new company where the identity of the one of the company is generally maintained.
2. **Acquisition** is defined as the process when one company purchases most or all of another company's shares to gain control of that company.
3. **Domestic Merger** means a merger between two entities, established in India, i.e., the acquirer and the target companies are Indian companies.
4. **Cross Border Merger** stands for an Indian company which has merged with a foreign company or vice versa.
5. **Inbound Merger** denotes a foreign company that either merges with or acquires an Indian company.
6. **Outbound Merger** stands for an Indian company that either merges with or acquires a foreign company.
7. **Acquirer Companies** means a company that obtains the right of another company through a merger or acquisition deal.
8. **Target Companies** is defined as a company chosen as an attractive merger or acquisition option by a potential acquirer.
9. **Shareholders' Wealth** means the return expected by the shareholder from the investment in a company's share.

10. **Abnormal Return** means the difference between company return (actual return) and expected return.
11. **Corporate Performance** means the performance of an organisation in the market when compared to other organisations. It comprises financial performance and operational performance that can be calculated by financial values obtained from the financial statements.
12. **Combined Entity Valuation** means valuing the firm which is merged or acquired by another firm.
13. **M&A Motives** is the term that indicates primary motives of an organisation, which induce the organisation for doing M&A. It includes synergy motives, agency motives and hubris hypothesis.
14. **Synergy Motive** means managers of targets and acquirers maximize shareholder wealth and would engage in M&A activity only if it results in gains to both sets of shareholders (Berkovitch and Narayan (1993)).
15. **Agency Motive** means M&A occurs on the personal achievement of management. It means acquirer managers extract benefits and returns from their shareholders.
16. **Hubris Hypothesis** is the principle within the most of the merger deals, managers behave with overconfidence (behaviour of the acquirer's (firm) management in the merger deal); managers (actually managers' intention was genuine) would be ready to pay higher premiums to the target firm. As a result of the higher premium, the target firms' share price increased more than they deserve in the market. Thus, several Mergers and Acquisitions experience negative returns for the acquirer, whereas the target firm' shareholders get positive returns.
17. **Synergy** means the combination of two things which create additional benefits than performing independently.

18. **Financial Synergy** means when two companies joined, it will improve financial performance than when they are separate entities. It arises from the efficiencies of financial activities.
19. **Operating Synergy** means when two firms merge, it may increase the operating income and acquire higher growth in operating synergy.
20. **Global financial crisis of 2008 (“Financial Crisis”)** means the financial crisis which occurred worldwide from December 2007 to June 2009.
21. **Entity Value** means value of an organisation in the market after M&A.

1.8 Research Methodology

This section discusses the methodology applied in this research, including the research model and tools and techniques for data analysis.

1.8.1 Research Design

The study used a descriptive research design. It describes whether the shareholders’ wealth is positively or negatively influenced by the M&A of their concerning firms. The study evaluates the acquisition firm’s corporate performance after the Merger and Acquisition and analyses the motives and the synergy of M&A. Here, the study considers a pre- and post-merger analysis.

1.8.2 Data

Different kinds of data are used in this study to analyse and draw conclusions regarding the objectives. The essential characteristics of the data (Ramakrishnan (2008) and Azhagaiah and Sathish Kumar (2012)) are listed below.

- a. This study considers only secondary data related to M&A in Indian manufacturing industries.
- b. The study considered only domestic M&A, i.e., both acquirer and target are Indian companies. This will help to eliminate the influence of external

conditions because the economic and industrial environment is the same for both the firms (acquirer and target).

- c. Daily, as well as annual data, are collected for analysis related to the companies which are directly involved in the merger process, i.e., acquirer and target firm.
- d. The data were compiled in the form of the market price of a share, and corporate performance data published in the company's financial statements pertaining to different financial years. Here market value means the daily adjusted closing price, and the book value of the data comes under financial statements like Profit and Loss account and Balance sheet.
- e. In this study, the event date and date of Merging or Acquiring are also used to bifurcate the period before and after M&A.

1.8.3 Sources of Data

This study considered and analysed the data regarding the Mergers and Acquisitions in India in the manufacturing sector for a period of thirteen years starting from January 2003 to December 2015. For analyzing the performance of the company prior and post the M&A transactions, data from financial statements of the companies for three years prior and post the M&A transaction was also collected. All the secondary data are collected from the CMIE Database Prowess, the Reserve Bank of India's website and the Bombay stock exchange.

1.8.4 Selection Process of M&A Deals

The manufacturing sector witnessed 2509 Mergers and Acquisitions in India from 1999 to 2018. The publicly listed companies in the Bombay stock exchange are considered for the study. All the sample firms are the bidding and targeting firms. Each sample contains only two firms; acquirer, the firm that acquires another, and the target, the other firm which is ready to merge. These two firms together are termed as deals. Thus, deals include Mergers and Acquisitions. The researcher went through several steps to finalise the deals selected for the study. It is briefly

explained here. Firstly, the study collected the entire list of Mergers and Acquisitions between 2003 and 2015. The study identified 4156 M&A deals during the period. Further, the researcher eliminated non-manufacturing deals from the above-collected data, which reduced the number of deals to 1688. Another criteria fixed for the study was the domicile of both companies, i.e., the acquirer and target must be Indian manufacturing companies. This reduced the number of deals to a further 953. Thus, the study is conducted on 953 domestic merger deals in the manufacturing sector. It consisted of 922 target companies and 872 acquirer companies and in total the number of companies found to be 1794. Among these 953 deals, 617 were from mergers and 336 were from acquisitions. But there were some issues found like the acquirer firm may be from the manufacturing industry, while the target firm may be from some other industry like the financial industry, service industry, and vice-versa. So the researcher further removed the deals that consist of companies other than the manufacturing sector. As a result, the size of deals was reduced to 718 deals with 527 acquirers and 921 target firms, i.e., a total of 1448 companies. Thus, the researcher fixed the number of deals for the study at 1448 companies and collected the data. But details about some companies were missing, i.e., unlisted from stock exchanges and their data were unavailable in any of the databases. After removing such companies, the number of deals reached 497 deals with 412 acquirers and 122 target firms (where the total number of companies being 534). Finally, at the time of arranging and cleaning data, the researcher extracted each variable's suitable value for the study and found that data were missing from a few companies' financial statements (both acquirer and target). Due to missing data and other such issues, such deals were dropped. Some manufacturing companies have merged or acquired other companies (target) more than once in the same year, i.e., multiple mergers or multiple acquisitions in a year. Considering such companies with multiple mergers in the same year may lead to duplication, hence such deals were also eliminated from the list. Finally, the study was filtered with 108 perfect deals. It consisted of 91 acquirers and 106 target companies. In other words, 197 companies were used in this study (Ramakrishnan (2008) and Azhagaiah & Sathish Kumar (2012)).

Table 1.1*Number of M&A Deals for the Study*

Categories	Number
Acquirer	91
Target	106
Total Companies	197
Total Deals for the Study	108

Source: Researcher Calculations

Then, these 108 M&A deals consist of both Merger deals and Acquisition deals. This separation is performed to analyse the data related to corporate performance and synergy study. It will give more précised and focused results, which will help the study to conclude the actual situations of manufacturing sectors.

Table 1.2*Number of Acquisition and Merger in Total Deals*

Deals	Number
Acquisition	38
Merger	70
Total Deals for the Study	108

Source: Researcher Calculations

Successively, the researcher fixed the analysis tools, which are most appropriate for the objectives of the study. These tools, such as event study and cross-sectional regression are explained below.

1.8.5 Analytical Tools

Different kinds of analytical tools are used for the study to interpret the results and examine the objectives under the consideration of the research problem. These are briefly explained below.

1.8.5.1 Event Study

An event study is a study about the impact of an event on a specific dependent variable like share price value. It can be defined as a study of the changes in stock price beyond expectation (Abnormal returns) over a while (event window) (Woon, 2004). An event study is a familiar and reliable method for analysing the impact of Mergers and Acquisitions on shareholder wealth. The results obtained from this method are used to find the relevance of hubris theory and motives of M&A in the Indian context. It is a method used for measuring changes in return. These changes may be based on the fluctuations in share prices before and after Merger and Acquisition.

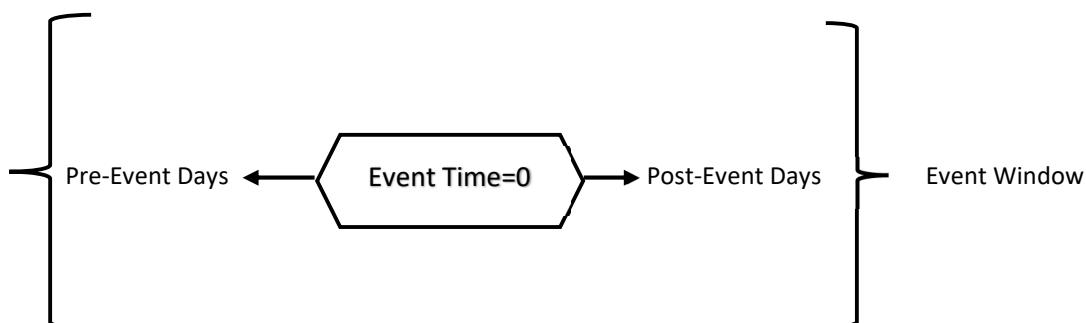
The study considers two important components of event study methods, which are given below:

- 1) **Event Time:** It is the time at which a merger is announced by the acquiring firm or the bidding firm. Information related to the merger will cause changes in the share price of bidding and targeting firms. Based on these results, the returns of shareholders can be measured at this point. So in this study, the value on the announcement day is set as "0," i.e., "**t=0**".
- 2) **Event Window:** It is the period over which the investment value is measured to determine the abnormal returns. This study considers a maximum of 30 days before and after the merger announcement (event time). The maximum length of event windows are:

t= -30, thirty days before event time (merger announcement day)

t= 30, thirty days after event time (merger announcement day)

In this study, different windows apart from the thirty days window are also used. Event windows like twenty days, fifteen days, ten days, five days, three days, two days, one day, pre event window and post event window period are separately used to know the correct impact during the short and very short periods.

Figure 1. 2*Event Window*

Numerous models of event study are applied in diverse literature work. Here this study follows the market model, which is the most familiar method in event studies. The market model is used for evaluating share price movement before and after Merger and Acquisition through event studies. This model helps to estimate abnormal returns. Equation (1) used to estimate the actual return is given below.

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \quad (1)$$

Where,

R_{it} means firm 'i' return on 't' day

R_{mt} means market index value, i.e. BSE Sensex

β – Coefficient of Market return

α_i is the intercept in the equation

ε_{it} is the error term in equation 1

R_{it} , daily return is calculated as:

$$R_{it} = \frac{(P_{it} - P_{it-1})}{P_{it-1}}$$

Where,

P_{it} is the price of the share of firm i at the end of the day t

P_{it-1} is the price of the share of firm i at the end of the day $t-1$.

R_{mt} (Market Return) can be calculated from the formula given below:

$$R_{mt} = \frac{M_{it} - M_{it-1}}{M_{it-1}}$$

Where,

M_{it} is the stock market index at the end of the day t

M_{it-1} is the stock market index at the end of the day $t-1$

Study uses equation (2) to find the abnormal return of firms as given below:

$$AR_{it} = R_{it} - (\alpha_i + \beta_i R_{mt}) \quad (2)$$

AR_{it} is the abnormal return of the firm i on day t , and R_{it} is the actual return of the firm i on day t . The Aggregate of Average Abnormal Returns (AAR) is the average of the total value of the sample firm's returns, it can be defined as follows.

$$AAR_t = \frac{1}{N} \sum_{i=1}^N AR_{it} \quad (3)$$

Summing each firm's abnormal returns, the study calculates the Cumulative Abnormal Return (CAR) in the event period, as given below.

$$CAR_i = \sum_{t=0}^n AR_{it} \quad (4)$$

Here the Cumulative Abnormal Return (CAR) is calculated by using equation (4) and also makes an equation about average Aggregate Cumulative Abnormal Return (ACAR).

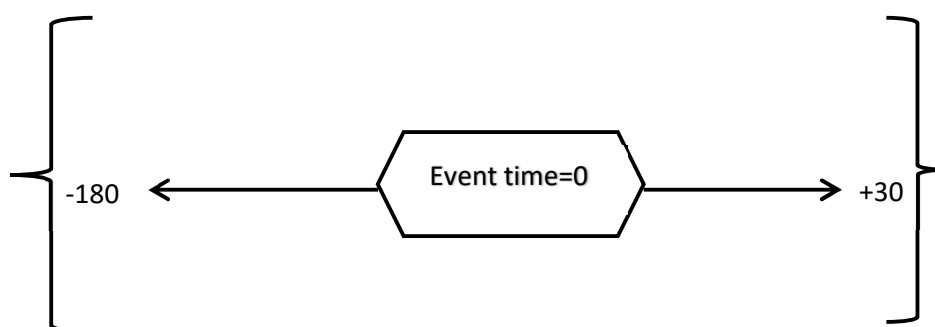
$$CAAR_i = \frac{1}{N} \sum_{t=0}^n CAR_i \quad (5)$$

This model is used to identify the returns of shareholders during the short period and also to analyse the impact of merger events. Then these results are used to form the base for the analysis of M&A' motives. These are all explained below.

A. Estimation of Abnormal Return and Impact of M&A

This study primarily uses event study models to estimate or identify abnormal returns earned by the shareholders from the investment. Further, this model is used to evaluate the impact of merger events on the wealth of shareholders. Lastly, the model results provide a base for ascertaining the gains of firms to calculate the motives of M&A.

The study follows the same methodology for estimation of abnormal return earned by the shareholders from the investment and the impact of M&A on shareholders' wealth. In these cases, the study classifies the abnormal returns of shareholders of acquirer and target firms. Subsequently, it categorises the acquirer and target firms on the basis of payment method, i.e., cash-based Merger and Acquisition and share-based Merger and Acquisition. In all these cases, the study follows share price 30 days before and after the merger. Here merger event means the first media announcement or stock exchange announcement, whichever is earlier. At the time of calculation of returns, the study used the adjusted closing price (Leepsa & Mishra (2012)) of companies and market indexes (BSE Sensex) available in the Bombay Stock Exchange and then found the market and company return by using equation R_{it} and R_{mt} as shown above. Next, the study is required to find out the abnormal return using the calculated company and market return. For ease of calculation, both returns are transformed into a natural logarithm form. Before estimating abnormal returns, it is necessary to find the standard deviation, constant, and beta value of the selected period. To do this, the estimation period was fixed from “-180” days before the event date to “+30 days” after the event date, based on the data (daily) availability of all the firms in a year from the stock exchange.

Figure 1.3*Event Estimation Period*

With the help of estimated values such as standard deviation, constant and beta, the expected return was found by using equation (1) in the study. Then the abnormal return is estimated by subtracting the expected return from the company return. Here, it is analysed that the changes of return in the different event windows like sixty one days (-30,+30), forty one days (-20,+20), thirty one days (-15,+15), twenty one days (-10,+10), fifteen days (-7,+7), eleven days (-5,+5), five days (-2,+2), two days (-1,0), two days (0,+1), one day i.e. event date, pre (-30 days before M&A event) and post (+30 days after M&A event) period. The maximum period is limited to 30 days before and after. Then, it tries to find how many firms earned positive and negative returns to the shareholders during the event windows. The study also classifies the firms based on the payment methods used for M&A purposes (excluded mixed payment methods to avoid the complexity of data). This bifurcation follows the different event windows, as shown above, and contributes to the results. For the purpose of analysis, the study estimates AAR (Average Abnormal Return) with equation (3) instead of using abnormal return as the study considers the returns of a large number of firms for calculation purposes instead of single firm returns.

After identifying abnormal returns, the study evaluates the impact of M&A events (first media announcement or stock exchange announcement, whichever is earlier) on the shareholders' wealth. This section also follows the same methodology throughout the study. It specifically focuses on the event date and the date adjacent

to it. By using equations (4) & (5), the calculation of CAR (Cumulative Abnormal Return) and CAAR (Cumulative Average Abnormal Return) respectively were possible. The results help to compare the firms' performance through different event windows.

1.8.5.2 Ordinary Least Square - Regression

This method is used to analyse the company's corporate performance before and after the completion of the merger process. This regression analysis is also used for synergy analysis, hubris, other motives related analysis and combined entity valuation after Merger and Acquisition. The study ensures that the assumptions necessary to perform regression analysis are met, i.e., there is no multi-collinearity and uses correlation statistics in this regard (i.e. variance inflation factor less than ten). So there is no exact correlation (i.e., negative relation) between the variables. The study used white standard error for the estimation of co-efficient to eliminate the presence of heteroscedasticity. Similarly, hack adjusted standard error is used to eliminate autocorrelation. This part of the study follows the econometric tool viz., ordinary least square (cross-sectional regression) for the analysis. The study follows the model as given below.

$$Y_{it} = \alpha_{it} + \beta_{it} X_{it} + \dots + \beta_n X_n + \beta_{it} D_{it} + \varepsilon_{it}$$

- Y_{it} - Dependent Variable
- α_{it} - Constant (Average value of all the independent variables (X) when the X variables show zero)
- β_{it} - Beta (Co-efficient of the systematic risk)
- X_{it} - Independent Variables
- D_{it} - Dummy Variables
- ε_{it} - Error term (it is the total of all variables which is affecting the dependent variables, but not considered in this study)

The above model is used for the different types of valuations in this study. These are all explained below.

A. Corporate Performance

It is necessary to know the changes occurred in the performance of companies (which engaged in the M&A) in the long-term period. The study fixed regression as the analytical tool suitable for this objective. Regression identifies the exact relation between the dependent and independent variables and also explains the motives behind it. Here the study used Ordinary Least Square (OLS) regression to check the corporate performance of merged entities (Rashid & Naeem (2016) and Omah, Okolie & Durowoju (2013)). Models selected for the study are given below.

$$ROA_{it} = \alpha_{it} + \beta_{it} CR_{it} + \beta_{it} QR_{it} + \beta_{it} DE_{it+} + \beta_{it} DT_{it} + \beta_{it} IC_{it} + \beta_{it} RT_{it} + \beta_{it} D_{it} + \varepsilon_{it} \quad (6)$$

$$ROCE_{it} = \alpha_{it} + \beta_{it} CR_{it} + \beta_{it} QR_{it} + \beta_{it} DE_{it+} + \beta_{it} DT_{it} + \beta_{it} IC_{it} + \beta_{it} RT_{it} + \beta_{it} D_{it} + \varepsilon_{it} \quad (7)$$

$$ROW_{it} = \alpha_{it} + \beta_{it} CR_{it} + \beta_{it} QR_{it} + \beta_{it} DE_{it+} + \beta_{it} DT_{it} + \beta_{it} IC_{it} + \beta_{it} RT_{it} + \beta_{it} D_{it} + \varepsilon_{it} \quad (8)$$

$$EVA_{it} = \alpha_{it} + \beta_{it} ROA_{it} + \beta_{it} CR_{it} + \beta_{it} QR_{it} + \beta_{it} DE_{it+} + \beta_{it} DT_{it} + \beta_{it} IC_{it} + \beta_{it} RT_{it} + \beta_{it} D_{it} + \varepsilon_{it} \quad (9)$$

Where,

EVA- Economic Value Added

ROW- Return on Net Worth

ROCE-Return on Capital Employed

ROA- Return on Asset

CR-Current Ratio

QR-Quick Ratio

DE-Debtors Equity Ratio

DT- Debtors Turnover Ratio

IC- Interest Coverage Ratio

RT- Raw material Turnover Ratio

D- Dummy Variable

ε - Error Term

Here, 'D' means a dummy variable to represent the time or period of the merger. If 'D' denotes zero (0) stands for the pre-merger period and one (1) stands for the post-merger period (Rashid & Naeem (2016)). After this calculation, it is possible to evaluate the results by comparing both firms' pre and post results.

These variables are designated to observe corporate performance. The study has considered a separate analysis on the merger effect for target and acquirer firms taking into account a three year period before and after the event (the year in which M&A with affected). This analysis is presented separately under the heads merger and acquisitions.

B. Synergy

The most important objective of the M&A is to get consolidation benefits resulting from the synergy. So the above model has been used to evaluate the emergence effect through financial synergy and operating synergy in this study. Apart from these two models, the study sets another single model to evaluate the synergy (all models are cross-sectional regression models). The two models are explained below.

Two models for financial and operating synergy are shown below.

a. Model for Financial Synergy

Synergy arisen through the combination of financial resources due to the M&A is Financial Synergy. The model for this synergy as follows:

$$EVM_{it} = \alpha_{it} + \beta_{it} Ko_{it} + \beta_{it} TA_{it} + \beta_{it} FL_{it} + \beta_{it} D_{it} + \varepsilon_{it} \quad (10)$$

Where,

EVM- Enterprise Value Multiple

Ko- Overall Cost of Capital

TA- Tax Amount

FL- Financial Leverage

D- Dummy Variable

b. Model for Operating Synergy

This kind of synergy arose through different consolidation operational activities of the organisations due to M&A. The model for this type of synergy can be stated as:

$$EVM_{it} = \alpha_{it} + \beta_{it} SL_{it} + \beta_{it} NPM_{it} + \beta_{it} OL_{it} + \beta_{it} D_{it} + \varepsilon_{it} \quad (11)$$

Where,

EVM- Enterprise Value Multiple

SL-Sales

NPM- Net Profit Margin

OL- Operating Leverage

D- Dummy Variable

These two regression models help the study to analyse the synergy effect obtained by the firms (acquirer) with Mergers and Acquisitions. These kinds of regression models are used for analysing the synergy.

C. Synergy, Agency and Hubris Analysis (M&A Motives)

The return estimated using equation (equation 4 above), CAR (Cumulative Abnormal Return) is again used to create a foundation for the analysis of synergy,

agency and hubris theory. Here, the study selects the CAR value five days before and after the merger event or first announcement, i.e., 11 days CAR data are selected. To get the Target gain and Acquirer gain, these selected CAR values are multiplied with the sixth-day market value of the share before the merger announcement or event minus any subsidiary investment by the acquirer in the target firms. The Total gain is considered as the sum of Target gain and Acquirer gain (Berkovitch & Narayanan, 1993).

Analysing the data discussed above, the study exhibits an idea about the synergy motive, agency motive and hubris hypothesis. It is found that there occurred acquirer gain, target gain and total gain. Then the study regresses these data to find the results (motives). The regression models created for this analysis are shown below.

$$TG_{it} = \alpha_{it} + \beta_{it} TTG_{it} + \varepsilon_{it} \quad (12)$$

$$TG_{it} = \alpha_{it} + \beta_{it} AG_{it} + \varepsilon_{it} \quad (13)$$

Where,

AG- Acquirer Gain

TG- Target Gain

TTG- Total Gain

The results obtained from the above model (12 and 13) will be selected to interpret the hypotheses regarding the relation between acquirer gain, target gain and total gain are given in the Table 1.3 below.

Table 1. 3*Relation between different hypotheses in M&A Motives*

Hypothesis	Correlation between	
	Target Gain and Total Gain	Target Gain and Acquirer Gain
Synergy	Positive	Positive
Agency	Negative	Negative
Hubris	Zero	Negative

Source: Berkovitch and Narayan (1993).

The table shows that in the case of the synergy hypothesis, there is a positive correlation between the target and total gains while the hubris and agency, hypotheses predict zero and negative correlation, respectively. Similarly, it predicts a positive correlation between target and acquirer gains while the hubris and agency hypotheses predict a negative correlation (Berkovitch and Narayan, 1993). Some issues exist in the regression analysis; it is explained here, “It is quite likely that all three motives are simultaneously present in a sample of M&A. Therefore, to get a better distinguish among the different hypotheses, the following tests are suggested.”

At first, the synergy hypothesis is to be compared with the agency hypothesis without contradiction to hubris. For eliminate hubris effect, the correlation between the target and total gains are considered instead of the correlation between target and acquirer gains. Therefore, the hubris hypothesis signifies that a profit to the acquirer is a loss to the target. This means that the target and total gains are inversely correlated. In order to identify their difference, a test of measure the correlation between the target and total gains is done. The same test cannot be applied in the presences of synergy and agency motives in the sample. As synergy and agency motives have opposite predictions, the results of such a test may be similar with that of the hubris hypothesis. So it will mislead the study. To solve this issue, another test is necessary. There are two subsamples, positive and negative total gain. In that case, agency motives are more attractive to negative total gains than positive, whereas in the synergy motives, it is opposite. Within each subsample, the correlation is measured in the right manner (Berkovitch and Narayan, 1993).

Berkovitch and Narayan developed three hypotheses for the same purpose, they are:

- (H_a): Mergers and Acquisitions are primarily motivated by synergy. Therefore, target and total gains will be positively correlated in M&A with positive measured total gains as well as in M&A with negative measured total gains.
- (H_a): Mergers and Acquisitions are primarily motivated by the agency. Therefore, target and total gains will be negatively correlated in M&A with positive measured total gains as well as in M&A with negative measured total gains.
- (H_a): Mergers and Acquisitions with positive measured total gains are motivated primarily by synergy and M&A with negative measured total gains are motivated primarily by the agency. Therefore, the target and the total gains are positively correlated in M&A with positive measured total gains and negatively correlated in M&A with negative measured total gains (Berkovitch and Narayan, 1993).

Next, an attempt is made to identify the importance of hubris. It may exist even if the primary motive for the M&A is synergy or agency. However, it has different effects on the measured correlation between target and acquirer gains depending on whether the primary motive is synergy or agency. Since hubris implies a negative correlation between target and acquirer gains, it reinforces the effect of agency (which also implies a negative correlation between the target and acquirer gains), but it mitigates the effect of synergy (which implies a positive correlation between target and acquirer gains). Therefore, the sample is split into M&A with positive and negative total gains, under the assumption that agency is the primary motive in M&A with negative total gains and synergy is the primary motive in M&A with positive total gains (Berkovitch and Narayan, 1993). For this purpose, their hypotheses are:

- (H_a): Target and acquirer gains are negatively correlated in the subsample of negative total gains.

(H_a): Target and acquirer gains are positively correlated in the subsample of positive total gains.

D. Combined Entity Valuation

The study considered the combined entities' valuation and its differences after the M&A effected. There is a necessity to answer the question, what changes are experienced by the firms after the M&A took place. To calculate the combined effect, the study finds the sum of the acquirer and corresponding target firms' data before the M&A and then find its average. The same process is done for the post-M&A data. The next step finds out the combined effect of M&A on entity value by using the OLS regression model (Rashid & Naeem (2016) and Omah, Okolie J & Durowoju (2013)). The corporate performance stage is analysed for the acquirer or target performance individually, but here the study selects the acquirer and its target firm together in this analysis. The study fixed some regression models to know the changes or combined valuation effects which are given below.

$$ROA_{it} = \alpha_{it} + \beta_{it} CR_{it} + \beta_{it} QR_{it} + \beta_{it} DE_{it+} + \beta_{it} DT_{it} + \beta_{it} IC_{it} + \beta_{it} RT_{it} + \beta_{it} D_{it} + \varepsilon_{it} \quad (14)$$

$$ROCE_{it} = \alpha_{it} + \beta_{it} CR_{it} + \beta_{it} QR_{it} + \beta_{it} DE_{it+} + \beta_{it} DT_{it} + \beta_{it} IC_{it} + \beta_{it} RT_{it} + \beta_{it} D_{it} + \varepsilon_{it} \quad (15)$$

$$ROW_{it} = \alpha_{it} + \beta_{it} CR_{it} + \beta_{it} QR_{it} + \beta_{it} DE_{it+} + \beta_{it} DT_{it} + \beta_{it} IC_{it} + \beta_{it} RT_{it} + \beta_{it} D_{it} + \varepsilon_{it} \quad (16)$$

$$EVA_{it} = \alpha_{it} + \beta_{it} ROA_{it} + \beta_{it} CR_{it} + \beta_{it} QR_{it} + \beta_{it} DE_{it+} + \beta_{it} DT_{it} + \beta_{it} IC_{it} + \beta_{it} RT_{it} + \beta_{it} D_{it} + \varepsilon_{it} \quad (17)$$

Where,

EVA- Economic Value Added

ROW- Return on Net Worth

ROCE-Return on Capital Employed

ROA- Return on Asset

CR-Current Ratio

QR-Quick Ratio

DE-Debtors Equity Ratio

DT- Debtors Turnover Ratio

IC- Interest Coverage Ratio

RT- Raw Material Turnover Ratio

D- Dummy Variable

ϵ - Error Term

In this regression model, the study analyses the cross-sectional analysis to know the actual effect. To test the combined effect on entity value, the study found an average of acquirer and target data before and after. Then it is needed to identify how these above independent variables affect the combined entity after M&A. So in order to know this effect perfectly, the study is required to analyse the pre-merger of both target and acquirer companies.

1.8.5.3 t-test

After the regression (OLS) analysis, to test the changes in the variables before and after the M&A the study used a t-test for this purpose. It is a two-sample paired t-test having equal variance (assumed) with an alpha 0.05 level (Leepsa & Mishra (2013)). The mean value of the variables before and after were analysed and set pre-data as input variables and post data as output variables. Then the two-tail t statistics and their probability value were found out.

The whole study used three analytical tools: event study analysis, econometric regression and t-test. With the help of these analytical tools, the study prepared different regression models to analyse its objectives.

1.9 Organization of Report

The study is arranged into eight chapters. Chapter One deals with the introduction, importance of the study and research problem, objectives, conceptual model, methodology, statistical tools and models, variables used in the study, and limitations of the study. The review of literature about the study is discussed in Chapter Two. Chapter Three analyses the theoretical frameworks related to the Merger and Acquisition and its theory, process, and different variables used for the analysis. In Chapters Four, Five and Six, the objectives of the study are analysed in detail using event study, t-test and econometric models, i.e., the Fourth Chapter analyses the estimation of abnormal return and the impact of M&A on shareholders' wealth, the Fifth Chapter exhibits impacts of M&A on corporate performance and combined entity valuation. Chapter Six explains the M&A motives and the different models (financial and operating) used for analysing synergy. Chapter Seven provides the summary of the research, findings and conclusion of the study. Finally, Chapter Eight covers the recommendations, implication and area of further research.

1.10 Limitations

1. A complete study of the impact of M&A would necessitate non-financial analysis as well. The qualitative aspects of the study are not being considered.
2. The study took six years' data (three years prior and three years post-M&A) for the analysis. The study did not consider data points beyond three years on either side.
3. There are different models for event study like the Market adjusted model, Mean adjusted model, Three-factor index and CAPM model. But this study used only the Market model.

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CHAPTER 2

REVIEW OF LITERATURE

2.1 Introduction

Identifying research gap in an area of study is the most important part of any research work. Having a good understanding of the background and the contemporary relevance of the chosen area of study is of great importance. To know the study gap, one must inevitably refer the relevant previous studies and works. These will enlighten the researcher and help him know the focused area. Studies related to Merger and Acquisition at the domestic and international level are available. But studies on the impact of Merger and Acquisition on shareholders' wealth and corporate performance are found to be limited.

2.2 Review of Previous studies

Here the researcher tries to collect the works related to Merger and Acquisition. These works are discussed under three heads. The first part dwells upon reviews that discuss about the shareholders' wealth or values, and the second part focuses only on corporate performance. The last part discusses other related works that come under Merger and Acquisition. Studies in the area of Merger and Acquisition are exhibited below.

2.2.1 Shareholders' Wealth

The study examines a number of works that discuss the impact of Merger and Acquisition on shareholders' wealth or values. These works mainly consider the short term impacts on the shareholders' wealth. But there are very few studies that discuss the long term impacts of Merger and Acquisition on shareholders' wealth.

Neelam, Yadav, & Jain (2011) attempt to study the short-term impacts of Merger and Acquisition on the shareholders' wealth. Its scope is confined to Indian pharmaceutical industries from 2001 to 2007. It focuses on the Merger and

Acquisition activities of Indian acquirers with both domestic and foreign companies. For the analysis, the study used event methodology with traditional market model to know the abnormal return of its shareholders and used a value-weighted market index. This work considered BSE SENSEX as the market index. Pre-merger trading days are 280 days before 30 days event day. Data for the study was collected from CMIE data base, THE HINDU BUSINESS LINE and website of NSE and BSE. The study focused on the significant impacts of M&A of foreign-based targets. The study found that an acquisition is more favourable than a merger, and that there is no significant impact of M&A on Indian based targets, i.e., no short-term wealth. The study concluded that the effects of the acquisition and strategic alliances' announcement are the best alternatives to strengthen competitiveness for the long-term success.

Sinha & Gupta (2011) consider Merger and Acquisition of the Indian financial sector. Samples for the study were collected from different sectors like stock markets, banking, and insurance. CMIE database is used to get data related to eighty samples collected from these sectors during the period from 1993 to 2010. It considers the three years before and after the event for the study. Normality is tested in both the cases using the Jarque Bera statistics. If it shows normality, 't' test is done to compare mean; otherwise, Wilcoxon rank or Mann whitney U test are used from a single sample. OLS regression is used to fix the relationship between different parameters with dependent value. The Augmented Dickey-Fuller test is conducted to check whether the data series is stationary. The results show that in most cases, there is a positive effect on the profitability. Liquidity becomes worse after the merger. Interest coverage is significant to the return on shareholders' wealth in both stages, but the profit margin is significant only after the merger. It points out that diversification is a way to reduce non-systematic risk, and since it also makes a strong impact on systematic risk, it helps reduce the overall risk to the firm.

Cheng, Wickramanayake, & Sagaram (2015) evaluate the effect of domestic and cross border Merger and Acquisition on shareholders' wealth in India and China. Its

scope is confined to the acquiring firms of both the countries during 1999-2003. The researchers try to find answers to the following questions; Is there any increase in the value of shareholders of the acquiring firm in a cross-border merger? How do the bidder firm's financial decisions impact the wealth of the shareholders in the bidder firms and the target firms? The acquiring firm's shareholders' wealth is influenced by the target and bidder firm's style characteristics. The study uses an event study to check the abnormal return and CAAR, and M-GARCH (Multiple-GARCH) as an OLS (Ordinary Least Square) method to find its beta co-efficient. It helps to find systematic risk, which is used for testing conditional volatility between stock and market of the acquiring firm. In the case of CAAR (domestic merger), acquiring firms' shareholder wealth has a considerable decline in the long term. Both Indian and Chinese firms got only small returns in the short run and negative in the long run. In cross-border mergers, the Indian acquirer gets a very small return while the Chinese gets a better return. The market reacts to the tender offer positively in both the countries. Cash-oriented transactions gave more returns than when stocks were taken as a mode of payment. In India and China, low MTBV (Market to Book Ratio Value) acquirers performed better than high MTBV glamour acquirers.

Sugiarto, A (2000) investigates whether a difference in the controlling interest with the target firm at the time of M&A would bring about any considerable change in the shareholders' return. It tries to examine the consequence of hubris on shareholders return under different conditions. It selects M&As that have 50% or more interest in the target firm. The study adopts an event study methodology, accounting numbers with pre and posts analysis. It employs a market model and a market adjustment model with a ten-day event window. Data is collected from the Australian stock exchange during the period 1993-2000. In the event analysis, it was found that unlike the acquiring firm's shareholders, the target firm's shareholders benefited through a capital gain. Shareholders of acquiring firms mostly experienced marginal gain and even incurred losses at times. In the accounting method, both firms could enjoy benefits in the short-term only, i.e., performance declined in the long run.

Contrary to the hubris theory, the target firm's shareholders experienced a capital loss irrespective of whether the interest was above or below 50%. Shareholders of the acquiring firm get a nominal return in controlling interests during announcement periods irrespective of whether above or below 50%. But results show that the shareholders of acquiring firm incurred an abnormal return in less than 50% as compared to the firms in the case of more than 50%. It concluded that the acquiring firms get positive gains and motives in the target firm, thereby making the firms' shareholders' the real beneficiaries in M&A.

Mohapatra (2015) studies how M&A create values to the India's construction industries' shareholders. It uses an event study to know the abnormal return. The model selected for the calculation is market model adjustment return or single index market model with an OLS regression analysis. Data collected from CMIE, BSE website, and BSE 500 are selected as a market index. It covers the M&A from 1995 to 2012. Shareholders of acquiring companies attain positive CAAR up to 2.27% through M&A. Market growth rate and other factors play a significant role in defining the success of M&A. Benefits attained from synergy form the foundation for value creation.

Ma, Pagán, & Chu (2009) examine the abnormal return of shareholders in the acquiring firm due to M&A. The study considers M&A of ten major Asian countries, including India, during 2000-2005. It follows the event methodology and selects the market model for determining the normal return. Robust 't' test and Wilcoxon 'u' test are used for testing its significance. It considers three different event windows for the study. It finds that the effect of information leakage on the valuation is statistically significant. M&A for the financial industries gave lesser CAR than non-financial industries in two different windows, but were not statistically significant. It concludes that the Anglo-American M&A deals are valid with the continental M&A but not valid for Asian countries. Also, the agency problem proved less harmful in the Asian emerging markets.

Tsing-Ming Hoshino (2002) explore the impact of Merger and Acquisition on shareholder wealth in Taiwan Corporation. The study focuses on the period 1987-

1998. It adopts an event study approach with market model as its methodology. The study analyses abnormal returns and Merger and Acquisition with different motives. It analyses the motives of M&A like technological advancement that extends the market, both vertical and diversified. In the case of technological advancement, M&A shows a positive impact on shareholders' wealth as it enhances the competitiveness of firms. Other motives show a positive gain to the acquiring firm. But vertical M&A has weakened the firm values.

Brown & Warner (1985) examined the properties of daily stock returns and how particular characteristics of these data affect event study methodologies for assessing the share price impact of firm-specific events. It also evaluates the small sample properties of mean excess return. The study considered some issues related to the daily data for event studies like non-normality, variance related issues in time series, cross sectional analysis, non-synchronous and market model parameters and stationarity. Thus, the study stated that recognition of autocorrelation in daily excess returns and changes in their variance conditional on an event can sometimes be advantageous. In addition, tests ignoring cross-sectional dependence can be well-specified and have higher power than tests that accounted for potential dependence.

Mackinlay (1997) attempts to discuss the different methodologies and tools used for event studies in finance and economics. The study explains the impact of an event on the security prices by using financial data. It explains the relevance of the study and of different models including the economic models (Capital Asset Pricing Model and Arbitrage Pricing Model), market model, mean constant model, cross-sectional model, and other statistical models such as the factor model. It also explains the power and robustness of a test, and uses non-parametric tests like sign test for the study. It provides an explanation for calculating abnormal returns and further making inferences on it. The study throws light into the analysis of the short-term impact of the event and its evaluations.

Manasakis, C (2009) observed the stock market valuation of M&A in the Greek Banking Industries during the period 1995-2002. It considers testing at two levels of hypothesis i.e., hubris and synergy and compares the results with European banking

industries. In the case of synergy hypothesis, both target and bidder firm's managers focus on the increase of shareholder value. The hubris hypothesis has two components: The managers' objective through M&A is to increase their private benefits by stimulating corporate growth, rather than corporate value. The M&A are also the results of the top management's over-optimistic estimation in integration synergies and efficiency improvement. The study values the shareholder wealth without considering the type of deal, i.e., whether it is Horizontal or diversifying M&A. Then, the values of the target firm and the bidder firm are compared by considering the type of deal. Further, it compares the target and the bidder firm when a target firm is an insurance company or an investment bank. The study follows event methodology coupled with the traditional market model. The finding portrays that in the horizontal M&A, bidder shareholders' wealth has no significant gain but the target shareholders' get a significant return. Moreover, there is no effect of M&A on the combined post-integration firm's value. It concludes that M&A makes no substantial improvement on the firm's value due to the transfer of wealth, i.e., the positive return of the target firm offset with the bidder firm's negative abnormal return.

Mensah, J.K (2011) aims to study M&A's influence on the wealth creation of shareholders of bidding and targeting firms. It also evaluates the impact of market liquidity on the Cumulative Abnormal Returns (CARs) in estimating shareholders' wealth effects. It covers only the U.S. firms involving M&A during the study and calculates the CARs by using the standard CAPM, Fama-French three-factorial model. Carhart Four-Factor model ensures model specification and uses OLS and asymmetric GJR-GARCH model to estimate the model. It considers the CAR of both firms, acquirer's market cap, and trade volume to measure the market liquidity. This study establishes that M&A create economic benefits to both firms, and that the firms were capable of increasing the wealth of their shareholders. The target firm accrued positive returns and the acquiring firms got negative returns. CAR shows a relatively higher result in the acquiring firms as compared to the target firms before the announcement, and a reduction in the acquiring firms after the announcement. Carhart Four-Factor model exhibit higher CAR in pre and post period. When the

study compares OLS and GJR-GARCH in case of the CAR, GJR-GARCH exhibits high returns. The point to be noted is that the amount is larger in post-periods than the pre periods. When measuring the liquidity with OLS and GJR-GARCH, medium firms attain higher returns than large and small ones in the case of target firms. Small and large target firms respond sufficiently towards the new information resulting in market efficiency. In the acquirer firm's case, small liquid stocks show high CAR compared to medium and large liquid stocks under the OLS method. But returns are not strong in case of the target firm. In the Carhart Four-Factor model, CARs show a high return in the post-event period under OLS and GJR-GARCH. Kurtosis reveals that the returns follow normal distribution, and Jarque-Bera test statistics mostly reject the normality assumption for bootstrapping (to check the robustness) simulation under OLS and GJR-GARCH for both firms.

Omah .I., Okolie J.U, & Durowoju S.T (2013) examine how Merger and Acquisition creates value to the shareholders. It also assesses the post-merger operative performance of the merged entity. It considers the banking industry in Nigeria between 2001 and 2010. Data, both financial and non-financial are collected from CMNE (Centre for Monitoring Nigerian Economy) and the Nigerian Stock Exchange (NSE). This study used EVA (Economic Value Added), MVA (Market Value Added), and RONW (Return on Net Worth) techniques to understand the shareholders' value addition. For further analysis, it classified all the samples into different groups based on criteria. It does an inter-company and intra-company comparison on the post-merger effect on value addition. It classifies samples based on the same value and examines with the above techniques. Then, it conducts an Inter-industry and Intra-industry comparison to check the values created to the shareholders after the merger. It used regression analysis to know the pre- and post-performance of shareholder value. The study finds using EVA and RONW methods that 80% and 75% of the firms created negative value to the shareholders respectively. But in the case of MVA method, 70% of companies received positive value for their shareholders. It concludes that the stock values of most firms increase immediately after the merger, but declines afterwards.

Petkova & Do (2012) attempt to examine why Merger and Acquisition failed to generate value to the shareholders. It considers the telecommunication industry in Europe during the period of 1995-2005. It also analyses the acquirer firm's post-acquisition performance and the motives behind the acquisition in the short term and long-term period. It evaluates the pre-deal factors, i.e., acquirer size, the book to market ratio, female management and experience. It also takes into account the deal factors, i.e., method of payment, geographical reach, degree of control, industry relatedness and advisor involvement. It uses different softwares like SAS, Eviews 6.0, and MS Excel. The methodology part of the study uses three techniques i.e. event study, buy and hold method, and the regression analysis. The study concludes that acquisition fails to create value to the shareholders and there is a negative impact on acquiring firms' post-acquisition performance. The motives behind the acquisition are mainly influenced by external factors. But internal factors, especially financial synergy, have also induced the management to go for Merger and Acquisition.

Azhagaiah & Sathish Kumar (2012) scrutinize the effect of M&A on shareholders' wealth in the short run. Its scope is confined to the food industry in India during 2007. This study uses pre and post methodology, and considers the three years before and after the M&A as the event window, i.e., 2004-2010. It adopts a multi-stage sampling technique and the data is collected from CMIE database. The study made use of different tests: descriptive statistics, correlation matrix, multiple regression, factor analysis (to know the underlying pattern), chow test and chow break-point test. In the analysis part, the variables were rotated through varimax with Kaiser Normalisation and extracted with compound analysis. This study concludes that there is a significant effect of M&A on shareholders' wealth during 2004-2010. The study finally inferred a good relationship between dependent and independent variables, and a positive impact of M&A on the acquiring firms after the merger.

Michael, N.B (2013) analyses whether the bank's shareholders' wealth is maximized or minimized due to M&A. The study selected the M&A in the banking

sector in Nigeria during 2005 with the study variables; Dividend Per Share (DPS) and Earning Per Share (EPS). The pre and post methodology is used for the study. It used Durbin-watson test, regression method, and paired 't' test for the analysis. Durbin-watson test revealed an adverse order serial correlation among the explanatory variables, and that positive changes in the payment of dividends affected the capital base positively. This study found that the Merger and Acquisition was advantageous to the banks' shareholders. Management could increase the return to the shareholders in the pre- M&A period. It concludes that positive changes in the dividend result in positive changes in the bank's capital base, which help to retain the shareholders and attract new investors. Merging between banks or non-leveraged acquisitions reduce debt interest; it increases post-merger earnings for both the banks and the shareholders. Stable banks acquire banks that suffer loss allowing them to reduce their tax liabilities. Hence, acquisition premium is found at a low level, reducing the burden on acquiring banks and providing a good return to the bank and its shareholders. The study also suggests that the Central bank must be transparent enough in its economic activities so as to reveal the quality improvement and fraudulent activities of the banking sector.

Casper, F (2009) interprets the impacts of M&A on the acquirer and target firms' shareholders. The study confines its scope to the European economy. The duration of the study is from 2000-2008. The central question posed in this study is whether M&A creates any value to the shareholders in the short-term period in European countries. Additionally, it analyses the effect of Merger and Acquisition on domestic versus cross border. It studies the mergers between firms located in UK versus continental Europe, and studies how the different payment systems affect the shareholders' earning in both firms. It further checks whether the deals are related or unrelated based on Standard Industrial Classification (SIC) codes. The event study methodology is used to analyse the objectives. The study found that the target firm gets an average positive return two days before and one day after the event. But the bidder firms do not statistically differ from zero. Their performance remains satisfactory by neither creating nor destroying value. Market expectations of profitability related to the M&A are based on different kinds of deal composition.

European market does not take into account any kind of hindrance, whether legal, cultural or transactional, faced by the parties in the M&A deals. Finally, shareholders of UK targets get more returns than continental targets. Also, changes in corporate regulation, shareholders protection, and legal origin greatly influence the premium paid to the target firms. There is no significant impact of the M&A announcement on UK bidders and their Continental counterparties.

Kashiramka, S., & Rao, N. M (2013) attempt to explain the effects of M&A on shareholders' wealth. The scope of the study is limited to the Information Technology (IT) sector, and Information Technology enabled Services (ITeS) in India. It conducts the analysis under the assumption that the Indian capital market's efficiency is semi-strong. The study considered the M&A during 1999-2009. It collected the required data from the CMIE prowess database, and verified it by the Lexis Nexis database, Venture Intelligence database, and financial dailies. The study classifies the total period into two levels on the basis of the number of deals. The years 2005, 2006, and 2007 having witnessed significantly a higher number of M&A, is considered as the High Deal Activity Period (HDAP), and the remaining period as the Low Deal Activity Period (LDAP). It uses the Event Study Method (ESM) with a simple market model to examine the mean stock price effect. It uses parametric tests to test the significance level. Non-standardized 't' test, patell test (for weighing stock in inverse proposition), and BMP (Boehmer, Musumeci, and Poulson) test (for the contemporaneous cross-sectional correlation) are considered. The results concluded that the acquirer's shareholders in both HDAP and LDAP experience a loss of wealth, with a lesser magnitude of loss in HADP. The target firms acquired a loss in HDAP and gained in LDAP. Standardized residuals are consistent with the results of the t-test, patell test, and BMP test. It concludes that the stock market trend influenced the magnitude of gain or loss and rejected the semi-strong form of EMH due to wealth gain or loss. Finally, it emphasised that the market is recognized positively in an acquisition than in a merger in the IT & ITeS sector.

Uzunski, P. S (2011)'s observations demonstrate the impact of domestic and cross-border M&A on acquirers and targets. The study selects only mergers from central and eastern Europe, and studies about the payment method (all cash or all shares) and merger strategy (focus or conglomerate). The period considered is from 2000 to 2011. The study focuses on the mode of payment in the M&A and follows event study and parametric and non-parametric test statistics like t-test, sign test, skewness test, and rank test. Monto corlo simulation is used as a good estimator for fixing the true sample size. The study found that the merger announcement's overall benefit is high in a cross-border merger than in a domestic one. The acquirers feel higher benefits of the merger announcement in the case of focus mergers than in conglomerate mergers. The motives behind the conglomerate merger are not profit maximisation to their shareholders. The cash payment is intimate, indicating a good synergy perspective to the investors of the merged company. It concluded that CAR holds an unfavourable relation with the acquirers' pre-merger total assets value but a constructive relation with the pre-merger tax rate and operating revenue and target country risk.

Thompson & Mullineaux (1995) conducted a study to analyse the effects of Merger and Acquisition on the Bank Holding Companies. The study selects the sample exclusively from US between 1980 and 1987. It follows the event study methodology with the market and risk-adjusted model to know the return. It uses three single indices and two double index econometric models for the study. It analyses the returns to the acquiring firms and classifies them based on the stock exchange in which the firms are listed. It concludes that shareholders of the acquiring firms earn positive abnormal returns, while the shareholders of the acquired firms get either significantly negative or zero returns depending on where the firm is listed, i.e., OTC or NYSE/ASE. It provides 'additional evidence on the 1) the significance of bank merger announcements, 2) the comparative announcement effects across exchanges, 3) a comparison of acquiring versus acquired effects, and 4) evidence on the consequences of model choice' (Thompson & Mullineaux (1995), pp.50).

Kostov (2015) studied the M&A and its impact on the shareholders' wealth. The study selected Merger and Acquisition in the telecommunication industry in Europe, and considered the conglomerate and non-conglomerate mergers during 2002-2013. It assumed that the market is semi-strong. It found that both the acquirer and target firms achieved a positive market response with their merger announcement. The conglomerate acquirers get significant positive share price reactions, while the non-conglomerate acquirers have to satisfy themselves with a meagre share price reaction. Finally, from studying the market's reaction to the acquirer and target firms separately, it can be concluded that the target firms enjoy a positive market reaction while the acquirer firms get only an insignificant reaction.

Sharma (2010) conceptualises the bank merger and its economic importance in creating or increasing the shareholders' value. This work does a comparative study between the bank proponents' assumption that mergers help the banks to gain enormous profits, and the Coase (1937) theory which states that there exist trade-off between economies of scale (size) and the ability to manage. The study analyses whether Coase theory can be applied to financial institutions and whether the size of the financial institutions contributed to the 2008 crisis. It employed the market event study to assume that the return of a security has a linear correlation with the market portfolio's returns. The notable questions posed in this work are: 1. Does the market return the ideal proxy for valuing a merger? 2. Are the stock price returns ideal for valuing a merger? 3. Can the stock market reflect the value of M&A and changes like top employees leaving or customer dissatisfaction? The data included in the study are the closing value of the S&P 500 and its Market cap. The study assumes that the market is semi-strong. It concluded that the shareholders of acquiring banks do not get returns from the merger. The shares' price does not reflect the employees' efficiency or customer dissatisfaction and top-level managers' withdrawal after the merger. Lastly, the merger's impact does not sustain for a long time and affects the determination of the shareholders' returns. The proxies are not sufficient to measure the merger's values.

Gashchenko (2005) focuses on the incremental wealth of shareholders in transition economies. The study primarily takes into consideration the changes in the wealth of the acquiring company's shareholders in M&A. The event study with the market model is the methodology used and data collected is for the period between 1990 and 2005. This study had used market indices as proxy data for the market rate of return, i.e., S&P 500 and FTSE100. Moreover, the study found that the Merger and Acquisition announcement created positive value in the publicly traded securities of developed countries. But the same event created only a negative return to the acquiring firm's shareholders. It concludes that M&A in transition countries do not increase the investors' returns due to the pressure of risk and uncertainty, i.e., it leads to a regressive trend in the market. Acquiring companies in transition countries focus only on their sale and asset advancement through M&A.

Dijk (2011) observed whether Merger and Acquisition creates abnormal returns to the acquirer firm. It used data related to M&A of listed companies in the S&P 500, during the period 2005-2010. For analysis, Eventus@software is employed. The study is confined only to the financial macro industry of USA. It followed the Brown and Marker's market model to find the abnormal return. The study could not reach any definite conclusion proving the effect of M&A on shareholders' value. There is no difference in the result even if it is based on stock exchange, geographic area, or macro industry. The study finally concludes using the Efficient-market hypothesis that the acquirer company hardly received any abnormal return after the Merger and Acquisition.

Sikarwar (2012) analysed the merger announcement between SBI with State Bank of Saurashtra and State Bank of Indore. The study aims to evaluate the changes in the shareholder's wealth during the short period when the merger existed. The study followed event study methodology with the market model to determine the abnormal return concerning the event. Data for the study were collected from the website of NSE, thereby making it a secondary source. Shapiro Wilk's method is used to confirm the normality of the parametric test by SPSS software. Parametric test, 't' test, and the non-parametric test used 'Corrado rank' test to fix the test statistics'

significance in the study. In the case of the merger with State Bank of Saurashtra, it demonstrates significant returns to the event but not on the event's date. Nevertheless, the merger with the State Bank of Indore failed to generate any significant abnormal returns. It concluded that the perceived information and expectations of the investors influenced the price of shares in the market.

Chavaltanpipat, Kholdy, & Sohrabian (1997) take into consideration the effects of a merger on the shareholders' wealth. Here, wealth pertains not only to the share price, but also to the dividend from the investment. This study covers the period from January 1994 to October 1995. It mainly focused on the effects of merger announcement based on acquisition size and interstate integration. The study used OLS (Ordinary Least Square) market model to calculate the abnormal return. At the time of the announcement period, large acquisitions obtained substantial negative returns, whereas small and medium acquisitions created insignificant negative returns to their shareholders. In the case of the acquired entities, they obtained more positive returns from large acquisitions than small and medium ones. All the target banks received a positive return at the time of the event. Interstate integration resulted in positive returns to the acquired banks alone, leaving others with insignificant negative returns.

Zegers (2009) focuses on the effect of Merger and Acquisition on shareholders' wealth in the short run. It considered the samples from Dutch Merger and Acquisitions that occurred between 1994 and 2008. This study followed the ex-ante research method, i.e., evaluating the impact on the announcement date. The study excluded private firms from its focus and collected data related to public firms listed in Amsterdam Stock Exchange (ASE) from Zephyr and SDC database. It followed an event study with the market model to access the abnormal return. It used SPSS software to classify the OLS regression, and classified the data based on the method of payments into three viz cash, stock or both. It concluded that the bidding firms' share price fluctuates due to the merger announcement, i.e., 60% is negative, and 40% is the least positive return. All the target firms of shareholders exhibited a positive return for their shareholders. The overall benefit of the combined firms due

to merger is significant. Whether the payment is by cash or stock influences the share prices of both the firms. It concludes that synergy emerged as the primary motive of every Merger and Acquisition.

Leepsa & Mishra (2013) attempt to comprehend the long-term post-acquisition performance of manufacturing concern. Its scope is confined to the Indian Industry. Here, performance is measured using the method of Economic Value Added (EVA), i.e., economic profit. The M&A selected were from the period from 2004 to 2007, and the data was collected from CMIE databases. The study made use of paired t-test and Wilcoxon rank test for statistical analysis. Both EVA method and other traditional methods showed that the companies exhibited poor performance. The companies could not succeed in the post periods in spite of their noticeable performance during the pre-acquisition period. The study also stated that the event-related to acquisition did not influence the performance of the company. The impact of diversified business was better on unrelated deals than related deals. It also hinted that the major motive of acquisition was to earn quick profits. It concluded that India's manufacturing industries failed to deliver any additional wealth through acquisitions.

Leepsa & Mishra (2014) evaluate the pre- and post-performance of companies in the manufacturing industry in India between 2000 and 2008. The data (adjusted closing price) for the study was collected from the CMIE database. This study used control firms to check the influence of M&A deals and avoid industrial and economic factors. It followed the simple percentage change method to evaluate the performance of companies in the post period. The study implicated that the shareholders' wealth of acquiring companies increases through M&A due to synergy, diversification, etc. But according to hubris theory and hefty concentration of utility, it negatively impacts shareholders. This study concludes that the performance of manufacturing companies upgraded as a result of M&A.

Kyriazopoulos & Drymbetas (2015) considered the creation of value for the shareholders on the short run. This study mainly focuses on profitability and wealth creation to both the firms as a result of the M&A. It tries to explain the pre-

profitability and its impact on the M&A through an analysis of market reaction. Market method and market-adjusted method are made use of for the analysis of the data. Data for the study from 1996 to 2010 was collected using Bloomberg data source. Cross-sectional regression and profitability ratios are mainly taken into account. The study found that all the target banks except the low profitability organisations were able to create positive returns to their shareholders within the three day event period. But the acquirer firm was unable to create any value through Merger and Acquisition, even in some cases for ten days, thereby creating negative returns. Inefficient acquiring banks obtained a negative return in the post event period and very small positive returns on the announcement date. Firms having higher ROE get negative returns on both the announcement day and in the post-event period. Wealth is created to the shareholders only when efficient banks acquire inefficient banks. The study concluded that net income and ratios like total loans to total assets and debt-equity ratios affect positive returns but to a very small extent. The study further considers the size of the target banks which provided negative results.

Rani, Yadav, & Jain (2015) analyse the short-term impacts of Merger and Acquisition. Its scope is limited to domestic and cross-border mergers of all industries in India. The data from the period 2003-2008 is collected from the Thomson Securities Data Corporation (SDC) database. A detailed event study methodology is used to ascertain the average return and cumulative average return. The study found that the market immediately reacts to the announcement and gets a positive return in the period prior to the acquisition. But in the post-period, this market reaction turns out to be negative due to the strong correction of the market price of the acquiring firms. If share is purchased two days before and sold two days after, a positive result is found. Also, cross-border mergers provided higher returns than others. If a target firm acquired a wholly subsidiary, it got a high return; otherwise lesser return were obtained. The cash payment mode at the announcement created higher returns.

Tao, Liu, Gao, & Xiab (2016) analyze the stock market reaction and how it is affected by the announcement time of cross-border Merger and Acquisition. The study assessed this impact on a short-term basis. The data from 2000-2008 was collected from Thomson Security Data Centre (SDC). The tool event study was used to test abnormal returns. The study adopts a different view on the basis of signalling theory and institution: political risk and ownership quality was selected as the study variable and its impact was analysed. The study found that the target companies having lower political risk benefited from higher returns as compared to other companies. The study highlighted that Chinese-state owned enterprises do not provide much return as compared to private enterprises. It concluded that the announcement of cross border Merger and Acquisition created short term positive stock market value among the Chinese enterprises.

Rani, Yadav, & Jain (2012) examined the short-term impact of Merger and Acquisition on the shareholders' wealth, especially the shareholders of the acquirer companies. It further studied the types of target companies (listed or unlisted), and methods of payment (cash or stock) for acquisition and their impact on shareholders' return. The scope is confined to domestic Merger and Acquisitions in India. The data is collected from Thomson SDC (Securities Data Corporation) and the announcement dates are confirmed using the BSE archives. This study examines the data from the period from 2003 to 2008. It follows the event study method and Precision Weighted CAAR (PWCAAR) to measure the returns. A generalised sign test to check its significant level is used. It found that the acquisition financed with stocks exhibited poor performance as compared to acquisitions by cash. The firms listed in the stock exchange get negative results when compared to unlisted firms. It concludes that the acquisition of target firms in domestic mergers create a positive return in the pre-event and negative in the post-event period. But in the case of CAAR, it resulted in negative value during the post event period.

Danbolt & Maciver (2012) study both the cross-border and domestic Merger and Acquisition. Cross-border acquisition for the study is considered in two ways i.e., into the country and out of the country. The scope is limited to cross-border and

domestic Merger and Acquisition from UK within the period from 1980 to 2008. The data were collected from Thomson SDC (Securities Data Corporation) through Thomson One Banker database. The study found that relatively large targets get significantly lesser returns than the bidding firms in cross border acquisition. The study also stated that the target firms benefitted the least when they were large or when the bidders had shares in the target even before the acquisition or when they were financed in shares. The target benefitted more in a cross border if the acquirer already had an established work in the target country before the acquisition. But the foreign bidders could perform well in a new market. In the case of variations occurring in accounting policies or inconsistency in the corporate governing system, a significant impact on abnormal returns were observed in the target firm's case. But this factor does not cause any significant impact on the bidder firm's abnormal return. The study concluded that both target and acquirer get lesser benefits in domestic Merger and Acquisition than in cross-border Merger and Acquisition.

Yılmaz & Tanyeri (2016) attempt to analyse Merger and Acquisition in the global scenario. It focuses on the value of the firms involved in Merger and Acquisition and how it is generated. The study further analyses Merger and Acquisition's cross country performance in emerging countries and developed countries based on the value generated. The data collected is from the period 1992-2011, through the data source Thomson financial Security Data Company (SDC). The study followed the event study techniques to find the three-day CAR, and found that M&A activity generates value to the companies at a global level. It also concluded that the returns to companies in emerging countries through M&A were less as compared to developed countries due to information leakage.

Limaye & Pednekar (2016) analysed the long-term performance of a Merger and Acquisition deal based on the growth of shareholders' wealth and with the adjusted beta value. The study focused on selected industrial sectors, and overall M&A deals for analysis. It developed a new model with the help of the Buy and Hold Return model called Beta Adjusted Real Buy and Hold Returns model (BARBHR). The data was collected from the CMIE Prowess database, and considered 1989-90 to

2013-14 as the period of study. One sample Wilcoxon signed-rank test is used to test the significance of data. It found that the shareholders' wealth had reduced in every M&A that occurred in the IT sector during the period of study. Moreover, it also stated that no sector could produce a significant positive return, thereby resulting in poor performance.

Diaw (2014) examined the performance of European banks where M&A had been announced. It analysed the impact of M&A on the shareholders' wealth. The period selected for the study is from 1997-2008. This work followed the event study methodology to find the impact of M&A on the share price on the announcement date. It studied the impact of acquirers' shareholders, target shareholders, and combined firms, on an individual basis. The study summarised that the shareholders of the target companies benefitted through M&A without affecting the expectations of the shareholders of the acquiring firms. The study concluded that M&A was able to create good value to the shareholders of European banks.

Abdullayeva (2015) investigated the short-term effect of Merger and Acquisition on shareholders' wealth. It aimed to analyse the effect of M&A on the financial performance of acquirer and target companies in the energy sector, both the oil and gas industries. The study selected the data from the Bloomberg database, and considered the study period from 2000 to 2014. It followed the event study methodology with the market model for the analysis. The study found that the acquirer firm's shareholders always got a negative return at the time of the event date, but the target firm shareholders got a positive return. The study concluded that the majority gain attained by the target shareholders was due to something more than the righteous payment or the unavoidable fate of acquirers.

Satapathy & Kaushik (2015) examined the relationship between Merger and Acquisition and corporate performance with the focus only on the acquiring companies in the Indian context listed under BSE. It analysed the impacts in the short run in both the pre and post period. The data is collected from venture intelligence and CMIE prowess database (during the period from 2004-2014). The study followed event study method with market model and used parametric and non-

parametric tools to confirm its significant values. The study summarised that the acquiring company got a positive return in the post-period, and negative in the pre-period of the announcement date. Eventually, the study asserted that a firm acquisition undermined shareholders in the post-merger activity phase.

Li, Li, & Wang (2016) demonstrates the cross-border Merger and Acquisition which could create value to the shareholders of the acquirer firm. The study takes into account the Merger and Acquisition of the firms listed in the Chinese stock exchange within the study period from 2000 to 2011. It found that the impact of cultural distances on value creation for the shareholders was largely negative. But when acquisitions within the industry are considered, cultural distances had a minute effect on value creation in large and experienced firms. The study concluded that a firm having higher absorptive capacity could avoid the problems caused by cultural distances.

Rani, Yadav, & Jain (2015) reflect upon the impact of M&A on the shareholders' wealth. This study assessed the short-term impacts of M&A. Both parametric and non-parametric techniques were taken into consideration for the analysis. The study indicates the impact of share price on M&A in a short period. Further studies on the domestic and cross border M&A were based on forms of the target firm, method of payment, control of the firm (percentage of stake) in a short period, and through analysis of its impact on the firm's value. The study recapitulates that payment in cash form is better than share, and that those who sold early received more returns. The market had reacted positively and provided more value to the acquiring firms.

2.2.2 Corporate Performance

The study refers a number of works that deal with the impacts of Merger and Acquisition on Corporate Performance. The works mainly consider the short-term impact of Merger and Acquisition on shareholders' wealth. Only few works reflect upon the importance of long-term impact of Merger and Acquisition on the shareholders' wealth. These works are considered for discussion below.

Maditinos, Theriou & Demetriades (2009) examine the effect of M&A between two prominent banks in Greece on their shareholders' wealth. It explores the benefits accrued in both the short term and long-term period. This study adopts a market index model and the CAPM technique to analyse the movement of stock prices. It uses time series econometric models like unit root, GARCH, AND ARCH to check volatility and stationarity. Apart from testing beta co-efficient by employing econometric tools, the study focuses on the long-term performance of both the banks. It uses different ratios to find the solvency, profitability, and managerial efficiency of banks. These ratios are then compared to know the relative position of the banks with respect to the industry. It concluded that ALPHA banks perform well with high profitability and competitiveness within the industry.

Babanazarov (2012) exhibits the average return, long term volatility, and idiosyncratic risk related to MAJV in a post-performance period. The study used event study in two ways i) to measure the performance and ii) to calculate the expected returns. The study presents the BHAR (Buy and Hold Abnormal Returns) method to analyse the long-term performance of MAJV. The study created two portfolios to know the market returns, such as Small stock minus Big stock (SMB) based on the size of market cap and High stock minus Low stock (HML) based on the returns. Fama-Fench calendar average ratio method is used to calculate expected returns. Required data related to MAJV is available from Thomson's Financial Securities Development Company (SDC) and security prices are collected from the Centre for Research in Stock Prices (CRSP) in US. Analysis of the idiosyncratic risk of firms with the CAPM model is done using data of the daily returns within the month.. The study finds that though M&A's long-term performance is break-even and JV is favourable, there are some industries which are exceptional. In case of idiosyncratic risk following M&A, some industries were capable of reducing risk while others were not. All industries could reduce idiosyncratic risk following JV. It concludes that the acquiring firm's performance varies across industries, and that the parent organisations gain market power when combined with JV.

Voeselek (2014) provides an outline of M&A and its effect on firm's performance. The study considers two time periods, crisis period and non-crisis period. M&A is taken into account from a global point of view. It collects the required data from the database SDC from the period 2002-2013. Here, the firm's performance is evaluated from two angles, i.e., i) performance by stock prices and ii) performance by profit. The event study method is followed to find short-term returns to shareholders. It uses only a three-day event window to avoid stock prices influenced by any other factor. Cross-sectional analysis is used to analyse worldwide M&A. The significance of analysis is found using 't' test (in case of sample size above 30) and Wilcoxon test (in case of sample size below 30). The acquirer firm exhibits poor performance as compared to the target firm in the event window. The result of cross-sectional analysis showed better performance at the time of crisis than in the non-crisis period. However, a positive change in the profits could be discerned more in the non-crisis period than during the crisis period.

Ramachandran, A and Thangavelu, S. (2014) study the impact of M&A on the manufacturing company's operating performance in India. It is more concentrated in the manufacturing sector. It follows pre- and post-analysis between 2002 and 2012 and measures the operating performance solely on the basis of RoE (Return on Equity). The study was conducted by considering seven criteria which are: gross earnings, liquidity, financial risk, utilisation cost, turnover, operating leverage, and growth. It adopts Multi-stage sampling techniques. The ultimate objective of study is to analyse the shift-in-structure used by acquiring manufacturing firms in their operating performance. The study used Factor analysis to check the pattern of correlation of variables. The correlation coefficient was introduced to understand one to one relation of variables. Multiple regression was used to infer which part showed greater impact, and chow test was used to test shift-in-structure of operating performance as a result of M&A. The study concluded that firms could reduce their debt to enhance the efficiency of an organization, and that sales carried a direct relation with the performance of firms.

Singh, S (2015) explores a case study on airline business related to Merger and Acquisition. The study considered kingfisher red (Air Deccan and Kingfisher airline) as a merged company and analyzed its financial performance. An attempt was made to study the merger's effects on liquidity position, leverage level, and profitability standard of the merged firm after a merger event. Both pre and post-merger performance was analysed for the period from 2006 to 2010. It adopts selected financial ratios, mean, standard deviation, and paired 't' test to test its significance level. MS-Excel is used for statistical analysis. The sample type selected for the study is convenience sampling technique. The merged companies could not enjoy the synergy benefit and faced severe loss in the post-merger period which led to the shutdown of its operation in 2011.

Singh (2013) explains the impact of Merger and Acquisition on the operating performance of companies. The study considers M&A in India in 2005, and its impact on the acquiring firm on a long-term basis. It considers the pre- and post-merger methodology and classifies the study in two ways, i.e., stock oriented and accounting-oriented study. The focus lies on the profitability in pre & post period and analyses the changes in financial leverage due to M&A. The profitability ratio increases along with the returns from investment and net worth of the company. The debt-equity ratio indicates the acquiring companies' financial leverage. Finally, the study concludes that Merger and Acquisition increased the merging companies' long term financial performance in Indian industries. It also recommends that M&A be considered as a fundamental business strategy among corporates in India.

Ahmed & Ahmed (2014) study the effect of M&A on financial performance, with the scope confined to Pakistan's manufacturing firms. The study period is from 2000 to 2009 and follows pre- and post-Merger and Acquisition in the non-financial sector. The study focuses on determinants such as liquidity, profitability, and efficiency, to analyse the acquiring firm's financial performance. The study analyses whether M&A increases shareholders' wealth and the operating performance of the firms. A positive impact was found in chemical, cement, and motor vehicle industries. Mergers had a negative impact on sugar, textiles, and spinning and

weaving industries. Study shows that the post-merger improvement in profitability, capital, and liquidity was found to be insignificant. Hence, Merger and Acquisition are found to influence different manufacturing companies differently.’

Arvanitis & Stucki (2014) examine the effect of M&A on small and medium-sized businesses. The study follows the post-merger methodology and evaluates the merger performance of the organisation after the event occurred. It evaluates the performance in the period of 2008-2010. The study analyzes M&A that shows a positive impact on SMEs’ economic and innovative performance, using matching approach called Propensity Score Matching (PSM). It further evaluates the performance considering five factors i.e., investment expenditure, the number of employees, sales, value-added per employee and sale of innovative products per employee. Out of these five, three factors including innovative performance are statistically significant in M&A’s effect on performance. The other two factors indicate that there is no effect of M&A (growth of employee and growth of investment). The study recapitulates that growth remains the incentive for external merger, and efficiency for the internal merger.

Abbas, Hunjra, Azam, Ijaz & Zahid (2014) analyse the financial performance after the merger, with the scope confined to the banks in Pakistan in the 2008-2009 period. The financial performance is evaluated with financial ratios, namely profitability, efficiency, leverage and liquidity ratios. The study found that there is a decline in the profitability, efficiency, liquidity, and leverage ratios. Even though two of the banks showed improvement in profitability and efficiency, their liquidity and leverage ratios showed negative impacts. Moreover, the study summarises that the overall performance of banks shows negative impact post-merger.

Healy, Palepu & Ruback (1990) evaluate the post-merger corporate performance by selecting sample using simple random method. The study selects the merger between public enterprises in the US during the period 1979-1983. The analysis shows that the profits in post-period are lower if the financing of the merger is done through debt or cash as compared to financing through stock. The study uses operating cash flow after interest and tax as a measure to predict the post-merger

performance. It constructs a pre-merger benchmark to compare the post-performance. Industry adjusted performance measure is used as the post-performance benchmark for the study. Merged firms enjoy the benefits of an increase in the cash flows as a result of increment through productivity of assets of the firm. The firms could not achieve the benefits of monopoly because of the poor performance of sales margin after the merger, as a result of which profitability was not at a satisfactory level and the labour costs could not be reduced. The only benefits obtained were achieved at the expense of labour. There was no reduction in R&D expenditure and capital outlay. There was also an increase in the sale of assets indicating that no reduction occurred in the investment decisions of the merged firms. The study analyses the following questions: i) Is merger the cause of the increase in cash flow or assets productivity in a firm? ii) What are the items that explain post-merger cash flow changes with the cross-sectional variation? iii) How do mergers improve cash flow. It states that merging firms' equity revaluation exhibit an increment in economic factors because of the positive relationship between the operating cash flow and abnormal stock returns.

Agrawal, Jaffe, & Mandeleker (1992) focus on the post-merger performance of the acquiring firm. The two issues considered are testing the firm size and beta risk after adjusting its effect, and whether the merger event is slowly adjusted into the market. The study selects sample from 1955-1987, and considers merger between acquirers from NYSE and targets from NYSE/AMEX. Event study methodology along with the adjustment of beta risk and market capitalisation are used to evaluate the short-term effect. Long-term effect is measured using firm size and Returns Across Time and Securities (RATS) of Ibbotson (1975). It evaluates different beta for each security (it is constant over the whole post-completion period) and each month respectively (identical for all the acquiring firm). Post-merger performance of the firm size and beta risk are analysed for different periods for both conglomerate and non-conglomerate mergers. It found that the acquiring firm got -10% of earnings and stated that this loss is not the cause of issues in beta value or size of the firm. Moreover, the hypothesis related to the slow adjustment of market to the merger event had to be rejected.

Sinha & Gupta (2011) observes the pre- and post-performance of Indian financial service sector related with the Merger and Acquisition. It selects ten parameters for the study according to the nature of the firm and analyses the industry as a whole or individually. Three models are created for the analyses. Model I follows JB statistics to check exceptional normality cases Mann-Whitney 'u' test or Wilcoxon paired test. Model II follows the OLS regression model for pre and post-analysis and model III for measuring systematic risk. 'F' test is used to test the significance of model III. The study finds that profitability showed a positive impact, but liquidity has no positive impact post-merger due to the poor performance of the current ratio. The interest coverage ratio could create returns to their shareholders in both the periods. But the profit margin becomes significant only after the merger. Finally, it concluded that diversification of risk could only affect systematic risk components and reduce the non-systematic risk. After the merger, the debt service capacity of the firm is vital in increasing the profit considerably thereby enabling the justification of the decision merger to the shareholders.

Popovici & Turliuc (2014) focus on Merger and Acquisition during 2002-2008. It does not consider the shareholders' wealth, but focuses on the productivity of both the bidder and target. This work used Malquist DEA method to analyse the productivity of firms engaged in M&A. The study followed the pre and post-merger methodology taking 2005 as the event period using panel data for the study. The changes in the productivity were bifurcated into technical changes and technical efficiency changes, and used malmquist index as the base for measuring productivity. It found that M&A does not increase the efficiency of banks. Efficiency increased in the post-merger period as compared to the pre-merger period. The study concluded that acquisition proved to be beneficial to enhance the value of firm in terms of both size and value of profit.

N.V & Sathyanarayana (2013) examined the long-term financial performance after a Merger and Acquisition. The study is confined to the post-merger performance of the bidder firm, and is focussed on finding out whether the Merger and Acquisition was efficient or not. The study considers 2010 as the event time and took three

years as the study period. The parameters of the study include liquidity ratio, leverage ratios, and profitability ratios. It interprets the results using 't' value and its mean. If the results are positive, it indicates increased performance and vice versa. The study found that the liquidity ratio had increased after the merger but remained statistically insignificant. The leverage ratio had also increased and was statistically significant. Profitability ratio had increased, but RONW (Return on Net Worth) had declined.

Gattoufi, Al-Muharrami & Al-Kiyumi (2009) attempt to examine the performance of commercial banks in Gulf Co-operation Council (GCC) countries. The study chooses 2003-2007 as the period of study. It focuses on the impact of Merger and Acquisition on efficiencies of banks, mainly the technical efficiency. The study uses Data Envelopment Analysis (DEA) method instead of event method to know the performance of the bank through M&A. A model is prepared for analysis with the help of DEA-solver version 6 and Excel for calculation and presenting graphs. The study concludes that improvement of banks is faster than the market, and that the effect of M&A on efficiencies is positive, but insignificantly less.

Ireri (2011) evaluates the impact of Merger and Acquisition on the financial performance of oil industry. This study considers the oil industries in Kenya listed at NSE. Casual research design is used and long-term performance is measured in terms of profitability, leverage, and liquidity. It concludes that the firms exhibited positive financial performance through Merger and Acquisition. Even though the Merger and Acquisition process was simple and transparent, the employees in the organisations were found to be dissatisfied.

Leepsa & Mishra (2014) examine the post-M&A performance of the firms in the manufacturing sector. The study mainly uses index scores to measure the financial ratios. The data from the period 2000-2008 is collected from the CMIE database. Different factors for the study viz, M&A experience, Industry relatedness, size of the acquirer, method of payment, Pre-M&A quick ratio, return on capital employed, total debt ratio, and interest coverage ratio are collected. The study found that success and failure of post-M&A performance depended on the performance of pre-

M&A factors like return on capital employed, quick ratio, and interest coverage ratio. Out of this, only return on capital showed a favourable effect on post-M&A performance. The study further added that a firm that did not possess adequate liquidity will experience failure in case of M&A. It concludes that managers should control the variables efficiently so as to improve the post-M&A performance.

Leepsa & Mishra (2016)'s study predicts the success or failure of M&A in manufacturing industries. The work covers manufacturing industries in India. The data from the period 2000-2008 is collected from the CMIE database. The study used logistic regression analysis to test the success or failure. The rate of EVA is taken as the dependent variable and variables like quick ratio, pre M&A current ratio, and asset turnover ratio are considered as independent variables. Z score value is used to predict the success or failure of M&A. It stated that the probability for success after M&A increases as the pre M&A current ratio, net profit margin decreases and pre M&A quick ratio and asset turnover ratio increases. It concludes that quick ratio is the best predictor of the success of M&A. Further, the study recapitulates that the company should concentrate more on its liquidity position.

Leepsa (2012) explores the motives, trends, and post-merger performance of electricity companies in India. The data from the period 1990-2011 is collected from the CMIE database. Accounting data is used to analyse the performance after the merger. The study found the impact of M&A on the performance of electricity companies to be varied. M&A resulted in a number of benefits through synergy and economies of scale. But at the same time, it also created problems such as job cuts and ethical and cultural issues. The study summarised that companies could improve the core competitiveness through an expansion of their market share.

Leepsa & Mishra (2012) observed the trends in Merger and Acquisition in manufacturing companies. The study considered the performance of companies in the period before the merger to find the performance after the merger period. It used the statistical tools like descriptive statistics and paired sample t-tests for analysis. Tools like liquidation ratio, profitability ratio, and leverage ratio are used in the study. Data during the period from 2003-04 to 2006-07 is collected from Business

beacon, CMIE, EMIS database, SEBI report, and BSE &NSE. The study found that liquidity position, solvency ratio, and leverage ratio (debt and Interest coverage ratio) were improved but remained statistically insignificant. Profitability (in terms of return on capital (ROCE), increased while return on net worth declined (RONW), with the ROCE being statistically significant, and RONW insignificant. It concluded that the financial performance of companies after the merger remained dubious. However, the financial performance alone cannot be taken as the parameter to gauge the success of M&A.

Attablayo (2012) draws attention to the post-merger performance of Society General – Social Security Banks (SG-SSB). Its scope is confined to SG-SSB in Ghana. Qualitative study is done and it analysed the impact of accounting reports, market valuation, and key informant description on SG-SSB during the post period. The study also considered strategies and policies of SG-SSB after the merger event. It followed purposive sampling technique for collecting data. The performance of banks based on qualitative indicators showed better results than that based on quantitative indicators. It used the three factors - procedural, socio-culture, and physical elements to test the strategies and policies of SG-SSBs which play a crucial role in the post-merger period.

Ahammada & Glaister (2013) aim to learn about the pre-acquisition evaluation of the target firm and the performance of cross-border acquisition. The study used Thomason one banker database for data collection during the period of 2000-2004. The organisational learning theory was studied and it was found that the information about the target firm through due diligence led to a successful cross-border acquisition. It also considered factors such as strategic and cultural fit, employee capabilities, and business competences which improve the acquisition performance. The study does not support the statement that investments, financial issues, tax, IT, and legal matters were improved through acquisition.

Leepsa & Misra (2012) examine the impact of M&A on the corporate performance of companies. The scope of the study is confined to the manufacturing companies in India. The study used paired t-test, and Wilcoxon signed test as the statistical tools

to test its significance and followed the accounting-based data for the analysis stage. Both pre and post period performance of companies were considered for comparison.

Rani, Yadav, & Jain (2013)'s study throws light on significance given to the operating performance of companies. The study focused on acquiring firms' performance before and after M&A. It studied the period from 2003 to 2008, and covered all sectors in India. It used Du Pont analysis to analyse the performance of the company before and after merger. It measures the long-term performance on the basis of operating cash flow of companies. The asset turnover ratio was used to test the efficiency of companies before and after M&A. The study found that the asset failed to generate any sales after merger, i.e., there was no improvement in an asset after the merger. But operating cash flows based on sales show that there is an improvement in operating cash ratio after the merger. The acquiring firms exhibited better performance in the post-period of the merger than in the pre-period, and benefitted from reduction of costs, economies of scale and operational synergies.

Leepsa (2012) focused exclusively on the performance of entities in India. Its scope is confined to acquisition between ACC limited and Everest industries. The study followed the financial return method and market return method for its evaluation and found that Merger and Acquisition may cause incremental revenue and decremental cost in the merged entity. Further, the study concludes that Merger and Acquisition between ACC limited and Everest industries attained its merger objectives with effective results.

Leepsa & Mishra (2013) attempt to learn about the Merger and Acquisition and its effect on earnings in companies. The main objective of the study is to analyse the extent of the effect of Merger and Acquisition on the companies. It found that the effect of Merger and Acquisition lasted for the event year and the year after the merger.

Yusuf & Sheidu (2015) examine whether the Return on Equity (RoE) of banks in Nigeria improved due to Merger and Acquisition. The study classifies the banks into two categories: the controllable group (the non-merged banks) and the target group

(the merged banks). The data was analysed using scattering point and regression model to test the structural break in performance before and after the merger. It also used a matched t sample test to compare the mean of RoE with the target group and control group of the study. It concluded that a bank merger does not necessarily improve the profitability and financial performance in Nigeria.

Bugeja, M (2015) explores whether the financial distress of target firms is related with its takeover. The scope of the study is confined to the Australian target firms, and the data is collected from the financial reports, stock exchange, Fin Analysis, and Core Research database. The study considered the period from 1997 to 2008. This study compared the performance of financially distressed firms with non-financially distressed firms at the time of the takeover process. It considered features of target firms that reflected the attitude of the board of the firm like Premium offered Method of payment, competition, and outcome of the takeover. The study found that financial distress created a positive impact in the case of premium, i.e., bidders are ready to pay more. Equity payment is considered as the favourable method for takeover. Financial distress showed positive results on competition and negative on success. The study concludes that there is no fixed association between financial distress and takeover, whether hostile or friendly.

Akhtar & Iqbal (2014) studied the impact of Merger and Acquisition in the pre and post period of the event. The study considered the score of bankruptcy, profitability, and long-term financial position and merger impact on it. The study analysed the impact of merger on the financial performance of the firm. It studied the performance in the pre and post-merger event periods by considering bankruptcy as the dependent variable and profitability and long term financial position as the independent variables. The pre-merger period is analysed with the help of regression model of accounting ratios along with the score of bankruptcy and the post-merger period is analysed using financial ratio. The study found that there is a positive impact on profitability and long-term financial position before merger and negative impact on profitability after the merger. The score of bankruptcy is also affected.

The study summarises that the performance of the Pakistan service sector has not been satisfactory over the period of study.

Ferrer (2012) examined the impact of Merger and Acquisition on the profitability of companies. It tried to analyse the casual and correlational research on profitability. Here two major ratios of profitability are taken into account, the return on equity, and the return on assets. The scope of the study is confined to the listed companies in the Philippines stock exchange. The period of this study runs from 2006 to 2010. Relevant data was collected from the OSIRIS database. The study attempted to analyse the effect of the independent variable upon the dependent variable. The study used Ordinary Least Square (OLS) to regress the panel data related to Merger and Acquisition. The study found that the effect of Merger and Acquisition on the return on equity is significantly negative and on the return on assets is insignificant. It concluded that Merger and Acquisition affected firms' sound financial health, and did not affect the return on asset ratios of firms in the Philippines.

Reddy, Nangia, & Agrawal (2013) illustrate the event study analysis and study the financial performance of the companies in the long run. The study covers service sector and manufacturing sector of India. Daily share price and accounting ratios from the financial statements are used for analysis and cylindrical model is used for sector-wise evaluations. Both sectors performed well in the post-merger period and the accounting data improved, i.e., in the long run, balance sheet items increased during the post-merger period.

Ferrer (2012) explores the impact of Merger and Acquisition in the firm's activity ratios. It analyses the asset turnover ratio and payable turnover ratio to study the activity ratios. The study examines the relation of turnover ratio with Merger and Acquisition, and the relation of independent variables with the dependent variables. The scope of the study is confined to Philippine companies between 2006 and 2010. The study found that there existed no significant positive relationship between Merger and Acquisition and asset turnover ratio. The study further came to the

conclusion that that there hardly exists any significant negative relation between Merger and Acquisition and payable turnover ratio.

Harvey (2015) examined the impact of Merger and Acquisition on financial performance. It focused on the pre- and post-period of the event and used accounting data for the analysis and considered 2000-2012 as the period of study. The study evaluated the profitability ratio, expense ratio, liquidity ratio, financial leverage ratio, Investment return ratio, and growth of the acquiring company only. The study found that all the variables that come under the profitability ratio, except the operating margin declined after the merger. The companies could reduce the expense ratio due to market advantages, but could not produce liquidity as the merger was financed by debt fund. The study concluded that the companies witnessed growth and incremental shareholder value by EPS and dividend per share. It stated that there was no increase in profit after merger activity.

Rani, Yadav, & Jain (2015) analysed the impact of Merger and Acquisition on corporate performance and focussed on the long-term performance of acquiring firms in India. The data for the study was collected from CMIE Prowess database, Capitaline, and website of NSE and BSE. The time period for the data collection is from 2003 to 2008. It used fourteen ratios to analyse the performance in the pre- and post-merger periods. It uses the Profitability ratio, Leverage ratio, Liquidity ratio, and Efficiency ratio to test corporate performance. Du Pond analysis is done to have a better insight into the long-term operating performance of the firms. The study followed paired-sample t-test to check its significant level. It found that the post-merger period witnessed a significant increase in profitability, liquidity, efficiency, and expense ratios. The Du pond analysis showed that there was an increase in the operating profits of the concerns, but no improvement in the case of asset turnover ratios. It concluded that by controlling the expenses in sales and general administration, the acquiring firm could enjoy the benefits of synergy after M&A. The companies' performance especially concerning assets base were not satisfactory due to the financial crisis in 2008.

Ramakrishnan (2008) focussed on the long-term financial performance of the firms in India. It analysed the three years before and after the Merger period. It considered only domestic M&A. The study used a paired 't' sample test for analysis. Data like Operating cash flow and sales turnover were used for the study. The study found that merged firms got the economies of scale due to lowered fixed costs. No evidence was found to prove that the increase in efficiency of utilisation of assets produced higher sales.

Kalra (2013) examined the importance of the impact of Merger and Acquisition in Indian corporate sector. The study gave priority to the post-period evaluation of Merger and Acquisition. The scope was confined to the impact of Merger and Acquisition on liquidity, profitability, operating performance, and leverage ratios. It considered 2008-2009 as the period of study. This work proved that even though improvement in profitability, liquidity, leverage, and operating performance was significant in a few firms, majority of the firms suffered from negativity in their profitability in the post-merger period.

Arvanitis & Stucki (2014) focused on the Merger and Acquisition in Small and Medium Industries (SME). It analysed the firm's characteristics and determined the economic and innovative performance of Merger and Acquisition. The study gave importance to the six factors - market share, sale, profitability, R&D expenditure, no: of patent, and share of the sale of new products. The first three factors were related to economic performance, and the second three were related to innovative performance. The study found that specific characteristics of the firms like capital intensity, size of firm, etc (except innovative activities) and general market characteristics of Merger and Acquisition do not contribute to Merger and Acquisition performance, rather specific M&A characteristics do. The study concluded that with the exception of innovation activities, the factors of Merger and Acquisition process influence the level of the M&A performance.

Vanitha & Selvam (2011) explain the financial performance of manufacturing industries in India. The study used different ratios like profitability, leverage, solvency, liquidity ratio and also standard deviation, mean, and t-test for analysis.

This study gave importance to the capital formation, diversion of short-term funds in pre and post periods and the investment in fixed assets. It concluded that Merger and Acquisition is always successful since the companies are willing to acquire only those companies that have good financial health and reputation.

2.2.3 Other M&A Works

This section studies works related to the synergy, hubris, valuation effect, and articles related to different reviews on Merger and Acquisition. The study focused on the impact of Merger and Acquisition on shareholders' wealth and corporate performance. Studies combining the objective of shareholders' wealth or corporate performance with other objectives like Hubris, synergy or valuation are considered here.

Berkovitch & Narayanan (1993) focused on the major motives of Merger and Acquisition. The study selected the three important motives - synergy, agency, and hubris motives. The study formulated three hypotheses for the analysis related to the motives. The study found the total gain, acquirer gain, and target gain separately, and then analysed the correlation between total gain and target gain and between acquirer gain and target gain. By checking whether the results showed positive or negative relations within the two sets, it could be determined whether there were synergy or agency motives. If there is zero correlation between total gain and target gain and negative between acquirer and target gain, there must be hubris motives. The study found that synergy is the primary motive of total positive gain even though there was hubris also in the same sample. Agency motive was found to be the primary motive of total negative gain.

Leepsa & Mishra (2016) evaluate the reviews related to the post-acquisition period. It considered the financial performance of firms after the acquisition during the period of 1974-2011. It further analysed whether the Merger and Acquisition strategy was being used to avoid unwanted situations or to gain benefits. Success and failure of Merger and Acquisition depend on the financial and non-financial objectives or goals set for the deal. The study uses accounting approach or event

study approach or both. The study noted what factors influence the success and failure of M&A and how they affect.

Liu, Y., & Wang, Y (2013) investigate the long-term impact of corporate governance of M&A on the corporate performance. The study focused on Chinese real estate sector listed in Shanghai stock exchange during the period 2008-2009. It used descriptive statistics and correlation analysis to evaluate the long-term performance. It selected the variables like board size, ownership structure, and institutional investors for the study. It used Tobin's Q model to test performance. It also considered goodwill, patent, and intangible asset. It measured the company's future cash flow and discounted value. The work found that ownership structure and board size had positive and negative impacts on M&A respectively. It concluded that CEO- duality and institutional investors have a positive significant impact on the performance.

Hayward & Hambrick (1997) examined the role of CEO hubris and the size of premiums in the success of the Merger and Acquisition. The study used the indicators - acquiring companies' performance, CEO media presents, and self-importance of the acquisition premium. The study selected 106 samples for analysis. The study found that the shareholders of the acquirer firm faced losses as a result of acquisition, and that greater the CEO hubris and the acquisition premium, bigger the shareholders' losses also.

Chaplinsky, Schill, & Doherty (2000) assessed the different kinds of method used for the valuation in the Merger and Acquisition. The study tried to examine the Discounted Cash Flow (DCF) method and how it was adopted in the evaluation. DCF method was used to evaluate the enterprises' value, and classifies the values into two- forecasts and terminal values. It analysed WACC and how it was discounted for DCF calculation. It also explains other methods like book value, replacement cost value and liquidation value.

Churyk (2005) examines the most appropriate way to eliminate goodwill amortisation by market valuation method both when initially booked and at subsequent impairment. The study evaluates the synergy, agency, and hubris issues

related to the payment of acquisition over and above the goodwill of the target firm. This study analyses this in a single sample consisting of 109 deals. It made use of the same methodology developed by Berkovitch & Narayanan, 1993. The study's results were almost the same as the findings of Berkovitch & Narayanan, 1993.

K & Sheriff (2012) evaluate the different regulatory bodies and their policies related to M&A. The study explains how a diligent study of the different tangible and intangible variables in Commercial, Financial, Legal, and HR sectors and a planned approach to culture, people and system is necessary to achieve successful M&A. It presents both case study and SWOT analysis of telecom industries. The study confirms that M&A increase healthy competition and foster innovations in telecom industries. It concludes that the success of a merger depends on the post-merger performance, especially the cost and profit efficiencies, of the organisation.

Bouwman, Fuller, & Nain (2006) attempt to form an opinion about the quality of acquisition and its relation with market valuation. The study classifies the entire sample into three i.e., high, neutral and low valued market. This classification is made on the basis of the P/E (price earnings) ratio of S&P 500. It uses the Buy and Hold Abnormal Return (BHARs) method and calendar time abnormal returns. It analyses the entire acquisition in terms of short-run and long-run performance. Returns of the acquirer are insignificantly negative in the high valued market and significantly negative in low valued markets. In case of boom, the period witnessed higher returns than in depression periods, but it generated a lower abnormal stock return in the long period. Furthermore, the operating performance in high valued market in the long run is lower than that in the lower valued market. In case of cash, acquisition created different results in different periods for the acquiring firms. The study analyses the reasons for the underperformance of acquirers under three headings - overpayment, market timing, and managerial herding. The study could not find any evidence to support that overpayment and market timing influenced the performance of the acquirers. But in the case of managerial herding, it was proved that the firms that moved earlier in merger wave showed better results than the firms that moved later.

Gorbenko & Malenko (2014)'s study is related to the timing of acquisition and means of payment. It is a theoretical analysis based on two perceptions i) The bidder chooses when to approach the target with an offer ii) The bidder will have limited ability to pay cash when facing financial constraints. The study creates a dynamic model consisting of a target with two potential bidders. The target is a growth firm with its assets and cash flow increasing over time, and the bidders are matured with their assets increasing through the merger. The model constitutes of a risk neutral target, a risk neutral bidder and an exogenous means of payment (the two bidders) which can be through only cash, only stock or both. Then endogenous analysis considering various securities as means of payment is carried out. It found that young high synergy targets are acquired for cash, and grown low synergy targets are acquired for stocks. Finally, the study concludes that cash constraints do not influence acquisition timing. Financial constraints and their fundamentals do not lead to acquisition deals, rather stocks do. The study further adds that bidding firms are not willing to acquire bidding firms with negative synergies.

Lazarides, Drimpetas, & Ilektra (2009) carry out a conventional analysis related to M&A waves and their results. It tries to detect the driving factors or motives of M&A. It focusses on corporate governance in the Anglo-Saxon countries. It followed the probit model method and uses panel data to evaluate the study. It found that financial performance is not a major driving force of M&A, except in the case of Tobin's 'Q' variable. The negative sign of ownership concentration variable indicates that stakeholders lose their control benefits when there is an incremental financial performance. While considering board size, the study found that increasing control and monitoring in order to increase ownership only resulted in a reduction in M&A. Also, firm size with regard to the number of employees is negatively related to M&A. Labour-intensive firms do not support M&A because of the risks involved. The study also found that audit committees which usually show negative signs show positive signs here indicating that decisions related to M&A were high in large firms. The study concludes that firm size, ownership concentration, and control and monitoring are the major driving forces of M&A in Anglo-Saxon countries.

Miles, Borchert, & Ramanathan (2014) examine the reasons for some companies to achieve synergy. It studies the success of Merger and Acquisition in a limited number of companies. The study emphasized that overestimation is the main reason that causes failure in achieving synergic benefits. This occurs when a high target amount is set to justify the deal price to financiers. It stated that the level of synergies of most of the companies could not be understood based on increased scale. The companies had also not considered the cost structure of the combined firm based on the benchmark of other companies having the same size, but had decided based on prior deals only. The study tried to analyse whether the synergy decisions based on the scale, diligence and integration planning were used for performance improvement or to reduce overlapping cost. The study created a cost curve which helped to know the earnings needed to be obtained in accordance with the size of the industry, under the assumption that larger companies have a lower cost to the revenue and economies of scale. The study concluded that earnings of the combined firm resulted from improved performance and not from normal synergy. It stated that deal thesis, benchmarking, and performance improvement were the three reasons that helped the companies achieve the benefits of synergy.

Junior, Pamplona, & da Silva (2013) study with the objective of analysing the efficiency or synergy effect of organisations engaged in M&A. It uses accounting variables like liquidity ratios, debt ratios, marginal ratios, and profitability ratios as the input and output of the study. It considered input and output as the representatives of minimisation and maximisation respectively. It used the software General Algebraic Modelling (GAMS) and solver CPLEX for the analysis. At the time of analysis, study followed the classic DEA model- CCR and BCC with multi-objective DEA (GPDEA). It found that only four DMUs (Decision Making Units) showed efficiency when the study used the GPDEA model.

Gupta (2012) focuses on the theory and background of Merger and Acquisition as a whole. It aims to study the importance of Merger and Acquisition in the corporate world, and studies the different motives that propel merger transactions. It also provides a brief description of the merger theory and the strategies used for Merger

and Acquisition. The study discusses the issues that are concerned with the success or failure of M&A. The study concluded that survival and continuous growth are the basic objectives of every M&A. It stated that Merger and Acquisition was beneficial in financing the companies to help grow their business swiftly. It concluded that M&A is the engine that gears the growth of companies in the corporate world.

Agarwal (2013) attempts to learn about the Merger and Acquisition in the Pharmaceutical sector. The study analyses its impact on the production, access, and price of drugs. The study covers Indian Pharmaceuticals in terms of view pricing, availability, R&D, and social consequences. The study found that price changes in therapeutic areas and across portfolios showed positive results except in the price of the molecule. The part of availability showed a positive impact on discontinuation of products, while others factors like new launches, changes in the product portfolio, domestic v/s export, etc. exhibited negative impacts. In the section of R&D, expenditure except for local market orientation showed negative values, but innovation and transfer of technology did not have any impact. Considering social consequences, salaried individuals and employment generation had favourable impacts. The study concluded that the desired outcomes of M&A like commercial viability and sustainability for the industry and better access of medicine to patients form a strong foundation for increasing the positive impact of M&A in patients of the industry, in India, and in other developing countries. The study stresses the need for good health conditions and non-partial access for all.

Pulak & Neha (2012) focuses on the impact of Merger and Acquisition on export competitiveness in manufacturing companies. It uses panel data collected from the CMIE database. The study covers the Merger and Acquisition from the period of 2000-01 - 2007-08. It develops three models for the study viz, pooled regression model, Fixed regression model (FRM), and Random effects model (REM) to value the market concentration. It carries out three statistical tests viz, Restricted F-test, Breusch, and pagan larger multiple test, and Hausman test. The study found that M&A in industries having the presence of MNC and possessing foreign technology purchase intensity faced more export competitiveness, while those industries have

selling efforts and capital intensity experienced the least export competitiveness. Other variables like the competition by import, market concentration, in-house R&D efforts and profitability did not influence export competitiveness. It concluded that M&A has a powerful impact on export competitiveness and suggested that the MNC should be instructed to do the Greenfield investment. Finally, the study suggests that capital intensive firms should import technology and pool workers for proper implementation.

Vasconcellos & Kish (1998) study cross-border acquisitions with the economic variables viz, bond yield, exchange rate, and stock price in the European and US market. It considered Germany, France, UK, and Italy as the countries for the EU. This study selects the data from the datastream database between 1982 and 1994. The study has taken the Logit model and the OLS model for analysis. According to the analysis with the OLS model, the US stock price is the major factor affecting cross-border M&A. But the stock price of foreign countries is the major factor in all selected countries except Italy. According to the Logit model, bond yield is the major causal factor in the cross-border M&A. The study concluded that only exchange rate exhibited the changes in M&A, but that too to an insignificant level.

Very & Schweiger (2001) focus on how value is created in an M&A with the help of the learning process. The study considers both domestic as well as cross-border M&A in selected countries (France, Germany, Italy, and the USA). The study tries to find problems and the required solution for the acquisition process in both cases. It follows a learning perspective to analyse these situations. The study collects relevant data from the top executives of the middle-market firms (average firms). It classifies the learning process into two, i.e., target learning process and experience accumulation process. The study found that a learning perspective should help the top management to design a good team with their role in this double learning level. It concluded that acquirer's experience in the acquisition would affect the learning process, and that the learning process at both levels was beneficial in understanding the acquisition process only.

Bhalla (2014) examines the M&A in different sectors. The study considers the trends and patterns in M&A in India. It brings into account globalization, deregulation and technological advancement, and its importance in the M&A in various sectors. The study takes details of M&A in India from 1991 to 2008 in various fields and classifies the periods into pre-2000 and post 2000. Since the financial sector seems to possess the major share in M&A (especially in post-2000), the study gives more preference to this sector. The study further observes that advanced and emerging countries are far better than India in the case of numbers as well as the value of M&A. It explains the importance of macroeconomic factors, and how they affect government policy, microeconomic factors, etc. The study concludes that the financial sector could avail more avenues to learn about the sector because it has witnessed a number of M&A.

Leepsa & Singh (2016) examine how acquiring insurance companies affect a bank's financial performance. This work considered the acquisition of MetLife India assurance Co. Ltd by Punjab National Bank (PNB). The study tries to know whether: i) the shareholders' wealth improved due to this acquisition. ii) the acquisition contributed towards the improvement or downfall in the performance of banks and iii) the operating and financial performance of the bank improved due to this acquisition. The study considers the period between 2008 and 2014 and followed the CAMEL model and regression models for its analysis. The study concluded that anxiety due to consistency in the stock market influenced the bank's performance in the short-run, and suggested that the banks should spread the information related to the acquisition of insurance companies. The study also added that the acquisition of an insurance company is influenced by the bank's performance in the long run.

Bradley, Desai, & Kim (1988) attempt to learn about the synergic benefits from Merger and Acquisition. The study bifurcates the stakeholders into two i.e., stakeholders of the target firm and stakeholders of the acquiring firm. The study considers the theoretical analysis, and it takes competition as a controlling factor. As competition increases among the acquiring firms, the return to target increases and the return to acquiring firms decreases. The study concludes that significant changes

in tender offer did not impact synergetic gains, but affected the stockholders of both firms.

Dutordoir, Roosenboom & Vasconcelos (2016) focus on the disclosure of synergy and its impact on Merger and Acquisition. It considers stock price and the determinants of synergy disclosure. The data is collected from SDC (Securities Data Company) related to the public enterprises. The study considers the Merger and Acquisition during the period from 1995 to 2008. The study follows the Discounted Cash Flow (DCF) technique developed by Kaplan and Ruback (1995) and Houston, James, and Ryngaert (2001) to calculate the effect of synergy. It found that disclosure of synergy is influenced by the practices followed by the managers and their incentives. Disclosure decisions and the magnitude of synergy are positively affected by the abnormal returns and negatively influenced by proprietary cost. Lastly, it added that forecasting of managerial synergy is more informative after the enactment of the Regulation of FD in 2000. It summarises that synergy disclosure does not impact stock prices in the long term.

Alhenawi & Krishnaswami (2015) examine the long-term impact of merger synergies on firms' performance and value. It classifies the merger into a related merger and unrelated merger. It collects data from Security Data Company's (SDC) and studies the period from 1998 to 2007. It uses Tobin Q's model and excess value to establish the extent of the effect of synergy in the post-five-year period. It found that unrelated merger had a negative and related merger had a positive impact in the case of excess value. It also found that though Q and excess value are poor in the year following the merger, they gradually increase, with a greater increase being seen in the unrelated merger. Both types resulted in a Q value greater than one. Synergy related variables undergo changes in both Q and excess value in unrelated mergers only. The study concluded that related mergers are motivated by the transfer of technology and innovation more than creating synergy. This is consistent with the finding that related mergers suffer from lack of synergy from market power enhancement and capital market activity.

Cummins, Klumpes & Weiss (2015) examined the impact of change in the stock price of companies due to Merger and Acquisition activity. It studied the Merger and Acquisition activities in insurance companies globally with purview of the acquirer and target firm in the immediate pre and post period. It selected the domestic and cross border M&As in both the domestic and non-domestic industries. The study collected the data from Thomson Securities Data Companies (SDC) for the period 1990-2006. The selected data were analysed using event method by market model. It followed different Z-score values i.e., Patell Z-score, Standardised Z-score, and Generalised Z-score values, to confirm its significance in this study. Results found that in both domestic and cross-border merger, the acquirer and target firms got small and substantial positive returns respectively. In the case of CAAR, acquirers got insignificant returns in Asia and significant returns in the US and Europe. But the target firms got significant market returns in Asia, the US, and Europe. The study also added that acquirer firms from within the industry got less returns, and those from within the cross-border industry transactions got normal returns. The target firms got high returns in both the cases, with substantially larger returns being obtained in cross border industry transactions. It concluded that the insurance industry should give more importance to the Merger and Acquisition within the industry than cross-border industry transactions.

Rahman & Lambkin (2015) present Merger and Acquisition and its influence on the market performance of the firm. The study aims to find whether the Merger and Acquisition was able to create value for the firm in the market. Thomson One Banker database and COMPUSTAT were utilised to extract data for the analysis. It used return on sales, sales revenue, and the ratio of selling and administration expenses as accounting data. It followed a paired sample 't' test to check the significance of the value obtained in the pre- and post-analysis. The study found that sales revenue showed an increasing trend, and selling and administration expenses when compared to sales revenue showed a declining trend. It also found that productivity of marketing had grown after the merger. The companies were able to enjoy synergies of economies of scale and economies of scope, and witnessed incremental revenue as a result of merger. The study concluded that though the firms

experience good performance in the market, the flow of performance remains the same in the pre and post-Merger and Acquisition period.

Majumdar, Yaylacicegi, & Moussawi (2012) examined merger in the telecommunication sector and its impact on the financial performance of companies. The study focussed on merger between local exchanges in America. The study used cash flow equation to test the synergy benefits of the combined firm from Merger and Acquisition. The study found that the pre- and post-merger period showed significant negative results and did not result in a good performance. The variables like debt, size, advertising, customer, and corporate had significant negative impacts on the performance. The study also added that the firm's impact of merger on synergy irrespective of size made significant negative results. It concluded that the merger had significant negative impact on the firms' ability to attain synergy benefits in the post-merger period. Moreover, the study stated that the firms were inefficient in utilising their resources in generating higher returns.

Dutordoir, Roosenboom, & Vasconcelos (2014) discuss the impact of synergy disclosure on the return of shareholders. The main objective of the study is to find the motives behind the publishing of synergy forecast estimates in Merger and Acquisition. The study considered the Merger and Acquisition between 1995 and 2008, and collected the data from Thomson Security Companies (SDC), stock price from the Centre for Research in security prices, and accounting data from the Compustat database. The study used the univariate and multivariate (Probit model) regression models for analysis. Related to the signaling theory, shareholders of bidding firms are more cautious about the creation of value. In case of information quality, it affects the synergy disclosure negatively. The study further found that the bidder's shareholders did not yield well due to synergy disclosure, and that there is no evidence to accept synergy disclosure as a strategic tool to affect the takeover premium or competition for the target firm. It concluded that the managers' estimated amounts were considered for pricing the stock, and that the market reaction to the deal announcement was positively affected by the synergy disclosure.

Asimakopoulos & Athanasoglou (2013) examined how Merger and Acquisition influenced the value creation among shareholders. The study considered Merger and Acquisition of the banks in Europe during the period from 1990 to 2004. It collected accounting data from the Bloomberg database and the data related to Merger and Acquisition from the Thomson SDC database. Event study is used to test the share price effect, and OLS (Ordinary Least Square) regression model to test effect of extension of return by univariate and bivariate (probit model). The GARCH model is used to test the effects of time-varying volatility and volatility clustering. The study found that the cross-border merger did not create value for the acquirers of the firm, and that target firms accrue benefits from domestic and cross-border merger. It also added that shareholders of acquiring firms got negative returns, and that irrespective of listing condition, shareholders of the target firms got positive returns. The study concluded that while the relationship between abnormal returns and fundamental characteristics is weak, shareholders enjoy more value from mergers with small, less efficient banks making diversified income.

Bianconi, Tan, Wang, & Yoshino (2014) examine the firm's value and its impact due to Merger and Acquisition. The study evaluates the data on the basis of long term and short-term period and considers the enterprise value with EBITDA and ratios like price to sales ratio, market to book ratio, debt-equity ratio, and financial leverage ratio. Panel data is used for the study from 2000 to 2010. It follows different models like the fixed model, dynamic panel model, and treatment effect model, including propensity score matching with the difference in difference. This work concludes that M&A have a positive influence in the long run and a negative impact in the short run. Firm value is found to be significantly influenced by the fundamental financial ratios. The impact of Merger and Acquisition on firm value in the two recession periods 2001 and 2008 are found to be different.

2.3 Conclusion

Different works that come under the title 'Merger and Acquisition' have been studied here. This review of literature helps to locate the research gap, and hints at the lacunae which needs to be addressed. Most of the studies discussed

above focused on the event study analysis. Only a very few studies considered the corporate performance of the companies engaged in the Merger and Acquisition. There is no focused and detailed methodological study of M&A synergy. On reflecting upon the studies considered here, this study realizes the inadequacy of works that contemplate the impacts of motives driving M&A. Therefore, this study attempts to address these lacunae and tries to establish the relationship between major motives and long term and short-term performance of merged entities and acquired companies. Thus, this study tries to fill the research gap by studying the impact of M&A on the performance of the entire Indian manufacturing sector from 2003 to 2015 in the light of major motives in M&A. This study focuses on the short term and long-term performance of firms and the relevance of M&A' motives viz., synergy motives, agency motives, and hubris theory in the success or failure of the merger deals. It also tries to analyse the synergy impact after the merger with different regression models. In this chapter, Literature was discussed under the three heads – shareholders' wealth, corporate performance, and other M&A works. The next chapter tries to present the theoretical background of the study.

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CHAPTER 3

MERGER AND ACQUISITION: THEORY AND PRACTICES

3.1 Introduction

Merger and Acquisition (M&A) is one of the most widely accepted techniques in corporate restructuring. Compared to the other methods for restructuring, M&A has proven to be a highly effective and result-oriented phenomenon. In simple terms, M&A means the combination of two or more firms with specified objectives. The companies may prefer to invite or compel other firms to subsume into or joint with the host companies to accomplish these objectives. Globally, M&A became a more acceptable phenomenon because of ease or precise fulfilment of companies' objectives. Still, there are many restrictions regarding the implementation of M&A in countries like India as it is evident from the wide time gap between the emergence of M&A and its acceptance or approval in the Indian corporate realm.

As a result of financial reforms called GLIP (Globalisation, Industrialisation and Privatisation) in 1991, the Government of India announced the Indian market open for the outside world. It spurred the growth of the Indian corporate world at a rapid rate. The movement also seeded the growth of the M&A in the Indian economy. But it started with a slow growth rate. In 1999-00, the figure was only 185 in all industries within all the sectors (data related to M&A available only since 1999-00 in Databases). Later, it increased gradually, now it becomes an inevitable part of the corporate growth in India. And, therefore, the present study about M&A along with its impact is thus pertinent and necessary.

Prior to an elaborate analysis of M&A, its theoretical background must be established and looked into. In this chapter, the primary focus is given to understand what M&A is, the factors that influence the merger decisions, its relevance in the

Indian corporate world, M&A in the Indian manufacturing sector, different variables, methods of valuation, types of mergers, theories and processes.

3.2 Merger and Acquisition- Meaning and Definition:

Precisely, Merger and Acquisition means two or more companies combine and form a new company with the assets and burdens (liabilities) of former organisations or one company acquires the other. Merger and Acquisition is the combination or consolidation of different firms to become a single new organisation. Thus, the Merger and Acquisition provides acquirer some advantages such as sustainability and expansion. Acquirer can also avoid heavy competition, capture more market share, and expand their resource base.

Patric A. Gaughan defines merger as “a business combination whereby two or more companies join to form an entirely new company. All the combining companies are dissolved, and only the new entity continues to operate.” (Gaughan, 1999) There are some differences between the merger and consolidation. Merger occurs when one company merges with another and the former continues to exist, whereas consolidation is combining two companies to form a new organisation. Another difference is based on the size of the organisations. If merging firms have the same size (approximately), it is a consolidation, and if not, then it is a merger. But most of the studies use these terms interchangeably. There is a slight difference in Merger and Acquisition. The acquisition is a general term that suggests the transfer of the ownership from one company to another. It can be done through the purchase of the stock or the assets of the target firm, thereby possessing the majority of ownership and enjoying the control over the firm. Merger and Acquisition is used as a common name throughout this study.

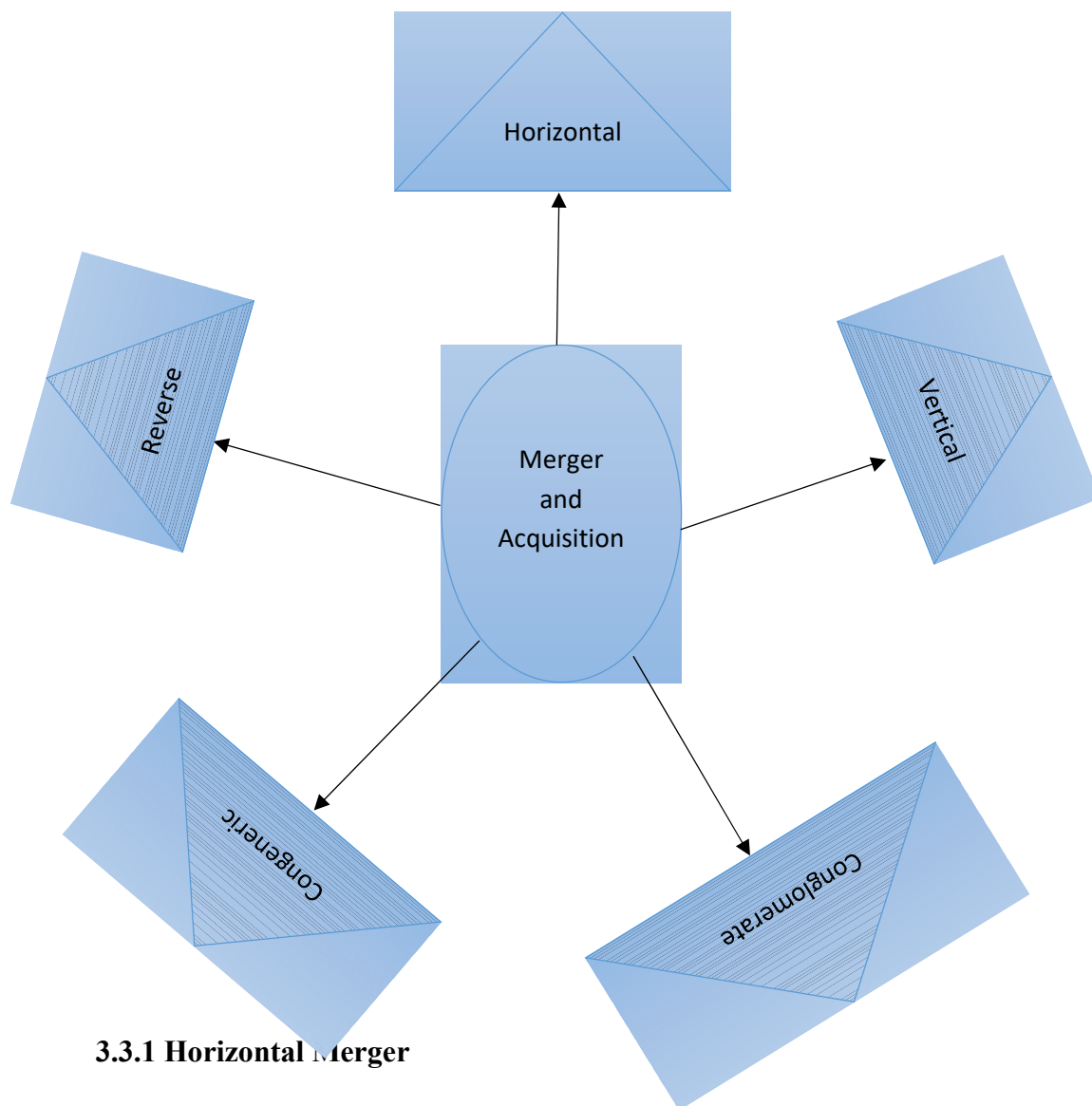
Merger and Acquisition follows different levels of objectives. The primary objectives of any organisation are to obtain rapid growth of the entire organisation. These organisations focus on forming synergy benefits and improving the existing efficiencies. But these organisations always keep some other secondary objectives (non-synergy) as per the policy of organisations. Firms prefer “Vertical Merger and Acquisition”, especially backward integration when it requires readily available

materials (reduce the resource dependencies). The firm needs to reduce suppliers' power (Monopoly), minimising the transaction costs' (Williamson, 1975). Sometimes, firms like to forward integration with the middleman (wholesalers and distributors). It seeks to improve the quality control system and minimises the delay in the delivery of resources. It is acceptable for a conglomerate merger to enter into a new business area and share the distribution channel for reaching the same prospective customers. If any firm wants to utilise the excess cash it may prefer a conglomerate merger (Lewellen, 1971).

But recently, the major and primary objectives of all firms are intended to obtain some synergic benefits through Merger and Acquisition. In case of horizontal Merger and Acquisition, the firm turns into product expansion or extending current product line into new market and strengthening its current market position (Halpern, 1973). Thus, horizontal merger helps the firms to achieve more market power and economic efficiency through operational and financial synergies (Krug, 2008).

3.3 Types of Merger and Acquisition

The above study discussed Merger and Acquisition along with its relevance in corporate business world. There are different kinds of Merger and Acquisition available. As per their objectives and requirements, companies select appropriate type of Merger and Acquisition. The different types of Mergers and Acquisitions are shown in the figure below.

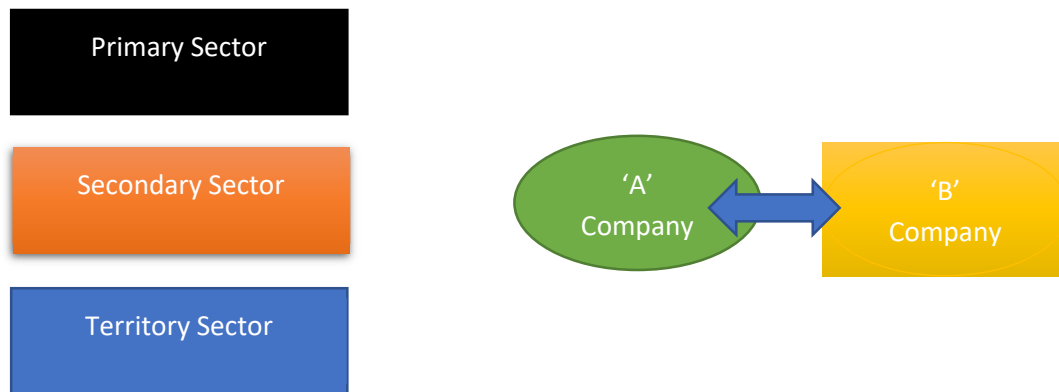
Figure 3.1*Types of Mergers and Acquisitions*

3.3.1 Horizontal Merger

When a company wants to get more market power and minimise the cut-throat competition, the company may prefer a horizontal merger. It occurs when two or more competitors decide to merge and form a new organisation. The companies come under horizontal merger when they work under the same industry. It is shown in the Figure 3.2 below.

Figure 3.2

Horizontal Merger



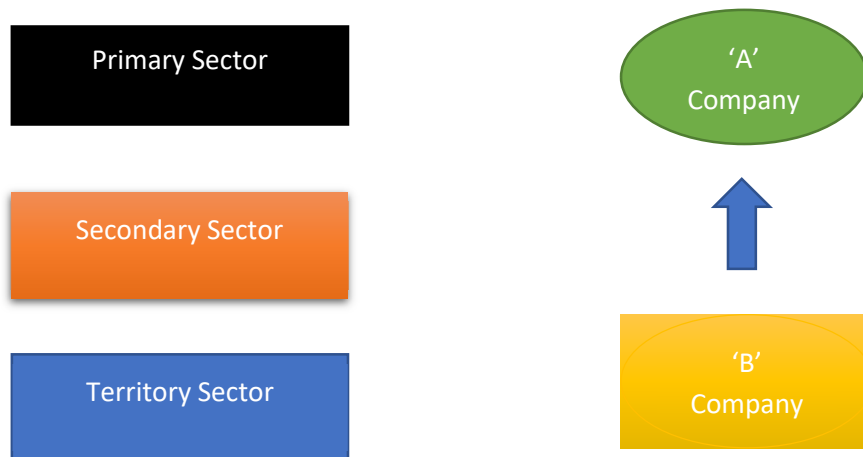
Source: Kar (2013)

3.3.2 Vertical Merger

When an organisation requires speedy availability of raw material for the work (no interruption in the production process), it may want to avoid middleman in the distribution channel and thereby approach its customers directly. Companies of such type may prefer a vertical merger. Vertical merger means combining two or more companies with the suppliers of raw material or the distributors of the company's product. It is also called backward integration and forward integration, respectively. It is a merger between two companies having buyer and seller relationships (Gaughan, 2012). These are shown in the figures 3.3 and 3.4 below.

Figure 3.3

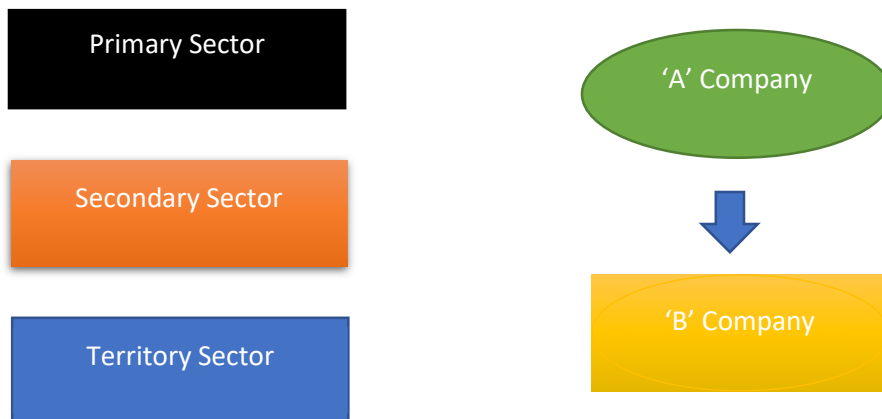
Vertical Merger (Backward Integration)



Source: Kar (2013)

Figure 3.4

Vertical Merger (Forward Integration)



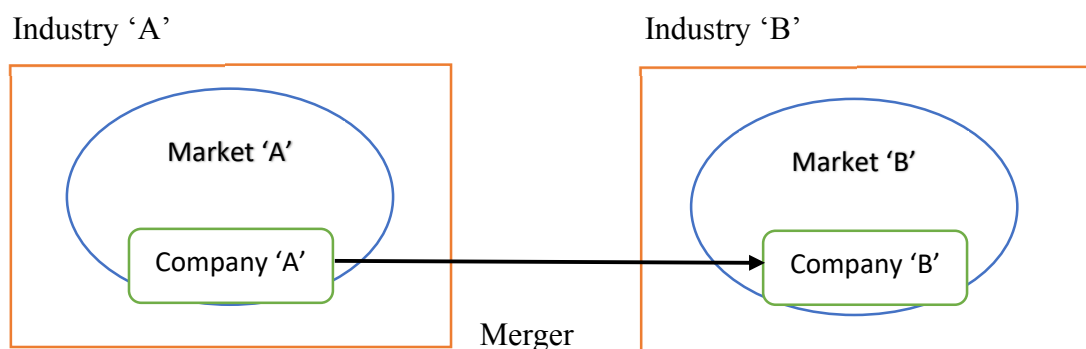
Source: Kar (2013)

3.3.3 Conglomerate Merger

It is a merger between two or more firms, where the firms' business activities are different. It means a combination of unrelated business. The firms of different industries form a new business relationship for sharing their business activities under single management like product extension (called concentric merger), geographical extension, etc. This type of merger is called conglomerate merger. The Figure 3.5 shows conglomerate merger.

Figure 3.5

Conglomerate Merger

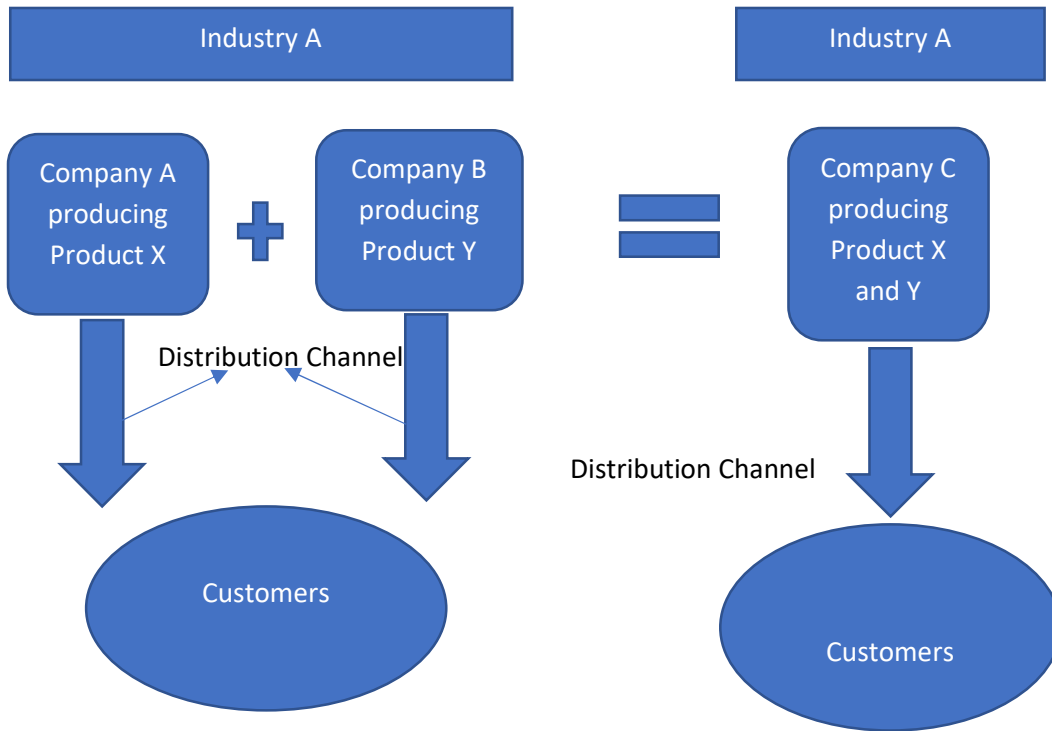


3.3.4 Congeneric Merger

When the firms that come under the same industry or business groups are merged to form a new organisation it is called congeneric merger. These firms come under same industries but do not produce same product. These firms are ready to share the distribution channel of both organisations. As a result of this merger, both firms can enjoy the same distribution channel to reach out to the target customers.

Figure 3.6

Congeneric Merger



3.3.5 Reverse Merger

It is a technique undertaken by private companies to get public status quickly. When a company (private company) proposes acquisition of a public company to earn the tag of public enterprises and evade the lengthy and complex procedure for it, it is called as reverse merger. It is illustrated in the figure 3.7 below.

Figure 3.7

Reverse Merger



3.4 Motives of Merger and Acquisition

Generally, motives behind the Merger and Acquisition deals are different. Brealy and Myers give sensible and dubious motives, leading to the Merger and Acquisition decisions (Kar, 2013). These motives are briefly explained below:

3.4.1 Sensible Motives

There are nine sensible motives in Merger and Acquisition. These are explained below in detail.

3.4.1.1 Achieving Economies of Scale

When two organisations are combined through Merger and Acquisition, it will result in incremental productivity and reduce the average cost per unit of the production. Such a benefit is normally acquired through the horizontal type of Merger and Acquisition

3.4.1.2 Increasing Market Power

As a result of horizontal merger, the firm may obtain more competency and acquire more market power. These benefits will help the firm (newly formed organisation) to achieve the tag of a leader among the competing firms.

3.4.1.3 Economies of Vertical Integration

As companies are required to improve their position in the market, they merge with its customers and suppliers. This vertical integration will allow the firm to stand the market firmly without the supports of suppliers and customers.

3.4.1.4 Risk Reduction

Reducing the risk through M&A is one of the most acceptable strategies followed by the organisation. It will reduce the underlying risk of the assets alone and not the cost of capital. But it may increase the value of the firm as well as cash flows.

3.4.1.5 Tax Shield

The most widely accepted objective of M&A is to reduce the tax burden of the organisation. If a firm has a huge loss (including contingent liabilities, if any) then another firm having more profit can acquire it. Thereby acquisition helps a firm to set off its gain with the loss of the target firm. These tax benefits will be transferred to the combined entity.

3.4.1.6 Surplus Fund

Some organisations may have surplus resources. So, in order to avoid the payment of surplus funds as dividend to the shareholders and eradicate the idle resources, the firm may choose Merger and Acquisition. i.e. the firm may invest in other firms by way of Merger and Acquisition.

3.4.1.7 Complimentary Resources

Companies can enjoy the creation of value through synergy because they may occupy the same kind of assets and resources. As Merger and Acquisition results in value addition, this is carried out through financial and operational synergy of the company.

3.4.1.8 New Business Opportunities

The company may prefer Merger and Acquisition to find new business opportunities and areas. It may increase the value and revenue of the business organisation.

3.4.1.9 Eliminating Inefficiencies

If an organisation has inefficient management or resources or assets, it may prefer Merger and Acquisition. A weak company merged with an efficient company can overcome its limitations.

3.4.2 Dubious Motives

There are some dubious or doubtful motives for Merger and Acquisition, they are discussed below.

3.4.2.1 Diversification

It is considered as the strongest form of motive for Merger and Acquisition. It helps to diversify the business operations by entering into new market or introducing new product or services. However, it has limitations as occasionally it may create problems like shareholders can diversify the same share cheaper than by a company with comparatively lesser time.

3.4.2.2 Long term Financial Consideration

Companies might prefer Merger and Acquisition if they require more financial strength and capital base. But to achieve these objectives, companies need to extend their potential to capture the international capital market.

3.4.2.3 Lower Financing Costs

This is one among the many motives that leads to Merger and Acquisition. If a firm wishes to lower the cost of capital, it may prefer to merge with the other company which has a lower financing cost.

3.4.2.4 Management Performance and Hubris

Executives of some companies have overconfidence to run another company productively and profitably. Thus, executives will be ready to pay more and more to the target company. This overconfidence can sometimes lead to big losses (Kar, 2013).

Each organisation, if wishes to participate in Merger and Acquisition may pose some distinguished motive. According to the objectives or necessity (it will be the organisation's motive), it may prefer Merger and Acquisition. It covers obtaining competitive advantages, to become a giant organisation, availability of scarce resources, reaching the customers at more ease and attaining more market power.

These are the motives that lead to Merger and Acquisition. However, at times some organisations fail to achieve the motives that are persuaded.

3.5 Theories of Merger and Acquisition

Since Merger and Acquisition is the most significant phenomenon under the head corporate restructuring all over the world, it requires a solid theoretical knowledge for its establishment and implementation. Before considering the facts and issues related to the M&A, it is important to know more about its existence and relevance. Different theories will help us to understand the Merger and Acquisition in an elaborated manner. Here, the study brings into notice some of the relevant theories of Merger and Acquisition as are discussed below.

3.5.1 Internationalisation Theory

This theory is one of the most suitable theories for horizontal Merger and Acquisition. It advocates that Merger and Acquisition is the best source for acquiring intangible assets for the business. It includes the acquisition of a particular field, knowledge on a specific market, etc. These benefits occur through the acquisition of intangible assets for the organisation. This transaction helps the business organisation to reduce its high transaction cost. Thus, these deals (M&A) are considered as more profitable than purchase or lease of the assets (Kar, 2006).

3.5.2. Technological Competence Theory

This theory depends on the internationalisation theory. The Merger and Acquisition under this theory tries to familiarise or expertise the other organisation's technological advancement. It includes acquiring knowledge about any software and its operations (Kar, 2006).

3.5.3 Transaction Theory

This theory is mostly good for vertical Merger and Acquisition. This theory claims that it helps the organisation to reduce the uncertainty in the distribution of factors for production. It also reduces the production cost and ensures well-timed disposal of inputs for the production process (Kar, 2006).

3.5.4 Hubris Theory

This theory was proposed by Roll (1986), and the theory explained the behaviour of the acquirer's (firm) management in the merger deal. In most of the merger deal, managers behave with overconfidence; managers would be ready to pay higher premiums to the target firm. As a result of the higher premium, the target firms' share price increases more than they deserve in the market. Thus, a number of Mergers and Acquisitions experience negative return for the acquirer, whereas the target firm's shareholders get positive returns. This theory upholds the view that the combined entities' value will destroy or deteriorate in the market. It occurs due to managers' pride, their estimation is more than in the market (Gaughan, 1999). Hubris theory is associated with the size of the premium paid positively (Hayward and Hambrick (1997). "Hubris theory has been empirically tested by studies such as Dodd and Ruback (1977), Bishop et al. (1987), Ravenscraft and Scherer (1989), Franks and Harris, 1989, Zhang (1995), Sudarsanam et al. (1996), Grallon et al. (1997), Maquieria et al. (1998). These studies have produced empirical evidence in support of the Hubris theory" (Sugiarto, 2000).

3.5.5 Agency Theory

This theory is also known as the principal-agent theory. Here principal may be the highest authority or shareholders and managers or executives act as the principal's agent. There is a silent condition, where the agent should work for the principal's benefits in their best effort, but it does not happen in the best manner in some cases. So, it will create some issues between principal and agent. In M&A, there is a conflict between the principal and agent. Mostly principal is not informed, and the agent is informed before signing the contract. It creates information asymmetry. There are three types of asymmetries: hidden information and actions, hidden characteristics and hidden intention (Marsch, 2015).

3.5.6 Efficiency Theory

Different theories come under the head, Theory of efficiency. It is mainly focussed on the interest to attain benefits through operating synergy of the combined entity. Types of efficiency theories are briefly discussed below:

3.5.6.1 Differential Managerial Theory

This theory is known as the managerial synergy hypothesis. It demanded the Merger and Acquisition between firms with other firms. These are differentiated with their managerial efficiency. If the managerial efficiency of a firm is below the average industrial efficiency, it can grow up. These firms cannot utilise this potential well. The firm with higher potential will be identified and be acquired by other firm that has higher efficiency. This will help a less efficient firm to become an efficient one.

3.5.6.2 Inefficient Management Theory

This theory is more suitable for Merger and Acquisition between firms; their business is not in the same field. It differs from the differential efficiency theory only with the inefficiency of managers. When the organisation's managers are incompetent or inefficient, they would be replaced, but it requires huge amount and time. However, Merger and Acquisition helps to reduce the cost and makes it easy.

3.5.6.3 Operating Synergy Theory

This theory applies to all kinds of Merger and Acquisition like horizontal, vertical and conglomerate mergers. It is also known as operating economy. When a firm is fragile in any area like R&D, production, marketing, or finance, it may be combined with other firms' good competency in the same area. It will help the firms to solve their inability and improve their competency.

3.5.6.4 Pure diversification

If a firm faces a lack of internal resources or lacks internal strength, it can overcome diversification. This diversification through merger helps the firms and their stakeholders absorb some benefits to avoid their internal problems.

3.5.7 Value Increasing Theory

According to this theory, the merger emerged enormously. Because it can create synergy to both acquirer and target firms, this synergy will lead to an increase

in the value of the firm (Hitt et al., 2001). Some theories that come under this school of thought are explained below:

3.5.7.1 Theory of Efficiency

This theory focuses on the expectations of the merger deal which engendered the achievable synergy, and it is beneficial for both parties, i.e., bidder and target (Banerjee and Eckard (1998) and Klein (2001)). If the earnings are not positive in case of a target firm, it will not be acceptable to them for selling their organisation. In case of a bidder, if the earnings are negative in the merger, bidder firms will not show any interest in completing the deal.

3.5.7.2 Theory of Market Power

This theory advocates that increased market power helps to get allocative synergy through consumer surplus. It can be done through the firm that has more outstanding market power charges as a higher rate for their product and get abnormal returns by the consumer surplus. So, Merger and Acquisition are caused by market power as a prominent motive. Thus, this theory supports findings like after the merger, every firm experiences an increase in their profits and decrement in their sales volume (Prager, 1992; Chatterjee, 1986; Kim and Singal, 1993; Sapienza, 2002; Cefis et al., 2008). Finally, market power helps to earn a high premium and long-term benefit to the firm by reducing future potential of competitors (Motta, 2004; Besanko, 2006; Gugler et al., 2003).

3.5.7.3 Theory of Corporate Control

It argues that inefficient management would be replaced by an efficient team to obtain positive return. The efficient organisation is ready to buy the other firm; it possesses the least performance in creating synergy to the firm and does not create proper value (Weston et al., 2004). Thus, the organisation can improve the productivity of the assets. The process of replacing the management will continue until it creates value for the firm.

3.5.8 Value Destroying Theory

A firm is stated as value decreasing organisation, if the Merger and Acquisition do not create any value or the acquiring firm's performance is ruined after the merger. It will come under the head, Value-Destroying theory. This theory mainly focuses on two possibilities, like information constrained objects, the merger to create value to the firm and managers primarily act for their benefits than the organisation. These are discussed below.

3.5.8.1 Theory of Managerial Hubris

Roll (1986) points out that managers are working with good concern. But their faulty estimation of premium failed due to the overpayment of compensation (i.e., excess amount is considered as premium). It will lead the organisation into the situation of a winner curse.

3.5.8.2 Theory of Management Discretion

Jensen (1986) declared that the discretion of managers is not based on overconfidence. It is purely based on the fruitless acquisition made by them. If managers get a chance to fulfil their self-interest, it will lead to self-serving acquisition. Thus, the value of the firm will be destroyed in the market. Managers may be well-wishers of the company, but their bad decision negatively affects the company, i.e., mistakes in valuation. So, the manager's self-interest plays a major role in M&A.

3.5.8.3 Theory of Empire Building

The theory of Empire Building is focussed on managers' attitude to increase the size of the firm. Managers are motivated to invest in the growth of sales and assets. But the decision tends to be wrong and incurs loss to the firm.

3.5.8.4 Theory of Management Enrichment

This theory states that enriched managers are interested in acquiring more wealth, reputation and fame. So, managers will invest only in managers' specific

assets. It will create a huge cost for shareholders to substitute the managers. Thus, the firm's value will be reduced as managers try to invest free resources than the alternatives; thereby it increases the value of the firm.

3.5.9 Other Theories

There are another seven theories supported by the merger motives. These are shown in the Figure 3.8 and explained (trautwein, 1990) below.

Figure 3.8

Theories of Merger Motives

Core of the Theory		Name of Theory	
Merger as a rational choice	Merger benefits bidder's shareholders	Net gains through Synergy	Efficiency
		Wealth transfer from customers	Monopoly
		Wealth transfers from Target's shareholders	Raider
	Merger benefits managers		Empire-Building
	Net gains through private information		Valuation
Merger as a process outcome		Process	
Merger as a macroeconomic phenomenon		Disturbances	

Source: Strategic Management Journal (1990)

The seven theories of merger motives are briefly explained below.

3.5.9.1 Efficiency Theory

Merger and Acquisition has the prime motive to get synergetic benefits by its implementation. This theory is explained by three types of synergies, viz

a. Financial Synergy

This synergy arises in different situations like lowering the cost of capital, reducing the systematic risk, increasing the organisation's size and establishing an

internal capital market (it will help the organisation to allocate the capital more efficiently). Thus, these synergies experience the lowest level of cost of capital as the outcomes.

b. Operating Synergy

It will be beneficial when it can enjoy a lower cost for the operations due to the combination of organisations.

c. Managerial Synergy

The quality of the bidder's managers will help the target firm to perform well because of their superior planning and monitoring.

3.5.9.2 Monopoly Theory

The major aim of the Monopoly theory is to obtain more and more market power. Being always a conglomerate merger, it can be applied by this theory. This theory advocates earning from one market can be used for the benefits expected from another market through cross-supported products. It also limits the competitors of different markets. This can be made possible through tacit collusion with competitors in more than one market (called the theory of mutual forbearance, Edward (1955)). Another approach is to make a reciprocal dealing and join any business function. These advantages are called collusive synergy (Chatterjee, 1986). It does not create any efficiency gain but transfers wealth from customers. This theory is considered weaker than efficiency theory.

3.5.9.3 Valuation Theory

When the company's managers get proper idea or information about the target firm's value than stock market value, the company will plan and execute Merger and Acquisition. Some acquirers may approach Merger and Acquisition if they have unique knowledge about merger results. This is carried out either after the combinations or managers may detect some companies undervalued and ready to sell their portion.

3.5.9.4 Empire-Building Theory

The major or main objectives of every business concern are wealth maximization or increase of shareholders' wealth. But in some other cases, it may be the preference of the manager's interest. Executives may pay more attention to the increase in executives' turnover i.e., executives work for the benefits of themselves than for the organisation. This theory advocates that only when managers could prioritize their own benefits above the benefit of the company, Merger and Acquisition will be planned and executed.

3.5.9.5 Process Theory

Another critical theory of Merger and Acquisition is process theory. It is based on the strategic decision process. This theory advocates that strategic-decisions are the outcomes of a process. This process is influenced; individuals possess limited information processing capabilities (Simon, 1957). 'In an organisation, organisation routines play a major role, it includes lots of participants and possesses limited rationality to create barriers to reach comprehensive rational solutions' (Allison's, 1971 & Cyert and March's, 1963). The central role in strategic solutions is influenced by the political power. As the outcome of the political game between organisational subunits and outsiders, the strategic decisions are interrupted (Alison's, 1971).

3.5.9.6 Raider Theory

The raider theory explains a person who placed a bid to a company; such a person causes the wealth transfer from stockholders of the companies. This wealth transfer may be after a successful takeover in the form of greenmail method or excessive compensation.

3.5.9.7 Disturbance Theory

The economic disturbances which are the major cause of merger and acquisition is known as the disturbance theory base. It causes changes in the individual expectations and increases the level of uncertainty. The major limitation

of this theory is that it only depends on the difference in expectations and the competitive process in the capital market (Gort's, 1969).

3.6 Process or Stages of Merger and Acquisition

The ideas or strategies that emerged about the restructuring, and up to the execution of the decision in a full-fledged manner can be described as the different stages of M&A. It may vary differently from time to time making it a very complicated decision which determines the success or failure of M&A. These are listed and briefly explained below.

Stage 1-Prepare M&A Strategy

If a company decides for M&A, it should prepare or fix a strategy for the M&A activities.

Stage 2-Fix Criteria for M&A

After deciding the strategy, the company should set some criteria or priorities for the M&A. Also, the company needs to set some parameters for selecting target firms.

Stage 3-Search for Potential Target

Based on the parameters or criteria, the company may search for potential target firms. Sometimes the company makes a list of target firms.

Stage 4-Planning for M&A

After sorting the target firms, the company should make some planning works and prepare a blue print of the M&A activities.

Stage 5-Valuation Process

During this stage, it examines the present and future market values of the target company. It makes an idea about the organisation culture, financial stability, firm value, market share, sales and distribution channel.

Stage 6- Negotiation

Negotiation between acquirer and target companies commences and it considers the purchase price or mode of payment etc.

Stage 7- Due Diligence

It is the stage of collecting all the important information relating to the target firms, obtaining the previous financial performance, market performance, market valuation and debt position, etc. before entering into the M&A transactions. Thus, the acquirer investigates the authenticity of the documents related to the target firms.

Stage 8- Agreement for Purchase and Sales

Then, both firms reach at an agreement, fix the charge and also discuss on how to deal with the assets and liabilities, law matters, etc.

Stage 9- Execute the M&A

After entering into an agreement, both parties finally implement M&A decisions, take a collective process, and execute the pre-defined rules and regulations.

3.7 Mergers and Acquisitions in India

In the history of pre-independence India, the concept of corporate restructuring was not a common practice. But it is not a negligible phenomenon. In post-independent India, M&A performs a significant role in the economic and industrial reforms in the country. High wholesale inflation creates more profits and dividends to the Indian businessmen. Since then, the Indian economy witnessed a number of M&A in different fields like jute, insurance, cotton, banking and tea. But anti-government measures like Industrial Development and Regulations Act, 1951, MRTP 1969, Foreign Exchange Regulation Act 1973, etc. has restricted the private sector. However, during the period 1951 to 1974 there are different M&A in the public sectors like life insurance, general insurance and textiles. These public

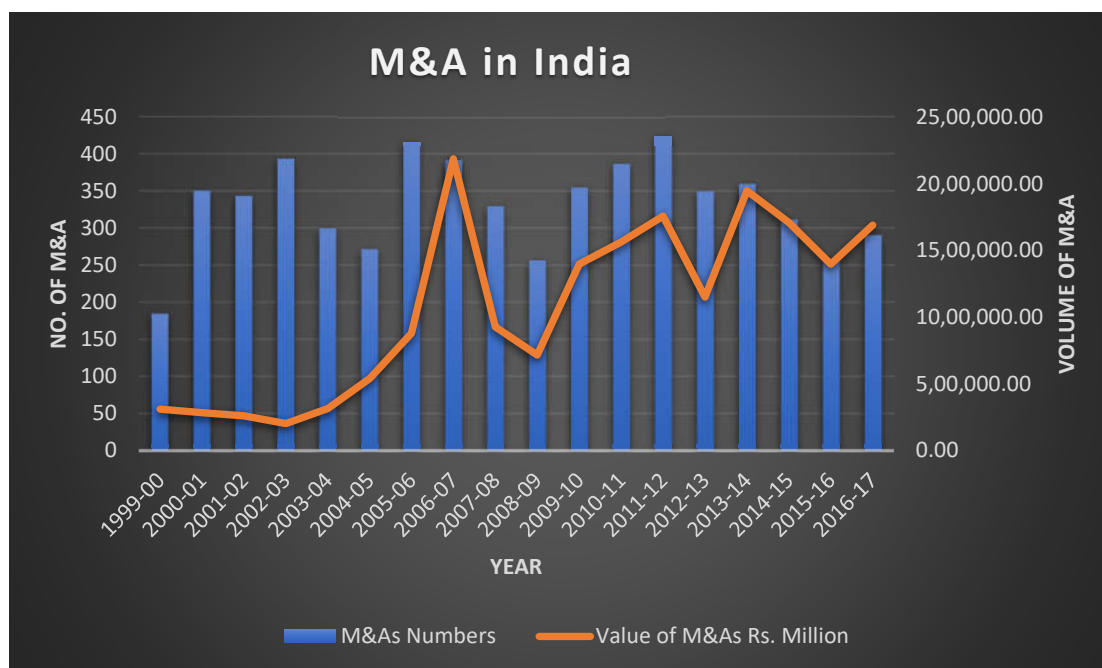
organisations were later taken over by the other institutions named as sick units. There was a shift from this scenario from 1990 onwards.

This was a remarkable time in the history of M&A in India. In the year 1991, the Government of India announced GLIP (Globalization, Liberalisation, and Privatisation) in the Finance Act. This declaration opens a new window in the Indian economy. The Government has given sanctions to de-licensing the different sectors, de-reservation, open the markets to all, withdrew the private organisation's restrictions, and simplified the foreign exchange rules and MRTP Act, etc. Since then, most of the multinational companies adopted the option of Merger and Acquisition, and the economy experienced around 1386 M&A during the period 1990-91 to 2000-01 in India, out of this, 323 M&A took place in the year 2000 (Kar, 2011).

After the period 2000-01 to 2016-17, there are a lot of ups and downs in the M&A across the different industries. These are shown in the graph given below.

Figure 3.9

Mergers and Acquisitions in India



Source: CMIE Prowess Data base

The above figure 3.9 explains the trends in the M&A in India since 1999. In 1999-00, M&A in India were 185 among the overall industries. But next year, onwards (2000-01) economy faced a quick response in the case of M&A. It was 351 as the number of the merger during that period. It was approximately twice the performance in 1999-00. But the value of the M&A was sustained at a lower level. The amount was below Five lakh (in Million) rupees, i.e., in the period 1999-00 and 2000-01 it showed 3,08,618 and 2,81,964 million rupees, respectively. Then M&A achieved a rapid growth in its numbers, especially in 2005-06 and 2011-12, it reached above 400. But in some years, the performance of M&A was comparatively poor, i.e., below 300. Thus, the occurrence of M&A in 2007-08 and 2015-16 showed 257 and 258, respectively. Besides, 1999-00 showcased a lower-level performance in a year and in 2007-08, the number of M&A were meagre due to the global financial crisis. But the changes in the political field and the Central Government in India beat the volume of M&A in 2015-16.

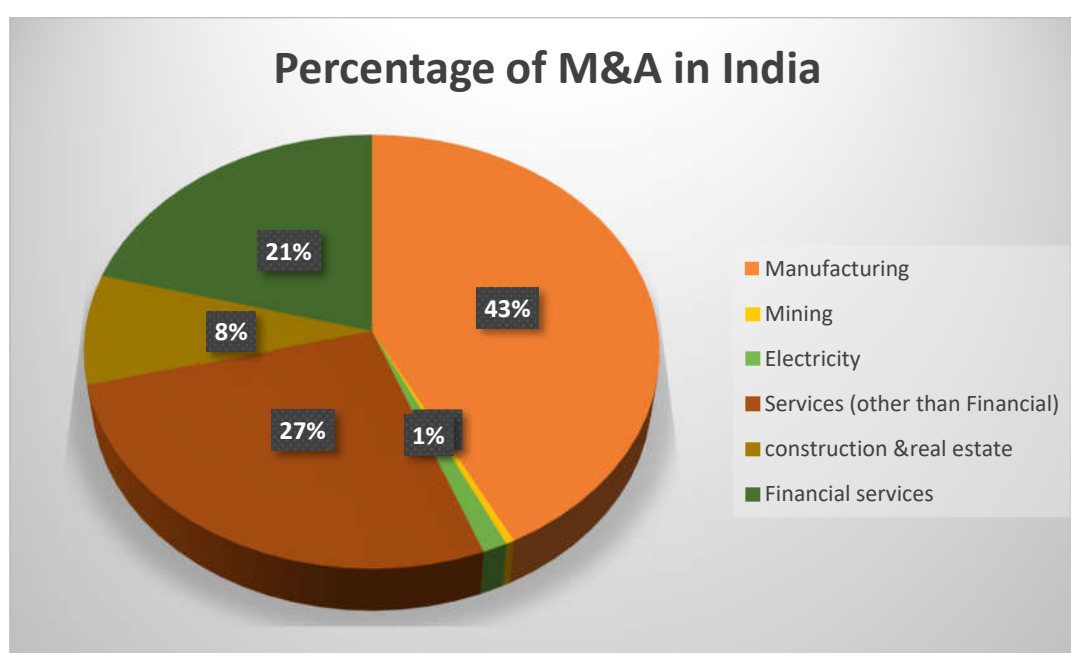
There are different unexpected obstacles occurred in the growth of M&A in the Indian capital market. The Indian economy expected that the market will favour the M&A in 2016-17, and it will make a huge and valuable increase in the M&A due to the investment approach and measures taken by the central Government. It portrayed some positive signs, and the economy enhanced better performance than in 2015-16, but the reality was dissatisfaction, i.e., the fluxes of M&A was not up to the expected level. Demonetisation, implementation of GST and some changes in the fiscal and economic policy shattered the surge of M&A in all industries. When the study considered the value of M&A, the situation was not happy and encouraging.

In short, since 2001-02 the Indian corporate world faced a tremendous hike in the number or volume of M&A. Nevertheless, the pace of the value of M&A shows struggle to increase. The value and the volume were gone hand in hand but did not absorb the market's actual behaviour. In 2005-06, M&A showed more than 400 activities, but the value was below the Rs 1000000 (million). When the value is above Rs 2200000 (million), the number of M&A shows below 400. They show direct relation, but mostly it is in a decreasing trend. After evaluating the overall performance of M&A in all the industries, the study is intended to know the M&A's status in the major industries in India.

Explaining the occurrence of M&A in the different sectors in India, here are the six major categories viz. manufacturing sector, mining, electricity, services (other than financial), construction & real estate and financial services. During the period from 1999-00 to 2016-17, there was a large number of Merger and Acquisition in the Indian economy. The details are shown in the pie diagram (in percentage) below.

Figure 3.10

Sector-wise M&A (Percentage)



Source: CMIE Prowess Database

The above figure 3.10 explains the contribution of Merger and Acquisition in the different fields or sectors in India. The mining sector experienced very least M&A which is 0.43%, but in the manufacturing sector, it contributed 42.52% M&A. Other sectors like financial and service sectors provided 20.76% and 26.83% performance since 1999-00, respectively. The electricity and construction & real estate sector showed 1.28% and 8.17% of the total contribution, respectively. If the study considered the contribution of each sector might had given different results. Most of the M&A happened in the non-financial sector; its overall rate being 79.23%, at the same time, the financial sector provided only 20.96%. In 1999-00,

the non-financial sector had contributed 71.89%, and the financial sector with 28.11% towards corporate restructuring. The highest performance of these two sectors are 90.30% in 2014-15 and 31.71% in 2012-13, respectively.

Understanding the importance and uniqueness of M&A in the Indian manufacturing sector in comparison to the other Indian sectors is quite relevant. The available information on Merger and Acquisition in each industrial sector exhibits a very drastic variation in the amount. Currently, Mergers and Acquisitions are much visible in financial services, especially in the banking sector. But it could contribute only 7.74% of the financial services and also contribute only 0.089% of the total Merger and Acquisition in India since 1999-00. Any other financial services like asset financing services and fund-based financial services witnessed more Merger and Acquisition than the banking sector (28.84% and 40.84% respectively of financial services). Compared to other sectors and its importance in the Merger and Acquisition, the manufacturing sector shows extraordinary performance. It is the leading sector with more of Merger and Acquisition during the period. Because of this reason, this study prefers the manufacturing sector. Thus, the study further tries to explain Merger and Acquisition in the Indian manufacturing sector.

3.8 Merger and Acquisition in the manufacturing sector

The manufacturing sector is the prominent industrial sector, and it has a vital role in the economic development of the country. It comprises of different types of industries like food and beverages, cement, chemical, pharmaceuticals, textiles, consumer goods, machinery, etc. The manufacturing sector shows higher growth potential among the Indian industries. This sector attained a 7.9 % growth in the financial year 2016-17. India expects that the manufacturing sector that the Gross Domestic Product (GDP) will grow to 25% in 2022 from the current rate 16%. In Merger and Acquisition, the manufacturing sector upholds (43%) among the other prominent sectors (see above figure: 3.10). The growth of Merger and Acquisition since 1999 in the Indian manufacturing sector is explained with the help of a graph (Figure 3.11).

Figure 3.11

Number of M&A in manufacturing sector since 1999-00



Source: CMIE data base

The growth of Merger and Acquisition shows a decreasing trend in the last seven years. Especially in 2012-13, the number of Merger and Acquisition was 90, which was the lowest count in the last eighteen years. The manufacturing sector experienced the highest number of M&A with 198 in 2005-06. Whereas in 2016-17, M&A were 112, and comparably it was low with M&A in the period, 2015-16. Even at the time of the World Recession in 2008-09, M&A was not bad, showcasing 118 in number because of the sound financial system of the Indian economy. Moreover, the M&A trend in the Indian manufacturing sector provides consistent and leading results.

Table 3.1

Performance of Industries under the Manufacturing sector (Percentage)

Period	Industries	M&A (Percentage)
1999-00 to 2016-17	Food and Agro	14.70
	Textile	8.90
	Chemical	25.10
	Consumer goods	8.10
	Construction	4.60
	Metal	13.30
	Machinery	9.40
	Transport Equipment	3.30
	Miscellaneous & Diversified	12.60

Source: CMIE Database

The performance of different industries comes under the manufacturing sector since 1999-00. The chemical industry exhibited greater M&A during this period. It undertook 25.10% of the overall performance of M&A, i.e., 42.53%, but the miscellaneous manufacturing rated 6.70% (12.60% including diversified manufacturing). Other industries provided least but not bad in its number. So, this research considers the study about Merger and Acquisition in the Indian manufacturing sector as the most requisite one. The entire manufacturing sector is considered as the scope of the study.

3.9 Synergy

As discussed under efficiency theory, synergy is considered as the ultimate benefit that arises from the M&A. It indicates the genuine efficiency of the company. It simply means that the combination of two things creates additional benefits than performing independently. Synergy implies a situation where the combined entity is more valuable than combining the firms individually (Pandey, 2010). From the point of view of the corporate world, if a firm is merged with another, it can enjoy the benefits of synergy. If there are no synergy benefits, then the M&A may be a failure. As a result of merger, a firm's profitability increases

than it may work independently; there is synergy. Thus, synergy may give more potential, talent, increase revenue, technological advancement and reduction in cost. It is denoted as:

$$V (A+B) > V (A) + V (B)$$

Where,

V (A+B) - combined entity value

V (A) - Value of A

V (B) - Value of B

Mainly there are two synergies, 1. Financial Synergy and 2. Operating Synergy. These are briefly explained below.

1. Financial Synergy
2. Operating Synergy

3.9.1 Financial Synergy

When two companies join together, it would improve their financial performance than when they were separate entities. The major benefit of financial synergy is that a company will get more financial bargaining power with a lower cost of capital. Financial synergy arises from the efficiencies of financial activities. If a firm has faced insufficient funds or is in lower liquidity position, it cannot make a profitable investment or cannot utilise more market opportunities. Such a firm may prefer to merge with another firm to have more financial stability than the first firm. The major benefits accrue from financial synergies are,

3.9.1.1 Tax Benefits

Tax benefits arise from the merger between two or more firms. If a firm has net operating profit, it can reduce the tax burden by attaching the target company loss. As a result of the merger, acquirer firm can increase the depreciation charges

and also build tax savings. Similarly, unused tax losses, write-up of depreciable assets, unused debt capacity and the surplus fund also create tax benefits.

3.9.1.2 Lower Cost of Equity and Diversification

Generally, a lower cost of capital through reduced cost of equity arises from diversification. If a large firm is merged with a small firm or a public firm is merged with a private firm in another industry, this diversification may reduce the cost of equity. Similarly, an increase in the number of customers may reduce competition. Increased revenue, market share and cash flows also reduce the cost of capital.

3.9.1.3 Increased Debt Capacity

When two companies merge, it will increase the cash flow and earnings at a satisfying level. After becoming a merger, the merged firm could get a loan from a financial institution with a lower interest rate. It may reduce the cost of capital of the firm.

3.9.2 Operating Synergy

When two firms merge, it may increase the operating income and acquire higher growth in operating synergy. The major benefits of operating synergies are given below.

3.9.2.1 Economies of Scale

Economies of scale means that when the firm's size increases, the cost per unit production will be reduced. As the result of a merger, one company combined with another may increase the acquirer firm's size. Due to the increase of size, cost per unit is reduced by dividing the fixed cost values among the entire items produced. So, a merger operating synergy enriches the acquirer with the benefits of economies of scale.

3.9.2.2 Market Power

After the merger acquirer becomes a giant company, it compares its present state with their previous status. It may accrue a monopoly over other firms in the market. Market share and size of the firm may lead the organisation to enjoy control

over the market. The giant firm can control the price of the product; others may follow the quantity or nature or time of product sold in the market. This privilege leads the firm to earn more profit.

3.9.2.3 Economies of Scope

Every firm's efficiency depends on the availability and effective utilisation of resources. The resources include all assets, know-how, technologies, organisational capabilities, etc. As a result, the merger acquirer may get the chance to enlarge these resources at a higher rate. A combination of two companies with complementary resources may lead to economies of scope. This suggests 'joint production of a product by a merged firm may reduce the cost than when produced separately' (Severiens, 1991). It may lead to more cost reduction and enhancement of revenue.

3.10 Valuation of Deal in Merger and Acquisition

Valuation

When a company plans to acquire another company, it is required to value that company (called target Company) properly. This is called as the valuation process. After the valuation process, the buying company will approach the target company and negotiate. Then the buyer decides whether the acquisition is hostile or friendly approach. Valuation has an important role in deciding the success of the merger.

Thus, the accuracy or reliability of the valuation has greater importance in the decision related to the results of Merger and Acquisition. So, during valuation of a deal, keen attention must be given to know which method is appropriate, and what kind of factors such as industry type, type of company, stage of company growth, the structure of the deal proposed, strategic plan for the target, private/public, etc. are to be considered to estimate the value of the deal.

The widely used way to estimate the firm's value is the market price of the target firm's share. The market price of share earnings exhibits the present earnings and investors' future expectation of growth. But it has some limitations also, they are:

- i) Market price may be affected by insider trading
- ii) Sometimes market price does not reflect the financial and profitability position of the concern.

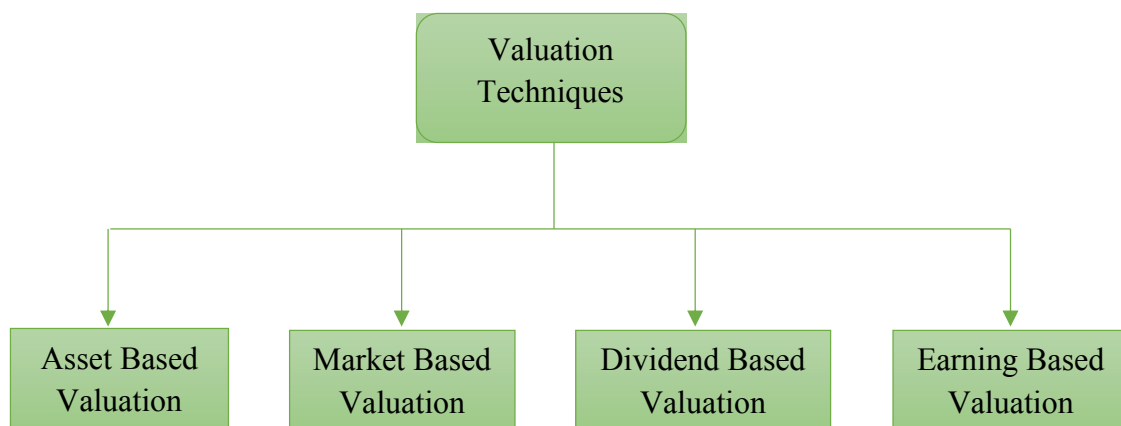
So, the investors will not get accurate information about the firm in the market (Kar, 2011).

3.10.1 Valuation Techniques (Kar, 2011)

It means different methods or models used to estimate the value of a firm. These are shown in the Figure 3.12.

Figure 3.12

Valuation Techniques



Different forms of valuation techniques are as follows.

3.10.1.1 Asset-Based Valuation

In every Merger and Acquisition, the acquirer firm always looks at the net worth of the target firm, the company wishes to be owned. The value fixed based on net worth is the purchase value ready to pay by the acquirer to the target company. The value of net worth is calculated by the value of the target company’s tangible and intangible assets. There are two approaches under this method to value the company.

A. Net worth method

i) Book Value (Asset net liability) Approach

Under this method, the value is estimated from the value of assets and liabilities in the balance sheet. The book value of the asset and external liabilities are considered as the base for valuation of firm. In this method, the second value (external liabilities) is deducted from the first item (assets) to obtain net worth. It can be represented as following:

$$\text{Net worth} = \text{TA} - \text{EL}$$

Here,

TA= Total Asset

EL= External Liabilities

To find out the value per equity share, the book value is divided by the number of equity shares.

The major problems of using the book value method are:

- a) It is based on the historical values; it is not relevant at present
- b) Most companies follow different methods for valuing depreciation, so it creates difficulties in making the statement based on objectives.

ii) Realisable or Replacement Value Approach

This approach is better than the book value method, because this method provides the current and near value of the net worth of the target firm. In this method, all the realisable value of the assets are ascertained and the value of external liabilities to get the firm's value deducted.

B. Tobin-Q Model

This method is considered as the relationship between the firm's replacement cost of asset (acquiring cost of similar assets) and the firm's market value. Here,

value means the sum of replacement cost and the value of growth opportunities. If the Tobin Q value is less than one, the firm is undervalued. But this method has some problems related to fixing its cut-off rate, financial statements always provide historical values only (so calculating the replacement cost is risky), and estimating the value of growth opportunities is also a difficult task.

3.10.1.2 Market-Based Valuation

There are two types of market-based valuation techniques to value firms. They are:

- a. Market Value Added (MVA)
- b. Market to Book Ratio

These are briefly explained below:

- a. Market Value Added

In simple words, it is the difference between current market value and initial capital invested by the investors. It is not an indicator of the performance, it is a metric to measure wealth. Its main objective is to measure how much value accrues over a while.

Market Value Added = Market value of shares - book value of shareholders' equity

Where,

Market value of shares = Outstanding share x market value / per share

- b. Market to Book Ratio

It evaluates metrics to the current market price in relation to the book value of its assets. It is also called the Price Book Ratio. It compares the available net assets value related to the sales price of the share.

Market to Book Ratio = Market Capitalisation/Net Book Value

Where,

$$\text{Net Book Value} = \text{Total Assets} - \text{Total Liabilities}$$

If the value is less than one, company is undervalued and when the value is greater than one company, it is overvalued. So, it is better to compare companies within the industry, in analysing whether companies' assets represent the value of the stock.

3.10.1.3 Dividend Based Valuation

A dividend is a part of the total profit of a firm distributed among the shareholders of a company. The remaining part of the profit, the so-called retained earnings, is considered as the firm's important source of fund for investment. Thus, it provides an inverse relationship between retained earnings and cash dividend. Under this method, it considers two matters when an investor buys the stock. The first one is the dividend from the stock's investment and the expected price at the end of the period. The present value model with the rate of dividend-based valuation is:

$$P_0 = D_0(1+g)^1 \div (1+k_e)^1 + D_0(1+g)^2 \div (1+k_e)^2 + \dots + D_n(1+g)^n \div (1+k_e)^n + P_n \div (1+k_e)^n$$

K_e = Cost of equity of the company

P_n = Value of share when it sells in future

g = Growth rate

But some theory explains that the firm's dividend is irrelevant (Modigliani and Miller model) to the value of the firm and other theory is just contrary to this. It explains dividends are relevant (Gordon model and Walter's model) to the value of the firm.

3.10.1.4 Earnings Based Valuation

The earning approach to valuation is another way to estimate the value of a business firm. It considers whether any changes in the target firm has occurred during post-acquisition, like restructuring the target or related to operations. This valuation method mainly focusses on the rate of return on capital employed, and also the most commonly used method is Price Earning Ratio (P/E). It shows the relationship between the Earning Per Share (EPS) and its market capitalisation. The reciprocal of the P/E ratio is called Earning Yield or Earning Price Ratio.

$$P/E = MPS \div EPS$$

MPS = Market Per Share

EPS = Earning Per Share

Most studies used Price Earning Ratio as a benchmark. It may be based on the industry average or decided on an agreement by the bidder and target firm. If the estimated value (Price Earning Ratio) is more than the industry value (Price Earning Ratio), it means premium should be paid to the target firm.

3.10.1.5 Other methods

a. Cash Flow Approach (CFA)

Future cash flow is the core of this method. It is considered through the future cash inflows projected values. And also, this method is suitable to find out the present value of these projected cash flows and discounted with the appropriate rate under the consideration of time element. It can be defined in an equation as given below.

$$NPV = \sum_{j=1}^{ni} \frac{C_i}{(1+k)^i} - L$$

Where,

NPV = Net Present Value

C_i = Cash flow in different years

L = Current value of liabilities

k = Discount rate (it is the weighted average cost of capital, i.e., $k_o = k_e W_1 + k_d W_2 + k_p W_3$)

Here, a company with poor performance (growth) gets a higher weight and vice-versa. CAPM model is the most familiar method to evaluate the cost of equity.

The method, Discounted Cash Flow Approach (DCFA) is generally accepted technique for calculating the value of the target's free cash flows.

$$TV_A = \frac{FCF_t}{(1+k_o)} + \frac{V_t}{(1+k_e)}$$

Where,

TV_A = target value after acquisition

FCF_t = Free Cash flows of the target in period t

V_t = Terminal value of target at t

k_o = weighted average cost of capital

k_e = cost of equity

Here, the terminal value (expected cash flow beyond the projected period) can be found in different ways. They are:

a. Stable Perpetuity

$$\text{Terminal Value} = \frac{\text{Free Cash Flow}}{\text{Weighted Average Cost of Capital}}$$

Growing Perpetuity

$$\text{Terminal Value} = \frac{FCF (1 + g)}{k_o - g}$$

Where, g = growth rate

$$k_o = \text{Weighted Average Cost of Capital (WACC)}$$

b. Multiple Approach

There are two approaches to identify terminal value under multiple approaches. These are shown below.

i. Multiple of Earning Approach

$$\text{Terminal Value} = FCF_{t+1} \times \text{P/E multiple of industry}$$

ii. Multiple of Book Value Approach

$$\text{Terminal Value} = \text{Book value of capital} \times \text{M/B rates}$$

Where,

$$\text{M/B} = \text{Market to Book ratio (proxy value for future)}$$

The value is given to the bidder firm by the target firm by deducting items like debt and other liabilities and including the amount of sale of assets, divestments and reorganisation cost, etc. Projected future earnings are taken into account rather than historical values in CFA. But determining the discounted rates and the future cash flows is not an easy task.

b. Economic Value Added (EVA)

This method checks whether the opportunity cost of equity capital employed is equal to the business's net income. It is a decisive factor on whether a business is good or bad. If the net income is greater than the opportunity cost, that firm can add value to the existing level, and if net income is less than the opportunity cost, that firm is called value-destroying firm. There is no difference between these variables; it does not create any value. It can be written symbolically as given below.

$$\text{EVA} = \text{NI} - \text{COCE} = (\text{CE} \times \text{ROI}) - (\text{WACC} \times \text{CE}) = \text{CE} (\text{ROI} - \text{WACC})$$

Where,

NI = Net Income

COCE = Cost of Capital Employed

CE = Capital Employed

ROI = Return on Investment

WACC = Weighted Average Cost of Capital

c. Sensitivity Analysis

It estimates the uncertainty in the significant financial variables, i.e., expectant and suspicious values like working capital, profit margin, sales growth rate, capital expenditure, etc. of a firm. It provides a range of values within which purchase value exists.

There is no single valuation method used to arrive at the value of the deal. All the methods explained above may be considered to find the solution to fix the value.

d. Financial Evaluation

Financial evaluation is mainly concerned about the merger's cost and the benefit derived from the Merger and Acquisition. The cost benefits analysis is required to know whether the cost of a merger is more than its benefits or not.

Here “benefits” means,

$$= V_{AT} - (V_A + V_T)$$

$$= V_{AT} - V_A - V_T$$

Where,

V_{AT} = Combined value of new entity

V_A = Value of acquiring company

V_T = Value of the target company

Cost of merger could be found with an equation is

$$\text{Cost} = \text{Price Paid (PP)} - V_T$$

$$\text{NPV} = \text{Benefits} - \text{Cost}$$

Where,

PP means the actual amount paid for the merger by the acquirer to target.

It is evaluated as a capital budget decision

i.e. $\text{NPV} = [V_{AT} - (V_A + V_T)] - [PP - V_T]$

V_A = Present value of acquiring company

V_T = Present value of the target company

If the value of NPV (Net Present Value) is positive, then the acquiring firm will be ready to purchase the target firm i.e., the cost of a merger is less than the benefits derived from the merger. But there is some problem in the above equation; it does not consider whether the payment is in the form of cash or stock. If it is paid in the form of cash, the cost will be calculated with the equation as given below.

$$\text{Cost} = (\text{Cash} - MV_T) + (MV_T - PV_T)$$

Here,

MV_T = Market value of target company

PV_T = Present value of target company

Here, the cost implies the premium amount paid to the target. It involves an amount more than the target's market value plus the difference between the market value of the target and its value as a single entity.

$$\begin{aligned} \text{Thus, NPV} &= [PV_{AT} - (PV_A + PV_T)] - [\text{Cash} - PV_T] \\ &= PV_{AT} - PV_A + PV_T - \text{Cash} + PV_T \end{aligned}$$

$$= PV_{AT} - PV_A - Cash$$

If the merger amount paid in the form of stock, the equation will be

$$Cost = \text{number of shares given} \times PV_{AT} - PV_T$$

$$NPV = \text{Benefits} - \text{Cost}$$

These are the different kinds of valuation techniques followed in the process of valuation of a deal. Every method has its own benefits and limitations too. However, the study enhances these techniques to know the value of a firm and its effects on the combined entity.

3.11 Study Variables under Different Objectives

Variables refers to something varies from time to time. Different kinds of variables are available in different literature related to the study on M&A for analysing the objectives. Various variables selected for the study under the different objective heads are briefly explained below.

- A. Corporate Performance
- B. Shareholders' Wealth
- C. Hubris Analysis
- D. Combined Valuation
- E. Synergy

3.11.1 Corporate performance

'Performance is the process of quantifying the efficiency and effectiveness of action' (Neely et al., 1995). According to Barney (2001), "organizational performance is achieved by comparing the value that an organization creates using its productive assets with the value that owners of these assets expect to obtain." Corporate performance simply means the performance of an organisation in the market when compared to another organisation. It comprises of financial

performance and operational performance that can be calculated by financial values obtained from the financial statements. Financial ratios like liquidity ratio, solvency ratio, activity ratio and profitability ratios are used for the analysis (Gaughan. P.A, 1999). The variables for measuring an organisation's performances are briefly explained below.

3.11.1.1 Financial Ratios (Gaughan. P.A, 1999)

These are the variables mostly available in the financial statements of the companies i.e. Profit and Loss account and Balance sheet of different years. Doing analysis with these kinds of variables used by the firms come under the same category, or the nature of business comes under the same head. The variables selected for the study are briefly explained below.

A. Liquidity Ratio

A firm's ability to meet its liability when it becomes due or the firm's ability to meet their short-term requirement within the time limit indicates its liquidity position. Mainly two ratios are used in this head shown below.

a. Current Ratio

It indicates the firm's financial capacity to meet current liability by using convertible assets within a year.

$$\text{Current Ratio} = \text{Current Assets/Current Liabilities}$$

Where,

Current Assets = Cash plus all assets convertible into cash within a year

Current Liabilities = Financial obligation that will be accomplished within a year

b. Quick Ratio

It indicates the firms' financial capacity to meet current liability by using convertible assets within a very short time.

$$\text{Quick Ratio} = \text{Current Assets/Current Liabilities}$$

Where,

$$\text{Current Assets} = \text{Current Assets} - \text{Inventories}$$

If current ratios/Quick ratios show an increasing trend. It is favourable that the companies' firm is called a liquid firm and otherwise an illiquid firm.

B. Solvency/Financial Leverage Ratio

Knowing the actual amount of debt related to the takeover firms is more relevant in analysing the firms' performance. The financial leverage ratio assumed the usage of debt amount in relation to the firm's equity level in its total capitalisation.

a. Debt Equity Ratio

It is the most widely used leverage ratio in the analysis field. In this part, the relationship between long term debt and total equity of the firm is mainly analysed.

$$\text{Debt Equity Ratio} = \text{Long-term debt/Total equity}$$

Here, Long term debt includes Preferred stock also

The results indicate how much debt amount as increased as its equity.

b. Interest Coverage Ratio

It is a clear indicator of how many times it is required, EBIT (Earnings Before Interest and Tax) will be used by the firm to pay the interest and other debt obligations. It reflects that EBIT or Operating profit is sufficient or not to meet the debt obligations of the firm.

$$\text{Interest Coverage Ratio} = \text{EBIT/Interest Charges}$$

The ideal range of ratio is considered between three and five. The interest coverage ratios are used in the performance analysis to know the credit worthiness, and on these results, the firm plans to pay the acquisition through debt amount.

C. Activity Ratio

The liquidity ratio does not consider all kinds of assets for the analysis. In order to overcome the limitation of the liquidity ratio, activity ratio is introduced. Therefore, activity ratio is meant to check the speed of converting various assets into the form of cash. Here, the study considered only two ratios for performance analysis.

a. Debtors Turnover Ratio

It is related to the collection and credit policy of the firms. In this ratio, it evaluates the average period for collecting the amount due from the debtors. If the amount was not collected and this period for collection increases, it is not good for the firms.

$$\text{Debtors Turnover Ratio} = \text{Accounts Receivable} / (\text{Annual Credit Sales}/360)$$

In a merger, it is very important to check the target firm's credit policy before processing the merger decisions.

b. Raw material Turnover Ratio

Here, the main focus is given to the count or speed which is taken to convert inventories into cash in a year. If the time of the turnover of inventories into cash is high, it is a good indicator for the company and vice-versa.

$$\text{Raw material Turnover Ratio} = \text{Cost of goods sold}/\text{Average Inventory}$$

In M&A, the acquirer examines the low Raw material Turnover Ratio whether it has arisen due to the problem of management or not.

D. Profitability Ratio

Profitability ratio means measuring a firm's ability to generate earnings in relation to the revenue, operating cost, assets and shareholder's equity. It includes margin ratios and returns ratios. Margin ratios means the relation between the profit and sales, whereas return ratios focused on returning to the shareholders from capital

or assets, etc. It covers Profit margin, return on equity, return on assets and return on capital employed. In profitability ratio, the value will compare with companies' previous data or concerned industry. If the value is higher, it is good; otherwise, not. Here, the study takes some measures related to the return ratios except the profit margin ratio to evaluate the performance. These are briefly explained below.

a. Return on Asset

The study analyses how effectively a firm utilises its assets to generate more sales and profits. The company uses more and more assets. It can produce higher sales, and by doing so, it can create more profit also. It can be derived using the formula,

$$\text{Return on Asset} = \text{Net Income (after taxes)}/\text{Total assets}$$

It analyses the percentage relationship between net income and total assets of the company.

b. Return on Capital Employed

In simple words, Return on Capital Employed is used to check how well a company generates profits from its capital base across the companies. It measures the profitability and efficiency of the companies to use the capital invested by the shareholders.

$$\text{Return on Capital Employed} = \text{EBIT}/\text{Capital Employed}$$

Where,

$$\text{Capital Employed} = \text{Total Assets} - \text{Current liabilities}$$

$$\text{EBIT} = \text{Earnings Before Interest and Taxes}$$

c. Return on Equity or Net Worth

$$\text{Return on Equity} = \text{Earnings after Taxes}/\text{Stockholders' equity}$$

These ratios give direction towards the rate of return earned by the firms' owners related to the stakeholders' equity. The return to equity shareholders can be increased by using additional assets financed by a debt fund. It considers earning after tax and the preferred and common stock also.

3.11.1.2 Economic Value Added-EVA

In order to know the true economic profit, the study uses the EVA method. In other words, the EVA method helps to find the actual profit over and above the shareholders' required return. If EVA is positive, performance is good; if it is neutral, not bad, and negative value shows the performance is bad. Here, EVA is used in this study as the Independent variable for the performance analysis (explained in detail under the head valuation for the deal).

To study the corporate analysis, the researcher uses these variables by using cross-sectional regression under econometric analysis. It uses EVA and profitability ratios as dependent variables, and other financial ratios are the independent variables.

3.11.2 Shareholders' Wealth

There are many objectives possessed by the company if it prefers M&A. The most and important one of the Mergers & Acquisitions is increasing the shareholders' wealth. If the acquiring companies' shareholders acquire positive return after the merger, then that merger is considered to be successful and if it is not positive from the point of view of increasing shareholders' wealth, then that M&A is not successful. To evaluate the changes in the shareholders' wealth, the study collected mainly two variables viz, adjusted closing price of shares traded in the Bombay Stock Exchange (BSE) of acquirer and target companies and market index of Bombay Stock Exchange (BSE). The Abnormal Return (company return (i.e. actual or realised return) removed from expected return, it may be positive or negative) and Cumulative Abnormal Return (CAR) is found, if there are a large number of firms find Average Abnormal Return (AAR) and Cumulative Average Abnormal Return (CAAR). Based on these variables, the study uses event study market methodology and forms a conclusion on the basis of whether the merger is successful or not (detailed discussion is given in chapter one methodology part).

3.11.3 Hubris, Synergy and Agency Hypothesis (M&A Motives)

The hubris hypothesis, synergy and agency are already discussed in this chapter elaborately (3.6 Theories in M&A). It was firstly propounded by Richard Roll (1986). It is the overestimation of the target firm done by the acquiring firm's managers, by mistake or due to an overconfidence. Thus, the target firm gets more than it deserves. At first, the study identified the gains of the acquirer and target firms separately along with the total gains. Then, it correlates the total gain with target gain and acquirer gain. If the correlation results show that total gain and target gain have zero correlation, and target gain and acquirer gain having negative correlation, this indicates the presence of hubris issues. If both correlation results provide a positive correlation, there is synergy. Finally, both correlations provide negative results, then it shows agency issues (Berkovitch and Narayanan, 1993).

3.11.4 Combined Valuation effect of Mergers and Acquisitions

Most of the works attempt to learn M&A combined with valuation effect done by event study analysis. But this study follows regression model analysis by using accounting variables. The study variables are.

3.11.4.1 Dependent variables

- a. ROW (Return on Net Worth)
- b. ROCE (Return on Capital Employed)
- c. ROA (Return on Assets)
- d. EVA (Economic Value Added)

3.11.4.2 Independent variables

- a. CR (Current Ratio)
- b. QR (Quick Ratio)
- c. DE (Debt to Equity Ratio)

- d. DT (Debtors Turnover Ratio)
- e. RT (Raw Material Turnover Ratio)

In this model, the study analyses the cross-sectional analysis to know the actual effect. In order to test the combined effect on entity value, the study found an average of acquirer and target data before or after how these above independent variables affect the combined entity after M&A.

3.11.5 Synergy

An analysis of literature on M&A reveals two major synergies. They are Financial Synergy and Operating Synergy. This study considers these two forms of synergy for the analysis, whereas the earlier study analysed synergy by the gains earned by the target and acquirer with the M&A results. If the correlation between these gains is positive, there should be synergy. Then if there is synergy whether it is financial synergy or operating synergy, or both is to be examined. To know the actual status of synergy, the study creates different regression models for cross sectional regression under econometric analysis as discussed below.

Variables under the OLS regression Model:

- a. Financial Synergy:

<u>Dependent Variables</u>	<u>Independent Variable</u>
EVM	Ko
	Tax Value
	FL

Where,

EVM - Enterprise Value Multiple (Enterprise Value/Operating Profit)

Ko - Overall Cost of Capital

FL - Financial Leverage

b. Operating Synergy:

<u>Dependent Variables</u>	<u>Independent Variable</u>
EVM	OL
	SL
	NPM

Where,

EVM - Enterprise Value Multiple (Enterprise Value/Operating Profit)

SS - Sales

OL - Operating Leverage

NPM – Net Profit Margin

By regressing these models, it helps to find whether there is any synergy or not. If it is so, firms enjoy the financial or operating synergy or both. The variables used to determine the synergy are explained briefly:

3.11.5.1 Financial Leverage

Financial leverage simply means the use of debt funds to generate more assets. Using debt fund may generate more return than expenses on debt fund and increase the shareholders' wealth. It is the ratio between total debt and total assets. It may create some favourable situation, it increases the actual return, and also there is taxable benefits (where interest expenses may get tax exemption). Hence, financial leverage may reduce the return on equity. Therefore, the company may enjoy financial synergy as a result of M&A.

3.11.5.2 Operating Leverage

Operating leverage means the relationship between fixed cost and sales amount. It means how the firm generates more return by using a fixed expense. In other words, it is the analysis of firm's operation related to its revenues. A lower

ratio of operating leverage is more favourable than a higher ratio of operating leverage. It means lower the fixed cost. It will help firm to cover its fixed cost with minimum sales after the breakeven point and then the firm can earn more incremental earnings. As a result of M&A, the operational capabilities of the acquirer firm may be inflated. It will help to reduce the operating cost by reduction of the fixed cost.

3.11.5.3 Enterprise Value Multiple

Enterprise Value is the total value of the company. It comprises of the market capitalisation, short-term and long-term debt and cash reserve. It is considered as the alternative of the equity market capitalisation. It is used to measure the performance of the company. It provides more accurate results than market capitalisation which consider the effect of debt and cash reserve.

The Enterprise multiple means Enterprise value, i.e., reflects the firm's total value in the market value of the capital from all sources related to the operating revenue. It is also used to test the performance of the company.

3.11.5.4 Sales

Sale is the exchange or transaction of goods or services or both between buyer and seller for consideration. Total sales or turnover of the concern in the financial year and collected from Profit and loss account of the firm.

3.11.5.5 Net Profit Margin (NPM)

Net Profit Margin means how much profit is generated as a percentage of revenue. After all payments, it is the percentage of revenue, including the preference dividend except the common equity dividend. In the case of M&A, the acquirer firm can enjoy more Net Profit Margin than before. It indicates that the financial health of the companies is far better than before. NPM ratio indicates how much net income or profit is gained from sales or other operations.

3.11.5.6 Cost of capital

The cost of capital is the hurdle rate or minimum rate, which a firm is required to get from its investment. In other words, it is the lowest rate of return expected by the investor from his/her investment. It is also related to the risk of the company's risk. In the case of M&A, there is a chance of minimum cost of capital.

3.11.5.7 Tax Value

Tax value means the value enjoyed by the firm due to the exemption from tax or non-payment of tax, i.e., lower tax. As a result of M&A, the acquirer firm may get some exemption from the taxable amount. Interest expenses, set off acquisition costs from profit, etc. are exempted from tax in India.

Thus, the study briefly discusses the different variables, which are used for the analysis to learn about the different objectives selected. In this part, various equations and their uses are briefly discussed. The detailed information regarding their usage is explained in the methodology part of chapter one.

3.12 Conclusion

Learning about the concept and theory of the M&A is quite relevant before entering into a detailed analysis. This chapter explains the meaning and the relevance of M&A. The different theories, types, processes and motives of Merger and Acquisition are also discussed. The study emphasize on M&A in India and the manufacturing sector since 1999. This chapter sheds light on valuation techniques, synergy and various variables studied under different objectives. This chapter as a whole gives a picture of the M&A and its related theories and concepts. Further, the study is required to analyse the different objectives as stated in chapter one. The next chapter tries to discuss the estimation of abnormal returns and evaluate the impact of shareholders' wealth by using event study.

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CHAPTER 4

IMPACT OF MERGER AND ACQUISITION ON STOCKHOLDERS' WEALTH

4.1 Introduction

One of the most important objectives of the study is to examine the impact of M&A (Merger and Acquisition) on the stockholder's wealth. Shareholders are the owners of a business, when they do not yield any benefits from their investment it will affect the market value of the company. Every organization has its own plans and policies to deal with its shareholders and treat them with what they deserve. Keeping in view of this, the present study evaluates whether the shareholders of merged firms get positive returns or not. This chapter reports the analysis conducted to attain one of the primary objective of the study i.e., to know the impact of M&A (Merger and Acquisition) on the stockholder's wealth.

Data are analysed in two stages: at first, shareholders' wealth is determined by assessing the abnormal returns and then the impact is measured with the help of event study. Thus, the chapter is presented in two parts:

- Part A: Estimation of Abnormal Return of Shareholders
- Part B: Impact of M&A on Shareholders' wealth

The study used daily adjusted closing price of the stocks in the Bombay Stock Exchange (BSE) and the closing value of the index 'Sensex 500' as the stock price helps to find the company's return, and the index helps to find the market return. Event study is used to assess the impact of an event on the value of an organisation. Here, the impact of "stock exchange" announcement or first media announcement regarding M&A (whichever is earlier) is used for the event analysis. Based on the event the return of shareholders of the companies under different event windows i.e., thirty days, twenty days, fifteen, ten, seven, five, three, two day prior to M&A, two day post to M&A, one day (event day), pre M&A and post M&A are

examined. The study compares the impact of M&A on the basis of the mode of payment opted by the companies (i.e., cash or stock transfer).

Part A

4.2 Estimation of Abnormal Return of Shareholders

In accounting, abnormal return means the return over and above the business's average profit, i.e., the difference between actual and expected return. At the same time, most of the shareholders expect such excess returns or unanticipated profits from their investment. Thus, the study attempts to know whether there is any abnormal gain earned in shareholders of acquirer and target firm and also examines whether there is any difference in abnormal return based on consideration of merger/acquisition's and during global financial crisis of 2008 ("financial crisis").

Market model analysis is used for carrying out the event study. Market model scrutinizes the abnormal returns on specific day(s) of an event by assessing the returns on stocks and comparing with normal returns. In the present study, the Average Abnormal Return (AAR) is used instead of Abnormal Return (AR) as the study covers the more than one company. The abnormal returns earned by the shareholders of both the 'acquirer' companies and 'target' companies are determined separately. Therefore, this section is classified into two for easy comparison and interpretation of the results.

1. Abnormal Return of Shareholders of Acquirer companies
 - a) Acquirer: Abnormal Return of Shareholders
 - b) Acquirer: Abnormal Return of Shareholders paid in Cash
 - c) Acquirer: Abnormal Return of Shareholders paid in Stock
 - d) Acquirer: Abnormal Returns based on Financial Crisis

2. Abnormal Return of Shareholders of Target companies
 - a) Target: Abnormal Return of Shareholders
 - b) Target: Abnormal Return of Shareholders paid in Cash
 - c) Target: Abnormal Return of Shareholders paid in Stock
 - d) Target: Abnormal Returns based on Financial Crisis

As the purchase consideration is either paid in Cash or stock or by both to the target companies and the method of payment i.e., either cash or stocks, can influence the market performance of companies; but the actual question is which method is beneficial to the shareholders or which method is not preferred by the shareholders. Therefore, apart from the general analysis the study investigated the abnormal return of the acquirer firms that opted cash and stock as purchase consideration separately. Thus, each category in the section presents the abnormal returns of the shareholders settled in cash, settled in stock transfer and also during financial crisis.

4.2.1 Abnormal Return of Shareholders of Acquirer companies

Estimating the abnormal return of shareholders is essential to analyse the effects of merger and acquisition on shareholders' wealth. The study, which aims to assess the abnormal return of shareholders of acquirer companies under various conditions, such as mode of payment and the financial crisis, will also test the statistical significance of this return. Below is a discussion of them:

4.2.1.1 Acquirer: Abnormal Return of Shareholders

The study examines whether the shareholders of acquirer companies have earned any abnormal returns during the 30 days before and after the event (considering the entire event windows as a whole) and analysis the significance of average abnormal returns at 5% level of significance. Here, the study selected 72 Acquirer companies to test the significance of abnormal returns. Therefore, to take

account of the 72 companies' abnormal return in a single day and calculates the Average Abnormal Returns (AARs) and tested the following hypotheses:

H_0 : There is no significant abnormal return to shareholders due to the merger event.

H_a : There is significant abnormal return to shareholders due to the merger event.

The hypotheses are examined using the event study analysis and the results are exhibited in table 4.1.

Table 4.1

Consolidated Report of AAR-Acquirer

Days	AARs	No. of Positive	No. of Negative	t value	Sign
-30	-0.00265	27	45	-0.92858	NO
-29	-0.00028	35	37	-0.09711	NO
-28	-0.00099	32	40	-0.34849	NO
-27	0.002936	27	45	1.030441	NO
-26	0.005269	37	35	1.848939	NO
-25	0.000584	35	37	0.205045	NO
-24	0.001447	35	37	0.507882	NO
-23	5.87E-05	32	40	0.020601	NO
-22	0.001097	32	40	0.384805	NO
-21	-0.00095	33	39	-0.33446	NO
-20	-0.0018	31	41	-0.63316	NO
-19	0.004933	37	35	1.731324	NO
-18	-0.00237	34	38	-0.83308	NO
-17	-0.00326	30	42	-1.14322	NO
-16	0.001026	36	36	0.359893	NO
-15	-0.00067	33	39	-0.23502	NO
-14	0.003105	36	36	1.089782	NO
-13	-0.00209	29	43	-0.73217	NO
-12	-0.00111	36	36	-0.38874	NO
-11	-0.00443	32	40	-1.55469	NO
-10	-0.00069	32	40	-0.24136	NO
-9	0.010875	41	31	3.816606	YES
-8	-0.00114	30	42	-0.39956	NO
-7	-0.00526	27	45	-1.84601	NO

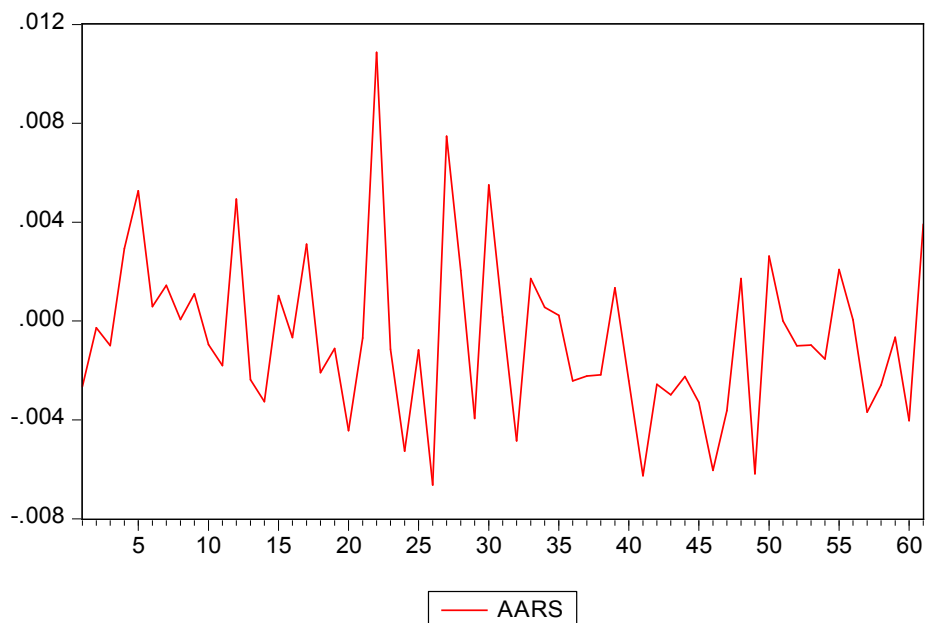
Days	AARs	No. of Positive	No. of Negative	t value	Sign
-6	-0.00117	28	44	-0.41058	NO
-5	-0.00663	25	47	-2.32669	YES
-4	0.007477	36	36	2.623903	YES
-3	0.002043	34	38	0.716848	NO
-2	-0.00394	26	46	-1.38378	NO
-1	0.005511	40	32	1.933907	NO
0	0.000165	36	36	0.057806	NO
1	-0.00485	30	42	-1.70208	NO
2	0.001718	30	42	0.602982	NO
3	0.000553	35	37	0.194131	NO
4	0.000228	34	38	0.08004	NO
5	-0.00242	35	37	-0.84903	NO
6	-0.00222	30	42	-0.78002	NO
7	-0.00217	33	39	-0.7629	NO
8	0.001342	36	36	0.470857	NO
9	-0.00242	27	45	-0.85094	NO
10	-0.00626	26	46	-2.19666	YES
11	-0.00256	32	40	-0.89775	NO
12	-0.00298	31	41	-1.04744	NO
13	-0.00225	30	42	-0.78939	NO
14	-0.00329	29	43	-1.15524	NO
15	-0.00604	26	46	-2.11891	YES
16	-0.00363	30	42	-1.27376	NO
17	0.001718	40	32	0.603029	NO
18	-0.00618	29	43	-2.16935	YES
19	0.002626	35	37	0.921522	NO
20	1.42E-06	34	38	0.000497	NO
21	-0.001	37	35	-0.35201	NO
22	-0.00097	30	42	-0.34053	NO
23	-0.00154	35	37	-0.5403	NO
24	0.002085	35	37	0.731658	NO
25	5.21E-05	32	40	0.018288	NO
26	-0.00368	31	41	-1.29209	NO
27	-0.00259	33	39	-0.90802	NO
28	-0.00065	34	38	-0.22945	NO
29	-0.00403	29	43	-1.41402	NO
30	0.003918	35	37	1.374818	NO

Source: Researcher's calculations

Table 4.1 exhibits the different AARs earned by the shareholders due to the announcement of mergers and acquisitions and the changes in the AARs are shown in figure 4.1.

Figure 4.1

Acquirer: Average Abnormal Returns (AARs)



Source: Researcher's calculations

The analysis of Average Abnormal Returns (AARs) of the shareholders during 30 days before and after merger/acquisition shows a number of positive or negative returns earned by the shareholders of acquirer firm in each day in the event windows; Also the significance of such returns. In the event window, statistically significant returns occurred on very rare days, that is, ninth, fifth, and fourth day before the announcement and tenth, fifteenth, and eighteenth day after the announcement. In the remaining cases the returns are found to be statistically insignificant.

Figure 4.1 shows the movement of AARs before and after the event. Before the announcement AARs show mixed results and only in certain days positive returns are yielded. On ninth day and the day after announcement majority of firms

gave positive returns, i.e., 57% and 55.5% respectively. At the same time, on 5th and 2nd day before the merger's announcement, 65% and 64% of firms got negative return respectively. It's only on the 17th day after announcement 55% of companies got positive returns. The maximum number of firms got negative returns on 10th day (i.e., 64%) and on 15th day after the merger announcement. During the 30 days before the event day (i.e., announcement day) more than 50 % of companies' stocks had negative returns for 26 days; similarly, after the event more than 50 % of stocks had negative returns for 28 days out of the 30 days observed. The highest positive return occurred before the announcement of the merger is on the ninth day i.e., 1.08% and after the announcement on 19th day i.e., 0.3%. The lowest positive return occurred before the day of announcement of merger is on the 29th day which is 0.03% and after the day of announcement it's on the fourth day (i.e., 0.02%).

On the day of the merger announcement, 50% of the acquirer firms show good performance. Though the shareholders' return show positive outcome, statistically they are insignificant at 5% level. On the day just before (positive return) and after (negative) the announcement the returns are not statistically significant. When examining the overall performance in the event window the shareholders received a very nominal profit and also most of the days the returns were not statistically significant.

Hence, the study concluded that 93% days of the 60 days event window (30 days before and after except the announcement day) most of the firms' stocks (i.e., more than 50%) gave negative returns to their shareholders and only 10% of companies were yielding statistically significant returns.

4.2.1.2 Abnormal Return: M&A Paid in Cash

Nineteen acquirer companies opted cash settlement for M&A out of the total 72 selected companies (i.e., 26.4% acquirer companies). This section deals with the abnormal returns of acquirer companies that chose cash payment. For this the following hypothesis is tested using the event study:

H_0 : There is no significant abnormal return to shareholders due to the merger paid in cash.

H_a : There is a significant abnormal return to shareholders due to the merger paid in cash.

The results are exhibited in the table 4.2

Table 4.2

Consolidated Report of AARs Paid in Cash-Acquirer

Days	AARs	No. of Positive Return	No. of Negative Return	t value	Sign
-30	-0.00236	6	13	-0.49066	NO
-29	0.005967	11	8	1.23826	NO
-28	-0.00078	9	10	-0.16206	NO
-27	-0.00596	6	13	-1.23722	NO
-26	0.011626	9	10	2.412611	YES
-25	0.000209	10	9	0.043463	NO
-24	-0.00286	9	10	-0.59259	NO
-23	-0.00489	5	14	-1.01465	NO
-22	0.002143	9	10	0.444732	NO
-21	-0.00481	9	10	-0.99875	NO
-20	-8.7E-05	7	12	-0.01814	NO
-19	-0.00454	7	12	-0.94186	NO
-18	-0.00435	8	11	-0.90222	NO
-17	-0.00036	7	12	-0.07543	NO
-16	0.006969	11	8	1.44629	NO
-15	0.000387	9	10	0.080268	NO
-14	-0.01132	6	13	-2.34871	YES
-13	-0.00108	9	10	-0.22455	NO
-12	-0.00952	5	14	-1.9759	YES
-11	0.002318	9	10	0.481038	NO
-10	-0.00239	9	10	-0.49557	NO
-9	0.013622	12	7	2.826977	YES
-8	-0.00577	7	12	-1.19813	NO
-7	-0.01291	4	15	-2.67934	YES
-6	-0.00828	6	13	-1.71853	NO

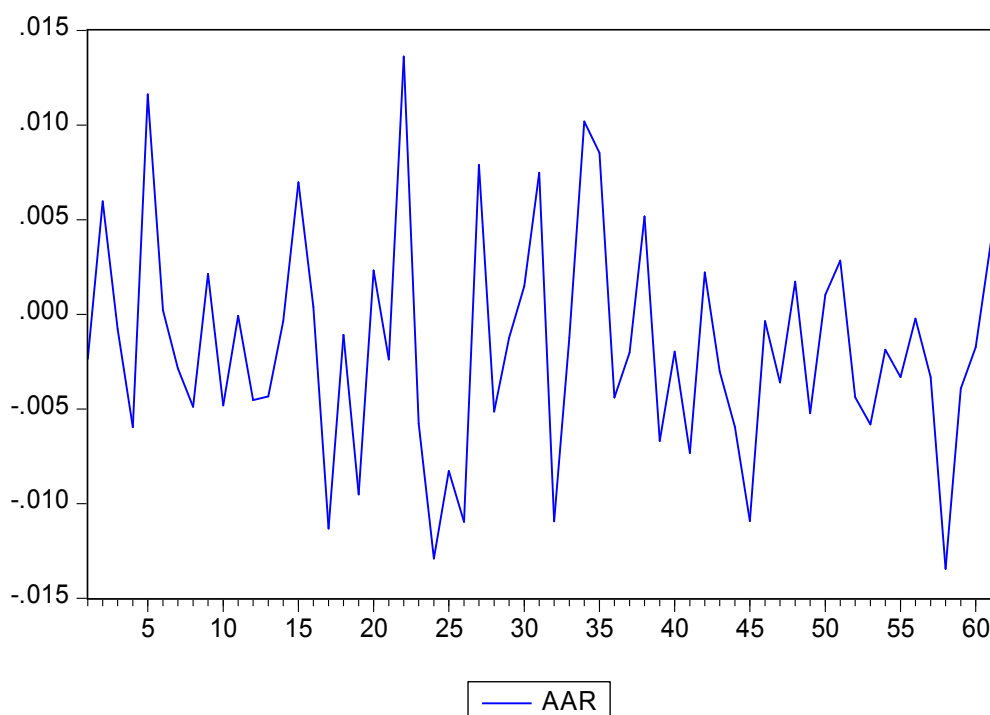
Days	AARs	No. of Positive Return	No. of Negative Return	t value	Sign
-5	-0.01097	6	13	-2.27585	YES
-4	0.007898	12	7	1.638983	NO
-3	-0.00514	8	11	-1.06732	NO
-2	-0.00124	9	10	-0.2579	NO
-1	0.001482	13	6	0.307539	NO
0	0.007484	12	7	1.553184	NO
1	-0.01095	8	11	-2.27151	YES
2	-0.00124	7	12	-0.25771	NO
3	0.010179	11	8	2.11246	YES
4	0.008525	12	7	1.769188	NO
5	-0.0044	8	11	-0.91254	NO
6	-0.00202	7	12	-0.4199	NO
7	0.005167	10	9	1.072333	NO
8	-0.00669	8	11	-1.38828	NO
9	-0.00197	9	10	-0.40951	NO
10	-0.00734	7	12	-1.52252	NO
11	0.002212	8	11	0.45912	NO
12	-0.00303	7	12	-0.62816	NO
13	-0.00596	6	13	-1.23632	NO
14	-0.01093	7	12	-2.26725	YES
15	-0.00036	7	12	-0.07494	NO
16	-0.0036	8	11	-0.74662	NO
17	0.001728	12	7	0.358572	NO
18	-0.00523	9	10	-1.08638	NO
19	0.001032	10	9	0.214231	NO
20	0.002827	9	10	0.586576	NO
21	-0.00438	11	8	-0.90916	NO
22	-0.00583	9	10	-1.20926	NO
23	-0.00187	9	10	-0.38843	NO
24	-0.00333	9	10	-0.69007	NO
25	-0.00024	9	10	-0.04878	NO
26	-0.00332	8	11	-0.68993	NO
27	-0.01346	5	14	-2.79243	YES
28	-0.00393	6	13	-0.81562	NO
29	-0.00174	10	9	-0.3612	NO
30	0.003802	9	10	0.789008	NO

Source: Researcher's calculations

The AARs earned by the shareholders of different companies (settled in Cash) and their significance is shown in the table 4.2. The changes in the AARs are shown in figure 4.2.

Figure 4.2

Acquirer: Average Abnormal Returns Paid in Cash



Source: Researcher's calculations

Figure 4.2 shows the precise movement of returns in the selected event window for cash based merger and acquisitions. The shareholders have earned significant earnings only in few days in the event window. During the 30 days prior to the merger announcement a significant positive return has been earned only on the ninth and twenty sixth day. Though the fifth, seventh, twelfth and fourteenth days also show significant results, it was negative earnings. 68% of companies earned negative returns on the fifth day before merger announcement, while 79% companies on the 7th day, 74% on the 12th day, 68% on the 14th day and 52.6% companies on 26th day had negative return. On the other hand 63% of firm generated

a positive return on the ninth day before M&A. After the merger announcement there was a positive significant earnings only on the third day; negative returns are yielded in the remaining days including some of the days showing significant results i.e., the very next day, fourteenth day and twenty seventh day after merger announcement. On day three 58% of firms generated positive returns. Of the days earned significant negative earnings i.e., the first day after merger announcement, 14th day, and 27th day 58%, 63%, and 74% of the firms had negative returns respectively.

In other words, before the event more than 50% companies generated negative returns in 24 days out of 30 and after the event also majority of companies (more than 50%) generated negative returns in 23 days out of the 30. The highest positive returns was yielded by the shareholders on the 9th, 4th and 26th day before the merger announcement and 3rd day after merger announcement which is 1 %. The lowest positive return before the merger announcement was on the 25th day (0.02%) and after the event it was on the 19th day (0.1%). In the entire event window of cash based M&As, 78.33% of the firms had negative returns to the shareholders. On the event date, 63.1% of firms generated positive returns to the shareholders, but it was not statistically significant. Only 16.4% companies show statistically significant results at 5% significance level.

4.2.1.3 Abnormal Return: M&A Paid in Stock

This section examines the abnormal returns earned in shareholders before and after the merger announcement event of acquirer companies that paid stock to settle the event. In the sample 53 companies out of 72 (i.e., 73.6%) preferred to issue stocks as purchase consideration.

The following hypothesis is tested:

H_0 : There is no significant abnormal return to shareholders due to the merger event paid in stock.

H_a : There is significant abnormal return to shareholders due to the merger event paid in stock.

The hypothesis is tested using event study analysis and the results are exhibited in the table 4.3.

Table 4.3

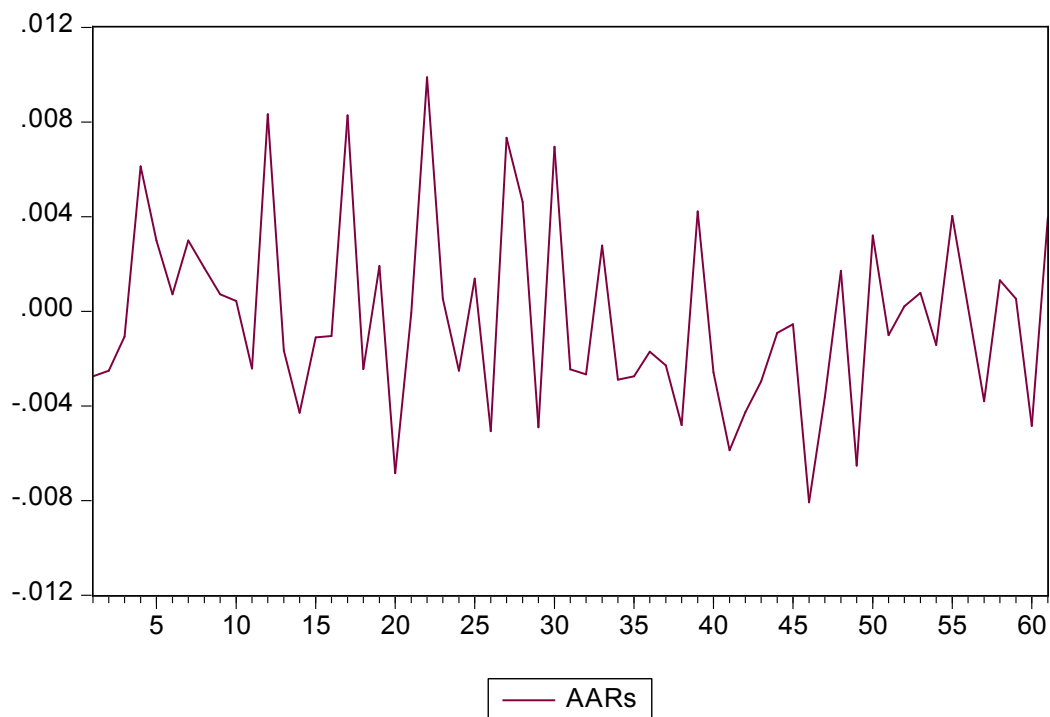
Consolidated Report of AARs Paid in Stock-Acquirer

Days	AARs	No. of Positive Returns	No. of Negative Returns	t value	Sign
-30	-0.00275	21	32	-0.77305	NO
-29	-0.00251	24	29	-0.70775	NO
-28	-0.00107	23	30	-0.30086	NO
-27	0.006126	21	32	1.72401	NO
-26	0.00299	28	25	0.841346	NO
-25	0.000719	25	28	0.202244	NO
-24	0.00299	26	27	0.84136	NO
-23	0.001832	27	26	0.515701	NO
-22	0.000721	23	30	0.203	NO
-21	0.000431	24	29	0.121175	NO
-20	-0.00242	24	29	-0.68093	NO
-19	0.008329	30	23	2.343957	YES
-18	-0.00167	26	27	-0.46894	NO
-17	-0.0043	23	30	-1.20874	NO
-16	-0.00111	25	28	-0.31103	NO
-15	-0.00105	24	29	-0.29505	NO
-14	0.008276	30	23	2.328992	YES
-13	-0.00245	20	33	-0.68845	NO
-12	0.001908	31	22	0.537072	NO
-11	-0.00685	23	30	-1.92751	NO
-10	-7.8E-05	23	30	-0.02202	NO
-9	0.009891	29	24	2.783456	YES
-8	0.000523	23	30	0.147182	NO
-7	-0.00252	23	30	-0.70849	NO
-6	0.001379	22	31	0.388164	NO
-5	-0.00508	19	34	-1.42829	NO
-4	0.007326	24	29	2.061671	YES
-3	0.004619	26	27	1.299792	NO
-2	-0.00491	17	36	-1.38209	NO
-1	0.006955	27	26	1.957266	NO
0	-0.00246	24	29	-0.69209	NO

Days	AARs	No. of Positive Returns	No. of Negative Returns	t value	Sign
1	-0.00266	22	31	-0.74996	NO
2	0.002779	23	30	0.782162	NO
3	-0.0029	24	29	-0.81546	NO
4	-0.00275	22	31	-0.77288	NO
5	-0.00171	27	26	-0.4813	NO
6	-0.00229	23	30	-0.64562	NO
7	-0.00481	23	30	-1.35239	NO
8	0.004221	28	25	1.187842	NO
9	-0.00259	18	35	-0.72792	NO
10	-0.00587	19	34	-1.65286	NO
11	-0.00427	24	29	-1.20119	NO
12	-0.00297	24	29	-0.8357	NO
13	-0.00092	24	29	-0.25893	NO
14	-0.00056	22	31	-0.1563	NO
15	-0.00807	19	34	-2.27188	YES
16	-0.00364	22	31	-1.02466	NO
17	0.001715	28	25	0.482616	NO
18	-0.00652	20	33	-1.83513	NO
19	0.003197	25	28	0.899748	NO
20	-0.00101	25	28	-0.28462	NO
21	0.000208	26	27	0.058498	NO
22	0.000771	21	32	0.216901	NO
23	-0.00142	26	27	-0.39977	NO
24	0.004024	26	27	1.132526	NO
25	0.000155	23	30	0.043634	NO
26	-0.00381	23	30	-1.07218	NO
27	0.001309	28	25	0.368325	NO
28	0.000521	28	25	0.146541	NO
29	-0.00485	19	34	-1.36482	NO
30	0.003959	26	27	1.114141	NO

Source: Researcher's Calculations

Table 4.3 exhibits the different AARs earned by the shareholders. The movement of the AARs during the event window is shown in the figure 4.3.

Figure 4.3*Acquirer: Average Abnormal Returns Paid in Stock*

Source: Researcher's calculations

The figure 4.3 portrays the movement of AARs during the event window of stock based merger and acquisition. Only the 19th, 14th, 9th and 4th days before the merger announcement the stocks had statically significant positive returns. 57% of firms yielded positive returns on the 19th and 14th days and 55% and 45% of firms had positive returns on 9th and 4th days respectively. After the merger announcement date, only on the 15th day 35% companies earned a significant positive return.

In the total event window 24 out of 30 days before the announcement and 29 out of 30 days after the merger announcement more than 50% companies earned negative returns. The highest positive return was earned on the fourth day before the event which was 0.7%; and after the event on the 8th and the 24th day (i.e., 0.4%). The lowest positive return before the announcement was on the 12th day, which is 0.01%; and 25th day after the announcement i.e., 0.01%. On the day of the announcement of the merger/acquisition (Day 0), 54.7% companies had significant negative AARs, which means only 45.3% of firms generated positive returns.

Overall in the stock based M&A, 82% of firms generated negative returns; 8.33% of the companies' returns are statistically insignificant at 5% level.

4.2.1.4 Abnormal Return: a Comparison of the pre, during and post Financial Crisis Period

This section analyses the significant abnormal return earned by the shareholders of acquirer firms during the financial crisis. For this purpose the M&As happened during the year 2003 to 2015 are divided into three phases, i.e., pre-financial crisis, during the financial crisis and post- financial crisis. Financial crisis occurred all over the world from December 2007 to June 2009. Among the total number of acquirer firms 19 M&As took place in the pre- financial crisis (26.4%), four M&As during the financial crisis (5.5%) and 49 during post- financial crisis (68.1%). The statistical significance of AAR (Average Abnormal Return) earned during the thirty days before and after the event date (i.e., 61 days) is tested. For the following the hypotheses are formulated.

H_0 : There is no significant difference in abnormal return to the shareholders pre-financial crisis due to the merger event

H_a : There is significant difference in abnormal return to the shareholders pre-financial crisis due to the merger event

H_0 : There is no significant difference in abnormal return to the shareholders during-financial crisis due to the merger event

H_a : There is significant difference in abnormal return to the shareholders during-financial crisis due to the merger event

H_0 : There is no significant difference in abnormal return to the shareholders post- financial crisis due to the merger event

H_a : There is significant difference in abnormal return to the shareholders post-financial crisis due to the merger event

The results of the analysis are shown in the table 4.4

Table 4.4*Analysis of Abnormal Return based on Financial Crisis*

Particulars	Results		
	Pre-Crisis	During Crisis	Post-Crisis
Average value of AAR	-0.0013574	0.0016525	-0.0005819
Standard Deviation	0.0071761	0.0176594	0.003165
Standard Error	0.0009188	0.002261	0.0004052
Calculated t value	-1.477339	0.7308746	-1.4360724
Significant at 5%	No	No	No
Table t value		1.96	
No. of days		61	

Source: Researcher's Calculations

Table 4.4 explains that test results accepted the null hypotheses and there is no significant difference in abnormal return to the shareholders in three phases at 5% level of significance (t values ≤ 1.96). So the financial crisis does not make any impact on the shareholders return due to the M&A announcement.

The above sections discussed the performance of the acquirer firm before and after the merger announcement date. In the entire sample more than 50% firms produced negative results during 93% days in the event windows. Whereas 50% more firms preferred cash and stocks which enhanced negative returns in 78.33% and 82% of days in the event windows (30 days before and after, except event day 0), respectively. In cash and stock-based analysis, acquirer firms got 16.4% and 8.33% days generated statistically significant returns at a 5% level of significance. In case of the entire sample, it is only 10%. In case of financial crisis there is no significant difference in abnormal return to the shareholders in all phases i.e., financial crisis does not affect the shareholders' returns as a result of the M&A event. Thus it can be concluded that the acquirer firms' performance (on the basis of mode of payment or the entire sample) after the merger and acquisition event was poor. Cash-based acquirer firms' showed comparatively better performance in the market than stock-based firms'.

4.2.2 Abnormal Return of Shareholders of Target companies

The study aims to estimate the abnormal returns of target companies' shareholders and test their statistical significance under various conditions, such as mode of payment and the financial crisis. The abnormal returns of acquirer shareholders have been discussed earlier. The estimation of target's shareholders' abnormal returns is discussed below.

4.2.2.1 Target: Abnormal Return of Shareholders

This section exhibits the abnormal return generated to shareholders around the 30 days before and after the event (it considered entire event windows as a whole). It analyses the return, i.e., Average Abnormal Returns significant at 5% level of significance. Here the study considered 94 target companies to test the significance of abnormal returns. Therefore, the study shows its Average Abnormal Returns (AARs) to consider the account of the 94 companies' abnormal return in a single day. The analyses of these returns are done by setting hypothesis as given below:

H_0 : there is no significant abnormal return to shareholders due to the merger event

H_a : there is a significant abnormal return to shareholders due to the merger event

The hypothesis is examined by the study using the event study method and the results are exhibited as below.

Table 4.5

Consolidated Report of AARs-Target

Days	AARs	No. of Positive Returns	No. of Negative Returns	t value	Sign
-30	-0.00094	40	54	-0.22	NO
-29	-0.00336	39	55	-0.78481	NO
-28	0.022471	60	34	5.248067	YES
-27	-0.00428	36	58	-1.00014	NO

Days	AARs	No. of Positive Returns	No. of Negative Returns	t value	Sign
-26	-0.00584	33	61	-1.36486	NO
-25	-0.00244	43	51	-0.57004	NO
-24	-0.00445	35	59	-1.03815	NO
-23	-0.00506	39	55	-1.18291	NO
-22	-0.00039	48	46	-0.09159	NO
-21	0.003896	46	48	0.909841	NO
-20	0.001514	41	53	0.353616	NO
-19	0.003892	48	46	0.908991	NO
-18	-0.00131	41	53	-0.30705	NO
-17	0.001852	44	50	0.432658	NO
-16	-0.00266	38	56	-0.62205	NO
-15	-0.00279	43	51	-0.65141	NO
-14	0.002308	45	49	0.53911	NO
-13	0.004891	49	45	1.142307	NO
-12	-0.00066	39	55	-0.15432	NO
-11	-0.00368	41	53	-0.86018	NO
-10	-0.00091	40	54	-0.21337	NO
-9	0.006745	56	38	1.575347	NO
-8	0.004402	45	49	1.028093	NO
-7	0.003496	43	51	0.816617	NO
-6	0.001258	45	49	0.293926	NO
-5	0.006434	49	45	1.502651	NO
-4	0.004427	48	46	1.034055	NO
-3	0.006676	48	46	1.559222	NO
-2	0.019254	54	40	4.496838	YES
-1	0.014218	55	39	3.320761	YES
0	0.008532	51	43	1.992766	YES
1	-0.0095	42	52	-2.21875	YES
2	-0.0024	41	53	-0.56128	NO
3	-0.00344	43	51	-0.80329	NO
4	-0.00214	38	56	-0.49967	NO
5	-0.00196	40	54	-0.45686	NO
6	-0.00156	40	54	-0.3636	NO
7	-0.00327	39	55	-0.7635	NO

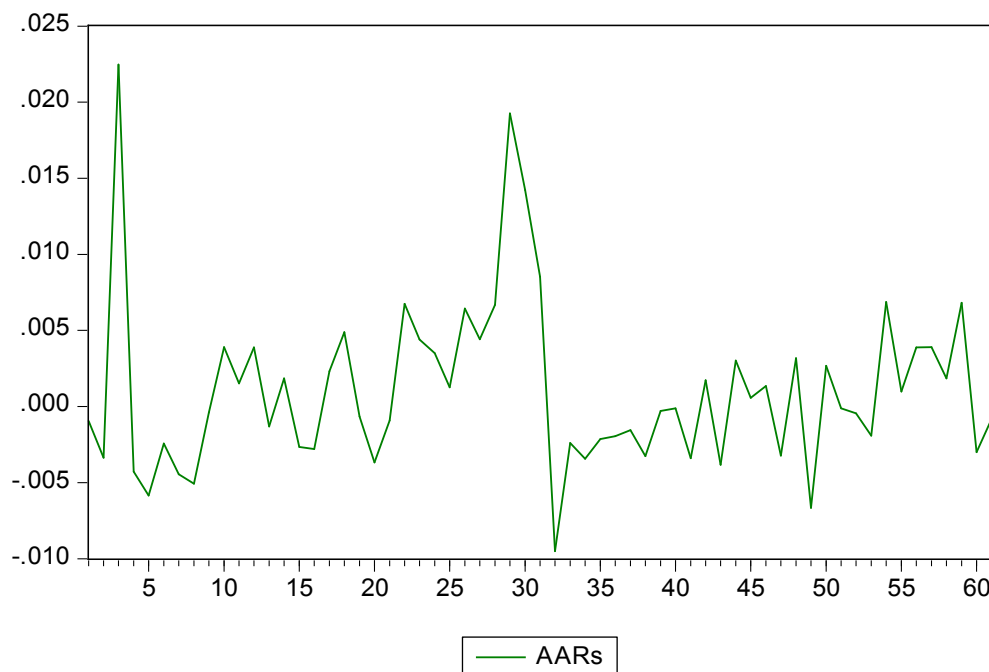
Days	AARs	No. of Positive Returns	No. of Negative Returns	t value	Sign
8	-0.0003	38	56	-0.069	NO
9	-0.00012	49	45	-0.02846	NO
10	-0.00339	42	52	-0.79291	NO
11	0.00173	44	49	0.404003	NO
12	-0.00384	44	50	-0.89609	NO
13	0.003021	45	49	0.705664	NO
14	0.000571	46	48	0.133455	NO
15	0.001351	41	53	0.315626	NO
16	-0.00323	34	60	-0.75422	NO
17	0.003181	47	47	0.742933	NO
18	-0.00665	34	59	-1.55377	NO
19	0.002675	52	42	0.624707	NO
20	-0.00012	43	51	-0.02844	NO
21	-0.00045	40	54	-0.10528	NO
22	-0.00191	34	60	-0.44595	NO
23	0.006863	49	45	1.602783	NO
24	0.000984	45	49	0.229781	NO
25	0.003889	49	45	0.908282	NO
26	0.003909	51	43	0.912905	NO
27	0.001846	49	45	0.431255	NO
28	0.006812	49	45	1.590988	NO
29	-0.003	44	50	-0.69997	NO
30	-0.0008	47	47	-0.18616	NO

Source: Researcher's Calculations

The table 4.4 exhibits the different AARs earned by the shareholders (entire sample) due to the announcement of mergers and acquisitions. The movement of the AARs during the event window is shown in graph (figure 4.4) below.

Figure 4.4

Target: Average Abnormal Returns (Entire Sample)



Source: Researcher's Calculations

The table 4.4 reports the Average Abnormal Returns (AARs) of the shareholders in the target firms in the 61 days event window (30 days before and after the event date) for a sample of 94 firms. The table shows the frequency of positive and negative returns earned by firms in a day and the significant return. Figure 4.4 clearly shows the movement of AARs of the target firms before and after the merger announcement date.

The firms have earned significant returns only on three days before the merger announcement they are: on the 28th day, 2nd and the day immediately preceding the announcement. After the announcement significant return has yielded only on a day i.e., the first day after event. Before the merger announcement 64% of firms generated positive returns to their shareholders on 28th day, 57.4% earned positive returns on the second day and 58.5% firms produced statistically significant positive return on the day prior to merger announcement. After the merger announcement, 56% companies produced statistically significant negative returns,

and only 44% of firms had positive returns. More than 50% companies had negative return in 20 days out of the 30 days prior to the announcement and after the announcement more than 50% of firms produced negative returns in 23 days out of the 30 days. The highest positive returns before the merger announcement is 2.2%, and the lowest positive returns is 0.12% in a day. After the event date, the highest positive value is 0.68%, and the lowest is 0.05%.

On the date of the merger announcement, 54.5% of firms generated positive returns, its AARs is 0.08%, and that returns are statistically significant. In the whole event window 71.6% of firms generated negative returns. After the event date, more than 50% of firms generated negative returns continuously for a week. The study also found that 8.33% of the companies' returns are only statistically significant at 5% level, and the remaining returns are not statistically significant.

4.2.2.2 Abnormal Return: M&A Paid in Cash

As stated, earlier M&Aa are settled in Cash or stock or both to the target companies. This section analysis the abnormal returns of companies that opted cash-based M&A only. This payment method also highly influenced the performance of companies in the market. What happened to the target shareholders' return while stock or cash is received for M&A payment? Which payment methods are more beneficial to shareholders or preferred by the shareholders in the market? The section addresses these questions and examines the abnormal return of target companies having cash based M&A. Thus, the following hypothesis is tested:

H_0 : There is no significant abnormal return to shareholders due to the merger event paid in Cash

H_a : There is a significant abnormal return to shareholders due to the merger event paid in Cash

The hypothesis is examined by event study analysis and the results are exhibited table 4.5.

Table 4.6*Consolidated Report of AARs Paid in Cash-Target*

Days	AARs	No. of Positive	No. of Negative	t value	Sign
-30	-0.00157	8	14	-0.21134	NO
-29	-0.00098	11	11	-0.13159	NO
-28	0.00625	15	7	0.839019	NO
-27	0.003928	8	14	0.527311	NO
-26	-0.00219	9	13	-0.29434	NO
-25	0.002979	11	11	0.399834	NO
-24	-0.00598	7	15	-0.80276	NO
-23	-0.00205	11	11	-0.27463	NO
-22	-0.00648	9	13	-0.8702	NO
-21	-0.00065	11	11	-0.08744	NO
-20	-0.0027	9	13	-0.36253	NO
-19	0.005661	11	11	0.75994	NO
-18	-0.00402	8	14	-0.53941	NO
-17	-0.00471	9	13	-0.63184	NO
-16	-0.00771	8	14	-1.0356	NO
-15	0.000333	10	12	0.044705	NO
-14	0.007891	16	6	1.059253	NO
-13	0.00987	14	8	1.324902	NO
-12	-0.00351	10	12	-0.47134	NO
-11	-0.00825	9	13	-1.10789	NO
-10	-0.01218	6	16	-1.63529	NO
-9	0.01766	16	6	2.370515	YES
-8	-0.00229	10	12	-0.30776	NO
-7	-0.01148	6	16	-1.54152	NO
-6	-0.00098	10	12	-0.13091	NO
-5	0.009561	14	8	1.283386	NO
-4	0.009448	13	9	1.268292	NO
-3	0.00572	13	9	0.767755	NO
-2	0.008504	12	10	1.141511	NO
-1	0.023117	16	6	3.103042	YES
0	0.033081	17	5	4.440495	YES

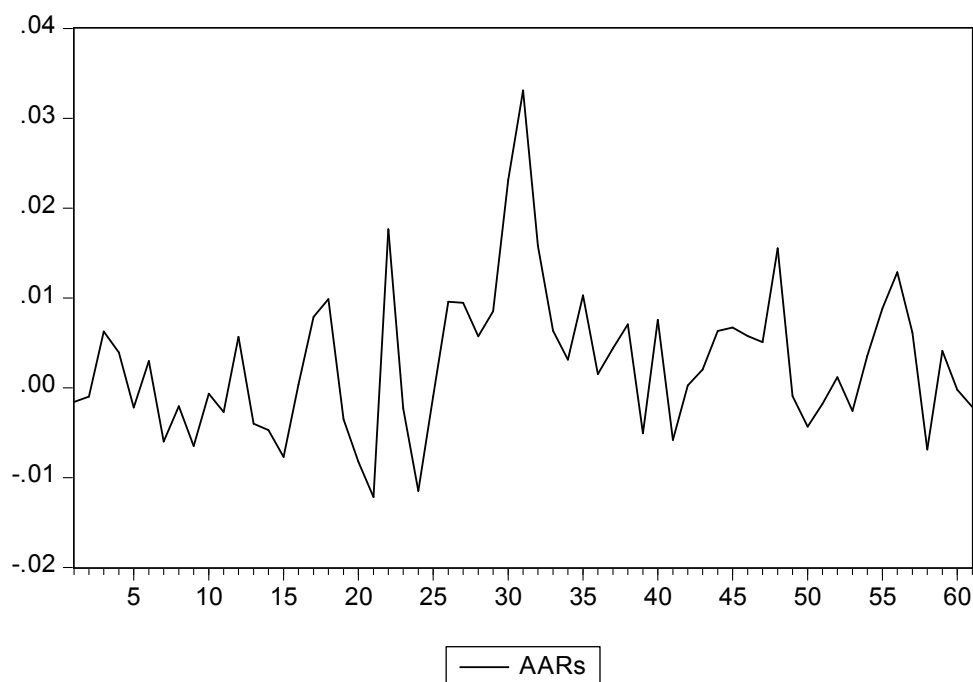
Days	AARs	No. of Positive	No. of Negative	t value	Sign
1	0.015786	14	8	2.119007	YES
2	0.006344	11	11	0.851559	NO
3	0.003125	11	11	0.419412	NO
4	0.010289	10	12	1.381064	NO
5	0.001509	9	13	0.202586	NO
6	0.004402	10	12	0.590829	NO
7	0.007058	10	12	0.947422	NO
8	-0.00506	7	15	-0.67942	NO
9	0.00756	14	8	1.014827	NO
10	-0.00582	9	13	-0.78057	NO
11	0.000248	10	12	0.033345	NO
12	0.002015	12	10	0.270502	NO
13	0.006304	12	10	0.846203	NO
14	0.006688	12	10	0.897794	NO
15	0.005756	9	13	0.7727	NO
16	0.005085	8	14	0.682519	NO
17	0.015515	13	9	2.082673	YES
18	-0.00092	10	12	-0.12413	NO
19	-0.00432	7	15	-0.5803	NO
20	-0.0018	9	13	-0.24221	NO
21	0.001157	10	12	0.155331	NO
22	-0.00258	7	15	-0.34655	NO
23	0.003558	11	11	0.477535	NO
24	0.008821	14	8	1.184083	NO
25	0.01286	10	12	1.726234	NO
26	0.006153	10	12	0.8259	NO
27	-0.00689	8	14	-0.92491	NO
28	0.004104	12	10	0.550832	NO
29	-0.00021	10	12	-0.02854	NO
30	-0.00213	8	14	-0.28614	NO

Source: Researcher's Calculations

The above table 4.5 exhibits the different AARs earned by the shareholders on the announcement of mergers and acquisitions. The movement of the AARs during the event window is shown in the figure 4.5.

Figure 4.5

Target: Average Abnormal Returns Paid in Cash



Source: Researcher's calculations

Table 4.5 and Figure 4.5 reveal the market performance of 22 target companies (out of 94 companies) before and after the merger announcement. Only 23.4% of firms preferred cash as a mode of payment. The table shows Average Abnormal Returns (AARs) and its level of significance with t value. It also provides a number of positive and negative AARs earned by firms in a day in the event window.

When examining the event window the companies had a significant positive return only on two days before the announcement, i.e., ninth day and day before the event. After the merger event announcement date, the very next day and 17th day companies provided statistically significant positive returns to their shareholders. In the whole event window more than 50% of firms generated negative returns to the

shareholders in 21 days out of 30 before the merger announcement and after merger announcement, more than 50% of firms produced negative returns in 22 days out of 30 days. The highest positive average abnormal return earned in the period before the merger announcement date is 2% prior to the event date, and the lowest positive return is 0.03% in a day. The highest positive average abnormal return earned is 1.5% post to the event date, and the lowest positive return is 0.02% in a day.

On the date of the event 77.3% of firms earned positive and statistically significant returns of 3.3% (average abnormal returns for the shareholders). Just before the event's date, 72.7% of firms got 2.3% statistically significant positive return. The next day after the event, 63.6% of firms earned 1.5% statistically significant positive returns. After the event date, companies have earned positive returns for a week but they are not significant except on the first day. To sum up, more than 50% companies generated negative return in 71.7% days of the event window. Only 8.33% of days gave statistically significant return at 5% level.

4.2.2.3 Abnormal Return: M&A Paid in Stock

After analysing the AAR in cash based M&As this section examines the AARs earned by the shareholders of target companies that preferred stock as payment method. The following hypothesis is tested:

H_0 : There is no significant abnormal return to shareholders due to the merger event paid in stock

H_a : There is a significant abnormal return to shareholders due to the merger event paid in stock

This hypothesis is examined by event study analysis and the results are exhibited below.

Table 4.7*Consolidated Report of AARs Paid in Stock-Target*

Days	AARs	No. of Positive	No. of Negative	t value	Sign
-30	-0.00075	32	40	-0.14444	NO
-29	-0.00409	28	44	-0.78855	NO
-28	0.027427	45	27	5.291068	YES
-27	-0.00679	28	44	-1.31012	NO
-26	-0.00696	24	48	-1.34261	NO
-25	-0.0041	32	40	-0.79031	NO
-24	-0.00398	28	44	-0.76702	NO
-23	-0.00599	28	44	-1.15505	NO
-22	0.001469	39	33	0.28337	NO
-21	0.005285	35	37	1.019571	NO
-20	0.002802	32	40	0.540539	NO
-19	0.003351	37	35	0.646536	NO
-18	-0.00049	33	39	-0.09425	NO
-17	0.003857	35	37	0.744044	NO
-16	-0.00112	30	42	-0.21604	NO
-15	-0.00374	33	39	-0.72211	NO
-14	0.000602	29	43	0.116216	NO
-13	0.00337	35	37	0.650047	NO
-12	0.00021	29	43	0.040564	NO
-11	-0.00229	32	40	-0.4411	NO
-10	0.00253	34	38	0.48802	NO
-9	0.00341	40	32	0.657867	NO
-8	0.006448	35	37	1.243847	NO
-7	0.008074	37	35	1.55758	NO
-6	0.001941	35	37	0.374457	NO
-5	0.005478	35	37	1.056873	NO
-4	0.002893	35	37	0.558167	NO
-3	0.006968	35	37	1.344314	NO
-2	0.022539	42	30	4.348106	YES
-1	0.011499	39	33	2.21844	YES
0	0.001032	34	38	0.199003	NO

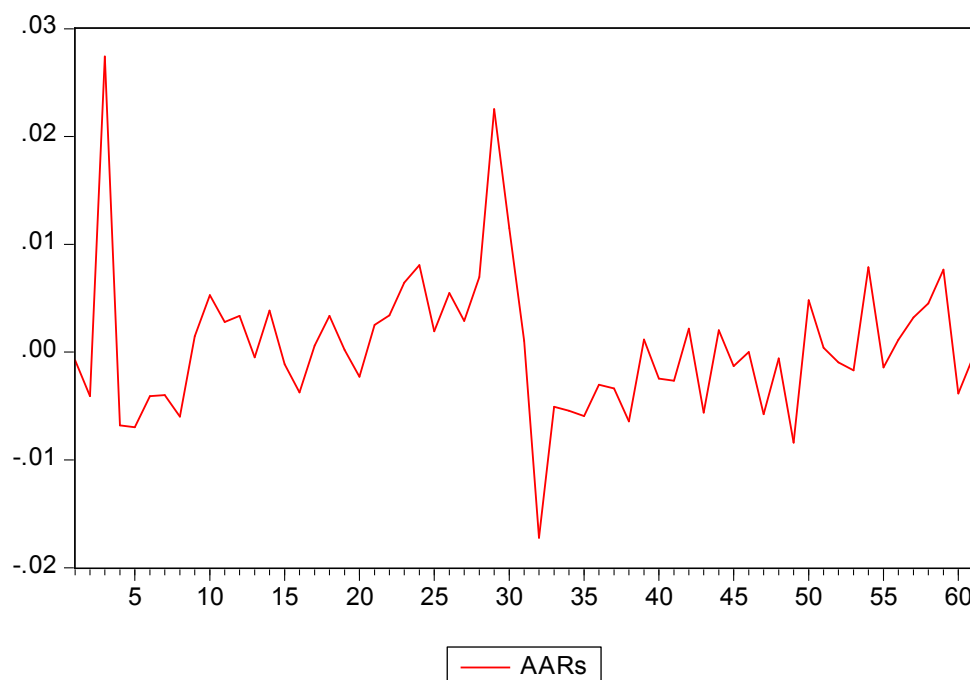
Days	AARs	No. of Positive	No. of Negative	t value	Sign
1	-0.01723	28	44	-3.32324	YES
2	-0.00508	30	42	-0.97923	NO
3	-0.00545	32	40	-1.05044	NO
4	-0.00594	28	44	-1.14532	NO
5	-0.00301	31	41	-0.58164	NO
6	-0.00338	30	42	-0.65156	NO
7	-0.00642	29	43	-1.23941	NO
8	0.001161	31	41	0.223949	NO
9	-0.00247	35	37	-0.47634	NO
10	-0.00266	33	39	-0.5123	NO
11	0.002182	34	37	0.421034	NO
12	-0.00562	32	40	-1.08514	NO
13	0.002018	33	39	0.389387	NO
14	-0.0013	34	38	-0.25034	NO
15	5.43E-06	32	40	0.001048	NO
16	-0.00577	26	46	-1.11308	NO
17	-0.00059	34	38	-0.1134	NO
18	-0.0084	24	47	-1.62108	NO
19	0.004813	45	27	0.928518	NO
20	0.000392	34	38	0.075698	NO
21	-0.00094	30	42	-0.18175	NO
22	-0.0017	27	45	-0.32873	NO
23	0.007872	38	34	1.518737	NO
24	-0.00141	31	41	-0.27218	NO
25	0.001148	39	33	0.221433	NO
26	0.003223	41	31	0.621791	NO
27	0.004516	41	31	0.871231	NO
28	0.00764	37	35	1.47383	NO
29	-0.00385	34	38	-0.74231	NO
30	-0.00039	39	33	-0.0751	NO

Source: Researcher's Calculations

The table 4.6 exhibits the different AARs earned by the shareholders on the announcement of mergers and acquisitions. The movement of the AARs during the event window is shown in graph (figure 4.6).

Figure 4.6

Target: Average Abnormal Returns Paid in Stock



Source: Researcher's calculations

The table and Figure 4.6 show the market performance of 72 targets companies (out of 94 companies) before and after the merger announcement. Only 76.6% of firms preferred stock as a mode of payment. The table shows Average Abnormal Return (AARs) and its level of significance with t value.

Before the announcement (event) the companies earned significant positive returns only on three days, they are the 28th day, second day and day prior to the announcement. On the 28th day before the event 62.5% of target companies earned significant positive returns to the shareholders, 58.3% companies on the second day and 62.5% companies on the day immediately preceding the event. After the merger event announcement, the very next day provides statistically significant positive returns to the shareholders i.e., 54.3% companies earned positive returns. The

highest negative earnings in a day in the event window is generated on the 26th day prior to the M&A announcement i.e., 66.3% of companies fell in the negative zone; and after the merger event 65.3% of companies had negative returns on the 18th day. While considering the performance in the total event window, more than 50% of firms generated negative returns to the shareholders in 23 days out of 30 days before the merger announcement and more than 50% of firms scored negative returns in 23 days out of 30 days after the announcement. The highest positive average abnormal return earned during the period before the merger announcement is 2.7% and the lowest positive return is 0.02%. The highest positive average abnormal return earned after the merger announcement date is 0.80% and the lowest positive return is 0.04%.

On the date of the event, i.e., merger announcement date, 47.2% of firms earned positive return (statistically insignificant) which is 0.1% average abnormal returns to the shareholders. Before the event's date, 54.1% of the firms got 1.1% statistically significant positive returns. The day after the event, 54.3% of firms got -1.7% of statistically significant negative returns for the shareholders. Two days before the merger event the companies earned 2.2% positive and statistically significant return in the event window. After the event date, the negative returns remained for one week and showed statistically not significant returns except the first day (negative significant return). In the total event window 78.3% of days more than 50% companies' shareholders had negative returns. Only 6.7% of the days showed statistically significant returns at 5% level.

4.2.2.2 Abnormal Return: a Comparison of the pre, during and post Financial Crisis Period

The section analyses the significant abnormal return to the shareholders of target firms during the financial crisis. For the purpose of analysis the M&A deal from 2003 to 2015 are divided into three phases i.e., pre- financial crisis, during the financial crisis and post- financial crisis. Financial crisis occurred all over the world from December 2007 to June 2009. Among the total number of target companies 26 M&A happened during the pre-financial crisis (27.7%), 5 during the financial crisis

(5.3%) and 63 during post financial crisis (67%). In order to do the analysis the AAR (Average Abnormal Return) is estimated by event study analysis for thirty days before and after the event date (i.e., 61 days) and tests its statistical significance through t test. The following hypotheses are tested:

H_0 : There is no significant difference in abnormal return to the shareholders pre-financial crisis due to the merger event.

H_a : There is significant difference in abnormal return to the shareholders pre-financial crisis due to the merger event.

H_0 : There is no significant difference in abnormal return to the shareholders during- financial crisis due to the merger event.

H_a : There is significant difference in abnormal return to the shareholders during-financial crisis of due to the merger event.

H_0 : There is no significant difference in abnormal return to the shareholders post- financial crisis due to the merger event.

H_a : There is significant difference in abnormal return to the shareholders post-financial crisis due to the merger event.

The results of the analysis are explained below.

Table 4.8

Analysis of Abnormal Return based on Financial Crisis

Particulars	Results		
	Pre-Crisis	During Crisis	Post-Crisis
Average value of AAR	0.000109	0.000598	0.001298
Standard Deviation	0.010837	0.020483	0.005416
Standard Error	0.001388	0.002623	0.000693
Calculated t value	0.078493	0.227961	1.872282
Significant at 5%	No	No	No
Table t value		1.96	
No. of days		61	

Source: Researcher's Calculations

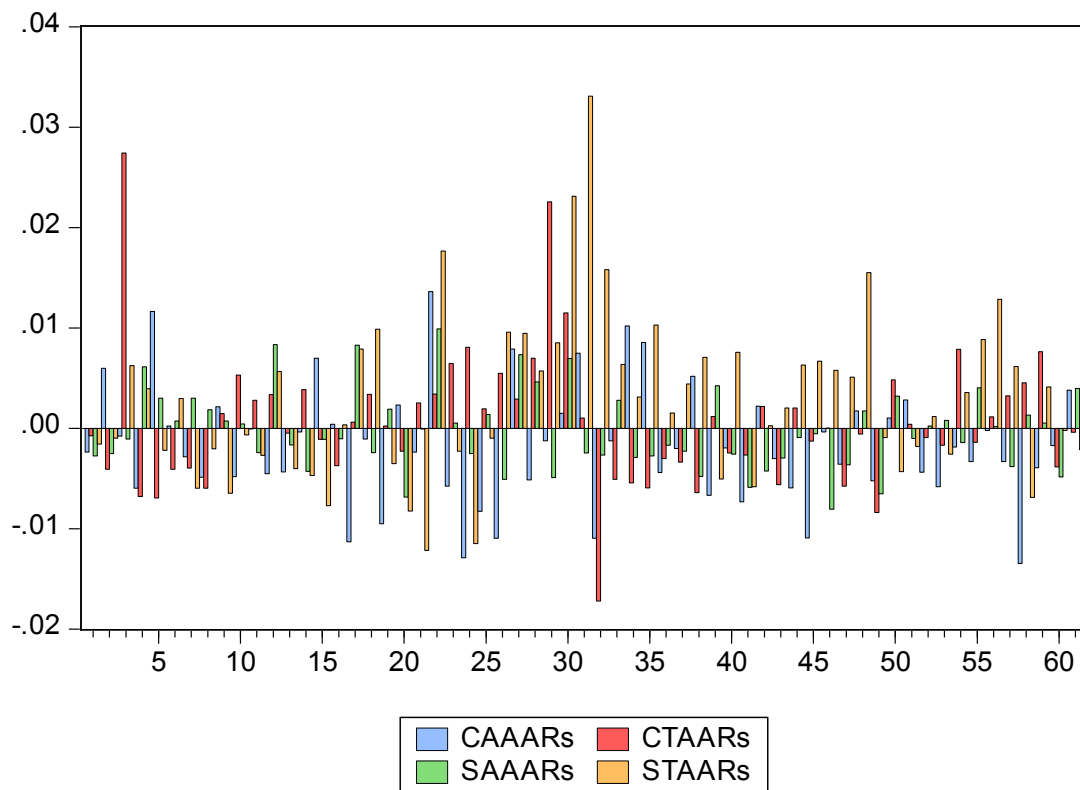
The table 4.7 explains that the null hypotheses are failed to reject and there is no significant difference in abnormal return to the shareholders in three phases at 5% level of significance. i.e., t values ≤ 1.96 . Thus, the financial crisis does not make any impact on the target shareholders return due to the M&A event.

Above section discussed the performance of the target firm before and after the merger announcement date. It considered the entire sample, i.e., 94 firms as a whole. At the same time, it considered a difference in target firms' performance based on the selected mode of payment for the merger or acquisition process that is either cash or stock. Out of 94 firms, 23.4%, i.e., 22 firms, only preferred payment mode in the form of cash. The rest of the 72 firms preferred stocks as the mode of payment (76.6% of the entire sample). Based on the financial crisis the entire sample has been classified into three phases, pre- financial crisis, during the financial crisis and post-financial crisis. In the whole sample, more than 50% firms had negative returns in 71.6% days of the event window. Whereas 50% more firms preferred cash and stocks produced negative returns for 71.7% and 78.3% days of the event window (30 days before and after, except event day 0), respectively. In cash and stock-based analysis, target firms generated statistically significant return (at 5% level of significance) in 8.33% and 6.7% days and for the entire sample in 8.33% days the companies yielded significant returns.

The study concludes that the target firms' performance after the merger and acquisition event was poor and it is based on the mode of payment or the entire sample. Cash-based target firms shows comparatively better performance in the market than Stock-based firms.

4.3 Discussion (Part A)

Study analysis its entire sample as a whole, cash or stock and three phases related to financial crisis separately. These are explained briefly in figures 4.7 and 4.8.

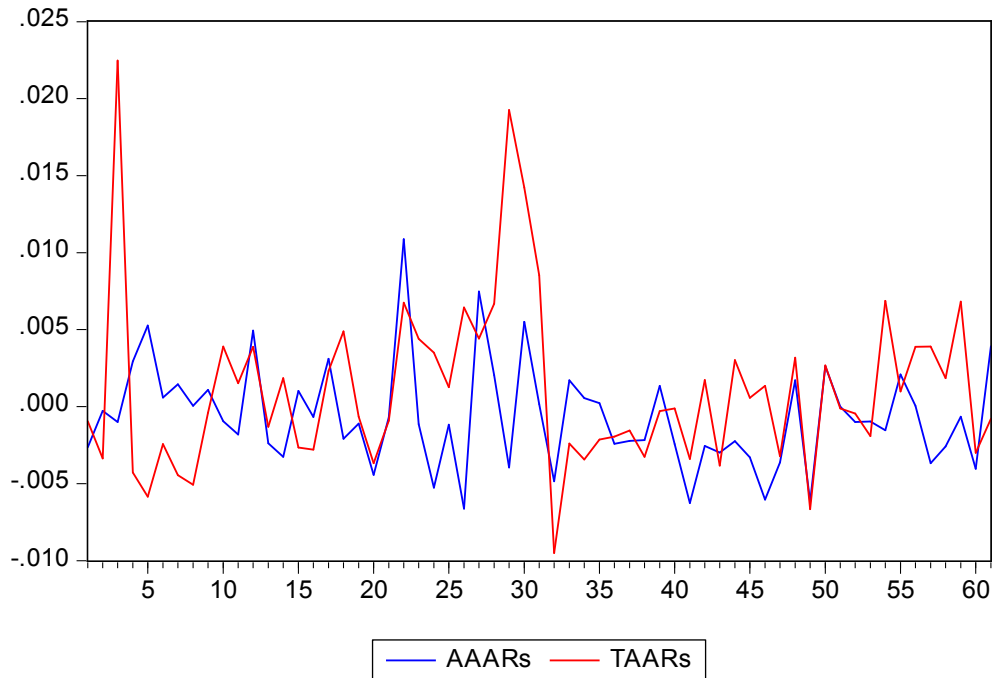
Figure 4.7*Cash and Stock-based AARs of Acquirer and Target Firms*

Source: Researcher's calculations

CAAARs-Cash Acquirer AARs, SAAARs-Stock Acquirer AARs

CTAARs-Cash Target AARs, STAARs-Stock Target AARs

From the analysis it can be conclude that, the acquirer companies that opted cash (CAAARs) as mode of payment for M&As as the mode of payment has good performance than stock-based M&A (SAAARs). The M&As of firms used stock as the mode of payment has more consistency regarding their return throughout the event window. In the case of target firms also cash based (CTAARs) M&As has benefited, they have shown good performance and consistency throughout the event window than stock based (STAARs) M&A. When comparing the acquirer and target companies (positive returns) based on the mode of payment, cash-based target firms gave comparatively good performances. The impact of M&A announcement on the AARs of the entire sample is presented in the figure 4.8 below.

Figure 4.8*AARs of Acquirer and Target Firms (Entire Sample)*

Source: Researcher's calculations

The study evaluates the whole sample and its AARs of the acquirer (AAARs) and target firms (TAARs) in the event window before and after the M&A announcement. Firms that come under target category show better performance compared to the acquirer firms. In case of statistically significant return, acquirer firms have statistically significant return around the event date, (two days before, and next day after the announcement date), and the rest of the days before and after the event has a mixed result. The target firms around the event (two days before and after) show statistically significant returns and other days did not reveal statistically significant returns. The study states that target shareholders have a positive approach towards the announcement, but the impact is negative. In case of the acquirer, shareholders did not accept it positively. This part considered the estimation of abnormal returns as a whole and the estimation of abnormal returns under different payment modes and their significance. The next part tries to examine the significance of CAAR (Cumulative Abnormal Average Return) in different event windows.

Part B

Impact of M&A on Shareholders' wealth

4.4 Introduction

The previous part estimated the abnormal returns of both acquirer and target firms in an event window. It also discusses them based on the mode of payment in M&A settlement. This part examines the impact of M&A on shareholders' wealth by bifurcating the entire windows into a number of short windows, i.e., 12 different windows. It further analyses the CAARs (Cumulative Average Abnormal Return) and its significance for the entire sample and also based on the mode of payment, i.e., cash or stock. Abnormal returns cumulated daily (CAR) and its average value is called CAARs (Cumulative Average Abnormal Returns). CAAR is used to find the net magnitude of the overall results in the different event windows. The study analyses the event windows in different sizes in order to determine the important periods from an investment perspective (Rani, Yadav, & Jain, 2015). It means the entire event windows (61 days) is divided into event day (0,0), 41 days, 31 days, 21 days, 11 days, seven days, five days, three days, two days (-1,0), two days (0,+1), pre (-30 day) and post (+30 day) period also. In short, the short-term period is split into very short periods for knowing the significance of results to the shareholders before and after M&A events. Thus, this part is divided into two categories. They are:

1. Acquirer: Impact of M&A on Shareholders' Wealth
 - I. Acquirer: Impact of M&A on Shareholders' Wealth
 - II. Acquirer: Impact of M&A on Shareholders' Wealth paid in cash
 - III. Acquirer: Impact of M&A on Shareholders' Wealth paid in stock
2. Target: Impact of M&A on Shareholders' Wealth
 - I. Target: Impact of M&A on Shareholders' Wealth
 - II. Target: Impact of M&A on Shareholders' Wealth paid in cash
 - III. Target: Impact of M&A on Shareholders' Wealth paid in stock

These categories and subcategories are explained below.

4.4.1 Acquirer: Impact of M&A on Shareholders' Wealth

Various categories of M&A's impacts on shareholder wealth of acquirer companies are discussed in the following sections.

4.4.1.1 Acquirer: Impact of M&A on Shareholders' Wealth

This section reports the impact of the M&A announcement on shareholders' wealth using 72 acquirer firms (entire acquirers' sample). As mentioned above the study used CAARs to check the depth of the impact. For easy identification and investment decisions, this short-term period (61 days) is categorized into different windows. Here the study evaluated the consolidated reports of CAARs to reduce the length of the information. The hypothesis tested is:

H_0 : Acquirer returns are not significantly different from zero

H_a : Acquirer returns is significantly different from zero

The results are given below.

Table 4.9

Acquirer: CAARs during Event Windows

Event windows	AAR	CAAR	T-value
61 days (-30,+30)	0.003918	-0.04041	-1.81569**
41 days (-20,+20)	1.42E-06	-0.03852	-2.11122*
31 days (-15,+15)	-0.00604	-0.03158	-1.9904*
21 days (-10,+10)	-0.00626	-0.00927	-0.70976
11 days (-5,+5)	-0.00242	-0.00015	-0.01567
7 days (-3,+3)	0.000553	0.001196	0.158675
3 days (-1,+1)	-0.00485	0.000825	0.167217
2 days (-1,0)	0.000165	0.005675	1.408354
2 days (0,+1)	-0.00485	-0.00469	-1.16268
Pre (-30)	0.005511	0.006934	0.444258
Post (+30)	0.003918	-0.04751	-3.04389*
Event day (0,0)	0.000165	0.007098	0.447416

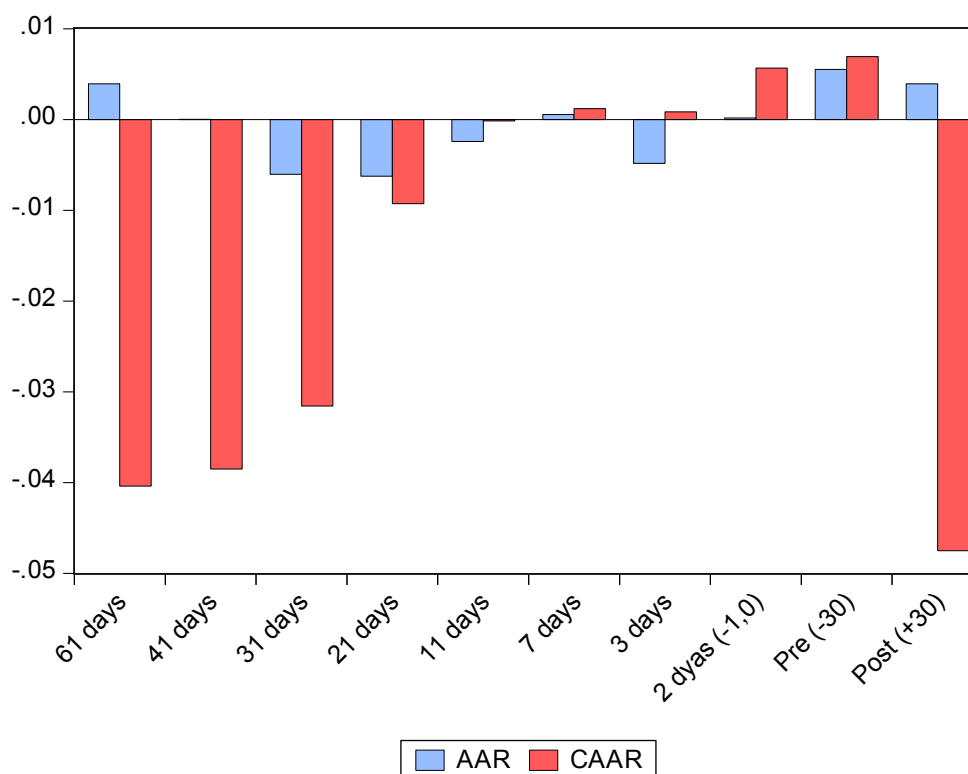
Source: Researcher's Calculations

Notes: * and ** are significant level at 5% and 10%, respectively

The table 4.7 reports the exact picture of the event windows and the changes in the CAARs due to the merger announcement. Figure 4.9 explained these movements of the returns.

Figure 4.9

Acquirer: CAARs during Event windows



Source: Researcher's Calculations

Table 4.7 presents the AARs and CAARs in 12 event windows and the significance of the CAARs at 5% and 1% levels. Out of these 12 event windows, eight windows (67% of the total sample) show statistically insignificant CAARs. It means that the null hypothesis is failed to reject in that cases, where the acquirer return is not significantly different from zero. These windows comprise of 21 days (-10,+10), 11 days (-5,+5), 7 days (-3,+3), 3 (-1,+1), 2(-1,0), 2(0,+1), and post (-30,). Out of these 21 days and 11 days event windows have negative CAARs and others gave positive CAARs to the shareholders. Other event windows like 61 days (-30,

+30), 21 days (-10, +10) and 11 days (-5, +5) provided statistically significant CAARs, but they have negative returns. It means AARs are not positive in majority of the days. Here 61 days (-30, +30) event window is significant at 1% level of significance and the remaining event windows are at 5% level of significance. Thus, in the case of these three windows the null hypothesis is failed to accept; that is, acquirer return is not significantly different from zero and accept the alternative hypothesis, i.e., acquirer got a significant return (CAARs) due to M&A. In 61 days, 41 days, and 31 days windows, AARs accumulated into 4.04%, 3.85%, and 3.15% negative CAARs, respectively. At the same time, event windows like 21 days, 11 days, seven days, three days and two days also generate returns CAARs which generate returns around zero percent. On the event day (0, 0) i.e., on the M&A announcement day, also has the same result (nearest to zero percentage).

The study bifurcates the entire event into two: pre (-30 day) and post (+30 day) on the M&A announcement day and examines the CAARs generated in these periods. Here pre-event period generated only 0.69% return (CAARs), while in the post-event period, there is 4.75% negative CAARs that is the highest negative return in the event window. This post-event period return has the highest CAARs in the event windows. Almost all the days in the event windows returns (AARs) are nearest zero percentage or negative that is why CAARs indicate the negative returns. There is little possibility of information leakage regarding M&A news in the market; if it happens, it does not impact on the market. The announcement event also did not create any extraordinary reaction in the market. If the investors bought the acquirer firms' stocks in the nearest day (before or after) of the M&A announcement, holding the stock for a little longer day, may attained a reasonable return. Hence, shareholders will get a return if shareholders buy the stocks at the nearest date (before or after) of the event and sell later, i.e., the tail of the window after the M&A event.

After examining the performance of entire firms in the market, the study evaluates the impact of M&A on the wealth of shareholders in two categories of acquirer companies (i.e., companies preferred cash settlement and companies

preferred stock settlement) to know whether M&A is beneficial to investors based on the mode of payment.

4.4.1.2 Acquirer: Impact of M&A on Shareholders' Wealth Paid in Cash

The impact of M&A announcement on CAARs of the acquirer firms (entire sample) in the different event windows is already discussed in the previous section. Here the study investigates the CAARs of the acquirer firms that opted cash settlement. It includes 19 firms, i.e., only 26.3% of firms used cash as the mode of payment for M&A. The hypothesis formulated is:

H_0 : Acquirer returns are not significantly different from zero.

H_a : Acquirer returns is significantly different from zero.

The results are given below.

Table 4.10

Acquirer: CAARs during Event Windows (Paid in Cash)

Event window	AAR	CAAR	T-value
61 days	0.003802	-0.10585	-2.81259***
41 days	0.002827	-0.06984	-2.26364*
31 days	-0.00036	-0.06423	-2.39402*
21 days	-0.00734	-0.02696	-1.2207
11 days	-0.0044	0.001631	0.102072
7 days	0.010179	0.000572	0.044881
3 days	-0.01095	-0.00198	-0.23717
2 days (-1,0)	0.007484	0.008966	1.315729
2 days (0,+1)	-0.01095	-0.00346	-0.41472
Pre (-30)	0.001482	-0.04701	-1.78105**
Post (+30)	0.003802	-0.06633	-2.51314*
Event (0,0)	0.007484	-0.03952	-1.47313

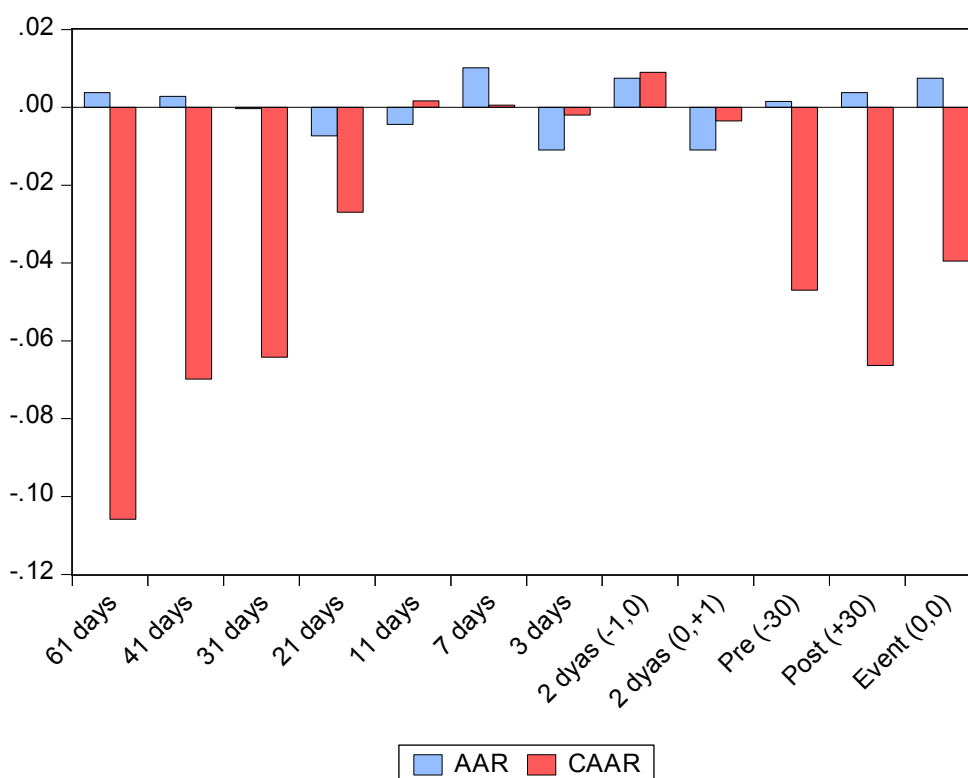
Source: Researcher's Calculations

Notes: *, ** and *** are significant level at 5%, 10% and 1%, respectively

Table 4.8 presents the 12 event windows of the 19 acquirer firms and their significance on returns earned in shareholders due to the merger event. In order to easily understand and for quick identification, this information is shown in the figure 4.10.

Figure 4.10

Acquirer: CAARs during Event windows (Paid in Cash)



Source: Researcher's Calculations

Table 4.8 and figure 4.10 explain the actual status of the CAARs before and after M&A announcement of companies that preferred cash settlement. Among the 12 event windows five event windows show a significant return to the shareholders of the company. These are: 61 days (-30, +30), 41 days (-20, +20), 31 days (-15, +15), Pre-event (-30) and post-event (+30). These periods generate statistically significant returns at 1%, 5%, and 10% level of significance. Here 61 days (-30,+30) window is significance at 1% level of significance, pre (-30 day) event period at 10% level of significance, and other three event windows like 41 days (-20,+20), 31

days (-15,+15) and post (+30 day) event are significant at 5% level of significance. So it failed to accept the null hypothesis that acquirer returns (CAARs) are not significantly different from zero. i.e., these five events provide statistically significant returns but even if they are negative returns. The remaining seven-event windows are not statistically significant at any level of significance. Hence, in this case the null hypothesis is failed to reject, that means the returns (CAARs) are not different from zero. Among these significant windows, 61 days (-30, +30) window generate 10.5% of the highest returns to the investors, 41 days (-20, +20) has 6.98%, and 31 days (-15, +15) has 6.42% return. In the case of pre-event and post- event period, 4.7% and 6.63% returns are generated to the investors respectively, but all these returns (CAARs) are negatively significant because of the uncertainty in the AARs.

Out of these significant returns, the pre-event period got the lowest returns. All the insignificant windows have zero return, except 21 days windows. Event windows of 11 days (-5, +5), 7 days (-3, +3) and 2 days (-1, 0) created a positive return but its value is nearest to zero. Even though 3.95% rate of return has yielded in the event date, it is statistically insignificant negative returns. Buying and selling of stocks in the very short periods on the days closer to the M&A announcement (before and after) is not an appreciable activity because investors only get a very minimal rate of return from their investment. The investors are not interested in this M&A, so the demand for the acquirer firms' stock may reduce. Otherwise, if the investors hold their stock for a limited period or sell it in the last period of the event (i.e., after ten days), they may get higher returns. Thus, it can be concluded that the performance of the acquirer companies that opted cash payment was not satisfactory.

4.4.1.3 Acquirer: Impact of M&A on Shareholders' Wealth Paid in Stock

Previous section discussed the impact of M&As announcement on shareholders' wealth in the case of acquirer firm that opted cash as the payment mode. Similarly, the impact on shareholders' wealth in case of stock based M&As are examined in this section. Here 53 acquirer companies' daily movement of stocks

in accordance with M&A announcement is taken into consideration. Majority of the acquirer firms preferred stock as their mode of payment. So the study tests the following null hypothesis:

H_0 : Acquirer returns are not significantly different from zero

H_a : Acquirer returns is significantly different from zero

The results are given below.

Table 4.11

Acquirer: CAARs during Event Windows (Paid in Stock)

Event window	AAR	CAAR	T-value
61 days	0.003959	-0.01695	-0.61068
41 days	-0.00101	-0.02729	-1.19949
31 days	-0.00807	-0.01987	-1.00449
21 days	-0.00587	-0.00293	-0.17977
11 days	-0.00171	-0.00079	-0.06669
7 days	-0.0029	0.00142	0.15104
3 days	-0.00266	0.001831	0.29746
2 days (-1,0)	-0.00246	0.004496	0.894615
2 days (0,+1)	-0.00266	-0.00512	-1.01968
Pre (-30)	0.006955	0.026271	1.349806
Post (+30)	0.003959	-0.04076	-2.09424*
Event (0,0)	-0.00246	0.023812	1.203554

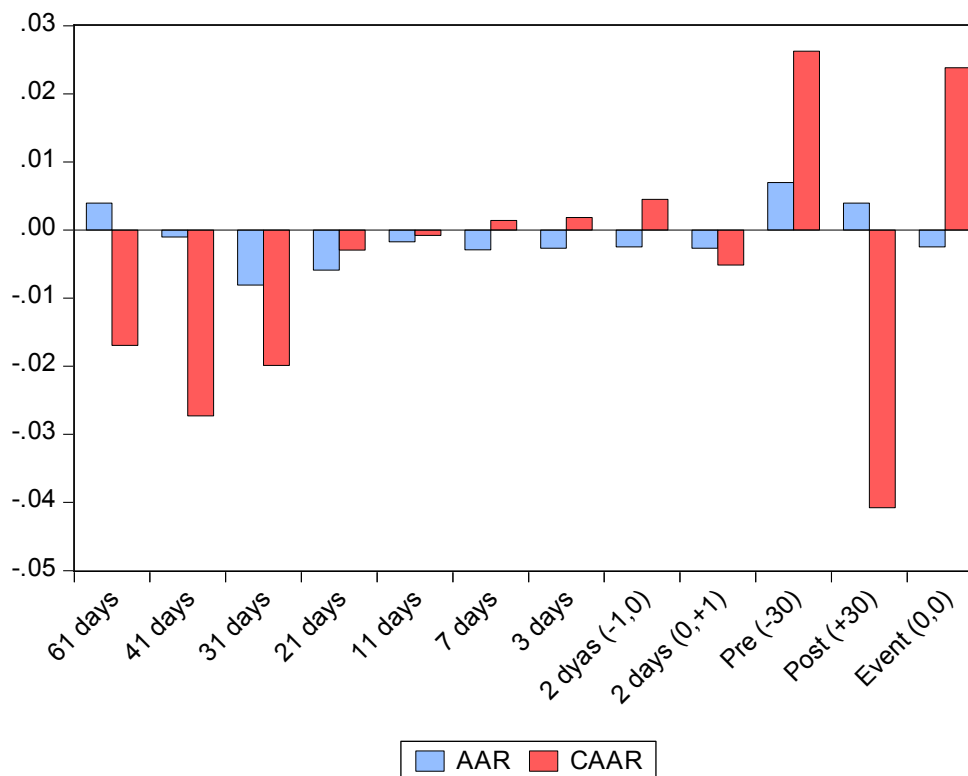
Source: Researcher's Calculations

Notes: * significant at 5% level

The table 4.9 presents the returns earned on 12 event windows of the 53 acquirer firms and its significance. The pictorial representation of same is given in the figure 4.11.

Figure 4.11

Acquirer: CAARs during Event windows (Paid in Stock)



Source: Researcher Calculations

Table 4.9 and figure 4.11 depict the changes in the AARs and CAARs in different windows. Out of 12 event windows, only one window generates significant CAARs to the shareholders. The rest of all the windows shows statistically insignificant return. In this case, the study failed to reject the null hypothesis. Event window 'Post (+30)' gives statistically significant return at 5% level of significance. Thus, in this case failed to accept the null hypothesis i.e., the returns are not significant and different from zero. This event window provides 4.1% negative CAARs to the shareholders. Average abnormal return (AARs) shows positive returns, but shareholders holding it until the end of the event period will have negative return. Even if an investor bought the securities long before the merger event and held it for long at least 10 days before selling (after the merger), they got negative insignificant returns. And the same result is observed for the 61 days, 41 days, 31 days, and 21 days event windows. Then, in the event window, 11 days,

seven days, three days, and two days (i.e. before merger event -1, 0) produced positive returns but not significant ones, except the 11 days window (it has negative insignificant return). 2 days event window (0, +1) showcased negative as well as statistically not significant returns. In case of pre (-30 day) event window investors gained positive returns, but they are insignificant. That is, this period generated a very nominal rate of return to the investors. The event day i.e., M&A announcement day is not different from the Pre (-30 day) event period. Hence, it can be sum up that there are no proper returns to the shareholders of acquirer companies that preferred stock transfer as M&A settlement.

The above sections analysed the impact of M&A announcement (event) on shareholders' wealth of the acquirer firms' by considering the CAARs that earned by the investors in the market. The study analysed the impact on shareholders' wealth by categorising the companies on the basis of the mode of payment of M&A i.e., on cash basis and stock basis. Apart from this the study bifurcates the period into twelve windows such as 61 days, 41 days, 31 days, 21 days, 11 days, seven days, five days, three days, two days (-1,0), two days (0,+1), pre (-30 day), post (+30 day) periods and event day (0,0). The AARs and CAARs generated in each window and its t value is then estimated for statistical interpretations.

On the examination cash based and stock based M&As. The study reveals that, on the cash-based M&As the only 61 days, 41 days, 31days, pre-event and post-event period of the event generated statistically significant returns in the market; in the case of stock-based M&As, it has given statistically significant return in post period event windows only. The rest of the days in the three categories generate statistically not significant return in the market. If there is any positive return it is of very small amount (insignificant). Therefore, it can be concluded that acquirer firms are not successful to generate positive and statistically significant returns (CAARs) to the shareholders.

4.4.2 Target: Impact of M&A on Shareholders' Wealth

The different aspects of how M&A affects target companies' shareholders' wealth are described below.

4.4.2.1 Target: Impact of M&A on Shareholders' Wealth

The previous section analysed the impact of M&A announcement on the shareholders' wealth in the acquirer companies. In this section the study investigates the same but in the target companies during several event windows. It consolidated the returns (CAARs) for the convenience of easy identification and interpretation. The study formulated the null hypothesis as:

H_0 : Target returns are not significantly different from zero.

H_a : Target returns is significantly different from zero.

Table 4.12

Target: CAARs during Event Windows

Event window	AAR	CAAR	T-value
61 days (-30, +30)	-0.0008	0.066234	1.980624*
41 days (-20, +20)	-0.00012	0.04849	1.768687**
31 days (-15, +15)	0.001351	0.04358	2.070446*
21 days (-10, +0)	-0.00339	0.046454	2.367576*
11 days (-5, +5)	-0.00196	0.040104	2.824092***
7 days (-3,+3)	-0.00344	0.033338	2.942935***
3 days (-1,+1)	-0.0095	0.013251	1.78677**
2 days (-1,0)	0.008532	0.022751	3.757231***
2 days (0, +1)	-0.0095	-0.00097	-0.1598
Pre (-30)	0.014218	0.06894	2.939667***
Post (+30)	-0.0008	-0.01124	-0.47922
Event day (0,0)	0.008532	0.077473	3.249776***

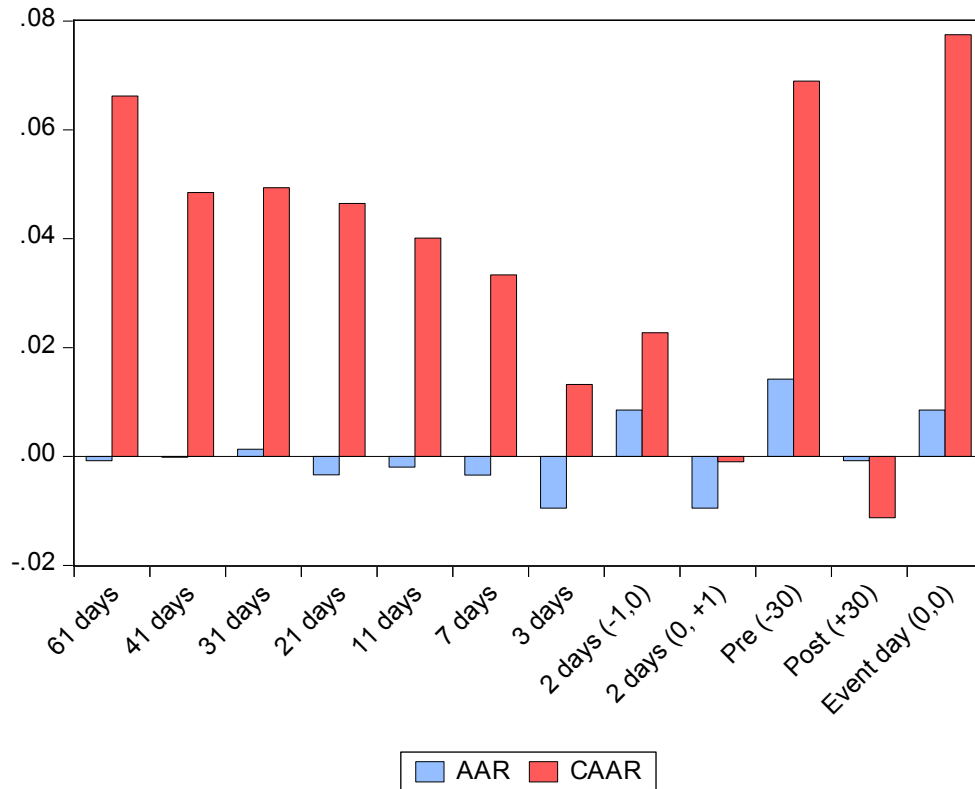
Source: Researcher's Calculations

Note: *, ** and *** significant at 5%, 10% and 1% level, respectively

Table 4.10 shows the 12 event windows of the 94 target firms and the significance of returns (CAARs) earned in shareholders. In order to easily understand the same is portrayed in figure 4.12 below.

Figure 4.12

Target: CAARs during Event Windows



Source: Researcher's Calculations

Here the study used 61 days, i.e., 30 days before and after including event date and divided these windows into 12 short windows. The analysis is carried on with 94 target firms irrespective of its mode of payment to understand the overall situation.

Two event windows post (+30) and two days (0, +1) generates negative returns, which are statistically not significant. It means that the null hypothesis is accepted in these windows only. In the rest of the windows the returns are positive as well as statistically significant (CAARs) to the shareholders. These event windows are significant at different rate of significant levels. Event windows like 61 days, 31 days, and 21 days are significant at 5% level of significance, 41 days and three days are significant at 10% level of significance and in case of 11 days, two days (-1, 0), pre (-30 day) and event date (0, 0) are significant at 1% level of

significance. In these cases the null hypothesis, that the target firms' returns are not significantly different from zero, is failed to accept. On the announcement day, target firms' stocks generated 7.7% return, which is the highest return to the shareholders in the market. The prolonged event windows like 61 days, 41 days, 31 days, 21 days, and 11 days generated higher returns in the market; but the shortest event windows like three days, two days (0, +1) except seven days generated lower positive returns in the market. The pre-period (-30) performance of stocks in the market are satisfactory, whereas the post-period (+30) stocks returned negative and statistically insignificant returns. There is a possibility of early information leakage of M&A news in the market in the pre-period of M&A event (result shows significant return); but after the M&A announcement results shows insignificant returns. If the investor bought the stock long before (before 11 days) and sold it after five days of the Merger and Acquisition event date, it will attain higher returns. If the investor sold the stock in adjacent dates after the merger event it will not receive good results from the market. Buying the stocks in pre-period of event and selling it on the announcement date created huge returns, but those sold the next day did not create a good margin. Therefore, it can say that the shareholders of target firms reacted positively to the M&A after the announcement as gradually the stock's performance showed an increasing trend.

4.4.2.2 Target: Impact of M&A on Shareholders' Wealth Paid in Cash

After analysing the impact of M&A on target companies' shareholders' wealth, the study attempts to find out whether such impact has different result on the basis of mode of payment selected for the M&A. Therefore, in this section the impact is examined for the target companies which chose cash settlement for M&A. for this purpose 22 target firms are analysed out of the 94 firms (23.4%). The null hypothesis formulated is given below:

H_0 : Target returns are not significantly different from zero

H_a : Target returns are significantly different from zero

Table 4.13

Target: CAARs during Event Windows Paid in Cash

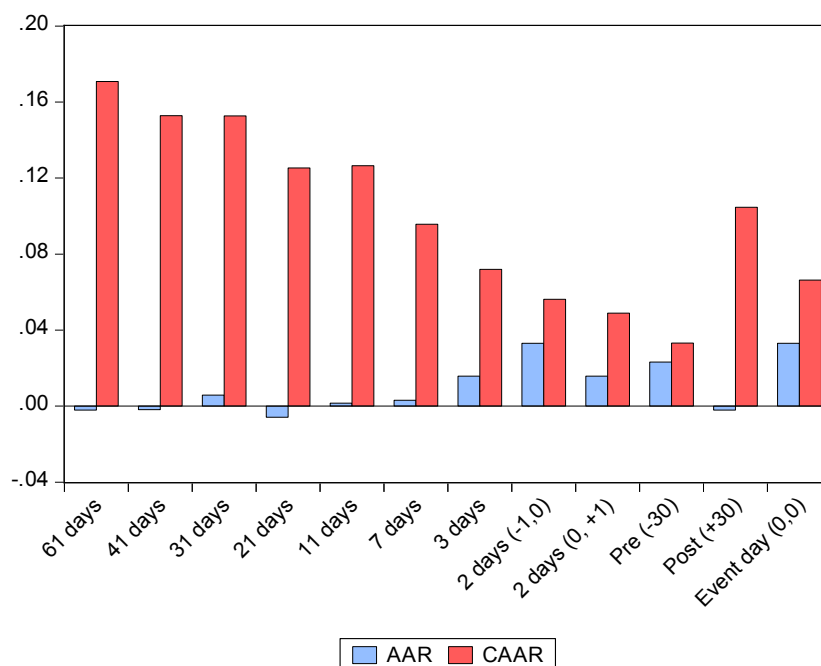
Event window	AAR	CAAR	T-value
61 days (-30, +30)	-0.00213	0.170846	2.936289***
41 days (-20, +20)	-0.0018	0.152761	3.202422***
31 days (-15, +15)	0.005756	0.152693	3.681263***
21 days (-10, +0)	-0.00582	0.125351	3.671785***
11 days (-5, +5)	0.001509	0.126483	5.119092***
7 days (-3,+3)	0.003125	0.095675	4.854115***
3 days (-1,+1)	0.015786	0.071983	5.578672***
2 days (-1,0)	0.033081	0.056197	5.334086***
2 days (0, +1)	0.015786	0.048867	4.638268***
Pre (-30)	0.023117	0.033174	0.813017
Post (+30)	-0.00213	0.104591	2.563265*
Event day (0,0)	0.033081	0.066255	1.597333

Source: Researcher's Calculations

Note: * and *** significant at 5% and 1% level, respectively

Figure 4.13

Target: CAARs during Event Windows Paid in Cash



Source: Researcher's Calculations

Table 4.11 presents the 12 event windows of the 22 target firms and shows the significance of returns (CAARs) earned in shareholders before and after the event. Figure 4.13 depicts the market reactions.

All returns earned during the event windows except pre (-30 day) and event day (0, 0) are statistically significant as well as positive. Among the statistically significant event windows, post (+30 day) window is significant at 5%, and other windows like 61 days, 41 days, 31 days, 21 days, 15 days, 11 days, seven days, two days (-1, 0), two days (0, +1) and post (+30) period are statistically significant at 1% level. It means the null hypothesis of the study is not accepted in these event windows. The pre (-30 day) and event day also provide positive CAARs but they are not significant. Longest event windows like 61 days, 41 days, 31 days, 21 days, and 11 days generated a higher positive return from 17.1% to 12.6% for their investors. Shortest event windows also provided positive returns; it varies from 4.8% to 10.4%. Event date (0, 0) gave 6.6% of return but insignificant. The highest positive return is 17.1%, that is generated in the 61 days event window; and the lowest return is 3.3% in the pre (-30 day) period event window. When an investor holds stock for a long time or in the longest event window they will get highest return. When the duration of event window duration is reduced the rate of returns also reduced, but didn't reach negative. The target firms' stocks in the post (+30 day) event window has performed well when compared with the pre (-30 day) event window. Thus, the study concludes that the performance of target firms' stocks (cash mode) is good in the majority event windows especially after the M&A announcement date.

4.4.2.3 Target: Impact of M&A on Shareholders' Wealth Paid in Stock

The earlier section put forth the impact on shareholders' wealth of target companies that opted cash as M&A settlement. This section discusses the CAARs of the firms that preferred stock transfer for M&A settlement. 72 firms are analysed out of the 94 firms (77.6%). The null hypothesis tested is:

H_0 : Target returns are not significantly different from zero

H_a : Target returns are significantly different from zero

The results are provided below:

Table 4.14

Target: CAARs during Event Windows (Paid in Stock)

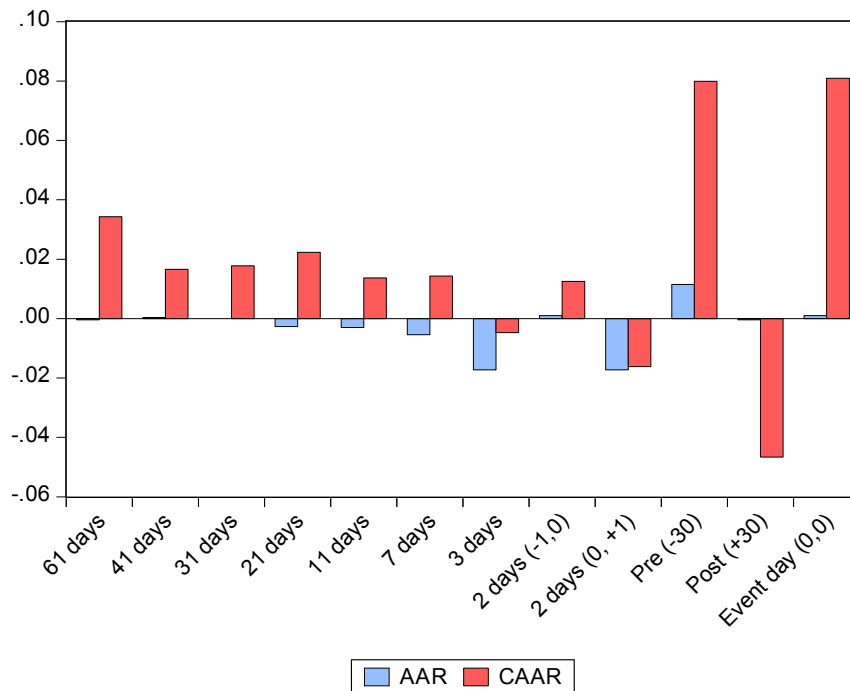
Event window	AAR	CAAR	T-value
61 days (-30, +30)	-0.00039	0.034269	0.846464
41 days (-20, +20)	0.000392	0.01663	0.501042
31 days (-15, +15)	5.43E-06	0.017784	0.616181
21 days (-10, +0)	-0.00266	0.022347	0.940768
11 days (-5, +5)	-0.00301	0.013711	0.797506
7 days (-3,+3)	-0.00545	0.014291	1.042028
3 days (-1,+1)	-0.01723	-0.0047	-4.2E-05
2 days (-1,0)	0.001032	0.012531	1.70939**
2 days (0, +1)	-0.01723	-0.01619	-0.00012
Pre (-30)	0.011499	0.079869	2.813108***
Post (+30)	-0.00039	-0.04663	-1.64243
Event day (0,0)	0.001032	0.0809	2.803106***

Source: Researcher's Calculations

Note: *, ** and *** significant at 5%, 10% and 1% level

Figure 4.14

Target: CAARs during Event Windows (Paid in Stock)



Source: Researcher's Calculations

The analysis reveals that (table 4.12) the returns are statistically significant only in three event windows. Therefore, the null hypothesis is not accepted in these cases. Those windows are 2 days (-1, 0), Pre (-30 day) event and event day (0, 0). During this event windows there is 1.2%, 7.9% and 8.1% returns respectively. The highest return is produced on the event day, i.e., M&A announced date. The remaining nine event windows generated insignificant returns (CAARs) for the shareholders. Among the nine event windows three (-1, +1), 2 days (0, +1) and post (+30 day) event period show negative returns (insignificant). Other windows like 61 days, 41 days, 31 days, 21 days, 11 days and 7 days have positive returns but they are statistically not significant. Most of the time the event windows irrespective of its duration has generated positive returns except for some windows which has statistically insignificant returns. After the M&A event announcement the market performance is not satisfactory. To sum up, the performance of target companies (stock-based) are below the normal level.

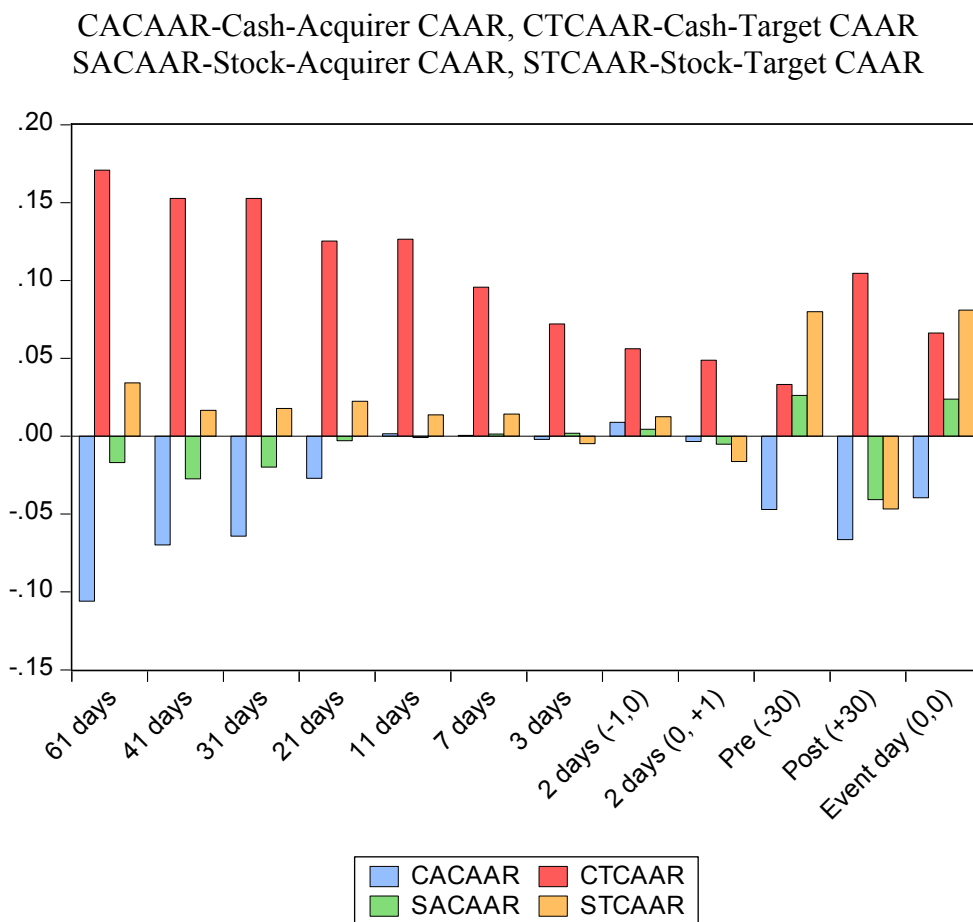
The examination of impact of M&A announcement on the shareholders' wealth of target firms reveals that, all the observed event windows were statistically significant except two windows, i.e., two days (0, +), post (+30) event period. As well as the overall performance of the target firms is satisfactory. In the case of cash based deals all windows provide statistically significant results except for two windows, such as pre (-30 day) event and event dates, but in stock-based target firms, all firms generated statistically insignificant returns except two days (-1, 0), pre (-30 day) period, and event date. Stock-based target firms performance is not satisfactory compared to the other two cases. Thus, it concludes that target firms' performance is good in all cases, but stock-based firms are least.

4.5 Discussion (Part B)

As already stated, the study examines the impact from the perspective of the acquirer and the target companies, categorising them on the basis of mode of payment for the M&A deals i.e., cash based and stock based.

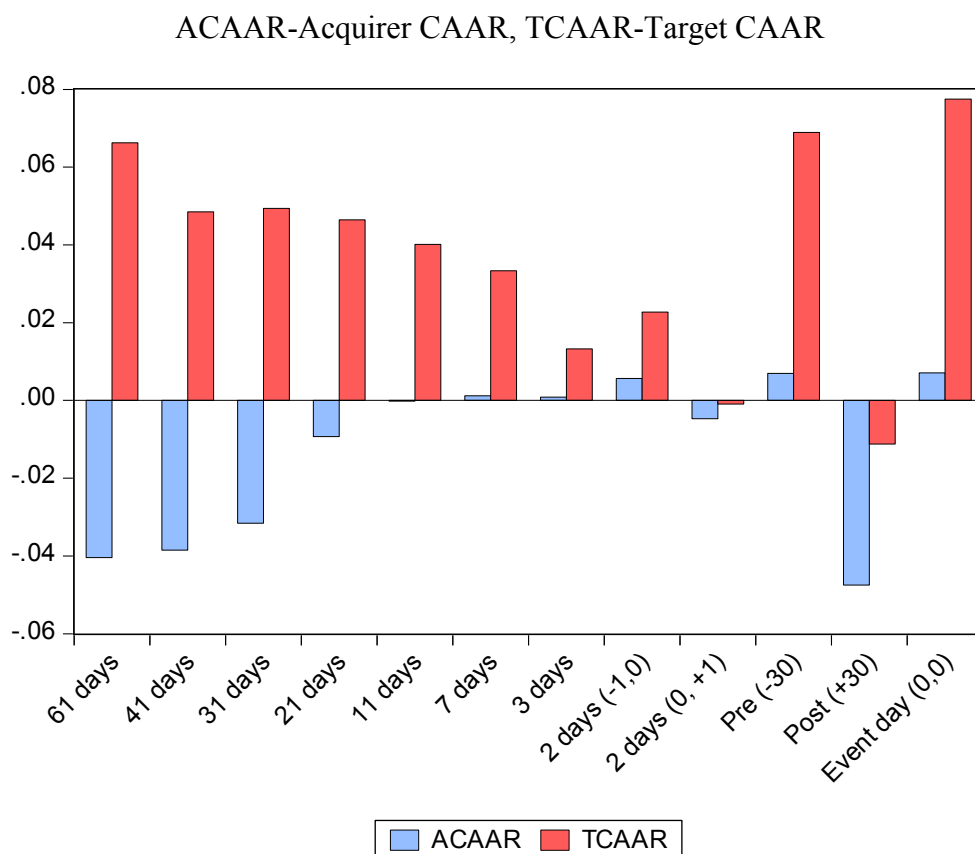
Figure 4.15

Consolidated CAARs of Acquirer and Target (Cash and Stock)



Source: Researcher's Calculations

Figure 4.15 depicts acquirer firms' performance and targets firms based on the mode of payment. In the case of acquirer firms, generated returns (CAARs) show poor performance. Most of the event windows generated negative returns to the shareholders and if any window generated positive returns, it shows a very nominal value. While comparing the performance, cash/stock-based firms indicate better results. But in the case of target firms, it produced efficient results to the shareholders. While considering cash-based firms generated highly positive returns to the shareholders in different event windows. Stock-based firms also performed well but comparably a lesser performance.

Figure 4.16*Consolidated CAARs of Acquirer and Target (Entire Sample)*

Source: Researcher's Calculations

In figure 4.16 the total CAARs of acquirer and target firms during the different event windows are portrayed. When comparing the performance of firms based on the generated CAARs, target firms (TCAAR) show good performance than acquirer firms (ACAAR) in all event windows. The longest event windows (far from M&A announcement date) are performed well than the shortest windows (nearest to the event date). But the study considered the post-event performance and target firms performance showed better performance than the acquirer. Both firms generated negative returns to the shareholders. If the stock is bought early (before the event date), sold it on or a day before the event date or last of the event windows (after the event date) it attained higher positive returns. But if the stock is bought after the event and sold in the end of the windows it loses. In this work, the null hypothesis for returns significantly not differs from zero is not accepted in the case

of target firms and but is accepted in the case of acquirer firms. So, this part concluded that the impact of M&A announcement on the shareholders' wealth to the target firms generated positive returns.

4.6 Conclusion

This chapter discussed the analysis of the impact of M&A on shareholders' wealth. It is presented in two parts. The first part explained how shareholders attained the abnormal return due to the M&A. The second part explained the impact of the M&A event (announcement) on the shareholders' wealth of the merged entities. Under these two parts, the same issues are studied on the basis of payment mode selected by the companies for the M&A (in cash or in stock) except the analysis of M&A related with the financial crisis in the first part. In the second part, the results concluded that the target firms generated more positive results than acquirer firms and exhibited good performance (in case of the impact of M&A on shareholders' wealth). But in the case of generating abnormal returns, both categories of firms had poor performance. While considering the mode of payment, the study has given mixed results. In case of an abnormal return, cash-based acquirer and target firms' M&A performance showed much better performance than stock-based M&A i.e. the selection of cash as a mode of payment generates higher returns (Rani, Yadav & Jain, 2012). In the case of the impact of the merger and acquisition event, cash-based M&A performed far good than stock-based firms in both acquirer and target cases. Financial crisis does not affect the returns of shareholders in both acquirer and target firms. The next chapter discusses the impact of M&A on corporate performance and the combined entity valuation effect after M&A were implemented.

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CHAPTER 5

IMPACT OF MERGER & ACQUISITION ON CORPORATE PERFORMANCE AND COMBINED ENTITY VALUATION

5.1 Introduction

Previous chapter discusses the estimation of abnormal returns and the impact of M&A on shareholders' wealth, which is only a short-term perspective of the manufacturing firms' performance and does not reflect the actual gain in a long time. Therefore, the study further inquiries about the firms' long-term performance by collecting three years financial data before and after the M&A and the current chapter presents the reports and interpretation of statistical analyses. Ordinary Least Square Regression method is used for analysing the data. The chapter is arranged in the following parts:

Part A: Corporate Performance

I. Acquisitions

- (a) Acquirer Firms
- (b) Target Firms

II. Mergers

- (c) Acquirer Firms (Merged Entity)

Part B: Combined Entity Valuation

Part A

5.2 Corporate Performance

5.2.1 Impact of M&As on Corporate Performance

To measure the corporate performance the M&A deals are investigated separately for a focused analysis and interpretations; there is 38 acquisition deals and 70 mergers. As mentioned in the methodology, the study regressed the data by taking the ratios- Return on Asset (ROA), Return on Capital Employed (ROCE), Return on Net worth (ROW) and Economic Value Added (EVA) as dependent variables and Current Ratio (CR), Quick Ratio (QR), Debtors Turnover Ratio (DT), Debtors Equity Ratio (DE), Raw Material Turnover Ratio (RT), Interest Coverage Ratio (IC) as independent variables. To avoid the problem of time period, the study used Dummy variable (assigned 0 for Pre-merger and 1 for the Post-merger period). Heteroscedasticity is examined using the white standard error, and ensured the constant variable (homoscedasticity).

The hypothesis framed is:

H_0 : There is no significant impact of M&A on Corporate performance.

H_1 : There is a significant impact of M&A on Corporate performance.

As separate regressions were conducted for analysing the Acquisition and Merger deals, the hypothesis is tested at two different heads. The mean was compared by using a t-test over the two different periods before and after the M&A (the year with effect from). So that the significant changes in the selected variables before and after the merger and acquisitions can be observed. Based on the hypothesis framed above, the analysis is done using regression analysis and the results are explained below.

5.2.1.1 Impact of Acquisition on Corporate Performance

Here, the study analyses the impact of acquisition deals on corporate performance of both acquirer and target firms. 38 deals are selected for the analysis

and to measure the impact on corporate performance, the impact of M&A on ROA, ROCE, ROW and EVA is examined.

A. Impact of Acquisition on Acquirers' Corporate Performance

In the first phase the impact on acquirer companies is examined.

I. Impact of Acquisition on Corporate Performance based on ROA

The study analyses the impacts of acquisition on firms performance, to know whether the acquisition impacted the ability of firms to generate profit from their assets and thereby check the corporate performance in terms of ROA. A regression analysis is performed in which ROA (Acquirer ROA) is taken as the dependent variable, and all other variables are (i.e., ACR (Acquirer CR), ADT (Acquirer DT), ADE (Acquirer DE), ART (Acquirer RT)) independent variables. Then, Dummy variable is used as the impact of acquisition on firm performance based on ROA analysis. The regression results are shown in the table 5.1.

Table 5.1

Impact of Acquisition on Corporate Performance (ROA)

Variables	Co-efficient (β)	t-Statistic	Prob.
C	7.532724	5.237379	0.0000
ACR	0.214524	0.627510	0.5324
ADE	-3.218382	0.959915	0.0000
ADT	0.021090	0.959915	0.3404
ART	0.107228	2.274226	0.0260
DUMMY	1.643266	1.999283*	0.0495
	R ²	0.362386	
	Adjusted R ²	0.316842	
	Durbin-Watson stat	1.900233	
	F-Statistic	7.956844	

Source: Researcher's Calculation

*Significant at 5% and 10% level

The regression results are reported table 5.1 shows that the impact of acquisition on corporate performance based on ROA analysis. The co-efficient value

is 1.643266, and its t value is 1.999283, which is statistically significant at 5% and 10% level. It indicates that acquisition as a positive impact on firm performance. The value of R square is 0.36 and F ratio is 7.956844, which is statistically significant at 5% level. Thus, the analysis failed to accept the null hypothesis that there is no significant impact of M&A on ROA. This suggests that the acquisition impacted the return on assets and the nature of impact is positive. The study further analyses the impact of M&A based on ROCE (Return on Capital Employed) which is explained in the next part.

II. Impact of Acquisition on Corporate Performance based on ROCE

Here the study examines the corporate performance of companies by its ability to generate the profits from the capital i.e., Return on capital employed. In this regression analysis, AROCE (Acquirer ROCE) is taken as the dependent variable, and the other variables like ACR (Acquirer CR), ADT (Acquirer DT), ADE (Acquirer DE), and ART (Acquirer RT)) as independent variables. Then, Dummy variable is used as the impact of acquisition on firm performance based on ROCE analysis. The results are shown in table 5.2.

Table 5.2

Impact of Acquisition on Corporate Performance (ROCE)

Variables	Co-efficient (β)	t-Statistic	Prob.
C	11.47344	4.848890	0.0000
ACR	-0.268362	-0.571353	0.5696
ADE	-4.712059	-4.887321	0.0000
ADT	0.008314	0.214769	0.8306
ART	0.191624	2.737802	0.0078
DUMMY	-1.895398	-1.526310	0.1314
	R ²	0.334147	
	Adjusted R ²	0.286586	
	Durbin-Watson stat	1.861727	
	F-Statistic	7.025660	

Source: Researcher's Calculation

The regression results are reported table 5.2 shows that the impact of acquisition on corporate performance based on ROCE analysis. The co-efficient value is -1.895398, and its t value is -1.526310, which is negative value and statistically insignificant. It indicates that M&A do not have an impact on firm performance. The value of R square is 0.33 and F ratio is 7.025660, which is statistically significant at 5% level. Thus, the analysis failed to reject the null hypothesis that there is no significant impact of M&A on ROCE. This suggests that the acquisition impacted the return on capital employed and the nature of impact is negative. The study further analyses the impact of M&A based on ROW (Return on Net Worth) which is explained in the next part.

III. Impact of Acquisition on Corporate Performance based on ROW

In this section, the impact of acquisition on Return on Net worth (ROW) is analysed and explained. Return on net worth reveals the efficiency of companies to generate profit from the shareholders' capital, for this reason this ratio is important to investors. Here, the study examines the impact of M&A on the ROW. In this regression analysis, AROW (Acquirer ROW) is taken as the dependent variable, and all other variables are independent variables such as ACR (Acquirer CR), ADT (Acquirer DT), ADE (Acquirer DE), and ART (Acquirer RT). Then Then, Dummy variable is used as the impact of acquisition on firm performance based on ROW analysis. The regression results are shown in the table 5.3.

Table 5.3*Impact of Acquisition on Corporate Performance (ROW)*

Variables	Co-efficient (β)	t-Statistic	Prob.
C	12.70965	4.40149	0.0000
ACR	0.143921	0.364163	0.7168
ADE	-4.496444	-3.909832	0.0002
ADT	0.101400	2.176172	0.0329
ART	0.358424	3.168626	0.0023
DUMMY	5.724953	3.968242*	0.0002
	R ²	0.465887	
	Adjusted R ²	0.427736	
	Durbin-Watson stat	1.529232	
	F-Statistic	12.21166	

Source: Researcher's Calculation

*Significant at 1%, 5% and 10% level

The table 5.3 reported that the regression results the impact of acquisition on corporate performance based on ROW analysis. The co-efficient value is 5.724953, and its t value is 3.968242, which is statistically significant at 1%, 5% and 10% level. It indicates that acquisition as a positive impact on firm performance. The value of R square is 0.47 and F ratio is 12.21166, which is statistically significant at 5% level. Thus, the analysis failed to accept the null hypothesis that there is no significant impact of M&A on ROW. Therefore, the study based on ROW concludes that there is a significant impact of M&A on corporate performance. The study further analyses the impact of M&A based on EVA (Economic Value Added) which is explained in the next part.

IV. Impact of Acquisition on Corporate Performance based on EVA

In this part, the study analyses and explains the impact of acquisition on corporate performance on the basis of Economic Value Added (EVA). As a result of M&A, firms can generate economic profit or value which may lead to good performance. In this regression analysis, AEVA (Acquirer EVA) is taken as the

dependent variable, and all other variables such as ACR (Acquirer CR), ADT (Acquirer DT), ADE (Acquirer DE), and ART (Acquirer RT), and AROA (Acquirer ROA) are independent variables. In this analysis, AROA is used as a control variable. Then Then, Dummy variable is used as the impact of acquisition on firm performance based on EVA analysis. The regression results are shown in table 5.4.

Table 5.4

Impact of Acquisition on Corporate Performance (EVA)

Variables	Co-efficient (β)	t-Statistic	Prob.
C	27231.1	1.106847	0.2722
ACR	-7243.540	-0.242731	0.8089
ADE	-282793.0	-2.030509	0.0462
ADT	13214.31	2.030509	0.0365
ART	-7607.274	-1.102691	0.2740
AROA	-29690.30	-1.610836	0.1118
DUMMY	-35507.28	-0.290687	0.7722
R ²		0.228486	
Adjusted R ²		0.161398	
Durbin-Watson stat		1.743509	
F-Statistic		3.405763	

Source: Researcher's Calculation

The regression results are reported table 5.4 shows that the impact of acquisition on corporate performance based on EVA analysis. The co-efficient value -35507.28, and its t value is -0.290687, which is negative value and statistically insignificant. It indicates that acquisition do not have an impact on firm performance. The value of R square is 0.23 and F ratio is 3.405763, which is statistically significant at 5% level. Thus, the analysis failed to reject the null hypothesis that there is no significant impact of M&A based on EVA analysis.

Apart from this the study also compared the mean values of these variables before and after the M&A and attempts to shed light into the actual changes that

happened to the variables due to M&A i.e., to analyse whether there is any increase or decrease in each variable due to the M&A. The results are shown below:

V. Comparison of Mean Value between Before and After Acquisition in Acquirer Companies

The study examines the changes in each variable of the acquirer firm before and after the acquisition. In order to find out whether there is any improvement due to M&A and if yes are they statistically significant or not. For this, the study devised paired t-test. Under this analysis, the variables' mean value are compared between the value of before the M&A and after the M&A. Variables selected for the t-test are AROW, AROCE, AROA, AEVA, ACR, AQR, ADE, ADT, ART, AIC. The results of the t-test are exhibited in the Table 5.5.

Table 5.5

Comparison of Mean Value between Before and After Acquisition

Variable	Mean (Before M&A)	Mean (After M&A)	t-Stat	P-Value
AROW	13.89833	7.501842	3.631047***	0.000517
AROCE	8.781667	6.541228	1.487269	0.141193
AROA	6.391053	4.465789	1.994266**	0.049906
AEVA	-5391.2	-16683.8	0.084473	0.93299
ACR	1.574123	1.491842	0.248565	0.804386
AQR	1.353772	0.84693	1.474229	0.072331
ADE	0.85669	0.902195	-0.30497	0.761242
ADT	17.56921	15.5982	0.566454	0.572799
ART	8.46114	7.749912	0.370664	0.711947
AIC	15.72877	6.474257	1.702083	0.092938

Source: Researcher's Calculations

**Significant at 5% and 10% level

***Significant at 1%, 5% and 10% level

From the table 5.5 it is clear that all variables except AROW and AROA were given a statistically insignificant result. This is in confirmation with the early findings of the study by Sinha & Gupta (2011). The variables AROW and AROA

which represent the profitability of the firms has significant t value (3.631047 and 1.994266 respectively), indicating that there is change in these variables after M&A. Both AROW and AROA has declined after the M&A. Other variables like AROCE, AEVA, ACR, AQR, ADE, ADT, ART, AIC do not have any significant changes after the M&A i.e., Liquidity (similar findings by Sinha & Gupta, 2011) and Efficiency are worst after the M&A. The variables except ADE showed a decreasing trend during the period. Thus, it can conclude that AROCE, AEVA, ACR, AQR, ADE, ADT, ART, AIC didn't improved after the M&A; AROA and AROW declined after M&A.

The study analysed and discussed the impact of acquisition on the corporate performance of acquirer companies using Ordinary Least Square (OLS) regression and paired t-test. From the analysis it can be concluded that the corporate performance of acquirer companies after acquisition has declined except the return on net worth and return on asset.

In the next section the study investigates the impact of merger and acquisition on the corporate performance of target firms.

B. Impact of Acquisition on Target Companies' Corporate Performance

After analysing the impact of acquisition on acquirer companies' corporate performance, the impact on target companies are investigated.

I. Impact of Acquisition on Corporate Performance based on ROA

For measuring the impact Ordinary Least Square regression is used. In the regression analysis TROA (Target ROA) is taken as the dependent variable, and all other variables are like TCR (Target CR), TDE (Target DE) and TRT (Target RT) are independent variables. Then, Dummy variable is used as the impact of acquisition on firm performance based on ROA analysis. The results are shown in the table 5.6.

Table 5.6*Impact of Acquisition on Corporate Performance (ROA)*

Variables	Co-efficient (β)	t-Statistic	Prob.
C	-5.802912	-3.395268	0.0012
TCR	3.188488	2.544553	0.0133
TDE	-0.004696	-0.070000	0.9444
TRT	0.491700	3.266925	0.0017
DUMMY	0.050090	0.035432	0.9718
	R ²	0.338387	
	Adjusted R ²	0.298888	
	Durbin-Watson stat	1.601037	
	F-Statistic	8.566934	

Source: Researcher's Calculation

The regression results are reported table 5.6 shows that the impact of acquisition on corporate performance based on ROA analysis. The co-efficient value is 0.050090, and its t value is 0.035432, which is positive value but statistically insignificant. It indicates that acquisition do not have an impact on firm performance. The value of R square is 0.34 and F ratio is 8.566934, which is statistically significant at 5% level. The analysis failed to reject the null hypothesis that there is no significant impact of acquisition on corporate performance Thus, the merger deals do not show a significant impact based on ROA. From the analysis it can be concluded that the target companies' ability to generate profits from its assets would not be strong enough, and therefore it does not contribute to corporate performance. The study further analyses the impact of merger on ROCE (Return on Capital Employed) which explained in the next section.

II. Impact of Acquisition on Corporate Performance based on ROCE

In this section, the study analysed and explained the impact of acquisition on Return on Capital Employed (ROCE). In the regression analysis, TROCE (Target ROCE) is taken as the dependent variable, and all other variables are independent variables (i.e., TCR (Target CR), TDE (Target DE) and TRT (Target RT)). The

Dummy variable is used as the impact of acquisition on firm performance based on ROCE analysis. These regression results are shown in the table 5.7.

Table 5.7

Impact of Acquisition on Corporate Performance (ROCE)

Variables	Co-efficient (β)	t-Statistic	Prob.
C	-9.719816	-3.445673	0.0010
TCR	5.410091	2.699562	0.0088
TDE	0.021465	0.199099	0.8428
TRT	0.814353	3.194638	0.8865
DUMMY	-0.349953	-0.143339	0.8865
	R^2	0.321077	
	Adjusted R^2	0.280544	
	Durbin-Watson stat	1.716674	
	F-Statistic	7.921426	

Source: Researcher's Calculation

The regression results are reported table 5.7 shows that the impact of acquisition on corporate performance based ROCE analysis. The co-efficient value is -0.349953, and its t value is -0.143339, which is negative value and statistically insignificant. It indicates that merger do not have an impact on firm performance. The value of R square is 0.32 and F ratio is 7.921426, which is statistically significant at 5% level. The analysis failed to reject the null hypothesis that there is no significant impact of acquisition on corporate performance Thus, the acquisition deals do not show a significant impact based on ROCE.

III. Impact of Acquisition on Corporate Performance based on ROW

The study analyses and explains the impact of acquisition on the basis of Return on Net Worth. Since ROW is developed from the perspective of investors it is one of the important indicator of corporate performance. In the regression analysis, TROW (Target ROW) is the dependent variable and all other variables are independent variables (TCR (Target CR), TDE (Target DE) and TRT (Target RT)).

Then, Dummy variable is used as the impact of acquisition on firm performance based on ROW analysis. The results are shown in the table 5.8.

Table 5.8

Impact of Acquisition on Corporate Performance (ROW)

Variables	Co-efficient (β)	t-Statistic	Prob.
C	-29.46953	-3.135656	0.0025
TCR	6.216549	1.034860	0.3045
TDE	0.025502	0.096344	0.9235
TRT	2.080909	2.154749	0.0348
DUMMY	10.13799	1.686765*	0.1641
	R ²	0.233977	
	Adjusted R ²	0.188245	
	Durbin-Watson stat	1.996873	
	F-Statistic	5.116198	

Source: Researcher's Calculation

*Significant at 10% level

The table 5.8 reported that the regression results the impact of acquisition on corporate performance based on ROW analysis. The co-efficient value is 10.13799, and its t value is 1.686765, which is statistically significant at 10% level. It indicates that acquisition as a positive impact on firm performance. The value of R square is 0.23 and F ratio is 5.116198, which is statistically significant at 5% level. Thus, the analysis failed to accept the null hypothesis that there is no significant impact of M&A on ROW. Therefore, the study based on ROW concludes that there is a significant impact of acquisition on corporate performance. The study further analyses the impact of acquisition based on EVA (Economic Value Added) which is explained in the next part.

IV. Impact of Acquisition on Corporate Performance based on EVA

The study further analyses and explains the impact of acquisition on corporate performance on the basis of Economic Value Added. As a result of M&A, firms can generate economic profit or value, which may lead to good performance.

In this regression analysis, TEVA (Target EVA) is taken as the dependent variable, and all other variables are independent variables such as TCR (Target CR), TDE (Target DE), TRT (Target RT), and TROA (Target ROA). In this analysis, TROA is used as a control variable. Then, Dummy variable is used as the impact of acquisition on firm performance based on EVA analysis. These regression results are shown in the table 5.9.

Table 5.9

Impact of Acquisition on Corporate Performance (EVA)

Variables	Co-efficient (β)	t-Statistic	Prob.
C	-252167.1	-0.983669	0.3289
TCR	-69953.63	-0.541068	0.5903
TDE	-10447.32	-1.613339	0.1114
TRT	6015.489	0.448097	0.6556
TROA	-11906.39	1.022042	0.3105
DUMMY	-32829.20	-0.210685	0.8338
R ²		0.069310	
Adjusted R ²		0.00766	
Durbin-Watson stat		1.121654	
F-Statistic		0.989128	

Source: Researcher's Calculations

The regression results are reported table 5.9 shows that the impact of acquisition on corporate performance based on EVA analysis. The co-efficient value -32829.20, and its t value is -0.210685, which is negative values and statistically insignificant. It indicates that M&A do not have an impact on firm performance. The value of R square is 0.07 and F ratio is 0.989128, which is statistically significant at 5% level. Thus, the analysis failed to reject the null hypothesis that there is no significant impact of M&A based on EVA analysis. The study concluded that the economic profit of a company does not generate any contribution to corporate performance as a result of M&A.

The study further compares the difference in mean value of variables before and after the M&A, which will help to understand the actual changes that happened to the variables due to M&A.

V. Comparison of Mean Values between Before and After Acquisition in Target Companies

The study examines the changes in each variable of the target firm before and after the M&A, in order to know if any statistically significant improvement occurred due to the M&A. For this, paired sample t-test is used. Under this analysis, the variables' mean values are compared before the M&A with its value after the M&A. Variables selected for the t-test are TROW, TROCE, TROA, TEVA, TCR, TQR, TDE, TDT, TRT, TIC. Results of the t-test are discussed in the table 5.10 and it exhibits mean value before and after M&A using t-stat and its probability value.

Table 5.10

Comparison of Mean Values between Before and After Acquisition

Variable	Mean (Before M&A)	Mean (After M&A)	t-Stat	P-Value
TROW	-4.84984	2.192472	-0.91678	0.362405
TROCE	2.69	1.498889	0.40406	0.6874
TROA	1.53213	1.046574	0.280969	0.779563
TEVA	-294649	-363734	0.464019	0.644074
TCR	0.913148	1.033519	-0.794	0.429878
TQR	0.545926	0.618148	-0.53508	0.594291
TDE	4.905038	5.94506	-0.44747	0.655917
TDT	21.53694	22.84963	-0.16724	0.867665
TRT	9.043148	7.183148	1.151517	0.253438
TIC	4.92121	7.0689	-0.71806	0.475112

Source: Researcher's Calculations

From the table 5.10 it can see that all variables have statistically insignificant change. Even though insignificant TROW, TCR, TQR, TDE, TDT, and TIC exhibited growth after M&A, among which TDT has the highest mean score. The study analysed three years data only; may be in the coming years the target companies may have better results.

Ordinary Least Square (OLS) regression, and paired sample t-test are used for analysing the impact of M&A on the target companies' corporate performance. Though the TROW was insignificant after acquisition, it shows an increasing trend when examining the mean values; also there is improvement in the liquidity ratios, solvency ratios and efficiency ratios of the companies. This is an indication of improvement in the corporate performance i.e., firms' ability to generate profit from strength of equity shareholders has improved after the acquisition.

Examination of corporate performance of acquirer firms shows that the Return on Asset and Return on Net worth has shown significant improvement; and in case of target companies only Return on Net worth shows significant positive result. Therefore, it can assert that in both cases ROW of the companies involved in acquisition have improved i.e., the ability of companies to generate profit from strength of shareholders' equity is improved after acquisition. Also from the ratio analysis, it can be sum up that the performance of acquirer companies are moderately good while the performance target companies are better than the acquirer.

5.2.1.2 Impact of Merger on Corporate Performance

In this section the study examines the mergers and its impact on corporate performance of companies undergone merger event. 70 deals are selected for the analysis, where the study considered the impact of the merger on the acquirer (merged entity) firm only. The impact of M&A on ROA, ROCE, ROW and EVA is examined.

I. Impact of Merger on Corporate Performance based on ROA

This section analyses the impact of merger on corporate performance on the basis of ROA; that is analysing whether there is any change in the profit-generating ability of companies from the assets due to merger. In this regression analysis, ROA is taken as the dependent variable, and all other variables are independent variables such as CR, DE. Then, Dummy variable is used as the impact of acquisition on firm performance based on ROA analysis. The regression results are shown in the table 5.11.

Table 5.11*Impact of Merger on Corporate Performance (ROA)*

Variables	Co-efficient (β)	t-Statistic	Prob.
C	1.895723	1.867552	0.0640
CR	2.059613	2.556346	0.0117
DE	-0.134846	-0.260197	0.7951
DUMMY	-0.530383	-0.661810	0.5092
	R ²	0.075293	
	Adjusted R ²	0.054895	
	Durbin-Watson stat	2.282866	
	F-Statistic	3.691179	

Source: Researcher's Calculation

The table 5.11 reported that the regression results the impact of merger on corporate performance based on ROA analysis. The co-efficient value is -0.530383, and its t value is -0.661810, which is negative and statistically insignificant. It indicates that merger does not have an impact on firm performance. The value of R square is 0.08 and F ratio is 3.691179, which is statistically significant at 5% level. Thus, the analysis failed to reject the null hypothesis that there is no significant impact of merger on ROA. Therefore, the study based on ROA concludes that there is no significant impact of merger on corporate performance. The study further analyses the impact of merger based on ROCE (Return on Capital Employed) which is explained in the next part.

II. Impact of Merger on Corporate Performance based on ROCE

The study examines the impact of merger on Return on Capital employed, by which the impact on corporate performance in terms of the companies' ability to generate the profits from its capital is analysed. A regression analysis is devised, where ROCE is taken as the dependent variable, and all other variables are independent variables such as CR, DT, DE, and RT. Then, Dummy variable is used as the impact of acquisition on firm performance based on ROCE analysis. The regression results are shown in the table 5.12.

Table 5.12

Impact of Merger on Corporate Performance (ROCE)

Variables	Co-efficient (β)	t-Statistic	Prob.
C	2.199322	1.072913	0.2852
CR	3.639283	2.135763	0.0345
DE	-0.013591	-0.037945	0.9698
DUMMY	-1.472423	-1.045826	0.2975
R ²		0.072038	
Adjusted R ²		0.051568	
Durbin-Watson stat		2.391047	
F-Statistic		3.519217	

Source: Researcher's Calculation

The table 5.12 reported that the regression results the impact of merger on corporate performance based on ROCE analysis. The co-efficient value is -1.472423, and its t value is -1.045826 which is negative and statistically insignificant. It indicates that merger does not have an impact on firm performance. The value of R square is 0.07 and F ratio is 3.519217, which is statistically significant at 5% level. Thus, the analysis failed to reject the null hypothesis that there is no significant impact of merger on ROCE. Therefore, the study based on ROCE concludes that there is no significant impact of merger on corporate performance. The study further analyses the impact of merger based on ROW (Return on Net Worth) which is explained in the next part.

III. Impact of Merger on Corporate Performance based on ROW

The impact of merger on Return on Net Worth (ROW) is investigated. ROW aids in reflecting the perspective of investors also, as the ratio represents the actual profits generated by companies on the absolute strength of its shareholders' equity is and also confirms whether ROW plays an important role in the performance of the company. In this regression analysis, ROW is taken as the dependent variables, and all other variables are independent variables such as CR, DE, and ROA used as a controllable variable. Here, Then, Dummy variable is used as the impact of

acquisition on firm performance based on ROW analysis. These regression results are listed in the table 5.13.

Table 5.13

Impact of Merger on Corporate Performance (ROW)

Variables	Co-efficient (β)	t-Statistic	Prob.
C	4.868729	4.516286	0.0000
CR	-2.482934	-5.183915	0.0000
DE	0.134288	1.653667	0.1005
DT	2.053056	15.40299	0.0000
DUMMY	0.951834	1.078877	0.2826
	R ²	0.789265	
	Adjusted R ²	0.783021	
	Durbin-Watson stat	1.854738	
	F-Statistic	12.64036	

Source: Researcher's Calculation

The table 5.13 reported that the regression results the impact of merger on corporate performance based on ROW analysis. The co-efficient value is 0.951834, and its t value is 1.078877 which is positive but statistically insignificant. It indicates that merger does not have an impact on firm performance. The value of R square is 0.79 and F ratio is 12.64036, which is statistically significant at 5% level. Thus, the analysis failed to reject the null hypothesis that there is no significant impact of merger on ROW. Hence, it can assert that the merger has no impact on the profit generated by the company on the strength of shareholders' equity. Furthermore, the study analyses the impact of merger on EVA (Economic Value Added), which is explained in the next section.

IV. Impact of Merger on Corporate Performance based on EVA

In order to measure the impact of merger on EVA OLS regression is devised, in which EVA is taken as the dependent variable. Then, Dummy variable is used as the impact of acquisition on firm performance based on EVA analysis. These regression results are shown in the table 5.14.

Table 5.14

Impact of Merger on Corporate Performance (EVA)

Variables	Co-efficient (β)	t-Statistic	Prob.
C	-540909.5	-1.676879	0.0959
CR	328203.1	2.145674	0.0337
DE	-3818.241	-0.196819	0.8443
ROA	21030.22	-0.429050	0.6686
DUMMY	-764577.0	-0.925824	0.3562
	R ²	0.009501	
Adjuste	Adjusted R ²	-0.19847	
	Durbin-Watson stat	2.060483	
	F-Statistic	0.323726	

Source: Researcher's Calculation

The regression results are reported table 5.14 shows that the impact of merger on corporate performance based on EVA analysis. The co-efficient value -764577.0, and its t value is -0.925824, which is statistically insignificant. It indicates that M&A do not have a positive impact on firm performance. The value of R square is 0.01 and F ratio is 0.323726, which is statistically significant at 5% level. Thus, the analysis failed to reject the null hypothesis that there is no significant impact of merger based on EVA analysis. Hence, it can be concluded that there is no significant impact of M&A on corporate performance on the basis of the EVA analysis as the null hypothesis is failed to reject.

The study further analyses if there is any increase or decrease in each variable due to M&A.

V. Comparison of Mean Value between Before and After Merger

To know the actual changes happened on the variables due to merger, the study examines the changes and its significance in each variable of the merged entities before and after the merger. For this purpose, t-test is used. Variables selected for the t-test are ROW, ROCE, ROA, EVA, CR, QR, DE, DT, RT and IC. Results of the t-test exhibited in the table 5.15.

Table 5.15*Comparison of Mean Value between Before and After Merger*

Variable	Mean (Before M&A)	Mean (After M&A)	t-Stat	P-Value
ROW	8.709524	5.492952	0.853625	0.393802
ROCE	7.739381	4.753333	2.441349*	0.015046
ROA	4.960667	3.482095	2.228058*	0.026408
EVA	-820948	-854462	0.046679	0.962791
CR	1.43281	1.175619	2.242575*	0.025448
QR	0.939524	0.665857	2.821667**	0.005005
DE	2.026471	2.414079	-0.7697	0.441915
DT	11.82614	12.15081	-0.30152	0.763169
RT	9.140193	8.706316	0.532969	0.594339
IC	94.08012	62.33535	0.460815	0.645171

Source: Researcher's Calculations

*Significant at 5% and 10% level

**Significant at 1%, 5% and 10% level

The analysis reveals that all ratios except ROCE, ROA, CR, and QR show statistically insignificant results. The variables ROCE, ROA, CR and QR are significant as well as positive. Other variables like AROW, AEVA, ADE, ADT, ART, and AIC do not significantly change after the M&A. In short, only ADE and ADT (solvency and efficiency ratio) shows growth after the M&A. But all other variables do not have any improvement after the M&A. Thus, the study concludes that the above variables of the acquirer companies could not improve much due to the M&A (Merger only) with other companies (target). Here, the study considers three years (limited period) data and it may provide better results in the long term.

In the above analysis, the study analysed and discussed the acquirer companies' (merged entity) results that comes under the Merger deals only. Two kinds of analysis are done, one is Ordinary Least Square (OLS) regression, and another is the t-test. The regression analysis shows that none of the variables have produced statistically significant results. But ROW and ROCE provides almost better results for the analysis. Among the four regression analysis, ROW (adjusted

R^2 0.78) fit to explains the impact of M&A on corporate performance, but it does not give significant results. The t-test gives statistically positive significant results for AROW, AROA, ACR, and AQR. These results ensure that the profitability and liquidity of the firms in the merger deals have improved after the M&A (Rani, Yadav & Jain, 2015). It means a firms' ability to generate profit and increase the liquidity level does not have any statistical contribution to the corporate performance due to the M&A still; these variables exhibit better and hopeful performance. As the period of study focussed is only three-years (due to availability), in the long run, it may show an increase in the performance of companies. So the study can conclude that in the case of Merger, acquirer companies (merged entity), have weak performance after M&A but establishes a hopeful future. Even though, as a result of the t-test, in the case of acquirer (merged entity), profitability and liquidity indicators show hopeful performance after M&A.

5.2.2 Corporate Performance of Acquisition and Merger (Comparison)

The study analysed and briefly discussed the performance of the companies related to the M&A (both Acquisition and Merger). In case of the acquirer firm, the regression analysis (acquisition) provides strong support towards ROW and ROA. These results established corporate performance due to the M&A (Leepsa & Mishra, 2012). But in the case of Merger, the regression analysis does not have significant results due to M&A (Satapathy & Kaushik, 2015). Besides this analysis, in the case of acquisition, the paired t-test also provides both variables (ROW and ROA) that witnessed significant changes after the M&A. As such, in Merger case of the paired t-test gave that ROW, ROCE, CR, and QR also provided significant results. Thus these two cases (Acquisition and Merger) of the acquirer, regression analysis established contradict on results. But it also emphasises some drastic changes in the variables like profitability and liquidity indicators due to M&A. Especially profitability variables provided significant results in both cases. In case of target firm, the acquisition regression analysis states that the only ROW provides satisfied and significant results. The best model with the highest adjusted R^2 (0.78) is ROW

in merger, but it fails to report significant results. If considering the highest adjusted R^2 (0.42) analysis, it is ROW for the acquirer in acquisition with significant results. EVA analysis provided worst results to the corporate performance in both cases (merger and acquisition). Most of the firms' EVA (economic profit) could not give higher returns than shareholders' expectation (Kan & Ohno (2012), Yook (2004) & Kolar & H.T. Haanappel (2018)). The results provided by the paired t-test in acquisition does not give any supporting evidence to the changes after the M&A. But in the case of acquisition, target firms have progressive changes after the M&A. It means both cases (Acquisition and Merger), acquirer companies showed conflicting results. But target in case of acquisition expresses satisfactory in its performance. Thus, it can be concluded that, in both cases (Acquisition and Merger), acquirer companies' contribution to corporate performance is weak, but the target firm in case of acquisition also has given a worthy contribution towards corporate performance (Kostov, 2015).

Part B

5.3 Combined Entity Valuation

5.3.1 Introduction

After investigating the impact of corporate performance of the firms due to M&A, it is important to examine the changes in the value of the firms after completion of the event. In order to measure the value of entities after its M&A, the study selected the same variables which were used for the analysis of corporate performance in earlier section. For the purpose of analysis the acquirer and target firms' data were combined separately for before and after the event; and regressed with the OLS model. Hypotheses developed under the combined entity valuation is.

H_0 : There is no significance difference in the entity value after M&A.

H_1 : There are significance difference in the entity value after M&A.

The independent variables used for the analysis are Current ratio (CR), Debt to Equity Ratio (DE), Debtors Turnover Ratio (DT), and Raw Material Turnover Ratio (RT). The different analysis were used to check the impact of M&A on entity value, so the different variables are taken as dependent variables viz., Return on Assets (ROA), Return on Net worth (ROW), Return on Capital Employed (ROCE), and Economic Value Added (EVA). D is used as the Dummy variable (0 and 1 for Pre and Post M&A period respectively).

5.3.2 Combined Entity Valuation- Acquisition

The study considers 38 deals under the head acquisition. As explained in the methodology, the acquirer and target firms' data are combined without the separation of before or after affect. Under this analysis, four different analysis are analysed with the OLS method. The different regression analysis and its results are explained in the later sections.

5.3.2.1 Combined Entity Valuation- ROA (Return on Asset)

The study analyses the combined effect of acquisition on the entity value based on ROA. In this regression analysis, Return on Asset (ROA) is taken as the dependent variable, and all other variables are independent variables such as Current Ratio (CR), Debt to Equity Ratio (DE), Debtors Turnover Ratio, and Raw material Turnover Ratio (RT). Then, Dummy variable is used as the changes in the entity value after acquisition based on ROA analysis. These regression results are shown in the table 5.21.

Table 5.16*Combined Entity Valuation- ROA (Acquisition)*

Variables	Co-efficient (β)	t-Statistic	Prob.
C	-0.159248	-0.112029	0.9111
CR	1.094790	2.036114	0.0458
DE	-0.066636	-0.688816	0.4934
DT	0.050724	1.350049	0.1816
RT	0.252405	2.821632	0.0063
DUMMY	1.077445	1.743262*	0.0432
	R ²	0.278248	
	Adjusted R ²	0.223569	
	Durbin-Watson stat	2.404382	
	F-Statistic	5.088823	

Source: Researcher's Calculation

*Significant at 1% level

The regression results are reported table 5.21 shows that the impact on entity value after acquisition based on ROA analysis. The co-efficient value is 1.077445, and its t value is 1.743262, which is statistically significant at 1% level. It indicates that entity value has significant change after acquisition. The value of R square is 0.28 and F ratio is 5.088823, which is statistically significant at 5% level. Thus, the analysis failed to accept the null hypothesis that there is no significant change in the entity value after acquisition based on ROA. Hence, it can sum up that as a result of acquisition the companies' ability to generate profits from their assets is improved and the combined entity effect contributes to the entity value. The study further analyses the impact of acquisition on entity value based on ROCE (Return on Capital Employed) which is explained in the next part.

5.3.2.2 Combined Entity Valuation- Return on Capital Employed (ROCE)

In this part, the study analyses and explains the combined effect of the entity value on the basis of Return on Capital employed. In this regression analysis, ROCE is taken as the dependent variable, and all other variables are independent variables

such as Current Ratio (CR), Debt to Equity Ratio (DE), Debtors Turnover Ratio (DT), and Raw material Turnover Ratio (RT). Then, Dummy variable is used as the changes in the entity value after acquisition based on ROCE analysis. The regression results are shown in the table 5.22.

Table 5.17

Combined Entity Valuation- ROCE (Acquisition)

Variables	Co-efficient (β)	t-Statistic	Prob.
C	0.638357	0.283779	0.7775
CR	0.961325	1.299357	0.1983
DE	-0.021665	-0.165016	0.8674
DT	0.048525	0.826938	0.4113
RT	0.360019	2.301846	0.0245
DUMMY	-0.991205	-0.903538	0.3695
	R ²	0.181801	
	Adjusted R ²	0.119817	
	Durbin-Watson stat	2.296889	
	F-Statistic	2.933004	

Source: Researcher's Calculation

The table 5.22 presents the regression results that impact on entity value after acquisition based on ROCE analysis. The co-efficient value is -0.991205, and its t value is -0.903538 which is negative and statistically insignificant. It indicates that entity value does not have a significant changes after acquisition. The value of R square is 0.18 and F ratio is 2.933004, which is statistically significant at 5% level. Thus, the analysis failed to reject the null hypothesis that there is no significant change in entity value after M&A based on ROCE. The results of the study provide the conclusion that firms' ability to generate profits from its capital does not contribute to the entity value. Then the study analyses the impact of M&A based on ROW (Return on Net Worth) which is explained in the next part.

5.3.2.3 Combined Entity Valuation- ROW (Return on Net Worth)

The study also analyses and explains the combined effect on the entity value on the basis of Return on Net Worth. This part analyses the perspective of investors also, here the actual profits generated by companies on the absolute strength of its shareholders' equity and, as a result of the M&A, another enquiry is whether ROW plays an important role in the entity value after M&A. In this regression analysis, ROW is taken as the dependent variables, and all other variables are independent variables such as Current Ratio (CR), Debt to Equity Ratio (DE), Debtors Turnover Ratio (DT), and Raw material Turnover Ratio (RT). Then, Dummy variable is used as the changes in the entity value after acquisition based on ROW analysis. These regression results are shown in the table 5.23.

Table 5.18

Combined Entity Valuation – ROW (Acquisition)

Variables	Co-efficient (β)	t-Statistic	Prob.
C	3.068437	0.785803	0.4348
CR	1.048948	1.132889	0.2614
DE	-0.148202	-0.795258	0.4293
DT	0.078040	0.636509	0.5266
RT	0.582699	3.069614	0.0031
DUMMY	-2.408136	-1.286720	0.2027
	R ²	0.209237	
	Adjusted R ²	0.149331	
	Durbin-Watson stat	2.297839	
	F-Statistic	3.492747	

Source: Researcher's Calculation

The table 5.23 reported that the regression results that impact on entity value after acquisition based on ROW analysis. The co-efficient value is -2.408136, and its t value is -1.286720 which is negative and statistically insignificant. It indicates that entity value does not have a significant changes after acquisition. The value of R square is 0.21 and F ratio is 2.297839, which is statistically significant at 5%

level. Thus, the analysis failed to reject the null hypothesis that there is no significant changes in entity value after M&A based on ROW analysis. Therefore the study based on ROW concluded that the actual profits generated by companies on the absolute strength of its shareholders' equity do not contribute to the entity value as a result of M&A. Then study further analyses the impact of M&A on the basis of EVA (Economic Value Added) which is explained in the next part.

5.3.2.4 Combined Entity Valuation- EVA (Economic Value Added)

The combined effect of the entity value on the basis of Economic Value Added (EVA) is examined by taking Economic Value Added as the dependent variable, and all other variables are independent variables such as Current Ratio (CR), Debt to Equity Ratio (DE), Debtors Turnover Ratio (DT), and Raw material Turnover Ratio (RT). ROA (Return on Assets) is used as a control variable for the regression analysis. Then, Dummy variable is used as the changes in the entity value after acquisition based on EVA analysis. These regression results are provided in the table 5.24.

Table 5.19

Combined Entity Valuation- EVA (Acquisition)

Variables	Co-efficient (β)	t-Statistic	Prob.
C	-154356.5	-1.051849	0.2968
CR	191.715	0.003591	0.9971
DE	1323.46	0.700022	0.4864
DT	1332.279	0.271062	0.7872
RT	-16371.58	-1.768411	0.0817
ROA	22746.81	1.416789	0.1613
DUMMY	-22057.23	-0.235685	0.8144
R ²		0.059716	
Adjusted R ²		-0.027080	
Durbin-Watson stat		1.651658	
F-Statistic		0.688002	

Source: Researcher's Calculations

The table 5.24 reported that the regression results the impact on entity value after acquisition based on EVA analysis. The co-efficient value is -22057.23, and its t value is -0.235685 which is negative and statistically insignificant. It indicates that entity value does not have a significant changes after acquisition. The value of R square is 0.60 and F ratio is 0.688002, which is statistically significant at 5% level. Thus, the analysis failed to reject the null hypothesis that there is no significant changes in entity value after M&A based on EVA (Economic Value Added) analysis. The study concludes that the economic profit of a company does not make any contribution to the changes in entity value as a result of M&A.

Examination of the effect of M&A on combined entity value reveals that there is a significant increase on combined entity value. Here the study combines the acquirer and target values into a single one without the separation before or after the M&A. It found that only ROA (Return on Assets) analysis (table 5.20) explains significant results about the combined effect's contribution to the entity value. In the case of ROW (Return on Net Worth), it gave much better results about the contribution to the entity value after M&A. It explains almost near value towards the significant results. So the study concludes that the only profit-generated from the assets of companies' might contribute to the entity's value as a result of M&A.

5.3.3 Combined Entity Valuation- Merger

Similar to the analyses of corporate performance in part 1 above, the study considered 70 deals for analysis under the head merger. For the analysis, data of the acquirer and target data prior to the M&A are combined and compared with the data of merged entity post the M&A. Under this analysis, four different analysis regressed with the OLS method.

- Combined effect on the entity value based on ROA
- Combined effect on the entity value based on ROACE
- Combined effect on the entity value based on ROW
- Combined effect on the entity value based on EVA

5.3.3.1 Combined Entity Valuation- ROA (Return on Asset)

The study analyses the combined effect of the entity value based on ROA. In this regression analysis, Return on Assets (ROA) is taken as the dependent variable, and all other variables are independent variables such as the Current Ratio (CR), Debt to Equity Ratio (DE), Debtors Turnover Ratio, and Raw material Turnover Ratio (RT). Then, Dummy variable is used as the changes in the entity value after merger based on ROA analysis. The regression results are shown in the table 5.25.

Table 5.20

Combined Entity Valuation- ROA (Merger)

Variables	Co-efficient (β)	t-Statistic	Prob.
C	-1.597005	-1.144453	0.2545
CR	1.449287	1.814014	0.0719
DE	0.001356	0.0012448	0.9901
DT	0.199619	3.447980	0.0008
RT	-0.043297	-0.475819	0.6350
DUMMY	1.564058	1.706330*	0.0903
	R^2	0.165005	
	Adjusted R^2	0.133849	
	Durbin-Watson stat	2.211748	
	F-Statistic	5.296012	

Source: Researcher's Calculation

*Significant at 10% level

From the regression results reported in table 5.25 shows that the impact on entity value after merger based on ROA analysis. The co-efficient value is 1.564058, and its t value is 1.706330, which is statistically significant at 10% level. It indicates there is a positive impact on entity value after merger. The value of R square is 0.17 and F ratio is 5.296012, which is statistically significant at 5% level. Thus, the analysis failed to accept the null hypothesis that there is no significant change in the entity value after merger based on ROA. The study concluded that as a result of M&A companies' ability to generate profits from their assets would be strong and this combined effect contribute to the entity value. The study further analyses the

combined entity valuation on the basis of ROCE (Return on Capital Employed) explained in the coming section.

5.3.3.2 Combined Entity Valuation- ROCE (Return on Capital Employed)

In this section, the study analyses and explains the combined effect of the entity value on the basis of Return on Capital employed. It means the study examines as a result of M&A whether the effect of entity value that depends on the companies' ability to generate the profits from its capital has changed or not. In this regression analysis, ROCE is taken as the dependent variable, and all other variables are independent variables such as Current Ratio (CR), Debt to Equity Ratio (DE), Debtors Turnover Ratio (DT), and Raw material Turnover Ratio (RT). Then, Dummy variable is used as the changes in the entity value after merger based on ROCE analysis. The regression results are shown in the table 5.26.

Table 5.21

Combined Entity Valuation- ROCE (Merger)

Variables	Co-efficient (β)	t-Statistic	Prob.
C	-1.047855	-0.609553	0.5432
CR	1.436264	1.465492	0.1451
DE	0.207248	1.331657	0.1852
DT	0.256872	3.269346	0.0014
RT	-0.18681	-1.030009	0.3049
DUMMY	3.462027	2.529427*	0.0126
	R ²	0.164053	
	Adjusted R ²	0.132861	
	Durbin-Watson stat	2.101830	
	F-Statistic	5.259437	

Source: Researcher's Calculation

*Significant at 1%, 5% and 10% level

The table 5.26 shows that analysis results of regression analysis that an impact on entity value after merger based on ROCE analysis. The co-efficient value is 3.462027, and its t value is 2.529427, which is statistically significant at 1%, 5% and 10% level. It indicates that there is a positive impact on entity value after merger based on ROCE. The value of R square is 0.16 and F ratio is 5.259437, which is statistically significant at 5% level. Thus, the analysis failed to accept the null hypothesis that there is no significant change in the entity value after merger based on ROA. Based on the study results, it concludes that firms' ability to generate profits from its capital and its combined effect contributes to the entity value as a result of M&A. The study needs to analyse the impact of M&A on the basis of ROW (Return on Net worth) which is explained in the next section.

5.3.3.3 Combined Entity Valuation- ROW (Return on Net Worth)

Investigating the return on net worth aids in knowing the perspective of investors also; as it considers the actual profits generated by companies on the absolute strength of its shareholders' equity. In this regression analysis, ROW is taken as the dependent variables, and all other variables are independent variables such as Current Ratio (CR), Debt to Equity Ratio (DE), Debtors Turnover Ratio (DT), and Raw material Turnover Ratio (RT). Then, Dummy variable is used as the changes in the entity value after merger based on ROW analysis. These regression results are shown in the table 5.27.

Table 5.22*Combined Entity Valuation- ROW (Merger)*

Variables	Co-efficient (β)	t-Statistic	Prob.
C	2.741079	1.075335	0.2842
CR	0.671843	0.0714001	0.4765
DE	0.066862	0.391412	0.6961
DT	0.326161	2.878601	0.0054
RT	-0.117789	-0.771994	0.4415
DUMMY	2.610487	1.534023	0.1274
	R ²	0.115036	
	Adjusted R ²	0.082015	
	Durbin-Watson stat	2.049690	
	F-Statistic	3.483731	

Source: Researcher's Calculation

The table 5.27 indicates the analysis results of regression analysis that an impact on entity value after merger based on ROW analysis. The co-efficient value is 2.610487, and its t value is 1.534023, which is statistically insignificant. It indicates that there is no impact on entity value after merger based on ROW merger even it is positive. The value of R square is 0.11 and F ratio is 3.483731, which is statistically significant at 5% level. Thus, the analysis failed to accept the null hypothesis that there is no significant change in the entity value after merger based on ROW analysis. Therefore, the study based on ROW concluded that the actual profits generated by companies on the absolute strength of its shareholders' equity do not contribute to the entity value as a result of M&A. The study analyses the impact of M&A based on EVA (Economic Value Added) which is explained in the next part.

5.3.3.4 Combined Entity Valuation-EVA (Economic Value Added)

The study analyses and explains the entity value's combined effect based on Economic Value Added (EVA). As a result of M&A, firms can generate economic profit or value, which may lead to changes in entity value. In this regression analysis, EVA (Economic Value Added) taken as the dependent variable, and all other variables are independent variables such as Current Ratio (CR), Debt to Equity Ratio (DE), Debtors Turnover Ratio (DT), and Raw material Turnover Ratio (RT). ROA (Return on Assets) was used as a control variable for this regression analysis. Then, Dummy variable is used as the changes in the entity value after merger based on EVA analysis. The regression results are shown in the table 5.28.

Table 5.23

Combined Entity Valuation- EVA (Merger)

Variables	Co-efficient (β)	t-Statistic	Prob.
C	311779.9	0.673081	0.5021
CR	6319.375	0.077305	0.9385
DE	13253.48	0.808657	0.4202
DT	-80356.44	-1.301311	0.1954
RT	11444.22	0.659454	0.5107
ROA	55045.05	0.877047	0.33821
DUMMY	-739458.8	-1.014766	0.3121
R ²		0.030829	
Adjusted R ²		-0.012893	
Durbin-Watson stat		2.062321	
F-Statistic		0.705116	

Source: Researcher's Calculations

The table 5.28 illustrates the analysis results of regression analysis that an impact on entity value after merger based on EVA analysis. The co-efficient value is -739458.8, and its t value is -1.014766, which is statistically insignificant. It

indicates that there is no positive impact on entity value after merger based on EVA. The value of R square is 0.03 and F ratio is 0.705116, which is statistically significant at 5% level. Thus, the analysis failed to reject the null hypothesis that there is no significant change in the entity value after merger based on EVA analysis. The study concluded that the economic profit of a company does not make any contribution to the change in entity value as a result of M&A.

The study analyses the combined effect on the entity value after the M&A. Here the study combines the acquirer and target values into a single one without the separation before or after the M&A. It found that ROA (Return on Assets) and Return on Capital employed (ROCE) analysis (table 5.24 and 5.25) explain significant results about the contribution of combined effect into the entity value. In the case of ROW (Return on Net Worth), it gives much better results about the contribution to the entity value after M&A. It explains almost near value to the significant results. So the study concludes that the profit-generated from the assets of companies, and the capital base are contributing to the entity value as result of M&A.

5.3.4 Comparison between the Results of Acquisition and Merger

Under the head acquisitions and mergers, study evaluates 108 deals, 70 for mergers and 38 for acquisitions. Most important objective of this part is to examine the combined effect of M&A on the entity value. The study considered four regression model for the analysis. Among the analysis, ROA in the acquisition (adjusted R² 0.22) and ROA and ROCE in the merger (adjusted R² 0.13 and 0.13) shows better performance. In both cases, ROA found a better analysis to give good results. In the acquisition, ROA only gave significant results, but in merger, ROA and ROCE provided significant results about the combined effect contribution to the entity value as a result of M&A. Thus ROA analysis explains significant results in both acquisition and merger. Based on significant test (almost near to significant value) in both cases, ROW (Return on Net Worth) exhibits strong and acceptable

performance. So it can conclude that the profit-generated from the assets of companies and the capital base contributes to the entity value as a result of M&A especially based on the assets. Same as in the corporate performance the EVA analysis used to test the combined valuation also provided worst results to the corporate performance in both cases (merger and acquisition). Most of the firms' EVA (economic profit) could not give higher returns than shareholders' expectation (Kan & Ohno (2012), Yook (2004) & Kolar & H.T. Haanappel (2018)).

5.3.5 Conclusion

In this chapter, the study is divided into two parts. The first one dealt with corporate performance after M&A. The second one dealt with combined entity valuation. Both parts are classified into the acquisition and merger heads. Both these heads followed 38 deals and 70 deals, respectively. In order to do this regression analysis, the study followed the OLS analysis. Only in corporate performance, acquisition and merger were focussed in the study as they were only the easily available subheads acquirer and target firms separately whereas in mergers, acquirer alone. In the acquisition process, the acquirer gives ROW and ROA significant results, but there are no significant results given by any analysis in the merger. Target firms in acquisition, ROW analysis explains the contribution towards corporate performance after M&A. Apart from this analysis, the study checks whether there are any changes in the selected variables after M&A. In order to do this analysis, t-test is used. In the acquisition, acquirer firms' profitability ratio like ROW and ROA shows better performance, but the merger firms' profitability and liquidity ratios state strong results. While considering the target firms changes in the acquisition, it did not provide any significant results. ROW analysis had given the highest adjusted R^2 (0.43) value with significant acquirer results in the acquisition.

When the performance of acquirer and target firms post the acquisition and merger deals are considered, the performance of both acquirer firms and target firms showed good results. Then analysing the combined effect of M&A on entity value,

acquisition firms support the ROA analysis provided significant result. But in merger, firms supported ROA and ROCE analysis significant result. The ROA is considered a better analysis in the acquisition and merger analysis with adjusted R^2 0.22 and 0.13, respectively. It concludes that both cases (acquisition and merger) explain the asset based and capital based analysis that provides evidence to the combined effects of M&A on entity value. The study is required to analyse the different kinds of M&A motives viz., synergy, agency, and hubris. Among these motives, which one is considered as the primary motives among the sample is a question further addressed in the study. If it is synergy motives, the study is required to evaluate whether it is earned by M&A or which type of synergy exists. These are discussed in Chapter Six.

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CHAPTER 6

VALUATION OF MERGER AND ACQUISITIONS' MOTIVES AND SYNERGY

6.1 Introduction

Corporate performance and its combined valuation effect on entity value is quite significant and of most relevant in understanding the impact of M&A i.e., success or failure. In the last chapter these are discussed in a detailed manner. This chapter presents the M&A motives, and the synergy benefits of consolidation between acquirer and target companies. Thus, this chapter is divided into two parts, as:

- Part A- Valuation of Motives for M&A and its Impact on Shareholders' Wealth, and
- Part B- Valuation of Synergy.

Part A:

6.2 Valuation of Motives for M&A

For analysing the motives and its impact, the study devised two regression analysis: target gain and total gain (panel A), and target gain and acquirer gain (panel B). Various hypotheses formulated for the analysis are given below:

H_0 : Synergy is not the primary motive of M&A.

H_0 : Agency is not the primary motive of M&A.

H_0 : Target and acquirer gains are not negatively correlated in the subsample of negative total gains.

H_0 : Target and acquirer gains are not positively correlated in the subsample of positive total gains.

The literature suggests there are different motives behind M&A activities. Among these motives, three motives are said to be relevant to the M&A, or all motives can be subsumed into these three motives. These are: (a) Synergy motive or theory (value increasing concept), (b) Agency motive or theory and (c) Hubris motive or theory (both values decreasing concept). Synergy motives are economic gain earned by the company through M&A. When the management focus on the well-being of managers at the expense of the firms, then the motive will be agency. Hubris is slightly different from all this; it is the mistake of overconfidence in the valuation or estimation of target firms done by managers when there is no synergy by the M&A (Berkovitch and Narayan, 1993).

The three motives mentioned above will exist in any M&As simultaneously, but it is difficult and risky to differentiate them. In order to identify these motives the gains of acquirer firms have to be analysed. Thus, the total gain, acquirer gain and target gain is analysed and event study is carried out. The econometric OLS regression method is used to analyse the correlation between Target gain and Total gain, Target gain and Acquirer gain with positive and negative subsamples (see Methodology part in Chapter One). Here 87 deals (72 Acquirer and 94 Target firms) are taken for the analysis; other deals were avoided due to non-availability of data.

6.2.1 Motives in M&A

The Table 6.1 presents the results of the regression in two categories viz. Panel A and B. It shows the results in three sets, like the entire sample, positive subsample of total gain and negative sub-sample of total gain.

Table 6.1*Relation between Total Gain with Target Gain and Acquirer Gain*

Categories	Samples	A	B	R ²
Panel A (Regression between Target Gain and Total Gain)	Total Sample	19571.56 (1.890254)	0.487052 (9.477456)*	0.514
	Positive Total Gain	-14223.88 (-1.155492)	0.810737 (13.92247)*	0.804
	Negative Total Gain	-3498.204 (-1.204002)	0.004132 (0.267275)	0.002
Panel B (Regression between Target Gain and Acquirer Gain)	Total Sample	25441.57 (1.709502)	0.51985 (0.493242)	0.003
	Positive Total Gain	47676.65 (1.740921)	-0.030404 (-0.101915)	0.0002
	Negative Total Gain	-4110.034 (-1.425810)	-0.004489 (-0.290441)	0.002

Source: Researcher calculations

t- value shown in brackets

*Significant results

Here the study explains the motives with two categories viz. Panel A and B. Panel A means the regression between target gain and total gain (Target gain = $\alpha + \beta$ Total gain). This Panel shows the entire sample along with positive and negative total gain. From the table 6.1 it can see that the total sample correlation between target gain and total gain is positive and significant, the β estimate is 0.487052 (9.477456). It supports the synergy hypothesis for the positive and negative subsample β estimates which are 0.810737 (13.92247) and 0.004132 (0.267275), respectively. Estimates of positive subsample are significant but others are not. These results support the hypothesis that synergy is the primary motive for M&A in both the positive and negative total gain subsample.

Panel B exhibits the results of regression between target gain and acquirer gain. It explains the results with the total sample and the positive and negative subsamples. In the total sample, β estimate provides positive results of 0.51985 (0.493242) but not significantly different from zero. These positive values emphasize the importance of synergy motives. In other cases, positive and negative

subsamples provide negative results -0.030404 (-0.101915) and -0.004489 (-0.290441), respectively. Both these cases results are of little importance. The correlation analysis between target and acquirer gain shows the presence of synergy and subsamples, therefore results highlight the chance of hubris and agency motives even though the results are not significant.

In Panel A, Intercept α for the positive subsamples and negative subsamples also shows insignificant results. These results are indicating the presence of synergy, not agency and hubris. In Panel B also, Intercept α for the positive subsamples and negative subsamples shows insignificant results, which is pointing out the presence of hubris in the positive subsamples and agency hypothesis in the negative subsamples. It also indicate that hubris exists in positive subsamples when synergy is the primary motive whereas the negative subsamples show only the agency motives and not hubris. Table 6.2 summarises the result of regression analysis conducted to examine the motives of M&A.

Table 6.2

Summary of Regression Results of M&A Motives

Motives	Presents	Regression between Target Gain and Total Gain	Regression between Target Gain and Acquirer Gain
Synergy	Exist	Positive	Positive
Hubris	Exist	Zero	Negative
Agency	Exist	Negative	Negative

Source: Researchers Calculations

To sum up, synergy is the primary or major motive in all M&A in the Indian manufacturing sector. The results prove strong evidence for hypotheses formulated. From the observation it is noted that, 51.4 % of the cases show positive returns to the acquirer firm, while 65.5% of the target firms got positive returns from the M&A. Regression between target gain and total gain as well as target gain and acquirer gain, also provide positive results. In the subsamples of the positive and negative total gain in Panel A, regression also support the synergy hypothesis. Whereas in the case of subsamples of the positive and negative total gain in the

Panel B regression, both of them provide negative results; they provide a chance for the samples' hubris and agency motives (Berkovitch & Narayan, 1993). Hence, the study concludes that synergy is the prime motive for majority of M&A, hubris is the motive for few M&A, while the results supporting the agency hypothesis is least. The examination of total gain revealed that, 56.3% of the cases obtain positive gain. It means more than half of the M&A are motivated by synergy and rest by the agency and hubris. Therefore, the study concludes that the majority of the firm preferred synergy as the primary motive (Berkovitch & Narayan, 1993). Suppose synergy is the firms' primary motive, what kind of firms gained the actual benefits of synergy, and what type of synergy firms attain is an important question. Therefore, the study attempts to find out the synergy performance of the firms after the M&A, which is detailed in Part II.

Part B

6.3 Valuation of Synergy- Introduction

The regression analysis point out the relevance of synergy motives in M&As occurred in the manufacturing sector. Therefore, the study attempts to further investigate to the type of synergy motive in M&A. The study examines what kind of synergy is established by the companies i.e., financial synergy and operating synergy.

Are there any kind of synergy found in acquirer and target firms? To attain a realistic and clear picture of the synergy derived from and enjoyed by the M&A a detailed analysis is carried out. Thus, this part is again divided into two:

- I. Synergy valuation of acquisition deals
 - a. Financial Synergy
 - b. Operating Synergy
- II. Synergy valuation of merger deals
 - a. Financial Synergy

b. Operating Synergy

Enterprise Value Multiple (EVM), financial leverage (FL), operating leverage (OL), the overall cost of capital (k_0), Tax amount (TA), sales (SL), Net Profit Margin (NPM) are used to evaluate the synergy. EVM is used as the dependent variable, and others were used as independent variables. The study used Ordinary Least Square (OLS) method of regression analysis under econometric analysis. The analysis made use of the variable D (Dummy) to control the impact of years, i.e., 0 for Pre-merger and 1 for Post-merger period and prevented the problem of heteroskedasticity, the study used white standard error for the estimation of the coefficient. The hypotheses formulated are:

H_0 : There is no operating synergy for the M&A transaction

H_0 : There is no financial synergy for the M&A transaction.

6.3.1 Synergy valuation of Acquisition deals

A total of 38 companies which undergone acquisition are taken for the analysis. Both financial synergy and operating synergy are analysed and the results are given under respective sub headings.

6.3.1.1 Financial synergy

Synergy due to the combining of financial resources through acquisition/merger is referred as Financial Synergy. In order to evaluate this multiplication effect the study used the variables are Enterprise Value Multiple (EVM), financial leverage (FL), the overall cost of capital (KO), Tax amount (TA) and Dummy (D); and the financial synergy of both acquirer and target firms are separately studied. The results are explained below.

A. Acquirer firms

Table 6.3 illustrates the results of regression on the part of acquirer firms. R square and F ratio indicate that the results are fit to interpret.

Table 6.3*Financial Synergy- Acquirer (Acquisition)*

Variables	Co-efficient (β)	t-Statistic	Prob.
C	9.283764	11.24374	0.0000
AFL	0.091015	0.102297	0.9188
AKO	-0.197364	-0.716839	0.4760
ATA	-2.98005	-0.544775	0.5877
DUMMY	2.476938	2.205436*	0.0309
	R ²	0.093120	
	Adjusted R ²	0.038977	
	Durbin-Watson Stat	1.850411	
	F-Statistic	1.719911	

Source: Researchers Calculation

*Significant at 5% and 1% level

The coefficient of determination is 0.09 which explains the power of the relationship between dependent and independent variables. The dummy variable's co-efficient value shows a 2.476938 positive value, and its corresponding t value is 2.205436. It is statistically significant value at 5 % and 1% level. It indicates that the study does not accept the null hypothesis; there is no financial synergy motive for the M&A transaction. Hence, the study concludes that synergy enjoyed with financial resources due to M&A in the case of acquirer firms is strong and good. Furthermore, the study analyses to know the target firms' status in case of financial synergy.

B. Target firms

The results of regression carried out is shown in the Table 6.4.

Table 6.4*Financial Synergy- Target (Acquisition)*

Variables	Co-efficient (β)	t-Statistic	Prob.
C	28.66190	3.902153	0.0002
TFL	0.454219	1.153261	0.2529
TKO	-0.859015	-1.94867	0.0555
TTA	-0.001786	-1.733230	0.0877
DUMMY	-0.858715	-0.150477	0.8808
	R ²	0.061391	
	Adjusted R ²	0.005355	
	Durbin-Watson Stat	1.898925	
	F-Statistic	1.095557	

Source: Researchers Calculation

The above table presents the regression results of financial synergy on the part of target firms. R square and F ratio indicates that the results are fit to interpret. The coefficient of determination is 0.06 which explains the power of the relationship between dependent and independent variables. The dummy variable's co-efficient value shows -0.858715 negative value, and its corresponding t value is -0.150477. It does not give statistically significant results. It indicates that the study accepted null hypothesis that there is no financial synergy for the M&A transaction. The study concludes that the target firms do not have any synergy enjoyed with financial resources due to M&A. Further, the study attempts to know the acquirer and target firms' status in case of operating synergy, which is explained in the next section.

6.3.1.2 Operating synergy

This kind of synergy arises due to the consolidation of different operational activities of the organisations during the M&A. In order to evaluate the multiplication effect of operating synergy, the study used the variables mentioned earlier i.e., Enterprise Value Multiple (EVM), Operating Leverage (OL), Sales (SL), Net Profit Margin (NPM) and Dummy (D). The use of EVM in a dependent variable, and others independent variables is clearly described. Zero (0) denotes pre-

period and one (1) denotes post-merger periods. The operating synergy of both acquirer and target firms are separately studied and the results are explained below.

A. Acquirer firms

Table 6.5 exhibits the regression results.

Table 6.5

Operating Synergy- Acquirer (Acquisition)

Variables	Co-efficient (β)	t-Statistic	Prob.
C	12.55848	9.920396	0.0000
AOL	-0.804798	-2.644573	0.0102
ASL	-3.32E-06	-0.711082	0.4795
ANPM	-0.253123	-1.930817	0.0577
DUMMY	3.223243	2.180202*	0.0328
	R ²	0.216447	
	Adjusted R ²	0.169667	
	Durbin-Watson stat	1.945118	
	F-Statistic	4.626978	

Source: Researchers Calculation

*Significant at 5% and 1% level

Table 6.5 shows regression results of operating synergy on the part of acquirer firms. R square and F ratio indicate that the results are fit to interpret. The coefficient of determination is 0.22 which explains the power of the relationship between dependent and independent variables. The dummy variable's co-efficient value shows 3.223243 positive values, and its corresponding t value is 2.180202. It is statistically significant at 5 % and 1% level. It indicates that the study does not accept null hypothesis; there is no operating synergy motive for the M&A transaction and concludes that synergy enjoyed with operational resources due to M&A in case of acquirer firms are strong and good. The study further proposes to know the target firms' status in case of operating synergy. The next section also explains the same condition.

B. Target firms

The results of the analysis are given in the Table 6.6 below.

Table 6.6

Operating Synergy- Target (Acquisition)

Variables	Co-efficient (β)	t-Statistic	Prob.
C	28.64936	4.416774	0.0000
TOL	0.558651	.725346	0.4708
TSL	-0.001349	-1.206330	0.2319
TNPM	-0.470742	-1.176014	0.2438
DUMMY	1.404877	0.253091	0.8010
	R ²	0.093520	
	Adjusted R ²	0.039402	
	Durbin-Watson stat	1.850291	
	F-Statistic	1.728079	

Source: Researchers Calculation

The Table 6.6 shows the regression results of financial synergy on the part of acquirer firms. R square and F ratio indicates that the results are fit to interpret. The coefficient of determination is 0.09 which explains the power of the relationship between dependent and independent variables. The coefficient of the dummy variable shows 1.404877 positive value, and its corresponding t value is 0.253091. It does not give statistically significant result. It indicates that the study accepted the null hypothesis that there is no operating synergy for the M&A transaction. Hence, the study concludes that the target firms do not have any synergy enjoyed with operational resources due to M&A.

Thus, it can be concluded that the acquirer firms attained the financial as well as operating synergy due to acquisition, while the target firms could not attain both financial as well as operating synergy.

6.3.2 Value of Synergy-Merger

To analyse the synergy attained through merger 70 merger deals are analysed. Both financial and operating synergy is studied and explained below.

6.3.2.1 Financial synergy

In order to evaluate the financial synergy, the variables like Acquirer Enterprise Value Multiple (AEVM), Acquirer financial leverage (AFL), Acquirer overall cost of capital (AKO), Acquirer Tax amount (ATA), and Dummy (D) are used. The results are shown in the Table 6.7.

Table 6.7

Financial Synergy- Acquirer (Merger)

Variables	Co-efficient (β)	t-Statistic	Prob.
C	10.57524	10.28978	0.0000
AFL	0.134459	0.393629	0.6945
AKO	0.203656	0.474992	0.6355
ATA	-1.56E-05	-1.59429	0.1120
DUMMY	2.79322	1.663077*	0.0986
	R ²	0.034201	
	Adjusted R ²	0.006003	
	Durbin-Watson stat	1.470235	
	F-Statistic	1.212874	

Source: Researchers Calculation

*Significant at 1% level

R square and F ratio indicates that the results are fit to interpret. The coefficient of determination is 0.03 which explains the power of the relationship between dependent and independent variables. The dummy variable's co-efficient value shows 2.79322 positive value, and its corresponding t value is 1.663077. It is statistically significant with value at 1% level. It indicates that the study does not accept the null hypothesis; there is no financial synergy motive for the M&A transaction. Hence, the study concludes that the synergy enjoyed with financial

resources due to M&A in case of acquirer firms are strong and good. The study requires to know the acquirer firms' status in case of operating synergy in merger deals. This is evident in the next section.

6.3.2.2 Operating synergy

Operating synergy is measured with the same variables stated earlier sections merger period. The study results are shown in the table 6.9.

Table 6.8

Operating Synergy- Acquirer (Merger)

Variables	Co-efficient (β)	t-Statistic	Prob.
C	11.29075	7.022657	0.0000
AOL	0.015562	0.443263	0.6583
ASL	-2.42E-06	-3.334449	0.0011
ANPM	0.071795	0.384652	0.7011
DUMMY	3.005327	1.273198	0.2051
	R ²	0.027215	
	Adjusted R ²	-0.001187	
	Durbin-Watson stat	1.376427	
	F-Statistic	0.958203	

Source: Researcher Calculation

R square and F ratio show that the results are fit to interpret. The coefficient of determination is 0.03 which explains the power of the relationship between dependent and independent variables. The coefficient of the dummy variable shows a 3.005327 positive value, and its corresponding t value is 1.273198. It is statistically not significant. But t value is near to the significant level. It signifies that the study accepted the null hypothesis that there is no operating synergy motive for the M&A transaction. Hence, the study concludes that the synergy enjoyed with operational resources due to M&A in the case of acquirer firms is not good. But the firms enjoyed the synergy more or less in a better level.

To conclude the firms in the merger attained the financial synergy but not operating synergy.

6.4 Discussion

This chapter analysed the important objectives of this study in two parts 1) M&A motives and its impact and 2) valuation of synergy.

(i) M&A Motives

This part focussed on M&A motives like synergy, agency and hubris hypothesis. For this analysis, study considered all samples and calculated total gain, acquirer gain and target gain with the help Cumulative Abnormal Return (CAR). Under different panel i.e. A&B ran the regression analysis and found the relationship between total gain and target gain as well as target gain and acquirer gain. On the base of analysis results concluded that synergy is the primary motive in all M&A in the Indian manufacturing sector. The results prove strong evidence for hypotheses formulated. From the observation, it is further noted that, 51.4 % of the cases show positive returns to the acquirer firm, while 65.5% of the target firms got positive returns from the M&A transactions. Both Hubris and agency hypothesis can be seen as the motive only for few M&A transactions. The examination of total gain revealed that, 56.3% of the cases obtain positive gain. It means more than half of the M&A transactions are motivated by synergy and rest by the agency and hubris hypothesis. Therefore, the study concludes that the majority of the firm preferred synergy as the primary motive and these results are similar to the study like (Berkovitch & Narayan, (1993) and Churyk (2005)).

(ii) Valuation of synergy

This discussed about the regression analysis and it point out the relevance of synergy motives in M&As occurred in the manufacturing sector. The study examines what kind of synergy is established by the companies i.e., financial synergy and operating synergy under the head acquisition and merger. The acquirer companies attained financial synergy as well as operating synergy through acquisition whereas the target companies failed to attain any. In the case of mergers

the new merger entities achieved financial synergy. According to best of researcher knowledge, this is the first study analysed the financial synergy and operating synergy by using regression analysis.

6.5 Conclusion

In this chapter the study examined the motives of M&A and synergy. The first part studied the M&A motives and found that synergy is the primary motive for M&A than hubris and agency motives. At the same time the motive for hubris and agency cannot be ignored completely, which exists in a few cases. The study further examined which kinds of firms gained the actual benefit of synergy and what type of synergy the firms attained. It revealed that the acquirer companies attained financial synergy as well as operating synergy through acquisition whereas the target companies failed to attain any. In the case of mergers the new merger entities achieved financial synergy.

Therefore, the study concludes that synergy is the prime motive of M&A than agency and hubris; and the acquirer firms can gain synergy through M&A, especially the financial synergy.

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CHAPTER 7

SUMMARY, FINDINGS AND CONCLUSIONS

7.1 Introduction

This chapter presents a summary of the whole study. It describes the summary of research and findings. It also attempts to bring out conclusions of the study.

7.2 Summary of Research

The study considered the impact of M&A events on shareholders' wealth and corporate performance. It selected M&A deals in India which is occurred between 2003 and 2015 in the manufacturing sector. The consolidation of firms has an inevitable role in the competitive corporate world. M&A is eagerly pursued by companies in order to gain competitive advantage, improve liquidity, solvency and efficiency.

In India with the implementation of Globalization, Liberalisation, Industrialisation and Privatisation (GLIP in short), M&A activities began to gain traction. Out of 600 Merger and Acquisition deals that happened in the year 2015, about 300 deals were exclusive by domestic transactions where both the parties involved were Indian companies. In 2014, the number of such transactions was 569. However, the value of such M&A transactions (USD 30 billion) in 2015 reduced by 18% in comparison to 2014 (USD 37.05 billion). In 2015, the average deal size was \$28 million as compared to \$103 million in 2014. During the analysis, It was observed that domestic M&A activity showed a decreasing trend, whereas inbound Merger and Acquisition showed an increasing trend in the study period. Thus, this study focussed on the performance of domestic M&A in India. The Event Study analysis is used for short-term analysis whereas Econometric Ordinary Least Square Regression analysis is used for studying long-term performance of the merged entities. To study M&A, a few research questions were framed as follows:

- Why do companies go for Mergers and acquisitions?
- How do Mergers and Acquisitions affect corporate performance?
- How does valuation affect combined entity valuation?
- What kind of synergic benefits accrue to the merged entities?
- How does M&A activity affect shareholders' wealth?

Based on the above research questions, the following objectives were constructed:

The Primary objectives:

1. To evaluate the change in corporate performance and valuation of firms involved in M&A transactions.
2. To evaluate the impact of Merger and Acquisition on shareholders' wealth due to the merger announcement/event.

The Secondary Objectives:

1. To estimate the returns to shareholders of the bidding and targeting firms involved in Merger and Acquisition.
2. To evaluate the impact of Hubris theory on M&A transactions analysed in this study.
3. To examine the synergy motives and agency motives of the combined entity.
4. To evaluate the financial and operating synergy of the combined entity s as a result of M&A.

The methodology used for the study is a descriptive research design. The secondary data were collected from the CMIE Prowess database and websites of RBI and BSE. Data regarding accounting and finance performance were extracted from the financial statements compiled in Prowess database and daily share price movement in stock market from the same database. The study has observed M&A

transactions of companies listed in Bombay Stock Exchange (BSE) which occurred during the period 2003 to 2015. The daily stock related data, like adjusted closing prices and BSE Sensex values for calculating the market index, were also extracted from the BSE through the CMIE Prowess database. These data were used for the estimation of abnormal returns and the impacts of M&A events on shareholders' wealth. Here, event means stock exchange announcement or first media announcement of the M&A transaction, whichever is earlier.

The study proposes to learn about the impact of such an event on shareholders' wealth by using the event study analysis. Firstly, the study estimated the abnormal return of 30 days period before and after the M&A event. Then, the standard deviation is calculated based on the Average Abnormal Return (AAR) of each day. In order to do this analysis, the study fixed an estimation event period of 180 days before and 30 days after the event date of all M&A deals. Next, the study calculated the CAAR and its t value with the help of standard deviation under different event windows like event day (0,0), 41 days, 31 days, 21 days, 11 days, seven days, five days, three days, two days (-1,0), two days (0,+1), pre-event and post-event periods also.

In this event analysis, the study evaluated the entire sample on the basis of the mode of payment and period of financial crisis. The study had collected accounting and financial data of three years before and after the M&A. The study had considered the time period from 2003 to 2015, and based on the selected variables (ratios) analysis has been conducted to check the impacts of M&A on corporate performance. This analysis is carried out on acquisition and merger separately by using the ordinary least square method. It also examined the combined effect of M&A which is calculated on the entity value. Finally, the study analysed the M&A motives separately by using event study results and the Ordinary Least Square (OLS) method. The thesis also presents a detailed study of the financial and operating synergy, in which both are tracked using the ordinary least square method.

This report has been divided into eight chapters. Brief summary of them are:

- The First chapter is an introduction about the study, followed by the statement of the research problem, objectives of the study, hypotheses, scope

and significance of the study, conceptual model, list of variables in the study, research methodology, organization of the thesis and limitations of the study.

- The Second chapter deals with the literature review; it is organised in three categories as listed below:
 - (a) Shareholders wealth
 - (b) Corporate Performance
 - (c) Other M&A Works (works other than above heads)
- The Third chapter pertains to the theoretical background of the M&A. It encompasses the concepts, processes about M&A, M&A in India, and the manufacturing sector. Then the different variables selected for the analysis is explained.
- The Fourth chapter elucidates the analysis results related to the estimation of abnormal return and the impacts of M&A on shareholders' wealth.
- The Fifth chapter explains the impacts of M&A on corporate performance and the combined M&A effect on entity value.
- The Sixth chapter deals with the motives of M&A like synergy motives, agency motives, hubris theory and its synergy effects. These effects were studied under two heads viz. financial and operating synergy separately.
- The Seventh chapter summarizes the research, findings and conclusion.
- The eighth chapter covers recommendations, Implication of study and areas of further research.

7.3 Findings of the Study

The findings from the analysis of data and tests based on the different objectives are presented below:

7.3.1 Estimation of Abnormal Returns

For this, the study has estimated the abnormal returns under two distinct heads viz., Acquirer, and Target. The findings derived from the study are given below.

I. Acquirer

Findings regarding the estimation of abnormal returns of the acquirer companies are:

- a. From the acquirer companies' entire sample, the study concluded that share of more than 50% of the firms gave negative returns to their shareholders on 93% days of the 60 day event window (30 days before and after except event day). and only 10% of companies were yielding statistically significant returns.
- b. With respect to cash-based M&A, 78.33% of firms showed a negative return in this event window. The study also states that only 16.4% of the companies' returns are statistically significant, and that the remaining returns are not statistically significant.
- c. Analysis of the stock-based M&A shows that 82% of the firms have got negative returns in this event window. The study also found that only 8.33% of the companies' returns are statistically significant, and that the remaining returns are not.
- d. On comparing the M&A transactions during the financial crisis with M&A transactions prior and post the financial crisis, it was revealed that there is no significant difference in abnormal return to shareholders in the three phases (i.e., pre, during and post- financial crisis)
- e. The performance of acquirer firms after the merger and acquisition event indicate poor performance, irrespective of whether the sample is considered in its entirety or divided on the basis of mode of payment of M&A.

II. Target

The findings regarding the estimation of abnormal returns of the target companies are:

- a. In the case of target companies' entire sample, the study concluded that share of more than 50% of the firms gave negative returns to their shareholders on 71.6% days of the 60 day event window (30 days before and after except event day). It is also found that only on 8.33% of the days did the companies get statistically significant returns.
- b. In the case of cash-based M&A, more than 50% of the firms generated negative returns on 71.7% of the days in this event window to their shareholders. Only 8.33% of days have provided statistically significant returns, and the remaining days did not provide any statistically significant returns.
- c. In the case of Stock-based M&A, more than 50% of the firms have negative returns on 78.3% of the days in the 60 day event window. Only 6.7% of the days have statistically significant returns, and the remaining days do not exhibit statistically significant returns.
- d. On comparing M&A transactions during the financial crisis with that of M&A transactions prior and post the financial crisis, it was revealed that there is no significant difference in abnormal return to shareholders in the three phases (i.e., pre, during and post- financial crisis)
- e. The performance of target firms after the merger event is poor, irrespective of whether the sample is considered in its entirety or divided on the basis of mode of payment of M&A.

Major Findings

The major findings of the study can be concluded as given below.

- ✓ Analysis to find if there are M&A that generate significant positive returns to the shareholders proved that both acquirer and target firms showed poor performance after the merger and acquisition event.

- ✓ Shareholders of the target company had significant positive returns in the immediate period after the announcement of M&A, but later it became negative. In the case of the acquirer shareholders, there were no significant positive returns in the immediate period or at a later time.
- ✓ The study compared shareholder returns of both acquirer and target firms based on payment mode.
 - (a) In the case of stock-based acquisitions, the shareholders of target firms earned significantly higher return in a day.
 - (b) Cash-based M&A transactions show comparatively better performance than share based M&As.
- ✓ The study did not find any significant influence of the financial slowdown during the 2007-2009 period on the shareholders' returns of both acquirer and target firms.

7.3.2 The Impacts on Shareholders' wealth

Under this objective, the study has analysed the impact of M&A events on shareholders' wealth under two different heads viz. Acquirer and Target. The findings obtained from the study are given below:

I Acquirer

The impacts of M&A on the wealth of acquirer companies' shareholders are given below:

- a. In the case of the entire sample, there were no significant returns (CAAR) to the shareholders in the three-day and two-day windows of the M&A announcement. However, the 61 day event window, 41 day event window, 31 day event window and post event window (+30 days) portrayed significant returns.

- b. When cash-based M&A is considered, there were no significant returns (CAAR) to the shareholders in the three-day and two-day windows of the M&A announcement. But the 61 day event window, 41 day event window, 31 day event window, pre event window (-30 days) and post event window (+30 days) generated significant returns.
- c. In the case of stock-based M&A, all the event windows except the post M&A announcement period (+30 days) gave statistically insignificant returns to the shareholders.
- d. Acquirer firms were not successful in generating positive and statistically significant returns (CAARs) to the shareholders.

II Target

The impacts on the wealth of target companies shareholders' are presented below:

- a. In the case of the entire sample, all the windows except the post M&A announcement period and two-day windows (0,+1 days) generated a significant return (CAAR) to the shareholders. It means that the shareholders react to the M&A announcement positively; event day reflected the highest positive return.
- b. In the case of cash-based M&A, all windows except pre-M&A announcement period and event date provide significant positive returns (CAAR) to shareholders. The pre-M&A announcement period and event date also provide positive returns, but insignificant ones. These event windows provide good results to shareholders.
- c. In the case of Stock-based M&A, all windows except two-day event date (-1,0 days), pre-event (-30 days), and event date provide no significant returns (CAAR) to the shareholders. The two-day event date (-1,0 days), pre-event window (-30 days), and event date provides positive significant returns (CAAR) to the shareholders.

- d. Target firms' performance is good in all the cases (entire sample and cash based M&A transactions), but the performance of the firms under stock based-payment is comparatively low.

Major Findings

The major findings can be concluded as given below.

- ✓ Buying and holding shares in the 61, 41 and 31- days event windows of M&A announcement gave significantly higher returns, starting from 18th day after the event onwards.
- ✓ In the case of cash-based M&A, returns to the shareholders of the acquirer company are not significant until 27 days (in the 61, 41, 31 days event window) after the M&A event. But in the case of stock-based deals, buying and holding shares for atleast 15 days after the M&A event proved to be beneficial for acquirer shareholders.
- ✓ In the case of the target firm, buying and holding shares until the event date resulted in significantly higher returns.
- ✓ Cash-based M&A also show significantly higher returns from 17 days after the event onwards.
- ✓ In the case of stock-based M&A, holding shares for a long period after the M&A announcement does not result in significant returns.
- ✓ For acquirer companies, there is only a little possibility of early information leakage, whereas in the case of target firms, there is a greater possibility of early information leakage. And shareholders of both firms (acquirer and target firms) immediately react negatively to the merger announcement.
- ✓ M&A announcement (event) makes a positive impact on the wealth of target firms' shareholders, but are often unsuccessful in generating positive returns to the shareholders of the acquirer entities.

7.3.3 The Impacts of M&A on Corporate Performance

The findings derived from the analysis of the impacts of M&A on corporate performance are discussed below.

A. Acquisition

The findings under acquisition deals for acquirer and target firms are described below separately.

I. Acquirer

The impact on corporate performance of acquirer companies are:

- a. In the regression analysis, ROA (Return on Assets) and ROW (Return on Net Worth) exhibit positive significant impact on corporate performance.
- b. In the case of t-test, the changes in the mean value of ROA and ROW are statistically positive significant.

II. Target

The impacts on corporate performance of target companies are:

- a. ROW (Return on Net Worth) exhibits significant impact on corporate performance in the regression analysis.
- b. As per the t-test, changes in the mean value of variables are not statistically positive significant.

Major Findings

The findings can be concluded as follows:

- ✓ Analysis of both acquirer and target firms' ability to generate good results with the help of shareholders' equity (ROW) showed that acquisitions have a sound impact on corporate performance.

B. Merger

The findings under the Merger deals are presented under two categories- acquirer and target firms.

I. Acquirer

- a. In regression analysis, none of the analyses give valid significant results towards corporate performance. Nevertheless, Return on Net worth and Return on Capital Employed showed better performance in the analysis.
- b. In the case of t-test, changes in the mean value due to M&A show statistically significant changes under AROW, AROA, ACR, and AQR.

Major Finding

The major findings can be concluded as given below:

- ✓ Acquirer entities (combined entity) in merger deals do not gain any significant improvement in corporate performance due to M&A. But their profitability and liquidity measures showed significant improvement, providing hope for better performance in the future.

Major Findings in Acquisition and Merger

Findings from the acquisition and merger based on separate analyses are shown below.

- ✓ The acquirer firm's performance show different results in case of merger and in case of acquisition. The acquirer's performance was satisfactory in Acquisition and poor in Merger. The target firm's performance is good and satisfactory in acquisition.

7.3.4 Combined Entity Valuation

Findings arising from the analysis of the combined effect of M&A on entity values are given below.

I. Acquisition

The regression analysis based on ROA (Return on Asset) affirm the significance of the combined effect of M&A on entity value.

II. Merger

In the regression analysis, ROA (Return on Asset) and ROCE (Return on Capital Employed) affirm that the results towards the combined effects of M&A on the entity value are significant.

Major Findings

The findings have been concluded as given below:

- ✓ Both Merger and Acquisition (Profit earning capacity based on the assets and the firms' capital base) contribute to the combined effects of M & A's positive impacts on the entity value.

7.3.5 M&A Motives

The findings derived on the basis of M&A motives which indicate the primary motives behind the M&A deals are given below:

- (a) In case of a regression analysis between total gain and target gain (Panel A), the total sample provides positive results. Positive and negative subsamples also provide positive results. The above positive results proves the synergy hypotheses in the M&A transactions.
- (b) In case of a regression analysis between target gain and acquirer gain (Panel B), the total sample provides positive results. This result proves the synergy hypotheses in the M&A transactions. Positive and negative subsamples provide negative results which proves the agency hypothesis and hubris hypothesis respectively.
- (c) The intercept values of both subsamples (Panel A & B) showed negative values except positive subsamples in the regression analysis Panel B. These intercept values further support the findings mentioned in (a) and (b).

Major Findings

The major findings can be concluded as shown below:

- ✓ The analysis of motives confirmed the presence of synergy in the sample deals and that it is the primary motive of more than 56.3% firms in the sample.
- ✓ The results from the positive and negative subsamples indicated the presence of hubris and agency hypothesis in the sample. This implies that managers of most firms preferred gains of the merged entities to their personal gains.
- ✓ The presence of hubris and agency is insignificant, making their effect on M&As and thereby on the shareholders' wealth negligible. The managers of the majority of companies were found to be working ethically.
- ✓ Since synergy is the underlying motive behind M&A, the shareholders of the merged entity will get positive results from their investments over time.

7.3.6 Synergy

Under this head, financial and operating synergy of the acquirer and target firms are presented separately under both acquisitions and mergers. The findings on the basis of regression analysis are given below.

A. Acquisition

I. Acquirer

The findings related to the synergy of the acquirer firms as a result of acquisition are given below:

i. Financial Synergy

The study noted that the results related to financial synergy are statistically significant, indicating that the acquirer firms could enjoy the financial synergy resulting from Acquisition.

ii. Operating Synergy

The study found the results related to financial synergy to be statistically significant which indicate that acquirer firms could enjoy the operating synergy as a result of Acquisition.

Major Findings

The findings that can be concluded are given below.

- ✓ In the long term, acquirer firms in the acquisition deals have benefited from the consolidation of financial and operating resources through M&A.

II Target

The findings related to the synergy of the target firms as a result of Acquisition are given below.

i Financial Synergy

The findings related to financial synergy indicate that the target firms could not enjoy the financial synergy that resulted from the Acquisition.

ii Operating Synergy

The results of the study indicate that the target firms could not enjoy the operating synergy that resulted from M&A.

Major Findings

All the findings can be summarized as given below.

- ✓ In the long term, target firms in the acquisition deals did not benefit much from the consolidated financial and operating resources.
- ✓ In M&A, the target firms did not benefit from the consolidation of both the financial as well as operating resources.

B. Merger

The findings under the merger deals are shown under two classifications, acquirer and target firms.

I. Acquirer

The findings related to the synergy of the acquirer firms as a result of M&A are given below:

i. Financial Synergy

The study provides statistically significant results indicating that acquirer firms could enjoy the financial synergy resulting from M&A.

ii. Operating Synergy

The findings under operating synergy do not give a statistically significant result. Therefore, acquirer firms did not benefit significantly from the operating synergy as a result of M&A.

Major Findings

The findings can be concluded and are given below.

- ✓ In the long-term, acquirer firms in the merger deals have benefited from the financial resources consolidation, but operating resources did not perform up to the expected level through M&A.
- ✓ In financial synergy, acquirer firms show very strong and powerful performance after the M&A.

Major Findings in Acquisition and Merger (Synergy)

The findings from the acquisition and merger based on separate analysis are shown below.

- ✓ Acquirer firms benefit in terms of financial and operating synergy as a result of acquisition. In a merger, the acquirer is only benefitted from financial

synergy. In short, acquirer firms are successful in utilising the advantage of the consolidation of resources.

- ✓ Target firms could not effectively utilise the benefits of consolidation of resources through the M&A.

7.4 Conclusion

Merger and Acquisition (M&A) is a globally popular phenomenon. Currently, it shows tremendous growth in different fields all over the world. This study considered M&A of Indian manufacturing industries. In total, 108 deals were considered for the analysis, which included 38 acquisitions and 70 merger deals. The study evaluated the short-term and long-term performance with regard to M&A and the role of M&A motives in the success and failure of M&A. Acquirer firms' performance in the estimation of abnormal return and impact on shareholders' wealth was poor compared to the target firm. In the case of corporate performance, the acquirer firm had better performance than the target companies. While comparing the firm performance as a combined entity, both acquisition and merger have contributed to the entity value.

The study has showed that synergy is the primary motive behind M&As. Acquirer firms gained advantages of financial and operating synergy through acquisition. Hubris and agency issues do exist in M&As in the manufacturing sector, but are lower than synergy related issues. Thus the study concluded that though the acquirer firms' performance was good and satisfactory, they fail to generate a good return to their shareholders (in the short term only). However, the acquirer could achieve more benefits from the enlargement of resources (i.e., synergy) of the combined entity. Therefore, in the Indian manufacturing sector, over time (long term), acquisitions are more favourable to acquirer companies than merger operations. But in the short term, the acquirer performance in generating shareholder returns is not as good as the target company's performance.

CHAPTER 8

RECOMMENDATIONS, IMPLICATIONS AND AREA FOR FURTHER RESEARCH

8.1 Introduction

This chapter presents recommendations of the study. It describes the recommendations of research and implications. Implications focussed on the shareholders, regulators and company. It also attempts to bring out areas for further research in merger and acquisition.

8.2 Recommendations

M&A continue as the most prominent and strongest method in corporate restructuring. The study brings forward some recommendations based on the findings derived from the data analysis under the different objectives. It may give a clear picture and build a new approach to set the M&A' objectives. These are shown below.

1. The study found that there is no significant improvement in the liquidity of acquirer companies after the M&A (acquisition). To avoid such losses in future, the acquirer companies must ensure that they have enough liquidity and financial capability before entering into the M&A contract.
2. It was found that there was no increase in the wealth of shareholders of both the acquirer and target firms and no consistency in performance. In order to improve the performance, the board of directors may consider the following:
 - a. Ensure share prices do not fall below a benchmark level and also not below the target level.
 - b. The company should consistently improve its performance by leveraging the synergy and ensuring targeted liquidity, profitability and solvency after the M&A

3. Target firms failed in generating significant returns to the shareholders, and the acquirer firms failed in generating consistent significantly positive returns to the shareholders. Hence, to improve the performance, the company must come out with material information that can unlock the value of the stock of the acquirer company and build confidence among its shareholders.
4. It was found that more than 56.3% of the companies were driven by synergy motive and the rest of the companies had agency problems or hubris motive. The following measures may be considered to mitigate the effect of agency and hubris motives.
 - a. Company may frame an appropriate policy to regulate the principal-agency relationship and counsel managers to become more ethical in the day-to-day business.
 - b. The board may use reliable data of both the acquirer and the target company so that the decisions made are more data-driven and rational.
5. It was found that the acquirer in merger cases, and the target firms in acquisition cases showed poor performance in exploring the operating synergy. Hence, the acquirer may focus on more operating activities like reducing fixed costs and improving the profit margin to improve operating synergy.
6. Based on the analysis of the mode of payment and returns to acquirer shareholders, it was found that cash payment ensured higher returns to shareholders of the acquirer company. So, the acquirer company may explore the advantages of cash deals for M&A activities as a means to improve returns to stockholders.

8.3 Implication of the Study

This section briefly discusses the implications of the study pertaining to the key players – the shareholders, market regulators and companies.

8.3.1 Shareholders

8.3.1.1 Shareholders of Acquirer Firms

The findings indicate that in the short-term, acquirer firms failed to generate excess return over average profit to their shareholders. Only shareholders who bought the shares before the merger and acquisition event could get comparatively high cumulative abnormal returns and that too only when they sold them towards the end of the event window. Also, the shareholders would be better off if they buy shares of cash based deal rather than stock based deal. Nevertheless, short term returns to the acquirer company shareholders from the merger and acquisition event are negligible.

The long-term results indicate that profitability and liquidity of companies improved after merger and acquisition. This increased the shareholders' faith in their companies' ability to generate improved profit through assets and shareholders' equity.

Merger and acquisition deals are motivated by synergy motives rather than agency and hubris motives. This approach is favourable in attaining the acquirer shareholders' expectations. Moreover, utilisation of the consolidated financial and operating resources provide them assurance on their investment's fruitfulness.

Therefore it can be concluded that even though shareholders of acquirer firms in manufacturing sector do not benefit from the mergers and acquisitions initially, they will be able to enjoy the fruits of their investments in the long term.

8.3.1.2 Shareholders of Target Firms

Short-term analysis shows that shareholders of target companies do not get positive returns from their investments. However, as a result of the merger and acquisition event they do gain good cumulative abnormal returns.

The shareholders of target companies achieved poor returns in the long term also. The merger and acquisition affected their investments adversely. The target companies do not perform well even in the case of acquisitions. They do not even enjoy the benefits of consolidation of resources from the merger and acquisition.

Hence, it is found that target companies do not gain any significant returns from the merger and acquisition over time.

8.3.2 Market Regulators

The study has concluded that most companies are motivated by synergy benefits than agency or hubris. But agency and hubris motives also influence merger and acquisition. So regulatory bodies should focus more on these issues and try to protect the rights of shareholders of both companies by making arrangements for orientation classes and counselling programmes for their top managers. This will also aid to build a strong corporate governance in manufacturing industries.

8.3.3 Company

Companies already involved in merger and acquisition deals and those which plan to do so should ensure that their shareholders gain good returns both in the immediate period as well as over time and that their market values do not decline drastically so as to maintain the confidence levels of their shareholders. It should also be ensured that the shareholders do actually enjoy the benefits of the consolidation of resources.

8.4 Areas for Further Research

The study has identified the following possible areas for further research in the field of merger and acquisition. They are:

1. The role of cultural integration in the success of M&A in India
2. A comparative study between the Domestic and Cross Border M&A in India
3. The impacts of M&A on Operative Performance in various sectors in India
4. The impacts of Payment Method in M&A
5. The impacts of Cross Border M&A on Shareholders' Wealth and Corporate Performance
6. The impacts of M&A in other sectors on Shareholders' Wealth and Corporate Performance

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Annexure 1

Number of Deals with Event and Date

Acquirer (AQR)	Target (TGT)	Merger Event	Event Date
A C C Ltd.	Shiva Cement Ltd.	First media announcement	20-Apr-07
Abbott India Ltd.	Solvay Pharma India Ltd. [Merged]	Stock Exchange Announcement	24-Nov-10
Alka India Ltd.	Janice Textiles Ltd. [Merged]	Stock Exchange Announcement	24-Mar-04
Alok Industries Ltd.	Grabal Alok Impex Ltd. [Merged]	Stock Exchange Announcement	30-Jul-11
Ambuja Cements Ltd.	Ambuja Cement Eastern Ltd. [Merged]	Stock Exchange Announcement	03-May-06
Amtek Auto Ltd.	Castex Technologies Ltd.	Stock Exchange Announcement	04-Aug-08
Amtek Auto Ltd.	Metalyt Forgings Ltd.	Stock Exchange Announcement	04-Aug-08
Amtek Auto Ltd.	J M T Auto Ltd.	Stock Exchange Announcement	27-Jun-13
Apar Industries Ltd.	Uniflex Cables Ltd. [Merged]	Stock Exchange Announcement	06-Apr-11
Arvind Ltd.	Arvind Products Ltd. [Merged]	Stock Exchange Announcement	20-May-11
Atul Ltd.	Amal Ltd.	Stock Exchange Announcement	05-Dec-14
B A S F India Ltd.	Ciba India Ltd. [Merged]	Stock Exchange Announcement	14-Sep-09
Bajaj Hindusthan Sugar Ltd.	Bajaj Hindusthan Sugar & Inds. Ltd. [Merged]	Stock Exchange Announcement	17-Jun-10
Birla Precision Technologies Ltd.	Birla Machining & Toolings Ltd. [Merged]	Stock Exchange Announcement	31-Mar-11
Blue Star Ltd.	Blue Star Infotech Ltd. [Merged]	Stock Exchange Announcement	29-Sep-15
Bombay Rayon Fashions Ltd.	S T I India Ltd.	Stock Exchange Announcement	12-Mar-12

Acquirer (AQR)	Target (TGT)	Merger Event	Event Date
Captain Polyplast Ltd.	Captain Pipes Ltd.	Stock Exchange Announcement	09-Sep-14
Centum Electronics Ltd.	Solectron E M S India Ltd. [Merged]	Stock Exchange Announcement	12-Oct-09
Chambal Fertilisers & Chemicals Ltd.	India Steamship Co. Ltd. [Merged]	Stock Exchange Announcement	16-Sep-04
Clariant Chemicals (India) Ltd.	Asahi Songwon Colors Ltd.	Stock Exchange Announcement	15-Feb-12
Coromandel International Ltd.	Ficom Organics Ltd. [Merged]	Stock Exchange Announcement	19-Oct-06
Coromandel International Ltd.	Liberty Phosphate Ltd. [Merged]	Stock Exchange Announcement	28-Sep-13
Coromandel International Ltd.	Sabero Organics Gujarat Ltd. [Merged]	Stock Exchange Announcement	24-Jan-14
D C M Shriram Inds. Ltd.	Daurala Organics Ltd. [Merged]	Stock Exchange Announcement	24-Feb-05
Dabur India Ltd.	Fem Care Pharma Ltd. [Merged]	Stock Exchange Announcement	26-Oct-09
Digjam Ltd.	Digjam Ltd. [Merged]	Stock Exchange Announcement	31-Jul-15
Electrosteel Castings Ltd.	Electrosteel Steels Ltd.	Stock Exchange Announcement	01-Jul-14
Elgi Equipments Ltd.	Elgi Industrial Products Ltd. [Merged]	Stock Exchange Announcement	02-Mar-10
Empee Sugars & Chemicals Ltd.	Empee Distilleries Ltd.	Stock Exchange Announcement	21-Mar-12
Eon Electric Ltd.	Indo Asian Fusegear Ltd. [Merged]	Stock Exchange Announcement	17-Nov-04
Essel Propack Ltd.	Ras Propack Lamipack Ltd. [Merged]	Stock Exchange Announcement	30-May-11
Essel Propack Ltd.	Ras Extrusions Ltd. [Merged]	Stock Exchange Announcement	30-May-11
G T N Industries Ltd.	Patspin India Ltd.	First media announcement	19-May-06
Gallantt Ispat Ltd.	Gallantt Metal Ltd.	Stock Exchange	09-Oct-14

Acquirer (AQR)	Target (TGT)	Merger Event	Event Date
		Announcement	
Grasim Industries Ltd.	Aditya Birla Chemicals (India) Ltd. [Merged]	Stock Exchange Announcement	11-Feb-15
Grauer & Weil (India) Ltd.	Bombay Paints Ltd. [Merged]	Stock Exchange Announcement	04-Aug-08
Grindwell Norton Ltd.	Saint-Gobain Crystals & Detectors India Ltd. [Merged]	Stock Exchange Announcement	19-Apr-13
H I L Ltd.	Malabar Building Products Ltd. [Merged]	First media announcement	06-Sep-05
Hindustan Mills Ltd.	Hindustan Spinning & Wvg. Mills Ltd. [Merged]	Stock Exchange Announcement	03-Nov-10
I S M T Ltd.	Indian Seamless Metal Tubes (Kalyani Seamless Tubes) Ltd. [Merged]	Stock Exchange Announcement	16-Apr-05
India Cements Ltd.	Trinetra Cement Ltd. [Merged]	Stock Exchange Announcement	26-Feb-14
Indian Oil Corpn. Ltd.	Bongaigaon Refinery & Petrochemicals Ltd. [Merged]	Stock Exchange Announcement	29-Nov-06
Indian Oil Corpn. Ltd.	I B P Co. Ltd. [Merged]	Stock Exchange Announcement	22-Dec-04
Integra Engineering India Ltd.	Integra India Group Co. Ltd. [Merged]	Stock Exchange Announcement	25-Jul-11
Ipca Laboratories Ltd.	Tonira Pharma Ltd. [Merged]	Stock Exchange Announcement	17-Sep-11
J K Lakshmi Cement Ltd.	Udaipur Cement Works Ltd.	Stock Exchange Announcement	12-Sep-12
J K Lakshmi Cement Ltd.	Udaipur Cement Works Ltd.	Stock Exchange Announcement	28-Mar-14
J S W Steel Ltd.	J S W Ispat Steel Ltd. [Merged]	Stock Exchange Announcement	03-Sep-12
Jai Balaji Inds. Ltd.	Shri Ramrupai Balaji Steels Ltd. [Merged]	Stock Exchange Announcement	29-Aug-06

Acquirer (AQR)	Target (TGT)	Merger Event	Event Date
Jamna Auto Inds. Ltd.	Jai Parabolic Springs Ltd. [Merged]	Stock Exchange Announcement	27-Jun-07
Jindal Stainless Ltd.	Jindal Stainless (Hisar) Ltd.	Stock Exchange Announcement	12-Nov-14
Jyothy Laboratories Ltd.	Jyothy Consumer Products Ltd. [Merged]	Stock Exchange Announcement	05-May-11
Keerthi Industries Ltd.	Hyderabad Flextech Ltd. [Merged]	Stock Exchange Announcement	02-May-08
Kinetic Engineering Ltd.	Kinetic Motor Co. Ltd. [Merged]	Stock Exchange Announcement	09-Dec-11
Maharashtra Seamless Ltd.	Orissa Sponge Iron & Steel Ltd.	Stock Exchange Announcement	16-Aug-11
Mahindra & Mahindra Ltd.	E P C Industrie Ltd.	Stock Exchange Announcement	11-Feb-11
Mahindra & Mahindra Ltd.	Swaraj Automotives Ltd.	Stock Exchange Announcement	14-Nov-11
Mahindra C I E Automotive Ltd.	Mahindra Composites Ltd. [Merged]	Stock Exchange Announcement	15-Jun-13
Mahindra C I E Automotive Ltd.	Mahindra Ugine Steel Co. Ltd. [Merged]	Stock Exchange Announcement	15-Jun-13
Mangalam Cement Ltd.	Mangalam Timber Products Ltd.	Stock Exchange Announcement	01-May-10
Mawana Sugars Ltd.	Mawana Sugars Ltd. [Merged]	Stock Exchange Announcement	11-Jan-07
Nagarjuna Fertilizers & Chemicals Ltd.	Nagarjuna Fertilizers & Chemicals Ltd. [Merged]	Stock Exchange Announcement	10-Jan-11
Nahar Industrial Enterprises Ltd.	Nahar Sugar & Allied Inds. Ltd. [Merged]	Stock Exchange Announcement	20-Jul-04
Nahar Industrial Enterprises Ltd.	Nahar International Ltd. [Merged]	Stock Exchange Announcement	20-Jul-04
Orient Bell Ltd.	Bell Ceramics Ltd. [Merged]	Stock Exchange Announcement	13-May-11
Parvati Sweetners & Power Ltd.	Dollex Industries Ltd. [Merged]	Stock Exchange Announcement	05-May-15

Acquirer (AQR)	Target (TGT)	Merger Event	Event Date
Paushak Ltd.	Paushak Ltd. [Merged]	Stock Exchange Announcement	01-Sep-04
Pearl Global Inds. Ltd.	Pearl Global Ltd. [Merged]	Stock Exchange Announcement	14-Aug-10
Pfizer Ltd.	Pharmacia Healthcare Ltd. [Merged]	Stock Exchange Announcement	14-Jul-04
Punjab Chemicals & Crop Protection Ltd.	Alpha Drug India Ltd. [Merged]	First media announcement	14-May-05
R S W M Ltd.	Cheslind Textiles Ltd. [Merged]	Stock Exchange Announcement	09-Apr-14
Rane Engine Valve Ltd.	K A R Mobiles Ltd. [Merged]	Stock Exchange Announcement	20-May-14
Reliance Industries Ltd.	Indian Petrochemicals Corp. Ltd. [Merged]	Stock Exchange Announcement	12-Mar-07
Riddhi Siddhi Gluco Biols Ltd.	Shree Rama Newsprint Ltd.	Stock Exchange Announcement	22-May-15
Rohit Ferro-Tech Ltd.	Impex Ferro Tech Ltd.	Stock Exchange Announcement	30-May-12
Sangam (India) Ltd.	S P B L Ltd. [Merged]	Stock Exchange Announcement	16-Aug-06
Shivalik Rasayan Ltd.	Medicamen Biotech Ltd.	Stock Exchange Announcement	16-Sep-15
Shree Rajasthan Syntex Ltd.	Shree Rajasthan Texchem Ltd. [Merged]	Stock Exchange Announcement	25-Jul-06
Siemens Ltd.	Siemens Healthcare Diagnostics Ltd. [Merged]	Stock Exchange Announcement	26-Nov-09
Simbhaoli Sugars Ltd.	Simbhaoli Sugars Ltd. [Merged]	Stock Exchange Announcement	14-Feb-14
Southern Petrochemical Inds. Corp. Ltd.	Tuticorin Alkali Chemicals & Fertilisers Ltd.	Stock Exchange Announcement	31-May-06
Sree Rayalaseema Hi-Strength Hypo Ltd.	S R H H L Industries Ltd. [Merged]	Stock Exchange Announcement	28-Dec-11

Acquirer (AQR)	Target (TGT)	Merger Event	Event Date
Sree Rayalaseema Hi-Strength Hypo Ltd.	T G V Sraac Ltd.	Stock Exchange Announcement	10-Dec-12
Sree Rayalaseema Hi-Strength Hypo Ltd.	T G V Sraac Ltd.	Stock Exchange Announcement	29-Apr-13
Steel Authority Of India Ltd.	Maharashtra Elektros melt Ltd. [Merged]	First media announcement	29-Oct-05
Sun Pharmaceutical Inds. Ltd.	Ranbaxy Laboratories Ltd. [Merged]	Stock Exchange Announcement	07-Apr-14
Suprajit Engineering Ltd.	Phoenix Lamps Ltd. [Merged]	Stock Exchange Announcement	06-May-15
Tata Chemicals Ltd.	Rallis India Ltd.	Stock Exchange Announcement	12-Aug-09
Tata Global Beverages Ltd.	Mount Everest Mineral Water Ltd. [Merged]	Stock Exchange Announcement	12-Nov-13
Tata Motors Ltd.	Automobile Corp n. Of Goa Ltd.	Stock Exchange Announcement	23-May-07
Tata Steel Ltd.	Tata Metaliks Di Pipes Ltd. [Merged]	Stock Exchange Announcement	11-Apr-13
Tata Steel Ltd.	Tata Sponge Iron Ltd.	Stock Exchange Announcement	15-Jun-12
Tata Steel Ltd.	Tinplate Co. Of India Ltd.	Stock Exchange Announcement	15-Jun-12
Texmaco Rail & Engg. Ltd.	Kalindee Rail Nirman (Engineers) Ltd. [Merged]	Stock Exchange Announcement	21-May-14
Titagarh Wagons Ltd.	Cimmco Ltd.	Stock Exchange Announcement	15-Apr-14
U P L Ltd.	Advanta Ltd. [Merged]	Stock Exchange Announcement	23-Nov-15
Uflex Ltd.	F C L Technologies & Products Ltd. [Merged]	Stock Exchange Announcement	22-May-06
Uflex Ltd.	Flex Engineering Ltd. [Merged]	Stock Exchange Announcement	22-May-06

Acquirer (AQR)	Target (TGT)	Merger Event	Event Date
Ultratech Cement Ltd.	Samruddhi Cement Ltd. [Merged]	Stock Exchange Announcement	16-Nov-09
United Breweries Ltd.	Millennium Beer Inds. Ltd. [Merged]	Stock Exchange Announcement	14-Sep-10
United Spirits Ltd.	Balaji Distilleries Ltd. [Merged]	Stock Exchange Announcement	01-Dec-08
United Spirits Ltd.	Herbertsons Ltd. [Merged]	Stock Exchange Announcement	22-Sep-05
United Spirits Ltd.	Shaw Wallace & Co. Ltd. [Merged]	Stock Exchange Announcement	29-Nov-07
United Spirits Ltd.	Pioneer Distilleries Ltd.	Stock Exchange Announcement	14-Sep-10
Vedanta Ltd.	Cairn India Ltd. [Merged]	Stock Exchange Announcement	15-Jun-15
Vedanta Ltd.	Madras Aluminium Co. Ltd. [Merged]	Stock Exchange Announcement	25-Feb-12
Vedanta Ltd.	Sterlite Industries (India) Ltd. [Merged]	Stock Exchange Announcement	25-Feb-12
Videocon Industries Ltd.	A B G Shipyard Ltd.	Stock Exchange Announcement	17-Aug-12
Welspun India Ltd.	Glofame Cotspin Inds. Ltd. [Merged]	Stock Exchange Announcement	01-Nov-04