CHAPTER 02

LITERATURE REVIEW

2.1 INTRODUCTION

Mergers and acquisitions are a means of corporate expansion and growth. They are not the only means of growth, but are an alternative to growth by internal or organic capital investment. From time to time, companies have preferred the external means of growth through acquisitions to internal growth (Sudarsanam 1995). Research interest in mergers and acquisitions has been growing during the last several decades. The changes taking place in the global economy and the consequent growth in the number of mergers and acquisitions across the globe have prompted interesting contributions to the field of M&A.

This chapter aims at providing an overview of the body of research performed on mergers and acquisitions both in India and abroad. It is proposed to discuss different theoretical perspectives on mergers and acquisitions, the empirical research on mergers and acquisitions, the research on selection of acquisition targets and the research on mergers and acquisitions in India in particular. Finally, the research gap is identified.
2.2 MERGERS AND ACQUISITIONS-DEFINITION AND TYPES

2.2.1 Definition of Mergers and Acquisitions

Mergers refer to the merging of one company into another company or companies to form a new corporate entity. Acquisition or takeover denotes one company acquiring controlling interest in another. Mergers are different from acquisitions. Acquisition implies that a company unilaterally relinquishes its independence and adapts to another firm’s plans, while in merger, all combining firms relinquish their independence and co-operate, resulting in a common corporation (Kreckel, Woerd and Wouterse 1967).

“The expression M&A has been established to represent both joint agreement between the management of two firms to merge that is submitted to the shareholders for approval (including consolidation where the separate firms are dissolved into a new joint corporate identity) and acquisition of one firm by another through tender offer (that is publicly announced takeover bid)” (Jensen 1985).

“The term merger has two meanings in the context of combining organisations. Merger can refer to any form of combinations of organisations,
initiated by different kinds of contracts. The more specific meaning that separates mergers from acquisitions is that a merger is a combination of organisations which are similar in size and which create an organisation where neither party can be seen as acquirer.” (Vaara 2000)

“The word merger refers to negotiations between friendly parties who arrive at mutually agreeable decisions to combine their companies. In general, mergers reflect various forms of combining companies through some mutuality in negotiations.” (Weston et al 2001)

An analysis of the definitions of the phrase “mergers and acquisitions” shows that the phrase refers to two types of economic activity-mergers by consolidation and mergers by acquisitions. Scholarly literature has treated mergers and acquisitions as a single phenomenon (Larsson 1990). Accordingly, this study treats the terms “mergers” and “acquisitions” as synonyms.

2.2.2 Types of Mergers and Acquisitions

Mergers and acquisitions have been broadly classified as horizontal, vertical and conglomerate mergers and acquisitions. A horizontal merger takes place between two or more companies that compete in the same market. Vertical
merger takes place when a company acquires its supplier companies or customer companies. A conglomerate merger is one that takes place between companies that operate in totally different businesses (Weston et al 2001).

2.3 THEORETICAL PERSPECTIVES

A number of articles have categorized the different approaches and arguments that explain the rationale of mergers and acquisitions (e.g. Haspeslagh and Jemison 1991, Larsson and Finkelstein 1999, Weston et al. 2001 and Cording et al. 2002). Table 2.1 presents some of these mergers and acquisitions school categorisation:

Table 2.1 Mergers and acquisitions research streams as identified in different studies

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Overpayment</td>
<td>Strategic Management</td>
<td>Process</td>
<td>Capital market</td>
</tr>
<tr>
<td>Agency problems</td>
<td>Economics</td>
<td>Strategy</td>
<td>Strategy</td>
</tr>
<tr>
<td>CEO Hubris</td>
<td>Finance</td>
<td>Finance</td>
<td>Organisational behaviour</td>
</tr>
<tr>
<td>Top Management</td>
<td>Organizational research</td>
<td>Agency Problems</td>
<td>Process</td>
</tr>
<tr>
<td>Complementarity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employee distress</td>
<td>Human resource management</td>
<td>Hubris</td>
<td></td>
</tr>
<tr>
<td>Conflicting cultures</td>
<td></td>
<td>Redistribution</td>
<td></td>
</tr>
<tr>
<td>Process</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
It is proposed to follow the classification scheme of Hapeslagh and Jemison to discuss the approaches to the study of mergers and acquisitions. They categorise the approaches under the four headings of *capital markets, strategy, human resources and organizations* and *process*.

### 2.3.1 Capital Markets School

The capital market school is based on the research by financial economists. Their research centres on the key concept of creation and allocation of value through mergers and acquisitions. Their perspective on acquisitions focuses on wealth gains that follow mergers and acquisitions. By following changes in stock price after adjusting for overall market fluctuations, the financial economists attempt to determine whether wealth has been created as a result of a merger or acquisition.

Financial economists base their work on several fundamental concepts: efficient markets hypothesis, agency theory, free cash flow analysis, market for corporate control and capital asset pricing model (Hapeslagh and Jemison 1991 p 293-295)

The *efficient market hypothesis* suggests that the market value of a firm’s
stock price reflects an unbiased estimate of all publicly available information about the firm’s future cash flows and their associated risks. Therefore, any acquisition that results in immediate increase in market value (after adjusting for normal market fluctuations) is good. On the other hand, an acquisition that causes an immediate decrease in market value is bad. Using this perspective, the financial economists, after extensive research have concluded that acquisitions do not, in general, create value for the shareholders of the acquiring firm. However, their studies reveal that, on the average, a significant premium accrues to the acquired firm’s shareholders (Jensen and Ruback 1983).

Agency theory views managers as the agents of stockholders and avers that agency problems arise when the interests of managers and those of the owners are not congruent (Holmstrom 1979, Fama 1980). Consequently, managers may acquire companies with a view to empire building even though such acquisitions may not create value to the shareholders (Roll 1986). Managerial risk reduction through diversification may be another reason behind such non-value creating acquisitions (Amihud and Lev 1981).

A firm is said to have free cash flow if it has cash remaining after all projects on which the returns equal or exceed the cost of capital have been funded (Jensen 1986). Any investment beyond this level is bound to destroy value. So, the
financial economists argue that free cash flow should be paid out to shareholders so that they can invest it in more productive uses. The threat of a takeover may be an effective disciplining mechanism to force managers to return the free cash flow to shareholders.

Manne (1965) introduced the concept of *corporate control*. He proposed that “the control of corporations may constitute a valuable asset...that an active market for corporate control exists, and that a great many mergers are probably the result of the successful workings of this special market” (p 112). Corporate control is the right to determine the management of corporate resources, including the right to hire and fire and set top-level management compensation rates (Fama and Jensen 1983). Different management teams compete against each other over the control of corporate resources. This competition results in the creation of a market for corporate control (Jensen and Ruback 1983). These management teams are evaluated in terms of the shareholder value they are able to create.

The *capital asset pricing model* (CAPM) provides a framework for assessing the rate of return that the market expects an asset to earn, given its risk profile (Brealey and Myers 1988). Risk consists of systematic risk and unsystematic risk. Unsystematic risk component is company specific. Investors can minimise this risk by diversification. Systematic risk cannot be diversified away. The model compares the volatility of stock returns with the volatility of the
stock market to measure this component. This measure of systematic risk is known as beta coefficient. This model essentially postulates that the opportunity cost of equity is equal to the risk-free rate of return plus the firm’s beta multiplied by the market risk premium. The risk premium is the excess of market return over the risk-free rate.

Finance scholars have primarily focused on the issue of whether acquisitions are value creating activities or value reducing activities. The empirical research on value creation in mergers and acquisitions can be classified into the following categories based on the approaches followed:

- Event studies;
- Accounting studies;
- Surveys of executives; and
- Clinical studies.

### 2.3.1.1 Event studies

*Event studies* examine the abnormal return to shareholders in the period surrounding the announcement of a transaction. The raw return for one day is the change in share price and any dividend paid during the day, divided by the closing
price one day before. The abnormal return is the raw return minus the benchmark return. Generally, the benchmark is the return dictated by the Capital Asset Pricing Model. These studies are based on the assumption that share prices are the sum of the present value of future cash flows to shareholders. Event studies attempt to measure the value created for shareholders in a straightforward manner. Even though the method requires significant assumptions—market efficiency, rationality and absence of restrictions on arbitrage, research suggests that these are not unreasonable assumptions, on average and over time, for most stocks. So, the event studies method continues to be popular since the 1970s.

Event studies yield insights into market-based returns to acquiring firm’s shareholders, buyers and both. Majority of the research concludes that target firm shareholders enjoy returns that are positive and significant. Two fundamental studies on the value outcomes of mergers and acquisitions in the US in the 1980s by Jensen and Ruback (1983) and Jarrell, Brickley and Netter (1988) conclude that, on an average, target company shareholders’ value increases by 20-30%, whereas the value gain on the part of the acquiring company’s shareholders range from 0 to 4%. Table 2.2 summarises the findings of 15 studies done subsequently. These studies reveal significant gains to target firm shareholders.
Research studies based on event studies methodology do not offer a consensual view on returns to the shareholders of the buyer firms. Some studies report positive returns and others report negative returns. Table 4.3 summarises the results of studies that report negative returns. Table 4.4 summarises the results of studies that report positive returns.

Table 2.2 Summary of Shareholder Return Studies for Mergers and Acquisitions-Returns to the Target Shareholders

<table>
<thead>
<tr>
<th>Study</th>
<th>Cumulative Abnormal returns</th>
<th>Sample Size</th>
<th>Event window(days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bradley, Desai and Kim (1988)</td>
<td>31.77%</td>
<td>236</td>
<td>(-120,0)</td>
</tr>
<tr>
<td>Dennis &amp; McConnell (1986)</td>
<td>8.56%</td>
<td>76</td>
<td>(-1,0)</td>
</tr>
<tr>
<td>Lang, Stulz &amp; Walkling(1989)</td>
<td>40.3%</td>
<td>87</td>
<td>(-5,5)</td>
</tr>
<tr>
<td>Franks, Harris &amp; Titman (1991)</td>
<td>28.04%</td>
<td>399</td>
<td>(-5,5)</td>
</tr>
<tr>
<td>Healy, Palepu &amp; Ruback (1992)</td>
<td>45.6%</td>
<td>50</td>
<td>(-5,5)</td>
</tr>
<tr>
<td>Kalpan &amp; Weisbach (1992)</td>
<td>26.9%</td>
<td>209</td>
<td>(-5,5)</td>
</tr>
<tr>
<td>Berkovitch &amp; Narayanan (1993)</td>
<td>$130.1 MM</td>
<td>330</td>
<td>(-5,5)</td>
</tr>
<tr>
<td>Smith &amp; Kim (1994)</td>
<td>30..19%</td>
<td>177</td>
<td>(-5,5)</td>
</tr>
<tr>
<td>Schwert (1996)</td>
<td>26.3%</td>
<td>666</td>
<td>(-42,126)</td>
</tr>
<tr>
<td>Loughran &amp; Vigh (1997)</td>
<td>47.9%</td>
<td>554</td>
<td>(-2,1250)</td>
</tr>
<tr>
<td>Eckbo &amp; Thorburn (2000)</td>
<td>7.45%</td>
<td>332</td>
<td>(-40,0)</td>
</tr>
<tr>
<td>Leeth &amp; Borg (2000)</td>
<td>13.27</td>
<td>72</td>
<td>(-40,0)</td>
</tr>
<tr>
<td>Mulherin &amp; Boone (2000)</td>
<td>21.2</td>
<td>376</td>
<td>(-1,1)</td>
</tr>
<tr>
<td>DeLong (2001)</td>
<td>16.61%</td>
<td>280</td>
<td>(-10,1)</td>
</tr>
<tr>
<td>Houston et al. (2000)</td>
<td>20.80%</td>
<td>64</td>
<td>(-4,1)</td>
</tr>
</tbody>
</table>

Source: Bruner, 2002
### Table 2.3 - Summary of Shareholder Return Studies for M&A-Returns to Acquiring Firm Shareholders-Negative Returns

<table>
<thead>
<tr>
<th>Study</th>
<th>Cumulative Abnormal returns</th>
<th>Sample Size</th>
<th>Event window (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asquith et al (1987)</td>
<td>-0.85%</td>
<td>343</td>
<td>(-1,0)</td>
</tr>
<tr>
<td>Mark, Shleifer&amp; Vishny (1999)</td>
<td>-0.70%</td>
<td>326</td>
<td>(-1,1)</td>
</tr>
<tr>
<td>Frank, Harris &amp; Titman (1991)</td>
<td>-1.45%</td>
<td>399</td>
<td>(-5,5)</td>
</tr>
<tr>
<td>Jennings &amp; Mazzeo (1991)</td>
<td>-0.8%</td>
<td>352</td>
<td>(-1,0)</td>
</tr>
<tr>
<td>Bannerjee &amp;Owers (1992)</td>
<td>-3.3%</td>
<td>57</td>
<td>(-1,0)</td>
</tr>
<tr>
<td>Healy, Palepu &amp; Rubac(1992)</td>
<td>-2.2%</td>
<td>50</td>
<td>(-5,5)</td>
</tr>
<tr>
<td>Berkovich and Narayanan (1992)</td>
<td>-$10 MM</td>
<td>330</td>
<td>(-5,5)</td>
</tr>
<tr>
<td>Sirrower (1994)</td>
<td>-2.3</td>
<td>168</td>
<td>(-1,1)</td>
</tr>
<tr>
<td>Eckbo &amp; Thorburn (2000)</td>
<td>-0.30</td>
<td>390</td>
<td>(-40,0)</td>
</tr>
<tr>
<td>DeLong (2001)</td>
<td>-1.68%</td>
<td>280</td>
<td>(-10,0)</td>
</tr>
<tr>
<td>Houston et al (2001)</td>
<td>-3.47%</td>
<td>64</td>
<td>(-4,1)</td>
</tr>
</tbody>
</table>

Source: Bruner, 2002

### Table 2.4 - Summary of Shareholder Return Studies for M&A-Returns to Acquiring Firm Shareholders-Positive Returns

<table>
<thead>
<tr>
<th>Study</th>
<th>Cumulative Abnormal returns</th>
<th>Sample Size</th>
<th>Event window (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bradley, Desai and Kim (1982)</td>
<td>2.35%</td>
<td>161</td>
<td>(-10,10)</td>
</tr>
<tr>
<td>Malatesta (1983)</td>
<td>0.90%</td>
<td>256</td>
<td>(0,0)</td>
</tr>
<tr>
<td>Dennis and McConnel (1986)</td>
<td>3.24%</td>
<td>90</td>
<td>(6,6)</td>
</tr>
<tr>
<td>Bradley, Desai and Kim (1988)</td>
<td>1%</td>
<td>236</td>
<td>(-6,6)</td>
</tr>
<tr>
<td>Jarrel and Poulson (1989)</td>
<td>0.92%</td>
<td>461</td>
<td>(-5,5)</td>
</tr>
<tr>
<td>Smith and Kim (1994)</td>
<td>0.50%</td>
<td>177</td>
<td>(-5,5)</td>
</tr>
<tr>
<td>Schewert (1996)</td>
<td>1.4%</td>
<td>666</td>
<td>(-42,126)</td>
</tr>
<tr>
<td>Eckbo and Thorburn (2000)</td>
<td>1.71%</td>
<td>1261</td>
<td>(-40,0)</td>
</tr>
<tr>
<td>Leeth and Borg (2000)</td>
<td>3.12%</td>
<td>466</td>
<td>(-1,0)</td>
</tr>
<tr>
<td>Mulherin (2000)</td>
<td>0.85%</td>
<td>161</td>
<td>(0,1)</td>
</tr>
</tbody>
</table>

Source: Bruner, 2002

As regards the returns to buyer and target firms combined, the majority of studies report positive combined returns. The findings of some of these studies are summarised in Table 2.5
Table 2.5- Summary of Shareholder Return Studies for M&A returns to buyer and target firms combined

<table>
<thead>
<tr>
<th>Study</th>
<th>Cumulative Abnormal returns</th>
<th>Sample Size</th>
<th>Event window (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bradley, Desai and Kim (1982)</td>
<td>$33.9 MM</td>
<td>161</td>
<td>(-20,5)</td>
</tr>
<tr>
<td>Malatesta (1983)</td>
<td>$32.4 MM</td>
<td>30</td>
<td>(-20,20)</td>
</tr>
<tr>
<td>Bradley, Desai and Kim (1988)</td>
<td>7.43%</td>
<td>236</td>
<td>(-5,5)</td>
</tr>
<tr>
<td>Lang, Stulz and Walking (1989)</td>
<td>11.3%</td>
<td>87</td>
<td>(-5,5)</td>
</tr>
<tr>
<td>Franks, Harris and Titman (1991)</td>
<td>3.9%</td>
<td>399</td>
<td>(-5,5)</td>
</tr>
<tr>
<td>Healy, Palepu and Ruback (1992)</td>
<td>9.1%</td>
<td>50</td>
<td>(-5,5)</td>
</tr>
<tr>
<td>Berkovitch and Narayanan (1993)</td>
<td>$120 MM</td>
<td>330</td>
<td>(-5,5)</td>
</tr>
<tr>
<td>Smith and Kim (1994)</td>
<td>8.88%</td>
<td>177</td>
<td>(-5,5)</td>
</tr>
<tr>
<td>Leeth and Borg (2000)</td>
<td>$86 MM</td>
<td>53</td>
<td>(40,0)</td>
</tr>
<tr>
<td>Mulherin and Boone (2000)</td>
<td>3.56%</td>
<td>281</td>
<td>(-1.1)</td>
</tr>
<tr>
<td>Houston et al (2001)</td>
<td>1.86</td>
<td>64</td>
<td>(-4, 1)</td>
</tr>
</tbody>
</table>

Source: Bruner, 2002

The findings that acquiring firms do not gain as a result of takeovers begs the question why merger activities continue. Lubatkin (1983) offers certain possible explanations for this apparent anomaly. He proposes that perhaps mergers do not produce real benefits but mergers continue to take place because managers make mistakes in estimating the value of proposed mergers or managers seek to maximise their wealth at the expense of the stockholders. Alternatively, he proposes that perhaps mergers do provide real benefits but administrative problems accompanying the merger may wipe out its benefits. Along these lines, Roll (1986) accepts the efficient market hypothesis but finds that empirical studies which assess the combined value of the target and bidding firms to be
inconclusive. In response, he has proposed the “Hubris hypothesis”. The hubris hypothesis states, “If there actually are no aggregate gains in takeovers, the phenomenon depends on the overbearing presumption of bidders that their valuation is correct” (p 199). So, managers might pay a premium for a firm that the market has already correctly valued. Subsequent research findings support the hubris hypothesis. Using a sample of 106 large acquisitions, Hayward and Hambrick (1995) found CEO hubris positively associated with the size of the premium paid.

The event studies methodology, it is argued, suffers from several limitations. The most serious limitation is its obsession with short-termism, emerging from the underlying assumptions. For example, the efficient markets hypothesis, which suggests that the market value of a firm’s stock price reflects an unbiased estimate of all publicly available information about the firm’s future cash flows and their related risks, feeds impatience into the methodology. Conclusions about the value outcome of mergers and acquisitions are drawn even before the organizations have been merged, based solely on the reaction to the announcement.

Haseslagh and Jemison (1991) point out two further problems associated
with this perspective. The approach assumes that shareholders understand the way in which a firm’s strategy will evolve and thus value the firm according to their risk preferences for that strategy. It further assumes that cash flow streams associated with the merger or acquisition can be predicted. It is also assumed that managers and employees are perfectly aligned to the sole task of maximizing shareholder value. These assumptions simply do not reflect the realities of the managerial world. Secondly, it is argued that the view has contaminated the markets with value short-termism. “Changes in share price provide a convenient but hazardous and single-minded measuring stick” (Jensen and Fuller 2002)

Despite these and other problematic assumptions, the American and British business environments largely accept the event studies perspective and the impact on current shareholder value as the overriding benchmark by which to judge the quality of acquisition decisions (Haspeslagh and Jemison 1991).

2.3.1.2 Accounting Studies

Accounting studies examine the reported financial results of acquirers before and after the acquisitions to see how performance has changed after the acquisitions. The focus of these studies ranges across net income, return on equity, return on assets, earnings per share and liquidity of the firm.
Geoffrey Meeks (1997) explores the gains from merger for a sample of transactions in the United Kingdom between 1964 and 1971. This study examines a relatively large sample of 233 observations and looks at the change in return on total assets (ROA) of the buyer compared to the change in the ROA of the industry. Meeks’ (1997) findings reveal a decline in ROA of the acquirers following the transaction, with performance reaching the bottom after five years. For nearly two-thirds of acquirers, the performance is below the standards of the industry. He concludes that the mergers in the sample suffered a “mild decline in profitability” (p.25).

Mueller (1980) examines a collection of studies across seven nations (Belgium, Germany, France, Netherlands, Sweden, UK and US) and finds that acquirers show no profitability differences.

Ravenscraft and Scherer (1987) studied 471 acquirers between 1950 and 1977. Their principal finding is that profitability is one to two percentage points less for acquirers than control firms-these differences are statistically significant.

Haley, Palepu and Ruback (1992) studied the post-acquisition accounting data for the 50 largest mergers between 1979 and 1984 using industry performance
as benchmark against which acquirer’s performance may be tested. They conclude that asset productivity improves significantly for these forms following acquisition, which contributes to higher operating cash flow returns relative to their non-acquiring peers. Acquirers maintain their rates of capital expenditure and research and development relative to their industries suggesting that the improved performance is not at the expense of fundamental investment in business.

Another study in the same genre is by Cornett and Tehranian (1992) who studied the post-acquisition performance of 30 large banks in the United States. These acquisitions took place between 1982 and 1987. Each of these acquisitions had a purchase price exceeding $100 million. They measured economic performance related to the mergers in a manner similar to Healy, Palepu and Ruback (1992). Operating cash flows divided by the market value of assets were used for performance evaluation. The pre-merger performance was computed for years –1 to –3 before the merger, whereas post-merger performance was studied over the years +1 to +3 after the merger. Comparing the latter with the former is indicative of the impact of the merger on firm performance. The industry mean data was subtracted from the raw sample-firm data to provide the industry-adjusted performance, prior to the comparison between the pre-merger and post-merger figures. This was done to ensure that the influence of economy-wide or
industry factors on the performance data calculated was avoided. The mean annual industry-adjusted cash flow return before the merger was –0.2 per cent for the entire sample and 1 per cent post-merger. This means that, before the merger, the sample banks underperformed as compared to their industry by 0.2 per cent, but outperformed by 1 per cent post-merger. There was a significant (at the 1% level) increase of 1.2 per cent in performance post-merger as compared to before the merger. This study pertained specifically to the US banking industry and hence its results may not be generalizable across other industries. Also, like in the Healy, Palepu and Ruback’s (1992) paper, selecting only the largest mergers may lead to results that cannot be generalized across all sizes of mergers, such as the ones taking place in India. Nevertheless, the methodology adopted here serves as a guiding post for future studies of the same kind.

Switzer (1996), using the methodology followed by Healy, Palepu and Ruback (1992), focused on analyzing the post-merger changes in operating performance. Her contention was that the latter study covered the “merger mania” period in the US and not mergers in general. It thus made sense, according to Switzer, to take up a longer period of mergers in the US, in order to be certain about the applicability of the results of such a study to periods not witness to a merger wave. The study was of 324 acquisitions occurring between 1967 and 1987.
in the US, using the cash flow-based measure of operating performance as in Healy, Palepu and Ruback (1992). It concluded that mergers led to synergistic gains and better performance in the long-term, the median improvement over five years post-merger being a significant 1.97 per cent.

A study by Ghosh (2001) in the United States focused on merging firms’ operating performance after corporate acquisitions. The sample consisted of 315 pairs of target and acquiring firms for which mergers were completed between 1981 and 1995. The performance measure used was operating cash flows, both pre-merger and post-merger, defined as sales minus cost of goods sold, minus selling and administrative expenses, plus depreciation and goodwill amortization expenses. The study compared the pre- and post-acquisition performance of merging firms using control firms as benchmarks, instead of using industry-median benchmarks as used in Healy, Palepu and Ruback (1992). Ghosh contended that using industry-median benchmarks could lead to non-random measurement errors since firms undertake acquisitions following a period of superior performance. The control firms were matched on the basis of similar operating cash flow performance and total asset size before the acquisition. Both size and pre-acquisition performance were thus accounted for. Using a methodology similar to Healy, Palepu and Ruback (1992), the study found that the
cash flows of merging firms increased significantly by 2.4 per cent every year. The median increase in cash flows post-merger by 0.26 per cent per year was statistically insignificant, when the sample firms were compared with matched firms.

Ramaswamy and Waegelein (2003) studied the post-merger financial performance of 162 merging firms that occurred during 1975-1990 in the US. They used industry-adjusted operating cash flow returns on market value of assets as the measure of performance, which was similar to the one used by Healy, Palepu and Ruback (1992). Even their methodology was the same as in the latter, except that they used only firms that had not gone in for any merger during the study period as part of their control sample, since they felt that only that would make the data incorruptible and the results more robust. The study found a significant increase of 12.7 per cent in firm performance after the merger had taken place.

Research on takeovers in the UK has not been able to come to any definitive conclusion about the operating gains from such activity. Manson et al. (2000) studied 44 takeovers in the UK completed between January 1, 1985 and December 31, 1987, wherein the total market value of each of the acquired firms
was over £ 5 million, in a re-examination of the issue of whether UK takeovers resulted in operating gains for the merging firms. They used the cash-flow based measure of operating performance as also the research methodology innovated and introduced by Healy, Palepu and Ruback (1992) and Cornett and Tehranian (1992). Regressing post-takeover operating performance on pre-takeover operating performance using eight variants of the measure, they found that takeovers had led to operating gains ranging from 2 per cent to 14 per cent per year post-merger. This study also provided evidence for non-operating gains resulting from takeovers.

Sharma and Ho (2002) conducted a replication study that attempted to determine whether post-merger synergy is created leading to improved corporate operating performance. Since literature on merger motivations indicates that acquisitions lead to gains, they hypothesize that operating performance post-acquisition is greater than in the pre-acquisition period. They studied 36 Australian acquisitions occurring between 1986 and 1991. They used matched firms to control for industry and economy-wide factors. This match is on the basis of industry and size of the assets. Data three years prior to the merger and three years subsequent to the merger were used for the analysis. Financial ratios were used. Operating cash flow before tax was used as the main post-merger performance
measure. No significant post-acquisition improvement in corporate operating performance was observed. The study used both earnings and cash flow measures of operating performance to rule out the possibility of the result being a consequence of measurement. But results cannot be generalised since it studied only the manufacturing sector in Australia.

2.3.1.3 Surveys of Executives

Surveys of executives by scholars and practitioners draw some or all of their findings from questions posed to managers directly. Such surveys yield insights into value creation that may not be known in the stock market. Surveys of managers do not replace the approaches previously mentioned to examine M&A behaviour, but they complement them and yield additional insights. As Bruner (2002, p. 50) notes, "The task must be to look for patterns of confirmation across approaches and studies much like one sees an image in a mosaic of stones."

Ingham, Kran and Lovestam (1992) surveyed chief executive officers of 146 large firms in the United Kingdom. Of them, 77% believe that profitability increased in the short-term after merger; 68% believe that that the improved profitability lasted in the last run. Chaudhuri and Tabirizi (1999) studied 53
acquisitions by 24 high-tech companies. Their studies report that both sides considered 11 as successful, 9 as clear failures and 33 provided zero or slightly positive but disappointing returns on investment. A study by Anderson Consulting (cited in Bahree, 1999) of larger mergers completed between 1994 and 1997 finds that 44% of all mergers fell short of initial financial and strategic expectations. Another study by KPMG International in 1999 (cited in Deogun, 1999) of 700 of the most expensive deals reports that 17% of the deals increased shareholder value, 30% broke even and 53% reduced shareholder value. Interviews with 107 executives revealed that 82% believed that their deals were successful.

Mukherjee, Kiymaz and Baker (2004) surveyed Chief Financial Officers of US firms engaged in mergers and acquisitions and divestitures to learn their views about these activities and how they value the target firm. They find that the primary motivation for mergers and acquisitions is to achieve operating synergies while the top-ranked reason for divestitures is to increase focus. They find that discounted cash flow is the dominant method for valuing both publicly-held and closely held companies, while market multiple analysis is a distant second.

Surveys by practitioners are often casually reported. This limits the ability to replicate the study and understand the strengths and weaknesses of the methodology adopted. Another problem is, owing to ego, executives tell nicer
things about their own deals than the deals of others. Besides, surveys have a low rate of participation. For these reasons, scholars do not give much attention to practitioner studies.

2.3.2 The Strategic School

“Claiming that the average performance findings of financial economists are of little relevance to the strategist in individual firms, strategic performance researchers have set out to examine the performance impact of a whole series of characteristics of the acquirer, the target, or the relation between them. The variables deemed to be associated positively with performance include relative size, market share, pre-acquisition profitability, and pre-acquisition growth and pre-acquisition experience” (Haspeslagh and Jemison 1991, p. 300)

The issue of relatedness has received a good deal of attention. Early studies on corporate diversification found a clear association, though not a casual relationship, between relatedness and diversification (Ramanujam and Varadarajan, 1989). However, support for relatedness as a determinant of acquisition performance is inconclusive at best. Early acquisition studies reported that related acquisitions outperformed unrelated ones (Kitching 1974). These studies have not been supported by research focusing on operating or stock market
performance data. In an event study of 439 acquiring firms and 430 targets, Elgers and Clark (1980) found that conglomerate mergers offered superior wealth effects of both acquiring and selling stockholders than did non-conglomerate mergers. Chatterjee (1986) reports similar findings.

Nonetheless Singh and Montgomery (1987), in an event study of 203 target firms covering the period 1970-78, report higher abnormal returns for related targets. Shelton (1988), in a study of 28 acquisitions in the 1962-63 periods, comes to similar conclusions, showing significant returns for related acquisitions. Lubatkin (1987), on the other hand, after studying a sample of 340 target firms between 1948 and 1975, concludes that related mergers do not create value more than unrelated ones. Thus, the findings are mixed on relatedness.

The problem with relatedness is the implicit equation in the strategy literature between relatedness and managed interdependence. Though relatedness gives an ex ante indication of potential sources of value creation, it does not determine the nature, scope and probability of value creation (Haspeslagh 1986, Haspeslagh and Jemison 1987). “Taking synergies from relatedness for granted is symptomatic of a more fundamental weakness of the strategy school: its disproportionate emphasis on the strategic task, leaving aside practical impediments to value creation such as interpersonal, inter-organizational, and
Synergy is another phenomenon emphasised by the strategy school. Work by Bradley, Desai and Kim (1983) is among the research that argues that mergers create synergies. They include economies of scale, more effective management, improved production techniques and the combination of complementary resources in their definition of synergies. The concept of synergy has derived from two particular intellectual orientations. The first is the theory of differential managerial efficiency. This theory argues that gains from mergers and acquisitions are due to more efficient organizations and pooling of complementary resources (Gammelgaard 1999). The other perspective relates to the replacement of inefficient management following mergers and acquisitions, i.e. the operation of a market for corporate control (Manne 1965, Fama 1980). More specifically, synergies from mergers and acquisitions have also been categorized into operational synergies, collusive synergies, managerial synergies and financial synergies according to their measurability and ability to generate benefits (Weston et al. 2001, Larsson and Finkelstein 1999).

Authors in the strategy stream have addressed the problem of M&A implementation by advocating better pre-M&A analysis and post-M&A planning (Salter and Weinhold 1979, Howell 1970). In practice, this implies a better
definition of the steps in the M&A processes, conventionally consisting of the definition of objectives, search and screening, strategic evaluation, financial evaluation, negotiation, agreement and post-merger-integration (Haspeslagh and Jemison 1991).

2.3.3 Human Resources and Organizations

While the financial economists study the impact of acquisitions on the economy and the strategists analyse their impact on the firm, human resources and organisation behaviour researchers focus on the impact of acquisitions on individuals. The research incorporates contours reflecting human resource management, crisis management and cultural compatibility ideas. The human resource management tradition focuses on the human problems created by mergers and acquisitions and ways to prevent or minimise them. Crisis literature focuses on acquisitions as an example of organisational crisis. Culture researchers have focussed on the cultural compatibility between the organisations.

Human Resources

The human resource researchers cover the issues associated with pre-merger period and the impact of post-merger events. Typically, only the negative impact is examined. They discuss employee’s feeling of conflict, tension,
alienation, career uncertainty, behavioural problems, stress, loss of productivity, concerns about financial security, geographical relocation and co-worker trust (Buono, Bowditch and Lewis 1988). Some studies have focused on employee turnover. This question is pertinent because retaining key talent and key managers is a critical element of a merger and people problems are behind the failure of many mergers (Kay and Shelton 2000).

The interpretation of turnovers by the human resource researchers bears a stark contrast to the one by the financial economists. Financial economists view turnover as a potential source of financial gain to acquiring shareholders because it implies that value-maximising new management replaces an inefficient management. On the other hand, organisational behaviour writers tend to see turnover as the ultimate symptom of a decaying work environment that is the result of a poor integration process (Pritchett 1985).

The issue of whether the managers and employees of the acquired company accept the new owners and managers has also been studied (Shirley 1977; Graves 1981).

The underlying assumption of the human resources perspective is that “the identification of major problems in an acquisition will facilitate a fairer and less
conflictive resolution of the implementation issues” (Haspeslagh and Jemison 1991 p 305).

Crisis

The crisis literature shares the negative predisposition of the human resources resource school and concentrates mostly on the adaptation process of the employees at the time of, typically, a hostile takeover. It views the negative consequences of acquisition as rites of passage—a necessary organisational crisis requiring individual members to progress through several stages including shock, defensive retreat, acknowledgement and finally adaptation (Marks 1982; Devine 1984).

Culture

Many researchers have seen acquisition integration as a culturally driven phenomenon. They draw on the corporate culture literature and argue that when a decision is made on merger, importance should be given to cultural compatibility between the organizations. They emphasize that “cultures can be a make or break factor in the merger equation” (Fralicx and Bolster, 1997, p.50). They argue that poor culture fit has contributed to the failure of several mergers and acquisitions
between firms that appeared to be suitable strategic partners (Chatterjee et al 1992). Their study of thirty merged or acquired firms shows the importance of culture by demonstrating that investors are sensitive to cultural differences between merger candidates. Therefore, they conclude, firms should be as interested in cultural fit as they are interested in strategic fit. Cultural incompatibility is increasingly being recognized as a source of merger problems that ultimately affects the financial performance of the acquiring firm (Cartwright and Cooper 1990; Daniel and Metcalf 2001). Though cultural fit is very important, it is poorly defined in mergers and acquisitions (Weber 1996). Success rate of mergers can be enhanced through incorporating cultural compatibility into the identification, evaluation, assessment and selection of potential partners (Schuler and Jackson 2001; Schraeder and Self 2003). The purpose of culture assessment is to evaluate factors that may influence organizational fit, understand the future cultural dynamics and prepare a plan for addressing the cultural issues if the deal goes forward (Pucik et al 2001).

Besides, from a cultural concept perspective, one of the reasons for acquisitions being a conflictive process is that they may evolve into one-way imposition of cultural elements by a more powerful group despite the resistance of a less powerful one. Concerns in the acquired company centre on the extent to which its own identity will be retained (Sales and Mirvis, 1985). One possible
solution is to foster an understanding of the elements of the cultures of the two firms and mutual understanding and respect across both the organizations (Sales and Mirvis, 1985). Another solution is the establishment of a high level of communication about the transformation that is going to happen (Buono, Bowfditch and Lewis, 1988). Communication is critically important and where it is practised effectively, it is seen as very positive (Schweiger and Denisi 1991).

More recently, Seo and Hill (2005) identify six theoretical themes ((anxiety theory, social identity theory, acculturation theory, role conflict theory, job characteristics theory, and organizational justice theory) that have implicitly or explicitly formed the basis for explaining employees’ psychological and behavioural responses to mergers and acquisitions related organizational change. Each theory identifies distinct sources of problems that frequently emerge during M&A organizational change processes, predicts their psychological and behavioural effect on employees, and suggests relevant prescriptions to address the problems. These core elements of each theory are summarized in Table 2.6
Table 2.6 Underlying Theories in Merger and Acquisition Literature on behavioural responses of employees

<table>
<thead>
<tr>
<th>Underlying Theories</th>
<th>Sources of Problems</th>
<th>Predicted Outcomes</th>
<th>Related Prescriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety theory</td>
<td>Uncertainty and anticipated negative impact on career and job</td>
<td>Low productivity</td>
<td>Top-down communication; social support; participation in decision making; training managers to empathize and listen to employees; golden parachutes</td>
</tr>
<tr>
<td></td>
<td>Prolonged anxiety and uncertainty</td>
<td>Mental and physical illness</td>
<td>Ongoing communication; speeding up transition</td>
</tr>
<tr>
<td>Social identity theory</td>
<td>Loss of old identities (organizational, professional, work group) Interacting with other organization’s Members</td>
<td>Sense of loss, anger, and grief Denial and refusal of change Intergroup bias and conflict Acts of non-compliance</td>
<td>Disengagement efforts (grieving meetings); proactively assessing strength of existing identities and framing new identities to be more appealing Creating a new identity; fostering cross-organizational arrangements and activities</td>
</tr>
<tr>
<td>Acculturation theory</td>
<td>Contact with or adjustment to different organizational culture</td>
<td>Acculturative stress and resistance Interorganizational tension and conflict Culture clash</td>
<td>Cultural due diligence; fostering multiculturalism; facilitating intercultural learning; heightening awareness of thinking and behaviours that cause culture clash to develop</td>
</tr>
<tr>
<td>Role conflict theory</td>
<td>Ambiguous and conflicting roles</td>
<td>Low job satisfaction Low productivity</td>
<td>Two-way communication; leadership and role clarification</td>
</tr>
<tr>
<td>Job characteristics theory</td>
<td>Changes in post-M&amp;A job environments</td>
<td>Job satisfaction and commitment Absenteeism/turnover</td>
<td>Post-M&amp;A job redesign; employee involvement in job design; job transfer training</td>
</tr>
<tr>
<td>Organizational justice theory</td>
<td>Perceived fair treatment of surviving and displaced employees</td>
<td>Psychological withdrawal Turnover</td>
<td>Fair and objective human resource management; equal participation in decision making; treating employees with dignity and respect</td>
</tr>
</tbody>
</table>

Source: Seo and Hill (2005)

The authors integrate these six theories into a stage model of the mergers and acquisition integration process that predicts how and in which phase of the integration process those unique sources of problems are most likely to emerge.
2.3.4 Process Perspective

The process perspective emerged as response to the strategy school’s inability to emphasize the significance of the mergers and acquisition processes. The basic argument is that the mergers and acquisition process itself can be an important determinant of the various outcomes of mergers and acquisition processes (Jemison and Sitkin 1986). However, the process stream and the strategy stream derive from similar intellectual bases and authors of the process stream have often contributed across. A process stream could thus be viewed as a subset of a more general strategic research stream in the mergers and acquisition process (Vaara 2002). Indeed, the process stream does not undermine the importance of a strategic and organizational fit, but rather draws from classic contributions in this field.

As recognized by Puranam (2001), one of the central tenets in the process approach is that the acquisition of the equity of another company does not automatically lead to the creation of necessary links between the resources of the merging companies. Other measures such as alignment of incentives, the creation of coordination mechanisms and the adjustment of information flows governing the use of the resources are needed (Zollo and Singh 2000). The process stream emphasizes the role of post-merger integration.
The process stream in M&A is interested in the role of change and change management as potential sources of improvements in competitive advantage (Jemison and Sitkin 1986). The M&A process is an underlying mechanism which, if skilfully managed, can potentially help create value through corporate renewal (Haspeslagh and Jemison 1991). The process stream is very much interested in the mergers and acquisition process, or, arguably, a number of M&A processes (Hunt 1990, Pablo 1994).

The process approach poses some sharp questions about M&A: What is the internal organization, i.e. processes, phases and structures, of M&A? Furthermore, if the process is seen as an opportunity to influence the actual outcome of M&A, what are the ways in which a profound understanding of the M&A process can influence its management? Investing in post-merger integration processes, managing corporate culture and focusing on value creation are some of the solutions provided in M&A literature (see e.g. Birkinshaw et al. 2000, Larsson and Lubatkin 2001).

Jemison and Sitkin (1986) propose three critical dimensions for M&A process management-strategic, organizational and process factors. They argue that acquiring companies’ managers frequently omit a variety of impediments in the
process of analysing, negotiating and integrating target firms. Such M&A process impediments have attracted further considerable research attention to the process perspective in general (see e.g. Greenwood et al. 1994, Ashkanasy and Holmes 1995, Kohers and Ang 2000).

2.4 STUDIES ON SELECTION OF ACQUISITION TARGETS

Most studies that incorporate a range of firm characteristics are conducted on targets, mainly with the aim of predicting potential targets for acquisition. These studies have used mainly the categorical classification methods of multiple discriminant analysis, the logit model or the probit model. The prediction of markets in advance of the market is done for the purpose of developing investment strategies to earn abnormal returns. Studies of price movements around the takeover announcements have found that targets capture most of the gains of the takeover. Dodd and Ruback (1977) and Asquith (1983) have found that price movements signalling acquisition occur 30 to 40 days before the announcement and so, the predictive accuracy in advance of the market would allow abnormal returns to be earned. Wansley and Lane (1983) demonstrated that using predictions from an MDA model based on historical data, abnormal returns can be made. However, Palepu (1986) found evidence to the contrary. He concluded that
it is difficult to predict takeover targets and prediction accuracies reported by the earlier studies were overstated. He attributes this to methodological flaws such as the use of non-random equal share samples and use of arbitrary cut of probabilities.

Barnes (1990) says that three factors affect the predictive ability: (i) the strict statistical assumptions on which the estimating procedures are used, (ii) further statistical implications arising from the way in which sample is chosen and the predictive ability of the model which includes, the stability over time. One key assumption is multi-variate normality. Industry relative ratios obtained by dividing a firm’s ratio by industry average ratio may solve this problem. If this problem is addressed, the MDA model will be an optimum classification model. One way to address the problem of stability is to estimate industry specific models.

**2.4.1 Multiple Discriminant Analysis**

Usually, the statistical technique of multiple discriminant analysis (MDA) has been used in order to estimate a linear model that best discriminates between two groups of population in terms of their distinguishing financial characteristics.

Important studies using multiple discriminant analysis are the ones by Singh (1975), Wansley (1984), Simkowitz and Monroe (1984)
2.4.2 Probit Models

Harris, Stewart, Gulkey and Carleton (1982) used probit models on financial and product market variables to study the likelihood of a firm being a target. Pastena and Ruland (1986) studied the decision to merge as an alternative to bankruptcy using. Probit analysis

2.4.3 Logit Models


2.4.4 Artificial Neural Network

The detailed analysis of the findings of the research studies on prediction models is presented in Chapter 3.

2.5 RESEARCH ON MERGERS AND ACQUISITIONS IN THE PHARMACEUTICAL INDUSTRY

A limited number of studies investigate various effects of M&A in the pharmaceutical industry. Nicholson and McCullough (2002) examine mergers between biotech companies and pharmaceutical companies to determine whether or not these are characterized by asymmetric information. Danzon et al. (2004) investigate mergers and acquisitions in the biotech-pharmaceutical industry controlling for propensity to merge as defined by probability to merge due to patent expiration, depleted product pipelines, and observable firm characteristics. Using a model that endogenizes the propensity to merge (ptm), they find that firms with high ptm scores have low growth rates in R&D expenditure and sales regardless of whether they merge or not, implying a negative post-merger effect on internal R&D and on sales. Large firms merge to fill gaps in the production pipeline and anticipated patent expirations, while small firms merge as an exit strategy. Smaller companies do not have the large field sales force needed to
market a drug effectively. So many of these smaller companies develop compounds and align with larger companies.

The study by Hassan et al (2007) analyzes mergers and acquisitions in the US pharmaceutical industry that took place in the period 1981-2004. The study examines short-term abnormal returns separating mergers from acquisitions and US-based acquisition targets from foreign-based M&A targets. It examined 405 mergers and acquisitions that took place during the period of study. The study found evidence for short and long-term abnormal returns, as well as improvement in accounting measures of performance and efficiency effects for acquisitions but not for mergers. However, the results suggest that mergers with US-based targets are not value destroying.

Demirbag et al. (2007) studied mergers and acquisition activity based on a sample of giant pharmaceutical companies that went through mergers and acquisitions and independent rival firms that did not go through the process. Relying on multiple indicators of performance, the post-merger performance of the former companies was compared with their pre-merger performance as well as with the performance of other major pharmaceutical firms that have not been involved in mergers and acquisitions activity. The study concluded that no value
creation was realized in the sample firms that went through mergers and acquisitions in terms of research productivity, return on investment and profit margin. The merged entities had lower research productivity than those of both pre-merged firms and independent rival firms that did not go through mergers and acquisitions. With regard to return on investment, merged entities were not better than their pre-merged firms, but performed relatively better than their rivals who did not go through the process. As far as the profit margin is concerned, the sample merged companies, however, appeared to have better performance than pre-merged firms and performance almost on par with the rivals that did not undergo mergers and acquisitions.

2.6 MERGERS AND ACQUISITIONS RESEARCH IN INDIA

Several researchers have studied the mergers and acquisitions that have taken place since 1991. Some of these prominent studies are Beena (1998), Roy (1999), Das (2000), Saple (2000), Basant (2000) and Kumar (2000).

Study by Beena (1998) is one of the early attempts to analyse mergers in the post-liberalisation regime. It analyses the trends of mergers in India between 1974-75 and 1994-95. The study does a deep analysis of mergers in the private corporate manufacturing sector between 1990 and 1994. It selects a sample of 45
mergers and attempts to identify the characteristics and causes of mergers and their impact on the financial performance.

Roy (1999) analyses merger and acquisition activity using the CMIE for the period between September 1995 and August 1997. The study follows the case study approach. It characterises mergers in terms of their types and attempts to identify the likely causes for mergers and acquisitions.

Saple (2000) analyses a sample of 36 firms involved in mergers between the period 1992 and 1995 to identify the characteristics of the acquirer and acquired firms with respect to the characteristics of other firms in the same industry. The study also analyses the pre-merger and post-merger performance of the acquiring firms.

Basant (2000) analyses mergers between 1991 and 1997 and attempts to find out the nature, causes and distribution of mergers by broad industry groups.

The study by Kumar (2000) makes an exploratory attempt to map out the mergers in the Indian corporate sector by multinational enterprises and their associates between April 1993 and February 2003. It examines the industrial composition of the deals and their motives.
Das (2000) analyses mergers into vertical and horizontal mergers and studies the performance impact of mergers.

The Indian research on mergers and acquisitions can be studied from the following perspectives: types of mergers, factors leading to mergers and acquisitions, the impact of mergers and acquisitions and selection of acquisition targets.

Several studies have been conducted on the types of mergers. In their analysis of mergers by MRTP companies, Rao and Rao (1987) observe that these companies preferred horizontal and conglomerate mergers to vertical integration. Many post-1991 studies also highlight the importance of horizontal mergers and acquisitions. In the study by Beena (1998) study of 45 merger cases, around 69% were horizontal mergers. In a sample of 35 firms, Saple (2000) finds that 14 cases are horizontal mergers. Roy (1999) studies the mergers that took place during the period 1995-1997 and observes that the most of the companies that were taken over were horizontally related to the acquirer. Das (2000) observes that 65% of the merger cases in her sample were horizontal in nature. These results are confirmed for a large sample of 397 mergers analysed by Basant (2000). This study finds that 60% cases of mergers that took place in the 1990s were horizontal mergers.
A few studies focus on the reasons for the spurt in mergers and acquisitions. Based on the trends in merger activity from 1974-75 to 1994-95, Beena (1998) finds acceleration in the merger activity in the liberalised regime of the 1990s. A number of factors have contributed to the spurt in the merger and acquisition activity. With the relaxation in rules and regulations, many companies prefer growth through mergers and acquisitions to green field growth plans. According to Das (2000), in the new industrial climate following economic liberalisation, both domestic firms and foreign in India chose to derive economic advantage by preferring growth through mergers and acquisitions to starting new ventures.

Basant (2000) observes that economic reforms have reduced economic rigidities and enhanced competitive pressure. Corporate restructuring through mergers and acquisitions is a response to the opportunities and threats associated with the new economic environment.

The study by Roy and Roy (1987) that reviews the pre-1991 period highlights the importance of efficiency gains and reduction in expenditure as important motives for merger. Concerning the post-1991 period, Beena (1998) argues that the merger wave in the early nineties was a mere means of internal
restructuring rather than as an instrument to facilitate increase in product market share. She observes that the internal restructuring was aimed at possibly increasing the market size, deriving financial and marketing benefits and exploring scale economies. Moreover, there were signs of vertical mergers that aimed at linking the production firms of the firms closely and increasing the size. In terms of available evidence, Das compares pre-merger and post-merger size for a sample of 18 acquiring companies. Overall mergers seem to have been driven by the motive to increase size.

Some of the research studies have attempted to study the impact of mergers and acquisitions on the profitability of merged firms. Das (2000) compares the pre-merger and post-merger operating profit margin for a sample of 14 acquiring firms and find a decline in profitability in eight of these companies after merger. The study by Saple (2000) supports these findings. It observes that mergers do not lead to an improvement in performance as measured by profitability adjusted for the industry average. Beena (1998) also finds no significant difference in the rate of return and profit margin between the periods before merger and after the mergers. Overall, the results point to the mergers being driven by managerial self-interest.
Saple (2000) compares the pre-merger profitability of the firms involved with the industry average and finds that the target firms were better than industry averages while the acquiring firms were had lower than industry average profitability. Overall, acquirers were high growth firms that had improved their performance over the years before the merger and had a higher liquidity. The target firms were, on the other hand, were firms with higher than industry profitability that had deteriorated over the period just prior to the merger.

Das (2000) compares the pre-merger profitability of acquirer and target companies and finds that acquiring companies had higher pre-merger profitability in 18 of the 25 merger cases considered. It shows that, in general, acquiring firms were more efficient than the corresponding targets in terms of profitability. This confirms the findings of Roy (1999) and Beena (1998).

Das (2000) compares the pre-merger average net sales for the acquirer and target firms and finds that in 86% of the cases, acquiring companies had higher pre-merger sales compared to target firms. In general, acquiring firms were larger in size than the respective targets. She analyses the gearing ratio and finds that in 68% cases, the ratio was higher for target companies than for acquiring
companies. Her study also reveals that the concentration ratio at the product level group has gone up as a result of dominance of horizontal mergers.

Pawaskar (2001) studied 36 mergers that had taken place in India between 1992 and 1995. Using accrual measures of accounting spread over three years before and after the merger, the study found that the profitability of the merged firms was impacted negatively due to the merger, i.e., corporate performance did not improve significantly post-merger. A majority of the mergers studied in this paper were between companies belonging to the same business group, carried out as part of corporate restructuring. This might make the result quite specific and not generalizable.

Ramakrishnan (2008) used cash flow accounting measures to study whether firm performance improved in the long-run post-merger. A sample of 87 companies was studied. The study concluded that efficiency improved after merger and the reason for the improvement in efficiency is due to synergistic benefits and enhanced utilisation of assets to generate higher sales.

Raj Kumar (2009) compares the pre-merger and post-merger operating performance of companies using accounting data to examine merger related gains to acquiring firms. The study finds that post-merger profitability, assets turnover and solvency of the acquiring companies, on average, do not show significant improvement when compared with pre-merger values.
A few studies have attempted to study the characteristics of targets of acquisition. Kaur (2002) used multivariate discriminant analysis to test a model to classify firms into targets and non-targets in the Indian context. The discriminating variables in the classification test were modified net profit margin or operating margin, in other words, earnings before interest and taxes (EBIT) divided by sales, return on capital employed (ROCE), debt equity ratio, assets turnover ratio, current ratio, cash flow to sales, enterprise value (EV) divided by earnings before interest, taxes, depreciation and amortization (EBITDA) and market price to book value. The model was able to discriminate correctly to the tune of 62.2 per cent.

Dhayanithy and Vasudevan (2004) applied the logit model to predict corporate takeovers. This model was used by them to categorize the sample firms into takeover targets and non-takeover targets with an accuracy of 92.4 per cent.

The study by Kumar and Rajib (2007) uses the Man Whitney U test and Kolgomorov-Smirnov test to analyse the distinctive characteristics of acquiring and acquired firms. It studies the mergers during the period 1993-2004. It builds a logistic regression model to examine the likelihood that a firm will be the target of an acquisition attempt. It concludes that low liquidity and small size increase the
likelihood of being acquired. The acquiring firms have high cash flows, high P/E ratios, high book-value, high liquidity and low debt-to-asset ratios.

Basu, Dastidar and Chawla (2008) estimate two models for the takeover selection process in India by identifying discriminating variables that help delineate bidder and target firms. They have used discriminant analysis and logit regression for the purpose of developing the appropriate frameworks based on sample data of companies involved in a merger, acquisition or takeover during the period 2002 to 2005. Variables tested were measures of leverage, size, liquidity, profitability, growth, operating efficiency, retention, return on equity and risk. Both the techniques identified liquidity, profitability, size, risk and growth as the most significant discriminating variables. Results indicated that targets have higher liquidity, growth and size on one hand and lower risk, leverage, profitability and operating efficiency on the other. These results appear support the theory that takeovers are a market share enhancing mechanism. Synergy gains through economies of scale or scope, reducing cost of capital or increasing debt capacity could be other driving factors. The discriminant model developed by the study correctly classifies bidder and target firms to the tune of 64.8 per cent and has been applied to holdout sample for the year 2006 for verifying its predictive power. The logit model appears to be a better fit for bidders with a prediction accuracy of 99.1 per cent, which increases to 100 per cent for the holdout set. In
case of targets, prediction accuracy increases from 8.9 per cent to more than 23 per cent over the two data sets. Both models yield similar results as both formulations display the same relationships for the independent variables with the dependent and also find current ratio as being the most important variable.

Various international studies emphasise the importance of post-merger integration for effective performance. Literature on integration aspects of mergers and acquisitions in India is rare to come across.

2.7 IDENTIFICATION OF THE RESEARCH GAP

The review of literature on mergers and acquisition reveals that the phenomenon of mergers and acquisitions has attracted the interest and research attention of a broad range of management disciplines encompassing the financial, strategic, behavioural, operational and cross cultural aspects of mergers and acquisitions. The mergers and acquisitions literature continues to be dominated by financial and market studies, with a high concentration of interest in the USA and UK (Cartwright 2005). Thus, the majority of research on mergers and acquisitions has been carried out in the USA and UK. Besides, even in the USA and UK, very few studies have been conducted on mergers and acquisitions in the pharmaceutical industry.
An analysis of the mergers and acquisition literature in India reveals that most of the research deals with trend analysis of mergers and the post-merger profitability of the merged entities. Growth, expansion, market power and efficiency gains have been identified as the main motives for mergers. Industry specific mergers and acquisition studies are very few. Studies that employ sophisticated statistical tools to identify the motives behind mergers and acquisitions, the characteristics of companies that undertake mergers and acquisitions and the characteristics of companies that become acquisition targets are very rare to find. As in the USA and UK, practically no research has been done on mergers and acquisitions in the pharmaceutical industry.

The study is essentially focused on the pharmaceutical industry for several reasons. First, the industry is global in nature and engages in mergers and acquisitions activity extensively. Hence, the findings of the study may have wide applicability. Secondly, the industry is different from other industries because of the exorbitant cost involved in bringing a new drug to the market and the low success rates for drugs coming through the pipeline. There is an inherent incentive for a pharmaceutical company to use mergers and acquisitions activity either to supplement or substitute for early stage research. A finding of high abnormal short-term returns might be expected given the higher returns required to offset higher risks. Thirdly, the companies in the industry have the well-known
propensity to seek mergers and acquisitions with companies that have “blockbuster drugs”. Fourthly, the monopoly or oligopoly structures that exist in several pharmaceutical product markets support the expectation of abnormal returns from mergers and acquisitions, at least while the patent protection is in effect. Finally, the shift from the process patent regime to the product regime has posed a challenge to the Indian pharmaceutical industry that has all along been depending on reverse engineering for new product development. The companies in the industry have to achieve a critical size that is necessary for enabling them to invest sufficiently on research and development so that they will be able to develop new products that will enable them to survive in the new competitive environment. This growth may come from mergers and acquisitions.

With this backdrop, this study attempts to identify the characteristics of companies in the pharmaceutical sector that become acquisition targets, isolate the important characteristics that indicate the possibility being acquired and develop a statistical model that will indicate the probability of being acquired.

The study has constructed a comprehensive database of companies in the pharmaceuticals industry that have become acquisition targets since 1991. It uses financial and stock market data to study the characteristics of the companies that
have become acquisition targets and those that have not become acquisition targets.