Chapter 2

Review of Existing Literature
Chapter 2

Review of Related Literature

Chapter Objective:
The purpose of this chapter is to review the available literature in the field of M&As. The chapter begins with a brief review of available literature on merger motives and the Rule of Three. It then reviews the findings of various studies on financial implications of M&As i.e. value creation in M&As, and relationship between macroeconomic fundamentals and M&As. The chapter also briefly reviews the available literature on effects of M&As on R&D, and the benefits of consolidation for the existing players. Based on the review of available literature, the chapter then goes on to identify the gaps and opportunities for further research.

The ever-growing interest in Mergers & Acquisitions worldwide has triggered numerous research studies. M&A motives, M&A consequences, key success factors of M&As, value creation for acquiring and acquired companies and combined entities, impact of M&As on employees, etc. have been researched at great length by research scholars. A wealth of literature is available, and an attempt is made below to review few of the topics mentioned above.

2.1 Merger Motives
Merger motives have triggered far less theoretical efforts than merger consequences. But still the field has brought forth many different theories. Most observers agree that mergers are driven by a complex pattern of motives, and that no single approach can render a full account (Steiner, 1975;
Ravencroft and Scherer, 1987). The various motives can be categorized as shown in Table 1 below.

<table>
<thead>
<tr>
<th>Merger as rational choice</th>
<th>Merger benefits bidder’s shareholders</th>
<th>Net gains through synergies</th>
<th>Efficiency theory</th>
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<td>Wealth transfer from customers</td>
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<td>Net gains through private information</td>
<td>Valuation theory</td>
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<td>Merger benefits managers</td>
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<th>Merger as process outcome</th>
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<th>Process theory</th>
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<td>Merger as macroeconomic phenomenon</td>
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<td>Disturbance theory</td>
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Many studies cite the **efficiency theory** as the primary motive for mergers. In general, three types of synergies can be distinguished viz. financial, operational and managerial. Financial synergies result in lower costs of capital. One way to achieve this is by lowering the systematic risk of a company’s investment portfolio by investing in unrelated businesses. Another way is increasing company’s size, which may give it access to cheaper capital. The idea of financial synergies has received sharp theoretical criticism. Montgomery and Singh, 1984, and Rumelt, 1986 argue that financial synergies because of lower systematic risk cannot be achieved in an efficient capital market. Size advantages, however, seem to exist in the capital market (Scherer et al., 1975).
Operational synergies can stem from combining operations of hitherto separate units or from knowledge transfers (Porter, 1985). Both kinds of operational synergies may lower the cost of the involved business units or may enable the company to offer unique products and services. These potential advantages have to be weighed against the cost of combining or transferring assets.

Managerial synergies are realized when the bidder’s managers possess superior planning and monitoring abilities that benefit the target’s performance. A sideline to this argument is the positive motivation effects ascribed to leveraged buyouts (Jensen and Murphy, 1988). Managerial and operational synergies have, however, been criticized as evasive concepts that are often claimed for mergers but seldom realized (Kitching, 1967; Porter, 1987).

Merger makers frequently cite synergy arguments to justify their actions (Porter, 1987; Friedman and Gibson, 1988; Maremont and Mitchell, 1988). The differing perception of close observers (Rothman, 1988; Smith and Sandler, 1988) is the best indicator that direct evidence can produce unreliable results.

Indirect evidence on the efficiency theory comes from three different types of studies. Event studies as summarized by Weston and Chung (1983), Jensen (1984), Dennis and McConnell (1986), and Ravenscraft and Scherer (1987) show that stock market in general values mergers positively. Almost all of the gains, though, are reaped by the targets’ shareholders while the bidders’ shareholders gain nothing on average. Moreover, Ravenscraft and Scherer (1987) show that over 21 years, only two of the most active acquirers of the 1960s outperformed the S&P industrials index. Studies using company
performance data paint an even bleaker picture. Porter (1987) found that more than half of the acquisitions by major US companies failed. On the other hand, his study showed related acquisitions to turn out better than unrelated ones, where three in four failed. Montgomery and Wilson (1986) reported similar figures but no difference between the two types of diversification. Ravenscraft and Scherer (1987) estimated a divestiture rate of one and three, and found the most active acquirers in their sample to be less profitable than the US industry average. A third group of studies has investigated synergy categories. Kitching (1967) concluded that it was financial, not operational, synergy that could be achieved through mergers. Chatterjee (1986) obtained closely similar results. In a more specific study, Shelton (1988) analyzed how far relatedness categories explained value gains in mergers. She found the categories to be only partially significant.

In sum, the efficiency theory’s record is unfavourable. It appears to be consistent with stock market quotations but less with companies’ actual performance.

The **monopoly theory** views mergers as being planned and executed to achieve market power. One possible way is tacit collusion with competitors it meets in more than one market. This theory of mutual forbearance was developed by Edwards (1955). A practical example is building a foothold in a competitor’s main market (Porter, 1985). Another possible way is concentric acquisition be a market leader. These kinds of advantages have been referred to as collusive synergies (Chatterjee, 1986) or competitor interrelationships (Porter, 1985). There is some indirect evidence on the monopoly consequences of mergers. Jensen (1984), Ravenscraft and Scherer (1987) have rejected the monopoly theory, while Feinberg (1985) has generally accepted it. But overall, the
monopoly theory’s record appears to be even poorer than that of efficiency theory.

The *valuation theory* states that mergers are planned and executed by managers who have better information about the target’s value than the stock market (Steiner, 1975; Holderness and Sheehan, 1985; Ravenscraft and Scherer, 1987). Bidder’s managers may have unique information about possible advantages to be derived from combining the target’s businesses with their own. Or they may have detected an undervalued company that only waits to be sold in pieces. Like the financial synergy argument, this hypothesis conflicts with that of an efficient capital market. It has however been argued that the two are not exactly incompatible because the latter only requires that all publicly available information be incorporated in the stock price (Ravenscraft and Scherer, 1987). If the bidder possessed private information about the target’s value (excluding synergies), he would reveal it in his bid. The stock price would climb to reflect the new information leaving the bidder in a winner’s curse situation. In this sense, an efficient market does not preclude the existence of undervalued target firms, but only the possibility of capitalizing on revealed private information (Wensley, 1982).

There is widespread evidence that merger makers justify their actions in terms of the valuation theory. Ravenscraft and Scherer (1987) cite a wide array of according statements. Probably the most telling piece of information is how widespread the disbelief in stock market efficiency is. In the often-cited Harris poll in 1984, 60 percent of the executives thought their company was undervalued while 32 percent agreed with the stock market, and 2 percent felt overvalued (Business Week, 20 February 1984). These statements are clearly not sufficient to make the valuation theory the merger explanation of choice. But the concept of private information as a basis of merger warrants further
consideration, since it shows a way the problematic assumption of capital market efficiency can be avoided.

According to the *empire-building* theory, mergers are planned and executed by managers who maximize their own utility instead of their shareholders’ value. There is some related evidence from work concerned with merger consequences but it is mostly supportive. You et. al. (1986) found that management share ownership and the number of inside directors were negatively associated with merger results. Walsh (1988) reported that merging companies have a higher executive turnover than non-merging companies, which supports an explanation of mergers in terms of managers’ quest for opportunities. Ravenscraft and Scherer (1987) concluded from the case studies accompanying their study that empire-building aspects play some role in merger decisions. Rhoades (1983) and Black (1989) each surveyed some of the evidence on merger consequences and found it to be consistent with their own empire-building arguments.

The *process theory* of merger motives has its background in the literature on the strategic decision process. Duhaime and Schwenk (1985) discuss the influence of individuals’ limited information processing capabilities on acquisition and divestment decisions. Roll (1986) works out the implications of managerial over-optimism. In his hubris hypothesis, managers’ expectations are systematically erroneous with the upward bias since a stock market’s price serves as a downside cut-off point. Overly good expectations lead to bids that would not be made by rational bidders. There is scarce direct evidence relating to the process theory. In a summary of earlier studies concerned with the acquisition process, Power (1983) reported mostly supportive evidence. The majority of studies concluded that the acquisition indeed was not entirely a rational decision. There was an evidence of suppressed uncertainty, lack of
planning, political influences, varying process participants, and no agreed upon acquisition criteria. Song (1982) gathered evidence that supports the assertion that senior executives’ background plays a role. As reported above, Walsh (1988) found executive turnover to rise after a merger, a fact that may indicate procedural conflicts. Duhame and Schwenk (1985) and Jemison and Sitkin (1986) gathered illustrative material on how cognitive simplifications and other process factors can affect a merger.

In Gort’s (1969) *disturbance theory*, merger waves are caused by economic disturbances. They cause changes in individual expectations and increase the general level of uncertainty. Thereby they change the ordering of individual expectations. Previous non-owners of assets now place a higher value on these assets than their owners, and vice-versa. The result is a merger wave.

2.2 The Rule of Three

Sheth and Sisodia (2002) in their famous book titled “The Rule of Three : Surviving and Thriving in Competitive Markets” have aptly described the ‘Rule of 3’ which exists in each competitive market that is generally free of regulations. The following paragraphs extensively draw on this book.

Competitive markets evolve in a predictable manner and, once mature, exhibit many similarities across industries and geographies. Most notably, each market tends to be dominated by three major, volume-driven firms, termed as “full-line generalists,” surrounded by a constellation of smaller margin-driven firms that are either product or market specialists. The three large firms together control approximately 70% to 90% of the market; niche players serve the balance. Further, a company needs a market share of at least 10% to be viable as a full-line generalist. In between the generalists and specialists is a gap, representing a market share of between 5% and 10%. It is in this “ditch”
that efficiency suffers and financial performance tends to be weakest relative to other levels of market share.

The strategic implications of the “Rule of Three” are myriad. Marginal full-line players (those with market shares close to 10%) are in danger of being pushed into the ditch by the larger players. Specialists that grow unwisely are in danger of being pulled into the ditch by the lure of greater market share. Particular competitive strategies spell success at various levels within a market; and there are distinct strategies that companies need to pursue, depending on whether they are No. 1, No. 2, No. 3, ditch-dwelling or specialist players.

Just as living organisms have a reasonably standard pattern of growth and development, so do competitive markets. Through competitive market forces, markets that are largely free of regulatory constraints and major entry barriers (such as very restrictive patent rights or government controlled capacity licenses) eventually get organized into two kinds of competitors: full-line generalists and product/market specialists. Full line generalists compete across a range of products and markets, and are volume-driven players for whom financial performance improves with gains in market share. Specialists tend to be margin-driven players, which actually suffer deterioration in financial performance by increasing their share of the broad market. Contrary to traditional economic theory, then, evolved markets tend to be simultaneously oligopolistic as well as monopolistic.
Figure 2: The Rule of Three (Sheth and Sisodia, 2002)

Figure 2 plots financial performance and market share, illustrating the central paradigm of the Rule of Three: in competitive, mature markets, there is only room for three full-line generalists, along with several (in some markets, numerous) product or market specialists. Together, the three “inner circle” competitors typically control, in varying proportions, between 70% and 90% of the market. To be viable as volume-driven players, companies must have a critical-mass market share of at least 10%. As the figure shows, the financial performance of full-line generalists gradually improves with greater market share, while the performance of specialists drops off rapidly as their market share increases. There is a discontinuity in the middle, mid-sized companies almost always exhibit the worst financial performance of all. The middle position can be labeled the “ditch,” the competitive pothole in the market (generally between 5% and 10% market share) where competitive position (and, thus, financial performance) is the weakest. The rule of competitive market physics is very simple - those closest to the ditch are the ones most likely to fall into it. Therefore, the most desirable competitive positions are
those furthest away from the middle. Firms on either side of the ditch especially those close to it need to develop strategies to distance themselves. If a firm in a mature industry finds itself in the ditch, it must carefully consider its options and formulate an explicit strategy to move either to the right or the left.

The Rule of Three applies (and renews itself) at every stage of a market’s geographic evolution from local to regional, regional to national, and national to global. It draws on fundamental truths about consumer psychology (e.g., the “evoked set” of brands typically considered by most consumers consists of three alternatives), competitive dynamics and the balance of power.

The Rule of Three applies wherever competitive market forces are allowed to determine market structure with only minor regulatory and technological impediments. It would, therefore, not apply in markets where the following factors are significant:

1. **Regulation** - If regulatory policies hinder market consolidation (as they have in Japan) or allow for the existence of “natural” monopolies, the Rule of Three is not operational. With deregulation, it comes into play, as with the U.S. airline, trucking and telecommunications industries.

2. **Exclusive rights** - If patents and trademarks are major factors in a market, it must be viewed as a collection of sub-monopolies, and is thus not subject to market forces. In the chemical and pharmaceuticals markets, therefore, we are less likely to see the Rule of Three govern market evolution. However, in recent years, the pharmaceutical industry has seen a large number of mergers and appears to be gradually moving toward the Rule of Three; this is due to the fact that large pharmaceutical firms are now participating in the growing generic sector as well as patented drugs, and patent-based sub-monopolies are
being eroded as firms target the same therapeutic class with multiple drug formulations.

3. **Licensed economy** - The Rule of Three cannot operate in economies in which companies are not free to adjust their production levels up or down based on market conditions. With the passing of India’s infamous “License Raj” of old, market forces have come increasingly to the fore, leading many companies to achieve greater economies of scale through production growth as well as mergers. The WTO has been a prime driver in raising the competitive intensity of industries internally as well as from the outside.

4. **Major barriers to trade and foreign ownership of assets** - In this case, the Rule of Three can operate at the national level but not at the global level. The Rule of Three may still be seen in the formation of global groups or alliances, which is likely to occur in the global telecommunications market.

5. **Markets with a high degree of vertical integration** - To the extent that certain customer groups are captive to in-house suppliers or vice-versa, the emergence of three full-line players in the supplier market is unlikely. Vertical integration does not allow competitive market forces to operate. It ties up suppliers and customers internally so they are not free to buy or sell in the open market.

6. **Markets with combined ownership and management** - If ownership and management are combined, as in the case of professional services, the market process is not allowed to work. Ownership creates an emotional attachment, and inhibits rational economic decision-making. When these barriers begin to fall, markets start moving towards the Rule of Three.

Several factors are now triggering the Rule of Three across the Indian commercial landscape. The primary factors are the liberalization of the economy, leading to increased domestic competition, and the growing presence of global brands and companies. Other factors include the gradual withdrawal of the public sector from many industries, the explosive growth in
national media (especially television), the growth of the organized retail sector, and the recognition by the large business houses that they must focus on their core competencies and exit marginal business lines. The application of the Rule of Three to the Indian market is moderated by two significant and persistent factors: the presence of a large unorganized and unbranded sector in many industries, and the presence of many regional players (given cultural and language differences between regions as well as logistical considerations). While both of these factors will gradually wane in coming years (as they have elsewhere in the world), they continue to be significant for now.

Finally, an implicit understanding of the Rule of Three lies behind General Electric’s well-known “Number 1” or “Number 2” approach to restructuring in the 1980s. When Jack Welch laid down these guidelines that GE would have to be No.1 or No.2 in any business that it remained in, he was recognizing the constant pressures and pulls on businesses that are No.3 in their market.

As more markets become globalized or get transformed through technology in coming years, managers everywhere will have to reassess their corporate positioning and strategic goals. For some, this will spell an once-in-a-lifetime opportunity to seize the initiative and firmly establish their companies on a larger stage. For many others, it will require hard thinking about strategic choices, and the courage to make painful but necessary decisions about markets not served and products not offered.

2.3 Value Creation in M&As

There is an extensive literature on the implications of mergers and acquisitions and the market for corporate control for value creation. A more extensive survey of this literature can be found in Jensen and Ruback (1983), Datta et al. (1992) and Bruner (2002). Bruner (2002) studied and summarized the findings
of 130 research papers from 1971 to 2001. The mass of research suggests that while target shareholders earn sizable positive market returns, bidders earn zero adjusted returns, and that bidders and targets combined earn positive adjusted returns. According to Bruner (2002), research offers four approaches to measure M&A profitability.

- **Event studies**: These examine the abnormal returns to shareholders in the period surrounding the announcement of a transaction. The raw return for one day is simply the change in share price and any dividends paid, divided by the closing share price the day before. The *abnormal return* is simply the raw return less a benchmark of what investors required that day—typically, the benchmark is the return dictated by the capital asset pricing model (CAPM) or quite simply the return on a large market index, such as NIFTY. These studies are regarded to be *forward-looking* on the assumption that share prices reflect the present value of expected future cash flows to shareholders. Since the 1970s, these studies have arguably dominated the field.

- **Accounting studies**: These examine the reported financial results of acquirers before, and after, acquisitions to see how financial performance changed. The focus of these studies ranges across net income, return on equity or assets, EPS, leverage, and liquidity of the firm. These studies are structured as matched-sample comparisons, matching acquirers with non-acquirers based on industry and size of firm. The question is whether the acquirers outperformed their non-acquirer peers.

- **Surveys of executives**: These present a sample of executives with a standardized questionnaire, and aggregate the results to yield generalizations.

- **Clinical studies**: These focus on one transaction or on a small sample in great depth, deriving insights from field interviews with executives and knowledgeable observers. This is inductive research. By drilling down into detail and factual background of a deal, researchers often induce new insights.
Table 2 (Bruner, 2002) summarizes the approach, strengths, and weaknesses of each research method.

Table 2: Comparison of Research Approaches regarding the Profitability of M&As

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<th>Market-based Returns to Shareholders (“Event Studies”)</th>
<th>Accounting Studies: Returns estimated from reported financial statements</th>
<th>Surveys of Managers</th>
<th>Clinical Research (Case Studies)</th>
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</thead>
<tbody>
<tr>
<td>Strengths</td>
<td>• A direct measure of value created for investors.</td>
<td>• Credibility. Statements have been certified. Accounts have been audited.</td>
<td>• Yields insights into value creation that may not be known in the stock market.</td>
<td>• Objectivity and depth in reconstructing an actual experience.</td>
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<tr>
<td></td>
<td>• A forward-looking measure of value creation. In theory stock prices are the present value of expected future cash flows.</td>
<td>• Used by investors in judging corporate performance. An indirect measure of economic value creation.</td>
<td>• Benefits from the intimate familiarity with the actual success of the acquisition.</td>
<td>• Inductive research. Ideal for discovering new patterns and behaviour.</td>
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<td>Weaknesses</td>
<td>• Requires significant assumptions about the functioning of stock</td>
<td>• Possibly non-comparable data for different years. Companies may change their</td>
<td>• Gives the perspectives of managers who may</td>
<td>• Ill-suited to hypothesis testing because</td>
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<td>Markets: efficiency, rationality, and absence of restrictions on arbitrage. Research suggests that for most stocks these are not unreasonable assumptions, on average and over time. • Vulnerable to confounding events, which could skew the returns for specific companies at specific events. Care by the researcher and law of large numbers deal with this.</td>
<td>Reporting practices. Reporting principles and regulations change over time. • Backward looking. • Ignores value of intangible assets. • Sensitive to inflation and deflation because of historic cost approach. • Possibly inadequate disclosure by companies. Great latitude in reporting financial results. • Differences among companies in accounting policies add noise. • Differences in accounting principles from one country to the next make cross-border comparison difficult.</td>
<td>or may not be shareholders, and whose estimates of value creation may or may not be focused on economic value. • Recall of historical results can be hazy, or worse, slanted to present results in the best light. • Typically surveys have a low rate of participation (2-10%) that makes them vulnerable to criticisms of generalizability.</td>
<td>the small number of observations limits the researcher’s ability to generalize from the case(s). • The research reports can be idiosyncratic making it difficult for the reader to abstract larger implications from one or several reports.</td>
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Based on his study, Bruner (2002) concluded the following:

- **Does pay.** This answer is certainly justified for shareholders of target firms. Also, studies of targets and buyers *combined* seem to suggest these transactions create some joint value. But for bidders alone, there is no clear value creation in the sense of earning returns significantly in excess of the opportunity cost of capital—only 20-30% of all transactions seem to do so.

- **Doesn’t pay.** This is true if the focus is only on bidders, and define “pay” as creating material and significant abnormal value - this line of reasoning is behind statements that 60-70% of all M&A transactions “fail.” But economics teaches that investors should be satisfied if they earn returns just equal to their cost of the lost opportunity (i.e., their required return). Therefore, the popular definition of failure is extreme. The reality is that 60-70% of all M&A transactions are associated with financial performance that at least compensates investors for their opportunity cost—against this standard it appears that buyers typically get at least what they deserve.

- **It depends.** Value is created by focus, relatedness, and adherence to strategy. Diversification (especially conglomerate), size maximization, empire building, and hubris destroy value. The implication of this is that good deals are not achieved by pricing alone: strategy and skills of post-merger integration matter immensely. Some rich insights can be derived from an examination of types of deals. The key implication of these insights is that managers *can* make choices that materially influence the profitability of M&A.

### 2.4 Relationship between M&As and Macroeconomic Fundamentals

Literature has largely argued that there exists a dynamic relationship between M&A wave and macroeconomic fundamentals. Those fundamentals can be summarized as including GDP (Gross Domestic Product), stock price and interest rate. Nelson (1959) found that M&A is positively related to stock
price by viewing M&A as a private investment and using the quarter data from 1895 to 1956. He further discovered that M&A shows a positive relation with business cycle. The positive relationship between M&A and stock price can also be found in Guerard (1985, 1989) and Becketti (1986), and positive relationship between M&A and GDP is further supported by Steiner (1975) and Guerard (1985, 1989). However, the relationship between the trend of M&A and stock price is found to be negative in Golbe and White (1988) by investigating Tobin’s q. This negative relationship is further supported by Beckenstein (1979) and Melicher, Ledolter and D’Antonio (1983). There are also findings for a negative relationship between GDP and M&A, which can be found in Beckenstein (1979) and Becketti (1986). Besides the findings that M&A is negatively related to GDP and stock price, a positive relationship between M&A and interest rate was found. On the contrary, Steiner (1975), Melicher, Ledolter and D’Antonio (1983) and Becketti (1986) all found that M&A activity is negatively related to interest rate.

Applying the time series methodologies, the long-run equilibrium and short-run dynamic relationship among variables of M&A and macroeconomic fundamentals are investigated. Among those, causal relationship between American M&A and stock price is found in Geroski (1984) and Clark et.al.(1988). By employing the same causality test for trivariate model, Haque et.al. (1995) tested for Canada data and found that M&A, stock price, and interest rate are all shown to have pair wise two-way feedback relationships. The co-integration test for the long-run and VAR model for the short-run are employed in Cheng (1993) under different circumstances of the US and Japan for a comparison. It is found that for both countries, there exists long-run relationship among M&A and macroeconomics. Besides, positive relationship between M&A and stock price in the US and negative relationship between
M&A and GDP in Japan are found. For the causal relation, stock price and interest rate both show one-way direction and two-way feedback relation with M&A in the US and Japan, respectively.

The growing popularity and increasing importance of M&As in the new era and the seemingly interactive relationships among M&A and macroeconomic variables make the issues of investigating the trend of M&A with macroeconomic variables more desirable. Nieh (2003) has conducted a comprehensive study of relationship between M&As and macroeconomic fundamentals using time series methodologies, which include co-integration test, VAR and VECM models, Granger causality, impulse response function and variance decomposition, to fully investigate the long-run and short-run relationships among M&A activity and macroeconomic variables. He found that the entire macroeconomic fundamentals share the common trends with the M&A activities in the long run. In the short-run movement, GDP possesses strongest interrelationship with M&A. The stock price is revealed to play the second important role in describing the dynamic relationship with the M&A activities. The finding from this study reinforces the conclusion from previous studies that the waves of M&A are always influenced by the economic circumstance, especially the GDP. This close relationship between M&A and GDP in the US economy argues that the policy makers should keep a keen insight toward the movement of M&A activities and make every endeavor to improve the economy.

### 2.5 Effects of M&As on R&D

With respect to the effects of M&A on R&D, the existing literature provides mixed predictions. In the presence of scale and scope advantages in R&D, ex post R&D efficiency will be higher after the merger [Cohen & Levin (1989),
Röller et al. (2001)]. On the relationship between market power, concentration and innovation, economic thinking has yet to reach consensus [Cohen & Levin (1989)]. The possibility to better coordinate R&D investment after the M&A will typically lead to lower R&D expenditures. Nevertheless, when the technology regime is characterized by low appropriability because of the presence of involuntary technology spillovers, higher levels of coordination which allows internalizing these spillovers, will lead to higher R&D investments. But when technology spillovers are not important, the usual negative effect on R&D investments prevails (Kamien & Schwartz, 1982; De Bondt, 1997).

The empirical studies in the economics tradition provide statistical analysis on large samples, mostly for the US. Most of these studies rely on publicly available information sources for M&A activities, R&D investment levels, and, patents at the industry or firm level (Ravenscraft & Scherer (1987), Hitt et al. (1991), (1996)), Blonigen & Taylor (2000)). They have generally found that acquisitions have a negative impact on the post-acquisition R&D input and output of acquiring firms. These studies also indicate the importance of cash flow positions affecting R&D spending after M&A. M&As which lead to higher leverage are found to result in substantial and significant decreases in R&D intensity.

Empirical studies in the strategic management tradition are often based on small sample survey results [Capron (1999), Capron et al. (1998), Chakrabarti et al. (1994)]. This literature predicts a more favourable impact of M&A on R&D, at least when (1) firms are involved in M&A for technology sourcing purposes; (2) the M&A integration process is effectively managed; (3) firms are able to retain key people, and (4) firms have a strong own internal
knowledge base, which allows to better evaluate potential targets and to realize synergies from combining know-how from the target and acquiring firm.

Using information on 31 in-depth cases of individual M&A deals, Cassiman et.al. (2005) show that technological and market relatedness between M&A partners distinctly affect the inputs, outputs, performance and organizational structure of the R&D process. R&D efficiency increases more prominently when merged entities are technologically complementary than when they are substitutive. When partners were active in the same technological fields before the M&A, reduction of R&D is more prominent and R&D efficiency gain is smaller if merged entities were rivals in the product market prior to their merger than if they were non-rival.

2.6 Industry Consolidation and Profitability
A lot of research in recent years has been conducted towards study of the relationship between price and concentration. Several studies of price/concentration relationships indicate that prices are higher where concentration is higher or the number of sellers is lower. Such studies exist in a variety of industries, including banking, airline, cement, tax exempt bond underwriting, food retailing, gasoline retailing, ocean shipping, hospitals, and natural gas.

Weiss (1989) examines several price / concentration studies over the past twenty-five years in several industries and finds 1-5% price increases associated with 10% increases in concentration. Several studies beyond those listed by Weiss have also found a significant positive relationship between concentration and price. In the banking industry, numerous researchers
[Neumark and Sharpe (1992), Hannan (1992), Hannan and Liang (1993) and
cyranak and Hannan (1993)] have found that increased concentration is
associated with a small, but statistically significant, increase in bank rates
charged on loans or a decrease in rates paid by banks to deposit customers. In
the airline industry, Borenstein (1990), Morrison and Winston (1990), Kim
and Singal (1993) and Singal (1996) all found that air fares are higher in more
concentrated air travel markets. In the natural gas transportation industry,
Morris (1988) finds that prices paid by industrial gas buyers tend to increase
by 15 percent if the number of sellers in a local market falls by one. (The
average number of sellers in such markets is 2.2). Rosenbaum (1989) found a
positive price concentration relationship in local cement markets from 1974 to
1989. Cement-making technology improved over this period as new, larger,
more efficient plants were brought on line. The author finds that while long-
term movements to the new, larger scale cement-making technology lead to
significant price and cost reductions, the associated increases in seller
concentration also caused producer margins to rise. In addition, Anderson
(1990) and Newmark (1989) review the literature on the relationship between
concentration and price in the grocery retailing industry. Neither author finds
that the relationship has been convincingly demonstrated.

Research studies have also focused on the effects of market shares on industry
performance or of concentration on productivity or efficiency measures.
Empirical evidence has also emerged regarding the effects of multi-market
contact on firm performance. Mueller (1983) finds that concentration itself
was unimportant in explaining profits, but that the relationship between
market share and profitability is industry-specific. Mueller finds that market
share matters in industries that are advertising or patent-intensive, but not in
other industries.
2.7 Gaps in Literature and Need for this Study

In the field of M&As, researchers have focused on topics such as M&A motives, M&A consequences, industry consolidation, value creation for acquiring and acquired companies and combined entities, relationship between M&As and macroeconomic fundamentals. Industries like banking, financial services, airlines, cement, etc. have been researched at great detail.

The researcher did not come across any study in the area of M&As or consolidation pertaining to the electrical equipment industry. An area that is still relatively unaddressed in the field of M&A research is the effectiveness of various merger motives on the profitability of an industry. The following questions can provoke an interesting research study:-

- Which motives have dominated M&As in an industry in a particular merger wave?
- How has the industry progressed over a period of time and what has been the effect of M&As on shaping this progress?

Hence, cause and effect relationship between the attributes such as merger motives, M&A performance and industry growth is an interesting area to conduct a research. The focus of this study is to carry out this exercise in the electrical equipment industry, an industry which has not been researched at length so far.

**Going forward**

The next chapter will describe the research design and research methodology for the study. Research objectives, research framework, variables, research methodology and the hypotheses to be tested will be discussed in the chapter.