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Mergers & Acquisitions in Pharmaceutical Industry, a Challenge in VUCA World

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Abstract:
After economic reforms era and post globalization, the business for Indian companies has been growing in context of new challenges as well as opportunities in the market. The firms have pressure due to presence of foreign MNCs, changing global business environment, awakened customer and change in political environment. The corporates are enticed to search and widen market for their products, to expand customer base by investing in strategies to allow them to achieve these specific goals.

Mergers and Acquisitions are the choices opted by the corporates for enhancing growth and to stand out in the competition. M & As help to improve the number of customers, expand area of market and segments, to advance technology and cost reduction. Initially as economic reforms started in 1991 of which globalization leads to integration of economies. It was assumed that as a result of globalization, the foreign companies would ruin the Indian markets by acquiring the Indian Corporates. On the other hand, Collaboration of Indian Companies with Foreign Companies has paved a path to a win-win position for both the entities. Now a days, Indian Companies are moving abroad and acquiring the foreign entities, hereby proving the worth and valuation of Indian Companies abroad.

The major sectors where M & As are common include: FMCG, Telecommunication, Healthcare, Textile, Finance, Pharmaceuticalsetc. Among all these sectors, Pharmaceuticals is flourishing in Indian market incessantly. The current study is examining the purpose, advantages of Mergers and Acquisitions in Indian market by analyzing the performance of two categories of Corporates. The entities who opted for the option of Merger and those which are non-merged in Pharmaceutical Industry of India. Various measures are applied for studying performance aspect. It proved that the corporates after merger have better performance than pre- merger stage.

Keywords: *Economic Reforms, Globalization, Pharmaceutical Industry, pre-merger, Performance.*

INTRODUCTION

The modification in industrial policy in 1991 concreted the mode for first wave of M&A in India. Policy transformationsassisting M&A initiates with the elimination of restrictive provisions of Monopolies and Restrictive Trade Practices (MRTP) Act trailed by reforms in Foreign Exchange Regulation Act (FERA) in 1993 and Foreign Exchange Management Act (FEMA) in 2000. But at the same time in order to eradicateforces whichlessen competition, the Competition Policy Act 2002 decided to determine a Competition Commission of India (CCI). This commission meant at examining the anti-competitive activities such as formation of cartels, collusive bidding, and consolidation via M&A which could cause market dominance abuses.

The economic reforms in India have considerablycondensed firm level rigidities. Corporate restructuring in contemporary years is a reply to the opportunity offered by policy in order to encounter the emerging viable challenges. The firms, in the procedure, are allegedly trying to recall competitiveness and upsurge their value.

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The prompt growth of Indian economy has fortified domestic enterprises to assume more hostile investment activities which have developed in anincredible growth of M&A in the last decade. Domestic firms have taken phases to strengthen their situation to surface increasing spirited pressures and multinational enterprises (MNEs) from India have taken this prospect to surge their existence and control in foreign markets (Basant, 2000).

The growth of the competition, the financial liberalization permitting capital flows and the brisk technological deviations are the foundation of the globalization methodcomprehensivelyassisting the impact, existence and contribution of foreign owned organizations in national economies. This also activates a lot of corporate restructuring events of domestic firms. The process has caused a momentousreallocating and relocation of firm's assets and thereby redesigning of many industrial sectors. The current form of industrial ownership is beholdingsturdy mergers and acquisitions (M&A) activities across the globe. The phenomenon has inclined to expedite a reconfiguration of firm's organizational structure and its essential competencies.

Ansignificant characteristic of M&A activity in India is its sectoral arrangement. It is fascinating to note that firms in the service sector were the innovators to commence M&A as a way of growthworldwide as well as natively, later they were linked by Indian manufacturing firms. On international level, the victory of service sector had resilientaffirmative spillover consequence on pharmaceutical sector. Indian drugs firms headed the succeeding round of M&A wave to intensify their place in the structured overseas markets like the US, Germany and the UK (Pradhan, 2007). Nationally also pharmaceutical sector developed as akey player in M&A activity. The effectiveapproval of M&A by software and pharmaceutical firms had all-round consequences on Indian firms from other sectors like chemicals, automotive, steel, etc.

Mergers and Acquisitions as Corporate Strategy for Global Expansion

Mergers and Acquisitions (M&A) are a tacticalchoice for the global development of the companies since they make it potential for firms to speedilyaccess new and foreign markets, take benefit of economies of scale and attainessential know-how and capableperson. A number of researchers trait the remarkableprogression in cross border mergers and acquisitions to mounting globalization of trade, industry alliance, privatization, and the liberalization of nations (Shimizu, Hitt, Vaidyanath, and Pissano, 2004).

Knowledge, as a primary organizational resource and the foundation for elaboration of organizational competences, is participating a key role in motivating these variations. Knowledge associatedcompetences are far more substantial today in organizations than what they were just a span ago. Since associations are an amalgam of proficiencies, a crucialapprehension for firms is how to contour the capabilities they necessitatemeeting their developmentpurposes. Firms can nurtureprogressively or they can involve in acquisitions that deliver them the assets so that they can ensure the objects they would not elseundertake (Jay Chatzkel, Hubert Saint-Onge, 2007).

Sudarsanam (2003) has identified that mergers and acquisitions are the processes by which two companies are collective to attain certain planned business purposes. They are connections of hugeimplication, not only to the companies themselves but also for many other communities, such as workers, managers, competitors, communities, and the economy.

Capron (1990) has used the term "acquisition" to mention to the acquisition by one corporation of alternative entire corporation or of an industry from acontinuing corporation. He has used the phrase "horizontal acquisition" to explain the acquisition of a firm within the identical industry.

The acquisition access in a foreign market is described as the procurement of the stocks of arecognized firm in the host nation by another firm headquartered exterior the nation, isolated or with one or more companions, in aquantityadequate to converse control (Barkema and Vermeulen, 1998; Kogut and Singh, 1988; Newburry and Zeira, 1997).

Thus acquisition has been one of the leadingmotivatingstrengthsafterprogression of Foreign Direct Investment (FDI). Latestinclinations in deregulation in global capital markets have assumed acquisition latestsignificance as aapproach for FDI.

Hennart (1991) has claimed that a greater level of industrial concentration had induced the Japanese manufacturing stakeholders to procurereputablecompanies in the United States.

Harrigan (1985), Mowery (1988) and Ohmae (1985) indicate that complementarities of partners, which are functioning in different product-markets with possiblyminuteencounter of benefits, surge the feasibility of the pooledstrength. However, assistanceamongcorporations with alike product-market arrangementssuggests a developedpossibility of a conflict of interests. One mode of resolving this encounter of interest among two partners is discovered in one company captivatinggrasp of this joint strength through an attainment of the other establishment. Mergers and Acquisitions are generally used tools of boostedalliance or awareness in the industry. The Indian framework has to be explored in positions of the merger and acquisition phenomenon.

Factors causative to the choice of the firm to increaseworldwide through Mergers and Acquisitions

Most of the M&A transactions are encouraged, by the aspiration to attain financial synergies, to benefit market power, to gainentry to deliverypassage or to advanceaccess into innovative geographical area, thereby stating that technological motives do not encourage all M&A. However, in the existing globalized situation there are assured high-tech industries where innovation is vital to competitive edge. Such companies will believe the influence of M&A on technological functioning even when the transaction is not innovation determined; and select the most suitableinnovation and financial strategy. Technical Knowhow is suitable as a key to achievement in existing market and causes such as firm size, history and equity suited less and less analyticalprerequisite (Gantumur and Stephan, 2007).

One of the foremostpurposes for all alliances and restructuring ascending out of the merger and acquisition choice of the firm is to recover and reinforce its financial state known as the synergy influence. These synergies can be in the usage of augmentedeffectiveness, economies of scale, broadening of markets, better purchasing power and henceforth, lead to considerablyimprovedeffectiveness (Catwright, Cooper 1996).

Mergers and Acquisitions also permitgreater level of research and development expenditures. The organizational purposesstate to the increase of risk as well as the prospect to purchase another company and thus evade being purchased. The subjectivereasons are associated to rewards, which are frequently financial and generallygrown through enlargement. However, the result of the merger and acquisition strategy does not depend merely on these financial and strategic issues but also on the fluctuations in the environmental situations, technological progresses, and government policy.

Ohmae (1989) claims, Nowadaysgoods rely on so many diverseanalyticalknow-hows that most companies can no longer sustaincriticalvergecomplexity in all of them.Therefore, selecting external bases of know-how develops an essential. Acquisition of prevailing foreign business consents the acquirer to acquire resources such as patent-protected technology, greaterorganizational and marketing skills, and overcome distinct government rule that generate anobstacle to access for other firms (Errunza and Senbet, 1981).

Shimizu et al. (2004) approve this view by submitting that firms may involve in Mergers and Acquisitions in order to use intangible assets.This line of analysis is constant with Caves (1990), who discusses that acquisition of a foreign competitor empowers the acquirer to takein its control a more varied stock of definite assets and, hence, capture more prospects. These elementsdevelop even more vital in International Mergers and Acquisitions.

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Mergers and Acquisition in the Indian Pharmaceutical Industry

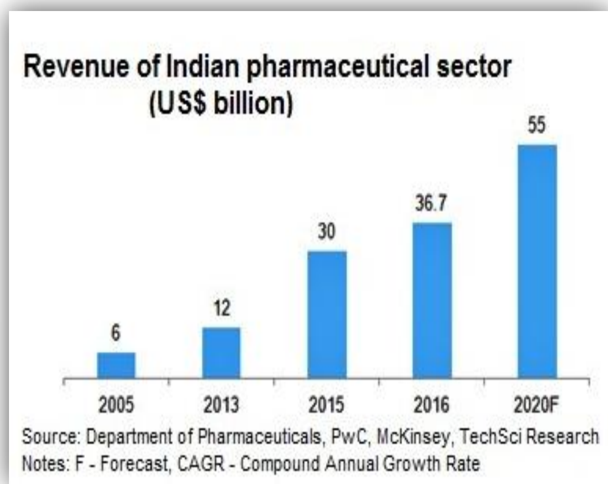
The Indian Pharmaceuticals marketplace is the third leading in terms of volume and thirteenth largest in terms of worth, as per a report by Equity Master. India is the greatestcontributor of generic drugs worldwide with the Indian generics accounting for 20 per cent of international exports in terms of volume. Of late, consolidation has become an essentialfeature of the Indian pharmaceutical market as the industry is greatlydisintegrated.

India possesses avital position in the global pharmaceuticals sector. The nation also has a huge pool of scientists and engineers who have the prospective to handle the industry ahead to an even greater level. Currently over 80 per cent of the antiretroviral drugs expendeduniversally to conflict AIDS (Acquired Immuno Deficiency Syndrome) are provided by Indian pharmaceutical firms.The UN-backed Medicines Patent Pool has contracted six sub-licences with Aurobindo, Cipla, Desano, Emcure, Hetero Labs and Laurus Labs, permitting them to create generic anti-AIDS medicine TenofovirAlafenamide (TAF) for 112 developing countries.

Growth of the Indian Pharmaceutical Industry

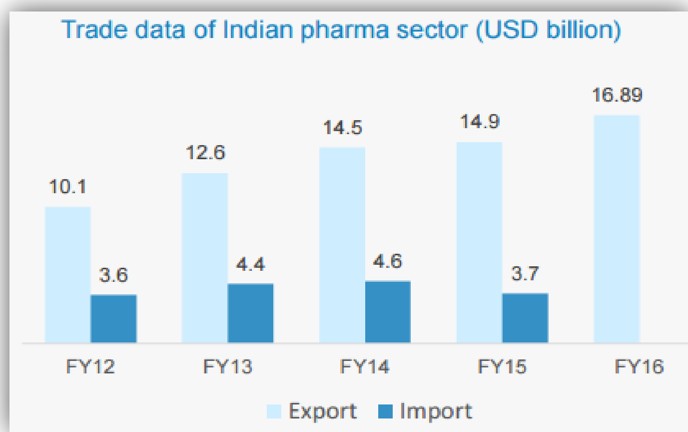
The Indian Pharma Industry, which is anticipated to develop over 15 per cent per annum between 2015 and 2020, will outpace the global Pharma Industry, which is set to produce at an annual rate of 5 per cent among the same period. The market is anticipated to raise to US$ 55 billion by 2020, thereby developing as the sixth biggest pharmaceutical market internationally by absolute size, as specified by an Indian Ambassador to the US. Branded generics control the pharmaceuticals market, comprising nearly 80 per cent of the market share (in terms of revenues).

Figure no.1.1 Revenue of indian pharmaceutical sector (US$Billion)



India has also sustained its lead over China in pharmaceutical exports with a year-on-year growth of 11.44 per cent to US$ 12.91 billion in FY 2015-16, according to data from the Ministry of Commerce and Industry. In addition, Indian pharmaceutical exports are controlled to grow between 8-10 per cent in FY 2018-19. Imports of pharmaceutical products rose slightly by 0.80 per cent year-on-year to US$ 1,641.15 million.

Figure no.1.2 Trade data of indian Pharma sector (USD billion)



Generally drug sanctionsspecified by the US Food and Drug Administration (USFDA) to Indian companies have closely doubled to 201 in FY 2015-16 from 109 in FY 2014-15. The country accounts for around 30 per cent (by volume) and about 10 per cent (value) in the US$ 70-80 billion US generics market.

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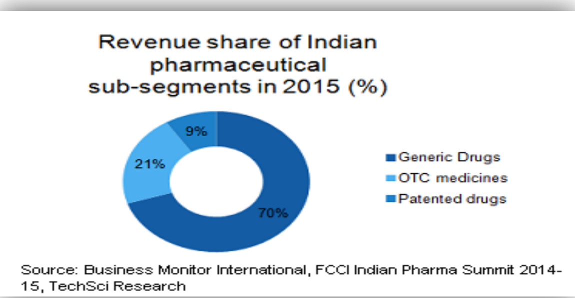
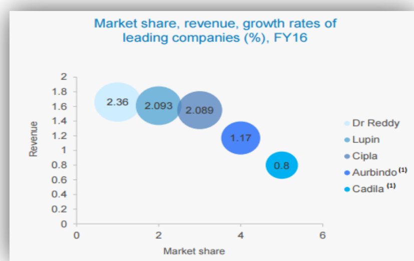
Figure no.1.3 Revenue share of indian pharmaceutical sub-segments in 2015(%)



Competitive market; top four firms account for over 20 per cent market share

Dr.Reddy's accounted for the majorsegment in the Indian Pharma market, with Sales of USD2.36 billion during March 2018. Lupin had the second majorsegment in the Indian Pharma market with sales of USD2.09 billion in FY16. Cipla, with aincome base of USD2.089 billion for March 2018 sales, ranked third in the market. Aurobindo graded fourth in the market, with a revenue base of USD 1.17 billion for March 2015 sales. While these top four companies acquiring 20 per cent market share, top 10 companies accounted for approximately 39 per cent of the market share in 2015

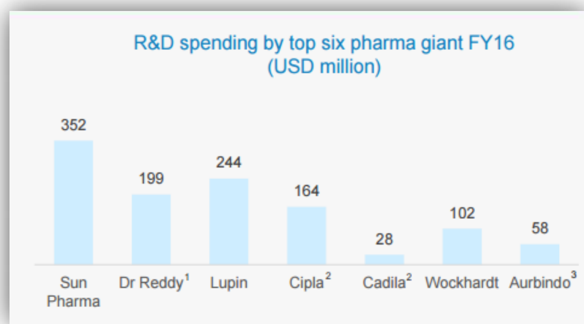
Figure no.1.4 Market share, revenue, growth rates of leading companies (%), FY16



Pharma giants raise their R&D spending

In FY16, maximumoutlay on research and development has been done by Sun Pharma, trailed by Dr. Reddy. Sun Pharma's R&D expenditure is 9.1 per cent of the total sales in the March quarter of FY16, which developed at a rate of 23 per cent YoY, in contrast with March quarter of FY15.In FY17, Lupin's R&D outlay is projected to be 12-15 per cent of sales, rising from 12 per cent in FY16. By 2020, the Indian healthcare sector is probable to reach USD280 billion from USD70 billion presently.

Figure no.1.5 R&D spendimg by top six giant FY(USD million)



As it is apparent and can be incidental from the above argument, it may be said that Indian players will have to enlarge their occurrence in the worldwide generics market. Also, aexemplar shift has to take place in the Indian pharmaceutical industry and large Indian players have to increase their emphasis on new drug development. The capacity to determine novel drug molecules will permit Indian players to be present throughout the industry's value chain (bulk drugs to generic preparations to novel drugs). While progressivelyprocuring an existence in vital geographies (in both regulated and semi-regulated markets) will support Indian players keep their individual territory, they will have to createdeterminedstruggles in research-driven regions to create sizeable profits in the long term. The significance of international processes for the Indian Pharmaceutical firms is revealed in thegrowing levels of outward investments and exports. The influence of the enactment of the Product Patent Act is examined in terms of progression rate of operating income and Drug and Pharmaceutical Index. The market opinions have been discovered to be positive concerning the variation in the regulatory outline in India. The ratio of the Forex Earnings to Total Income, exports and outward investments have been steadilymounting through the execution of the global intellectual property protection structure in India. An evaluation on mergers and acquisitions as an instrument for worldwideenlargement of Indian Pharmaceutical Industry will delivervisions to the managers to fully apprehend the learning, value enriching and foreign market entry promises of the strategy.

REVIEW OF LITERATURE

The review of literature of the learningproposes to present-dayMergers and Acquisitions as a tool of novelty in Indian Industry. Numerous scholars have done longitudinal and cross-sectional studies on the numerousfacets of the decision to merge and acquire varying from the determinants to the consequences of the approach for the acquirer firms. These analyses have been both industry explicit as well as throughoutseveral industries.

M&A are fetching a vital strategy of corporate functioning. This factoccurred and was well reviewed since long in developed countries like the USand those of Europe. A noteworthyvolume of literature is steadfast for accepting the post-merger performance and consequences. But before finding the influence of M&A it is essential to report the reasonsafter M&A and the issues, whichenable this corporate pursuit. M&A are propelled by diverse and complicatedoutline of reasons and no single method can clarify them absolutely.

The objects of M&A could depend upon shareholder's concern as well as on manager's concern and their divergence from shareholders' value maximization approach (Trautwein, 1990).

The first reason behind M&A activity could be described under efficiency theory which upkeeps that M&A are assumed in order to attaininteractions which comprises financial synergies, operational synergies, and managerial synergies. Financial synergies are the one whichreduces the cost of the capital for merged entities. They lesser the systematic risk of a company's investment portfolio. Such synergies are commonlyattained through unrelated M&A (Singh & Montgomery, 1987).

M&A could lead to upsurge in the size of a firm providing it an improvedapproach to capital in contrast to small distinctunits. Operational synergies grow by joining operation of two unitsprominent to economies of scale and scope. Economies of scale can be attained by having a joint sales force or reduction in production cost or permit firm to dealexclusive products and services in the market by technology and knowledge transmissions (Porter, 1987) but operational synergies are better attained by the firm which purposes in related market i.e. horizontal and vertical deals (Seth, 1990; Singh &Montgomery, 1987).

Another method of effectivenessadvantages in M&A is managerial synergies, which can be comprehended if acquirer's managers acquire superior managerial capabilities to monitor, and plan whichmanage target's performance. But Jensen (1986) claimed that managers assume M&A activity to waste cash in order to evade shareholders 'value maximization. This permits them to surge their control on the firm in contrast to shareholders; therefore Jensen (1986) contends that all M&A do not happen with the reason of encouragingeffectiveness. The empirical suggestions in provision of or in contradiction ofeffectivenessreason of M&A are offered by numerousfindings. Ravens craft and Scherer (1987) highlighted that stock market values merger as constructiveincident but Seth (1990) studied that financial synergies do not generate any significance in related and unrelated M&A. She also reinforced the size effect in associated acquisition as a basis of value and synergy creation. Singh (1987) in his event study analysis characterize whether related or unrelated acquisitions create value or synergies and established that allied acquisition of firms will delivergreaterreturns and evaluated that the market distinguishes synergistic combinations and values them.

One more purpose of M&A could be the strategy of a firm to attain market power. Though essentially, increase in market power is associated to horizontal acquisitions but it could be attained in conglomerate acquisitions as well. Firms can threshold competition concurrently in more than one market by implicit collusion with competitors or by reciprocal dispensing and merging business functions.

Literature also stipulates the causes of M&A under the empire building theory. This reasonidentifies that managers attempt to enlarge their utility instead of those of shareholder's. This

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theory has been extensivelyclarified by managerial theories of firm (Baumol, 1959; Marris 1964, Williamson, 1969). Black (1989) proposes that managers are vastlyhopeful about targets and they overpay for targets as their concernvary from that of stockholders. Ravens Craft and Scherer (1987) also sustained the reason of manager's empire building as a cause for M&A. Roll (1986) also proclaimed the managerial over optimism in hubris hypothesis of M&A. Above explanationaids to clarify M&A purposes which are acceptable by certain empirical evidences from time. After measuring in concise the reasons of M&A, this would be anfascinatingfacet to look for the reasons that determine M&A activity in a specific industry or in the whole economy as a intact.

Mergers and acquisitions are strategic choices taken for maximization of a firms' growth through several revenue boosting and cost-minimizing routes. A Merger is "the coalition of two firms to form a single new business. The firms are generally more alike in size and hence arrangement is more collaborative. According to Griffin and Ebert (1991), a union is rathersimilar to a marriage. The characteristics of the two firms are merged into one with the completeconsensus of the board of directors of the agreeing firms. Acquisition is an undertaking of obtainingefficient control by one firm over assets or management of another firm exclusive of any combination of firms. Thus, in an acquisition two or more firms may continueto be autonomousdistinct legal units, but there may be a disparity in control of acquisition. An acquisition happens when one firm uses its capital resources-such as stock. While mergers are concededadvancing with mutual consensus, acquisition may take the form of a hostile takeover when it is mandatory. Under the Monopolies and Restrictive Practices Act, takeover meant acquisition of not less than 25 percent of the voting power in a firm. While in the Companies Act, a firm's outlay in the shares of another firm in surplus of 10 percent of the subscribed capital can outcome in takeovers. An acquisition or takeover does not essentiallyinvolve full legal control. A firm can also have effectual control over another firm by holding a minority ownership.

Any M &A deal can be financed through two main channels such a as cash or stock. The payment method used is affected and in turns results the collaborating firm's growth synergies and riskiness connected with them. The firms may moreover close the transaction via a one-time cash transaction or through stock offers. There has been a substantialmodification in drift from cash deals to stock offer since 1990s. In instance of the pharmaceutical industry, 51.51 percent of acquisitions deals that took place from 2001-2010 were in the form of extensive acquisition by shares while 17.57 percent were in the form of minority acquisition of shares and 30.9 percent are in the form of acquisition of assets (Vyas et. al., 2012). The mode of payment selected by the acquirer not only reveals the riskiness of the firm, but also disturbs the value to the shareholders of both the acquirer and the target firm. While in cash deals, the characters of the two parties involved are obviouslyprominent and the exchange of wealth for shares is concluded in a single transmission of ownership, it is not so when stock offers are made. In a stock deal, there is vagueness in the situation of 'buyer' and 'seller' as many a times, the shareholders of the acquired firm may finish up keeping most of the firm that purchased it. It is often observed that shareholders of the target firm choose cash transactions over stock offers because when firms pay for procurement with stock, both value and threat of transactions are spread on to the shareholders of the acquired firm. Cash transactions enact entire risk on the acquiring shareholders. The risk is in the form of synergy risk, that is, the anticipated synergy value may not appear as was projected and paid for, by the firm. While in stock the possibility of failure of a premium to emerge is shared by the acquired shareholder. Hence, the mode an acquisition is compensated for defines how the risk is dispersed between the buyer and seller. Thus, there are three crucial economic questions which are probed when determining the technique of payment (1) valuation of the acquirer's share, (2) synergy risk, and (3) announcement consequence. With these means of payments a firm may figure out what channel to use to fund for its strategic coalition. If the managers consider that there is a significant risk

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that suitable level of synergy may not be attained, they are likely to evade their bets by proposing stock. This also clarifies why markets respondconstructively to cash deals than stock deals as the priorhint a higher sureness in the merger and hence a higher value.

In the theories of mergers and acquisitions, numerousefforts have been made by researchers to apprehend the motivations and factors of merger and acquisition activities. Based on the analysis by Kumar (2000), 35 percent of acquisitions involved buying out local joint venture partners by multinationals, 5 percent acquisitions, are those that amplifiedrewards in their affiliates or subsidiaries. 7 percent of mergers occur to the prevailing affiliates following merger of patents. Danzonet. al. (2004) reviewed the determinants of M&A by parting the Worldwide Mergers and Acquisition database into small firms (enterprise value is at least $20 million but less than threshold of $1 billion in at least one year during 1988-2001) and large firms (enterprise value of $1 in at least one year through the same period). They used multinomial logistic regression model to define if the firm will undertake merger activity assumed the variables such as excess ability due to pipeline gaps, firms' size, Tobin's q, multinational association, and cash to sales ratio. The factors were marginallydistinctive for large and small firms. Large firms practice mergers as a reply to excess ability due to projected patent expiration and gap in the firm's product pipeline, however small firms use mergers as an exit strategy when they are financially ineffectual. The effects of mergers are perceived using propensity scores to control for any endogeneity. Enormous firms that merged did not experience any noteworthyalteration in enterprise value, sales, employees, and R and D relative to non-merged counterparts. Smaller firms that merged faced slower growth in R &D to others.

According to Pradhan and Abraham (2005) mergers and acquisitions happenings in India were progressively and graduallymounting to include foreign firms. The development of software in services sector and pharmaceuticals in industrial sector as two leading sectors on overseas M & A obviouslyrevealed the growing global competitiveness of Indian economy in these segments. Most of the Indian abroad M and A have been into developed nations as they deal large market for Indian software and pharmaceutical products. This analysissubmitted that firms involved in overseas M and Aincline to be large sized and research exhaustive. The size division of overseas M and A,discovered that a small number of M and A deals fundedleadingmass of total value of M and A. The analysis of the nature, arrangement and functioning of the mergers and acquisitions in the pharmaceutical sector was examined by Beena (2006). This analysisendeavorednumerousparts of drugs and pharmaceutical firms that isolated them from the manufacturing firms. According to her, this sector "justifiesdistinctconsideration due to the inelastic demand for drugs, presence of a third party in determining the demand for a particular drug. Thus, the actual customers are gratified to submit the conclusions of the third party. Hence, there is ainclination for increased market concentration in the hands of a few. With the industry being socially sensitive such anupsurge in power of supply side factors, which clues to high prices, is not satisfactory. Mergers and acquisitions during 1992-1993 to 2003-2004 for 23 merging firms were considered in this case. Measures of profitability like the net profit margin, return on net worth were advanced for merged firms supplemented by greater advertisement intensity.

Given the greatnecessity of pharmaceutical industry on research and development Duflos and Pfister (2008) concentrated on the technological factors of acquisition and target choices. This analysis used a duration model to recount the probabilities of being a purchaser or a target firms established on R and D and patent data. Three hypotheses: 'innovation gap', 'absorptive capacity' and 'patent portfolio', were empirically examined. The outcomes were in provision of the 'innovation gap' hypothesis as the targeted firms were established to hold a greater patent portfolio. Acquiring firms were seen to have a lesser Tobin's q and a lesser R and D stock than non-acquiring units, which are in provision to the 'innovation gap' hypothesis. Secondly, acquiring firms have furthervaried and greater patent portfolios than their non-acquiring counterparts. It

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is realized that, acquiring firms incline to surge their R and D outlay in post-acquisition. This is in provision with the complementarity among internal R and D investment and R and D outsourcing that is the 'absorptive volume'. Lastly, the unimportantproof is found in favour of the 'patent portfolio' hypothesis as patent return did not come out as significant factors in the model.

Beena (2008) used data from distinctivecauses such as CMIE and SEBI. The sample used comprises of 115 M and A in the Indian manufacturing sector during 1995-2000, with 84 domestically owned acquiring firms and 31 foreign-owned acquiring firms. The objective was to make sure if there is any noteworthychange in functioning of acquiring firms during 1990-2005 as matched to the average performance of the manufacturing sector. The consequence of mean difference was tested exercising non-parametric, univariate Wilcoxon rank test. The performance was measured in terms of price-cost margin, rate of return, export concentration, research and development concentration, capacity exploitation, product market segment and the Herfindahl Index of Concentration ratios. Most of these indicators showed a statistically significant stable or downward trend during the post-merger period. The diminishing debtequity ratio implied that M and A strategy, was expended by firms in order to build their capital structure more feasible. R and D intensity was greatermatched to private corporate manufacturing sector in the post-merger phase. Shareholders were funded better dividends in order to triumph their assurance in the post-merger phase. However, higher market concentration had varied effect on prices. The price-cost margin had not vanished up knowinglywhile the product market share had vanished up in a majority of firms in post-merger phase. Beenaclaimed that the postmerger performance in terms of export strength in India displayed a noteworthy upward trend, which accords with the latestsupport from countries hit by financial crisis. The analysis also challenges the 'expansionary motive' after merger as capacity utilization through the post-merger phase displays a statistically noteworthy downward trend. This analysis could not find any momentousmark of efficiency-related causes as primarily affecting the M and A that have arisen in the Indian corporate sector since the mid-1990s. Saboo and Gopi (2009) conceded a contrast of post-merger performance of firms involved in domestic and cross-border acquisition. The hypothesis that kind of acquisition does not play an essentialpart in the performance of the firms was rejected as it was found that importantvariancesoccurred in the financial ratios of the firm post-merger contingent on whether it learned a domestic firm or a foreign firm. Financial ratios like the debt-equity ratio, return on capital, profit after tax were reflected and decided that most of the indicators enhanced in one to two years post-merger in situation of domestic firms. However, the identical financial ratios were negative for firms acquiring foreign firms. The functioning of these firms collapsed for two years constantly in the post deals.Vyas et. al. (2012) reviewed the causes of mergers and acquisition in the Indian Pharmaceutical Industry from of 2001-2010 by exercising a logit analysis. Their outcomes were coherent with the influences above. Positive and substantial signs for firm size and multinational affiliation imply larger M and A activity for larger firms and those with the foreign affiliation. The logit result established that R and D intensity was positively associated to M and A that unstated that in-house R and D is corresponding to technology acquisition via M and A route in high technology industries such as the Pharmaceuticals. Further,founded on the above dialogues on the prevailing review of empirical literature on the determinants of M and A, this analysisattempts to discover out the drivers of M and A for the Indian pharmaceutical sector.

RESEARCH METHODOLOGY

OBJECTIVES OF THE STUDY

- To establish the influence of the merger and acquisition activity on the acquirer firm's profitability.
- To establish the influence of the merger and acquisition activity on the acquirer firm's financial risk.
- To establish the influence of the merger and acquisition activity on the acquirer firm's operating efficiency.

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- To establish the influenceofthe merger and acquisition activity on the acquirer firm‘s research intensity.
- To establish the influenceof the merger and acquisition activity on the acquirer firm‘s market value.

RESEARCH DESIGN

In this analysis, the descriptive research method has been implemented. It comprises ofprimarily secondary data, which has been gathered from various books and sites. Further, the inventory management procedure at the company was reviewed.One of the most significant users of research methodology is that it benefits in recognizing the problem, accumulating, analyzing the needed information data and delivering an alternative explanation to the problem.It also supports in gathering the fundamental information that is necessary to the top management to help them for the improved decision making both day to day decision and analytical ones.

STATISTICAL TOOL USED

All tests were conducted exercising Microsoft Excel and Statistical Package for The Social Sciences (SPSS).

ANALYSIS AND INTERPRETATION

The analysis of data includesachieving the purposes of examining the influence of the merger and acquisition activity on the functioning of the acquirer firm. The performance of the acquirer firm was examined in terms of its operating efficiency, profitability, research and development, financial risk/leverage and the market value of the firm for investors as explained in the section henceforth.In this study, we are exercising few pharmaceutical firms from the Indian pharmaceutical industry. These are as follows:

1. Sun Pharmaceuticals
2. Lupin
3. Cipla
4. Dr. Reddy’s
5. Aurobindo Pharma

Selected ratios for determining the difference in performance after the event of Mergers and Acquisition

The ratios used for examining the influence of the merger and acquisition activity on the performance of the acquirer firm are in the table.

TABLE 1. Selected Ratios for determining the difference in performance after the event of Mergers and Acquisition

S. No.	Performance ratio	Ratio
1	Profitability Ratio	Net Profit Margin (%)
		Return on Net worth/Equity (%)
		Return on Capital Employed (%)
		Gross Profit Margin (%)
		Operating Profit Margin (%)
2	Liquidity ratio	Current Ratio (X)
		Quick Ratio (X)
3	Financial Risk	Total Debt/Equity (X)
		Interest Coverage Ratios (%)

Analysis of performance of the firm’s pre and post-merger and acquisition

TABLE 2.Pre and Post-merger and acquisition Ratio analysis

		2012			2019		
	Mean	SD	CV	Mean	SD	CV	Sig. t
Profitability Ratios							
Net Profit Margin (%)	15.456	14.56068	94.20729	41.40799	42.69277	103.1027	0.966
Return on Net worth/Equity	15.824	12.43856	78.60569	35.62275	35.2551	98.96792	0.702

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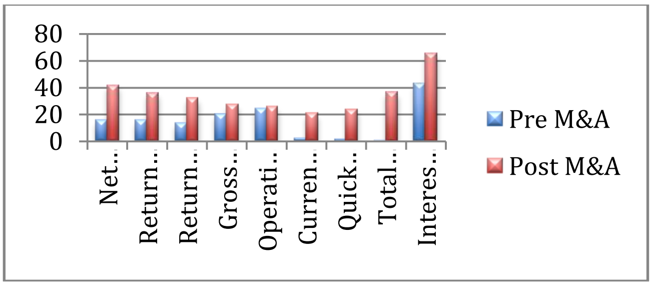
(%)							
Return on Capital Employed (%)	13.428	9.777429	72.81374	32.00639	33.02943	103.1964	0.781
Gross Profit Margin (%)	19.992	10.29941	51.51764	27.26968	22.26091	81.63247	0.911
Operating Profit Margin (%)	24.17	10.11387	41.84474	25.37621	18.15278	71.53465	0.949
Liquidity Ratios							
Current Ratio (X)	2.294	1.318116	57.45929	20.35713	28.14333	138.248	0.337
Quick Ratio (X)	1.576	1.072138	68.02906	23.55907	33.57961	142.5337	0.395
Financial Leverage Standards							
Total Debt/Equity (X)	0.428	0.462028	107.9505	36.28018	53.82732	148.3657	0.93
Interest Coverage Ratios (%)	42.852	45.57487	106.3541	64.927	43.74035	67.3685	0.686

The four methods of profitability used are: Gross Profit Margin (GPM), Net Profit Margin (NPM), Return on Capital Employed (ROCE) and Return on Net worth (RON). Remarkably, all these ratios have revealed that the post-merger and acquisition are more profitable related to the pre-merger and acquisition as we can see the mean of gross profit margin in 2012 is 24.17 and in 2018 its 25.37 which displays that the performance of firms are improved after the merger and acquisition. The mean of net profit margin in 2012 is 15.456 and in 2018 its 41.40799 which displays that the net profit margin of firms after the merger and acquisition are improved. The similar in return on capital employed and return on equity and operating profit margin, all shows improvement.

In the methods of liquidity ratio such as Quick Ratio and Current Ration in the ratio analysis, it can be comprehended that the mean value of current ratio and quick ratio is higher in 2018 as matched to 2012 which means liquidity performance of the firms are also augmented. The t value is more than .005, which means that there is some variance in the performance of the company in 2012 to 2018.Some methods used to examine the financial risk to the firms comprise debt equity ratio and interest coverage ratio. Through the ratio analysis it can be understood that the mean value of debt equity ratio in improved from 2012 to 2018 which is .428 in 2012 and 36.28018 in 2018, which means the financial risk of the firms, are also improved after the merger and acquisition. But as well as the financial performance improved of the firm with respect to interest coverage ratio and performance of the firm to give interest is amplifiednumerous times after the merger and acquisition and also the performance is reformed shown by the t significant negative.

Figure No.2.1Analysis of performance of the firm's pre and post-Merger and Acquisition



Thus, from the given study, it is clear that the functioning of merging firms during the post-merger and acquisition period was far improved as matched to the pre-merger and acquisition.

FINDINGS

- The profitability ratios displayed that the post-merger and acquisition are more profitable equated to the pre-merger and acquisition.
- The liquidity ratio revealed that the liquidity power of the firms also upsurges after merger or acquisition.
- Financial ratio displays that the firms are more monetarilyrobust after merger or acquisition.

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- Indian pharmaceutical industry practicedbetter consolidation through mergers, acquisitions, alliances.

CONCLUSION

The study discovered that matched with the global trends, the Indian pharmaceutical industry practicedlarger consolidation through mergers, acquisitions, alliances as well as sale of assets. Even although the domestic firms control the mergers, the foreign firms are vigorouslycontributing in acquisition as well as alliances, which became promising due to the weakening of numerous policy regulations. Most of the firms used it as a market enlargement strategy moderately than as a technology enhancer and it is obvious from the performance examinationconceded out, which displays that there is animportantvariance in the marketing expenditure of merging firms compared to the non-merging counterparts throughout the post-merger period. Even while the capacity expansion is one of the chiefreasons of these strategies, the studyspreads an opposite drift as it is mounting during the post-merger phase. Majority of the firms are exercising merger as a way to enlarge their product profile and thus to continue risk free.

LIMITATIONS

- Only limited companies out of very large Indian pharmaceutical industry could be reviewed in this procedure.
- Fundamental analysis includes lots of tools, but only chosen tools were reviewed.
- The study frame measured is limited.
- The data used here is secondary data.

WEBSITES

- www.nseindia.com
- http://pharmaceuticals.gov.in/documents-reports
- http://www.sunpharma.com/
- www.moneycontrol.com
- https://www.ibef.org/
- https://imaa-institute.org/

REFERENCES

1. **Beena, P.L. (2008)**, “Trends and Perspectives on Corporate Mergers in Contemporary India”, Economic and Political Weekly, 43(39), 48- 56.
2. **Beena, S. (2006)**, “Pharmaceutical Industry: Nature, Structure and Performance”, Centre for Development Studies Working Paper No. 434, India, available at http://www.cds.edu/wpcontent/uploads/2012/09/wp434.pdf
3. **ChitraSingla, (2016),**“Factors Determining Inbound and Outbound, M&A in an Industry in India, Indian Institute of Management Ahmedabad”, W.P. No. 2016-03-60, 2-23
4. **Danzon, P.M, A. Epstein, and S. Nicholson (2004),** “Mergers and Acquisitions in the Pharmaceutical and Biotech Industries,” NBER, Working Paper No. 10536.
5. **Duflos, G. and E. Pfiste (2008),** “Searching for Innovations? The Technological Determinants of Acquisitions in the Pharmaceutical Industry”, CES, Working Papers 57, Centre d’Economiedela Sorbonne, Paris.
6. **Export-Import Bank of India, (2007),** “Indian Pharmaceutical Industry:Surging Globally”, Occasional Paper No. 119, Quest Publications.
7. **Greene, W. H. (2008),** “Econometric Analysis”, Upper Saddle River, New Jersey: Pearson Education.
8. **Griffin, R.W., and R. J. Egbert (1991)** “Business”, 2ed. Englewood,Prentice- Hill Inc.
9. **Kumar, N. (2000),** “Mergers and Acquisitions by MNEs: Patterns and Implications”, Economic and Political Weekly, 35(32), 2851-2858.
10. **Louri, H. (2001),** “Entry through Acquisition: Determinants of Multinational Firm Choices”, Review of Industrial Organization, 19, 199-209.
11. **Mishra, P. and T. Chandra (2000),** “Mergers, Acquisitions and Firms’ Performance: Experience of Indian Pharmaceutical Industry”, Eurasian Journal of Business and Economics, 3(5), 111-126.
12. **Narayanan, K. (2004),** “Technology Acquisition and Growth of Firms: Indian Automobile Sector Under Changing Policy Regimes”, Economic and Political Weekly, 39, 5, 461-470.
13. **Pradhan, J.P., and V. Abraham (2005),** “Overseas Mergers and Acquisitions by Indian Enterprises: Patterns and Motivations”, Indian Journal of Economics, 338.
14. **Ramani, S.V., and A. Maria (2005),** “TRIPS: Its Possible Impact on Biotech Segment of the Indian Pharmaceutical Industry”, Economic and Political Weekly, 40(7), 675-683.

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ISSN: 0193 - 4120 Page No. 5819 - 5831

15. **Saboo, S., and S. Gopi (2009),** "Comparison of Post-Merger Performance of Acquiring Firms (India) Involved in Domestic and Cross-Border Acquisitions", MPRA Paper No. 19274, Available at http://mpra.ub.uni-muenchen.de/19274/1/MPRA_paper_19274.pdf
16. **Shepherd, W. G. (1986),** "On the Core Concepts of Industrial Economics", in H.W. De Jong and W. G. Shepherd, Eds., Mainstreams in Industrial Organization. MartinusNijhoff Publishers.
17. **Shimura, H., S. Masuda, and H. Kimura (2014),** "A Lesson from Japan: Research and Development Efficiency is a Key Element of Pharmaceutical Industry Consolidation Process", Drug Discoveries and Therapeutics, 8(1), 57-63.
18. **Tan Li, Ying Xue, Jian Lu, and Ang Li, (2018),** "Cross-Border Mergers and Acquisitions and the Role of Free Trade Agreements", Emerging Markets Finance & Trade, Vol. 54, 1096–111
19. **Vyas, V., and K. Narayanan (2012),** "Does M and A matter for R and D: Evidence from Pharmaceutical Market in India", Conference Paper in the IX Annual Conference of Knowledge Forum on the Theme Technology: Corporate and Social Dimensions, held at National Institute of Advanced Studies (NIAS), Bangalore.
20. **Vyas, V., K. Narayanan and A. Ramanathan (2012)** "Determinants of Mergers and Acquisitions in Indian Pharmaceutical Industry," Eurasian Journal of Business and Economics, 5 (9), 79-102.