Merger and Acquisition in Pharmaceutical Industry: An Analytical Study

By

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This is to certify that **Pritam Singh** student of **MBA Pharmaceutical Management** from The IIHMR University, Jaipur has undergone internship training at The IIHMR University from February 2016 to April 2016.

The Candidate has successfully carried out the study designated to him during internship training and his approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish him all success in all his future endeavors.

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This is to certify that the dissertation titled **Merger and Acquisition in Pharmaceutical Industry: An Analytical Study** and submitted by **Pritam Singh,** enrollment no. **IIHMR-U/MBA-PM/2014-16/6-216** under the supervision of **Dr. Nirmal Kumar Gurbani** for award of **MBA Pharmaceutical Management** of the University carried out during the period from **01/02/2016 to 01/05/2016** embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

Signature

Acknowledgement

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Abbreviations:

M&A	Merger and Acquisitions
R&D	Research and development
bn	Billion
USD	United States Doller
Inc.	Incorporated
IMAA	Institute for Mergers, Acquisitions and Alliances
GSK	Glaxo SmithKline
OTC	Over-the-counter

Abstract:

Title: Merger & Acquisition in Pharmaceutical industry: An Analytical Study.

Background and Rationale

The process of mergers and acquisitions has gained substantial importance in pharma industry around the globe. This process is extensively used by pharma houses those who have excess capacity and high R&D investments to restructure and consolidate their position in the industry.

Recent trend is clearly showing that mergers and acquisitions (M&A) have been an important element of corporate strategy for pharma companies, all over the globe for several decades, but research on M&A's has not been able to provide sufficient conclusive evidence about the driving force behind these large number of deals. By this study we will access the patterns and motivations behind the overseas M&A's by pharma enterprises.

Objectives

- To examine the presence of trends in overseas M&A's by pharma organization.
- To examine the motivations behind overseas M&A's by pharma organization.

Methodology

Exploratory research done through secondary data collected through internet and journals. The present study takes into account the Mergers in pharmaceutical sector announced between 1995 to 2015.Top 20 deals happened during this period is taken as sample.

Observation and Discussion:

Motivation:

By study of top 20 M&A deals in pharmaceutical industry, study indicates motivating factors behind all deals were creating synergy (45%), increasing revenue or market share (for all deals), Economy of scale (45%), save taxes (33%), Geographical or other diversification

(40%), Resource transfer (67%) and Vertical integration (50%). One very common aspect of big pharma M&A is their desire to develop R&D.

Trends:

In 1995 Ciba geigy and Sandoz merged together to create combined synergies, success of this deal motivated Astra & Zeneca and Pharmacia & Upjhon to merge together respectively in 1998 and 1999.

In 1999 Pfizer made an alliance with Warner Lombert to become strong in some specialty division and to develop it as a core strength to compete. This deal formed a trend in industry till now as it leads to eight more deals to happen with same motive.

In 2006 two important deals (Bayer – Schering AG and Johnson & Johnson – Pfizer consumer Health) were happened, followed by two more deals (Merck - schering plough in 2009 and Novartis – GSK deal in 2014), shows big pharma's interest towards nonprescription market and OTC/consumer products.

Data also shows big pharma's love for biotech industry as this industry shows potential in near future. Acquisition of biologics started with Amagen – Immunex deal in 2001 followed by AstraZeneca – Medimmune and Schering – Plough in 2007, Sanofi – Genzyme in 2010, and Novartis – GSK in 2014.

Conclusion

To increase market share and revenue through geographical or other diversification and through resource transfer are proved to be the biggest motivation behind all top 20 M&A.

Pharmaceutical M&A are trending towards diversifying their business by showing higher value towards Consumer Health/OTC division and Biotech industry.

Introduction:

Mergers and acquisitions are transactions in which the ownership of business organizations or their operating units are transferred or combined. As an aspect of corporate strategic management, it is refers to the aspect of corporate strategy, corporate finance and management dealing with the buying, selling and combining of different companies that can aid, finance, or help a growing company in a given industry grow rapidly without having to create another business entity. These alliances can allow enterprises to grow, shrink, change the nature of their business or improve their competitive position.

M&A includes number of different transactions, such as mergers, acquisitions, consolidations, tender offers, purchase of assets and management acquisitions. Common thing in all these cases are that there is always two companies are involved, where an acquiring company makes an offer to buy the other company in its entirety or purchase some of its assets.

Merger:

A merger is a combination of two companies into one larger company, in which the boards of directors for two companies approve the combination and seek shareholders' approval. After the merger, the acquired company ceases to exist and becomes part of the acquiring company. A merger in 2007 was a deal between Digital Computers and Compaq, where Compaq absorbed Digital Computers.

It is broadly classified in (i) Horizontal mergers: A situation when two or more merging companies manufacture similar product in the same industry. (ii) Vertical mergers: A situation when two or more merging companies work at different stages of manufacture of a same product. (iii) Conglomerate mergers: A situation when two or more merging companies operate in different industries.

Acquisition:

The word acquisition, also known as a takeover or a buyout, is the buying of one company (the ‘target’) by another. In acquisitions the acquiring company obtains the majority stake in the acquired firms, which does not change its name or legal structure. An example of this transaction is Manulife Financial Corporation's 2004 acquisition of John Hancock Financial Services, where both companies preserved their names and forms of organization.

Consolidation:

A consolidation creates a new company. Stockholders of both companies must approve the consolidation, and subsequent to the approval, they receive common equity shares in the new firm. For example, in 1998 Citicorp and Traveler's Insurance Group announced a consolidation, which resulted in Citigroup.

Tender Offer:

In a tender offer, one company offers to purchase the outstanding stock of the other firm at a specific price. The acquiring company communicates the offer directly to the other company's shareholders, bypassing the management and board of directors. While the acquiring company may continue to exist, if there are certain dissenting shareholders, most tender offers result in mergers. An example is when Johnson & Johnson made a tender offer in 2008 and acquired Omrix Biopharmaceuticals for $438 million.

Acquisition of Assets:

In a purchase of assets, one company acquires the assets of another company. The company whose assets are being acquired must obtain approval from its shareholders. Typically, the selling company is liquidated upon the final transfer of assets to the acquiring firm. The purchase of assets is typical during bankruptcy proceedings, where other companies bid for various assets of the bankrupt company, which later ceases to exist.

Management Acquisition:

In a management acquisition, the management of a company purchases a controlling stake in a company, making it private. Such an M&A transaction is typically financed disproportionately with debt, and the majority of shareholders must approve it. In 2013, Dell Corporation announced that it was acquired by its chief executive manager, Michael Dell. This was a management acquisition.

M&A in Pharmaceutical industry:

The process of mergers and acquisitions has gained substantial importance in pharma industry across the globe. This process is extensively used by pharma houses those who have excess capacity and high R&D investments to restructure and consolidate their position in the industry.

Companies are heavily relying on corporate alliances to improve competitiveness through gaining greater market share, widening the portfolio to reduce business risk and for entering new markets and geographic locations etc.

Multinationals are practicing it from several decades but from last one decade Indian pharma houses including Sun Pharma, Cipla and Lupin, too took the acquisition path in their quest for international expansion. The biggest acquisition by an Indian firm in 2015 was by Lupin which agreed to pay USD 880 million to take control of US-based Gavis. Followed by world's largest merger between Pfizer Inc and Allergan for which Pfizer payed USD 160 billion.

Recent trend is clearly showing that mergers and acquisitions (M&A) have been an important element of corporate strategy for pharma companies, all over the globe for several decades, but research on M&A's has not been able to provide conclusive evidence on whether they enhance efficiency or destroy the wealth of organizations. Thus effects of M&A's on firms is emerged as favorite topic of debate globally.

Through this study we will try to explore the trends and progress in M&A's throughout the world. By this study we will also access the patterns and motivations behind the overseas M&A's by pharma enterprises.

Literature review:

According to (KPMG, 2006), it could be mentioned that Indian pharmaceutical firms are pursuing foreign acquisitions with the following goals:

- Improve global competitiveness
- Move up the value chain
- Creation and entry to new markets
- Increase their product portfolio
- Acquire assets (including research and contract manufacturing firms, in order to boost their outsourcing capabilities) and new products
- Consolidate their market shares
- Compensate for continued sluggishness in their home market.

In Indian pharmaceutical industry 264 M&A deals has been undertaken in the given time period of 2001-2010. Out of the total deals number of mergers is 99 (37.5 percent) and number of acquisitions is 165 (62.5 percent). Share of pharmaceutical industry is also highest among all the other industries participating in M&A in manufacturing sector during this period.

According to a report published by Irving Levin Associates Inc. in October 18, 2012 – in the period of 2007 to 2012, reveals steady activity of M&A followed by a slight decline in the last 18 months. Merger and acquisition activity in the pharmaceutical sector of the health care industry proceeded at a fairly steady level in terms of the number of deals announced from January 2008 through 2010, which was consistent with the activity level for this sector for several prior years, with the exception of 2007, when the number of transactions spiked more than 25% to 180 announced deals in that year. In 2011, the number of transactions faded by nearly 20%—a trend that appears to be continuing into 2012, as the 52 transactions announced in the first half of 2012 are about 10% less than the 58 announced in the first half of 2011.

The number of transactions each year and respective annual dollar volume, according to The Pharmaceutical Acquisition Report, Second Edition, 2012, are listed in the table below.

#Table 1: Pharmaceutical Mergers and Acquisitions January 1, 2007 – June 30, 2012		
Year	**Number of Transactions**	**Dollar Volume of Transactions**
2007	180	$71,600,000,000
2008	140	$40,660,000,000
2009	138	$147,120,000,000
2010	137	$39,850,000,000
2011	114	$44,140,000,000
2011 First 6 Months	58	$36,560,000,000
2012 First 6 Months	52	$26,850,000,000

* The Pharmaceutical Acquisition Report, Second Edition, 2012 is published by Irving Levin Associates, Inc.

During the five-and-a-half year period covered in this report, the pharmaceutical M&A market accounted for 761 transactions and a dollar volume of $370 billion (based on prices revealed at the time of the announcement). The dollar volume reported for those transactions remained at a fairly constant $39-44 billion range during the 2008-2010 period of the Great Recession and into 2011-12. The exception was 2009, when two mega-deals—Pfizer's $68 billion acquisition of Wyeth and Merck's $41 billion acquisition of Schering-Plough—caused the reported dollar volume to explode, reaching $147 billion for the year.

Objectives:

- To examine the presence of trends in overseas M&A’s by pharma organization.
- To examine the motivations behind overseas M&A’s by pharma organization.

Study design:

Type of study: - Exploratory research

Data (information) collected: - Secondary data

Data collection tools: - Internet & Journals

Methodology:

Sample Selection

The present study is focused on mergers & acquisitions in pharmaceutical sector announced during 1995 to 2015. Top 20 deals happened during this period is taken as sample, Hence the sample size of study comes out to be 20 mergers & acquisitions deals.

Data Collection:

Secondary data collected through the journal, books, financial statement of respective organizations through web and expert opinion.

Observations and Discussion:

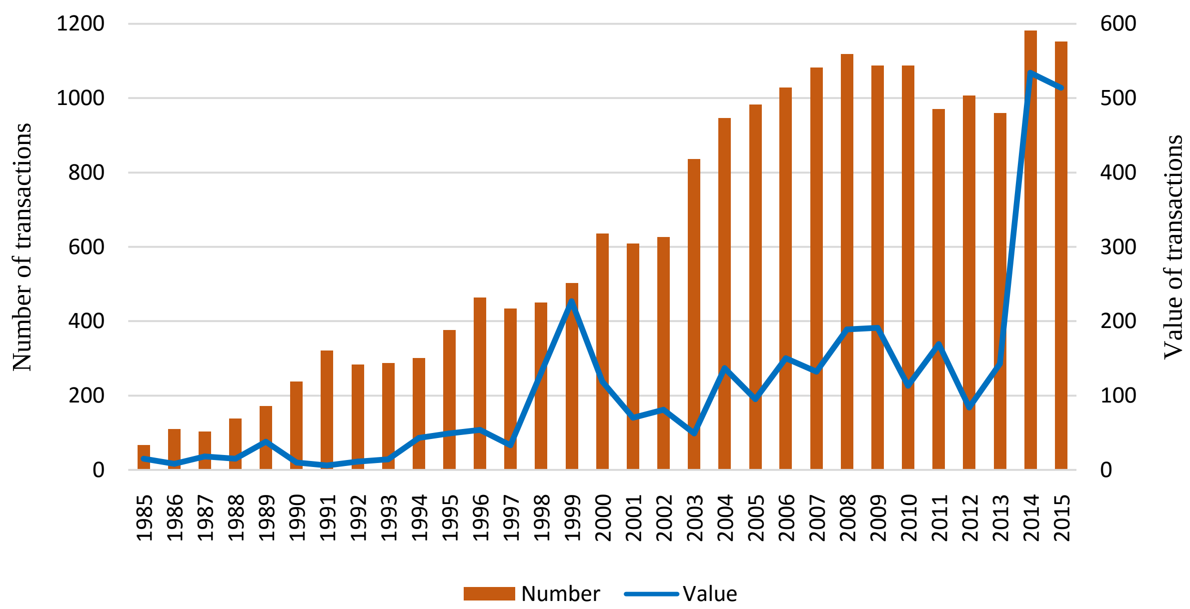
According to data reveled from Institute for Mergers, Acquisitions and Alliances (IMAA), numbers of M&A during the last 30 years (1985 to 2015) and their value are described in table mentioned below. This data shows the increasing pattern of M&A in pharma and biotech industry.

#Table 2: Numbers of M&A during the last 30 years (1985 to 2015)

Year	Number	Value	Year	Number	Value
1985	66	15	**2001**	609	70
1986	110	8	**2002**	626	81
1987	102	18	**2003**	836	49
1988	138	15	**2004**	946	137
1989	172	38	**2005**	982	95
1990	238	10	**2006**	1029	150
1991	320	6	**2007**	1082	132
1992	283	11	**2008**	1119	189
1993	287	14	**2009**	1087	191
1994	300	43	**2010**	1087	113
1995	376	49	**2011**	970	169
1996	464	54	**2012**	1007	84
1997	434	33	**2013**	960	143
1998	450	131	**2014**	1182	534
1999	503	227	**2015**	1152	514
2000	636	119			

By analyzing the graph we can clearly conclude that numbers of deal are increasing every year from last two decades except the period of 2011 to 2013 where number of deals are decreased. If we talk about value of deals it also get on increasing order and shows exceptionally high peaks during 1999 and 2014-15.

#Fig. 1: Mergers & Acquisitions: Pharmaceutical and Biotechnology



This data shows that M&A are in positively high trend as organizations are taking it as first line strategy to grow and diversify their business.

To dive deep into this data we analyzed the whole scenario in some systemic manner to understand it clearly. And to fulfill our objective we have selected top 20 M&A deals happened in pharmaceutical industry. These deals are identical for whole industry and represents patterns and motivation of whole industry as samples of top 20 deals includes all big pharma into it.

Table mentioned below contains list of top 20 M&A deals, year in which deal was announced, buyer and seller, type of deal (Merger, Acquisition) and announced value of deal in billion dollars.

#Table 3: Top 20 M&A Deals in Pharmaceutical Industry					
S. no	**Year announced**	**Acquirer company**	**Target/Merging company**	**Deal Type**	**Announced Value (bn $)**
1	1999	Pfizer	Warner-Lombert	Acquisition	87.3
2	2004	Sanofi	Aventis	Acquisition	73.5
3	2000	GlaxoSmithKline	SmithKline Beecham + Glaxo Wellcome	Merger	72.4
4	2015	Actavis	Allergan, Inc	Acquisition	70.5
5	2002	Pfizer	Pharmacia	Acquisition	64.3
6	2009	Pfizer	Wyeth	Acquisition	64.2
7	2008	Roche	Genentech	Acquisition	44
8	2009	Merck & Co.	Schering-Plough	Acquisition	41.1
9	2015	Teva Pharmaceutical Industries	Actavis		40.5
10	1998	AstraZeneca	Astra+Zeneca	Merger	30.4
11	1996	Novartis	Ciba-Geigy+Sandoz	Merger	29
12	2014	Actavis	Forest Laboretries	Acquisition	28
13	1999	Pharmacia	Pharmacia & Upjohn + Monsanto	Merger	25.2
14	2010	Sanofi	Genzyme	Acquisition	19.6
15	2006	Bayer	Schering AG	Acquisition	18.4
16	2001	Amgen	Immunex	Acquisition	16.8
17	2006	Johnson & Johnson	Pfizer Consumer Health	Business Unit	16.6
18	2007	AstraZeneca	Medimmune	Acquisition	14.7
19	2007	Schering plough	Organon	Business Unit	14.5
20	2014	Novartis	GlaxoSmithKline Oncology	Business Unit	14.5

*Source: Bloomberg

Novartis: Ciba-Geigy and Sandoz merger:

The $30.09 billion merger of Sandoz and Ciba-Geigy, which was announced in early 1996, is known as one of the biggest deals in the pharmaceutical industry, it was the deal that gave birth to one of the largest pharmaceutical company. At the time their deal was struck, Sandoz and Ciba were both healthy companies with some market-leading products. Both had promising new drugs in their pipelines that could provide near-term sales growth, and both had strong balance sheets. But neither was a powerhouse. The ultimate motive behind this deal was to distance themselves from the unsure chemical markets and jump to new business opportunities. Thing that made this deal successful was their shared commonalities in crop protection, seeds, agribusiness and animal health products. The motive behind the merger were to remain competitive in the rapidly changing marketplace and to reduce the cost of operating in Switzerland.

In the first half of 1997, Novartis's net income totaled about $2.2 billion, a gain of 27 percent over the comparable figure a year earlier. Operating income climbed by 25 percent, Sales rose 19 percent, to 16.56 billion Swiss francs. Novartis did not release third quarter earnings, but did report a 21 percent gain in nine-month sales, to 23.9 billion Swiss francs. Without the effect of currency fluctuation, sales growth equaled 8 percent.

AstraZeneca: Astra & Zeneca Merger

Drug companies Zeneca and Astra were merged in 1998 and formed a new company AstraZeneca (worth $67bn), it was one of the largest-ever European mergers. The two companies were engaged in a “merger of two equals". Under the terms of the deal, Zeneca shareholders received 53.5% of the new company and Astra shareholders got 46.5%. A combined company with larger and better resources to put into [research and development] proved itself highly competitive in the U.S. market.

The main reasons advanced for the merger are discussed as follows: The cost of getting a drug to market had risen sharply as competition intensified and companies were forced to rush out remedies as soon as possible. The average bill for producing a product was $500m. By pooling resources the two companies hoped to create a research and development powerhouse.

The patent on Astra's main money maker, anti-ulcer drug Losec, expires in 2001. Similarly Zeneca stood to lose the exclusive rights over some of its main pharmaceutical products over the next few years. When drugs come off patent, competitors usually come into the market, pushing down prices and taking a big chunk of sales. Concerns had been raised about the future prosperity of both companies. By combining forces they hoped to cover the cracks in their product pipelines. By merging, the two companies hoped to save $1.1bn. Most of the savings were expected to come from slashing 6,000 jobs, and combining their marketing and research and development functions. Analysts criticized Zeneca and Astra for having unambitious management teams, which are slow to grasp the changes sweeping across the industry. This was because other groups have joined forces and grown much stronger, leaving Zeneca and Astra behind. Pressure from shareholders for action and a desire to compete more effectively in the crucial US pharmaceutical market helped prompt the move. The new group expected to have nearly half its sales in the US, and half in Europe. The companies appeared to be a good fit. They had complementary drugs, with 32 few remedies in direct competition with each other. Their similarity in size also helped facilitate the merger. It was expected that the combined company would support Zeneca's stable of cancer treatments, led by Zestril, and Astra's well-established Losic ulcer franchise, which is marketed as Prilosic in the U.S. and accounted for about 55% of Astra's Q3 sales in 1998.

Pfizer- Warner Lambert

The $90 billion hostile takeover by Pfizer of Warner-Lambert (Warner), completed in 2000, was hyped as a traditional horizontal integration of two powerful pharmaceutical companies. Clearly, Pfizer was acquiring a significant asset in Lipitor, Warner's cholesterol-lowering drug, and established cost savings through headcount reductions. Stock analysts even made statements to the effect that the deal was strictly for strategic reasons—for Lipitor, for the therapeutic enhancements Warner-Lambert brings, and for the sheer marketing clout. However, the merger was motivated in large part by financial considerations.

The acquisition of Warner-Lambert will provide it with a further blockbuster drug and a number of development stage compounds which will fill gaps in its current R&D pipeline. The resulting company will lead both the global anti-hypertensive and anti-hyperlipidemia markets and become one of the leading CNS marketers.

The combined company formed was second-largest pharmaceutical company in sales, but had the largest capitalization among its competitors. Its market capitalization was approximately $220 billion, compared with that of second-place Merck, about $185 billion.

Pharmacia & Upjohn Inc. and Monsanto Merger:

The boards of Pharmacia & Upjohn Inc. and Monsanto Co. approved a $27 billion merger of equals designed to transform two mid-tier pharmaceutical businesses into a more formidable contender in the rapidly consolidating drug industry.

Driven by top-line synergies, the new company is expected to achieve a higher earnings level than either company on its own. In addition, the new company plans to achieve annualized synergies of more than $600 million consisting of cost avoidance and elimination of duplication, some of which may be reinvested to accelerate growth opportunities.

Glaxo Wellcome & SmithKline Beecham Merger:

In terms of geographical strategy to merge, Glaxo Wellcome has a strong global presence with only 44.7% of total sales derived from the US in 1998. SmithKline Beecham was more US focused, with US revenues making up 51.0% of total sales in 1998. The merger between Glaxo Wellcome and SmithKline Beecham significantly increased both companies' global strength and, in the US in particular, the merged company benefited with one of the largest sales forces in the industry.

In terms of portfolio fit, Glaxo Wellcome and SmithKline Beecham have two core areas in common: anti-infectives and CNS. Their merger transformed the combined company particularly strong in these markets and created synergies between the two companies' sales and R&D infrastructures. . Glaxo Wellcome's other main therapy area is respiratory and, combined with SmithKline Beecham's strength in vaccines and arthritis, resulted in the merged company had a broad portfolio with little reliance on any one therapy area.

To achieve the aims, the management formed a new structure for R&D, highlighting the cost reductions and breaking of pipeline. However, the lack of focus on general organizational structure and internal management structure resulted in low returns compared to the estimate one. To handle the situation, the all the long terms aims has left unfocused and the management tried to recover the company from the 'sudden-death syndrome'.

This clearly gives an evidence for Glaxo SmithKline's downfall form the anticipated growth. The inability of GSK in producing blockbuster products, joint hand with the above described situation made things worse.

Focusing on employees and other internal management issues in the later part helped the company to handle the global resisting issues and focus on their long term goals.

Analysing GSK's stock market performance (1998 - 2003), tells that GSK failed to touch the anticipated heights and were only able to sail along with the industry growth. Based on the Lewin's force field model, the driving forces of GSK were not too enough to overcome the resistance for change and thus failed to achieve the fixed target.

In the first year of post-merger, GSK claimed 12% increase in pharama industry, with the help of cost savings and disposal of assets. The firm anticipated double the level of saving in the next year. The health care grew only 3%.

They fail to record returns in R&D in spite of combined R&D budget and investment. It also failed to deliver blockbuster product to enhance the revenue. Instead to maintain the tempo, the management kept buying 40 licenses from other companies.

GSK has shed more than 15,000 jobs; Managers were unable to retain the talent that resides on the firms. Instead of creating a "powerhouse", research was split into smaller, autonomous units. (Abrahams, 1992 p.22)

GSK's new radical structure was a response to a series of failures in research at the two merger partners. (Dyer, G., 2002 p.3). The new radical structure resulted James Palmer (Head - Development) resignation in October 2002.

Amgen Immunex acquisition deal:

Amgen Inc. acquired the Immunex in 2001 for about $16 billion in stock and cash in a transaction that helped Amgen became the first biotechnology company to gain the stature of a major pharmaceutical company. The merger united two of the oldest companies in biotechnology and some of the industry's most lucrative products. Amgen gained rights to Immunex's rheumatoid arthritis drug, Enbrel, which was a blockbuster of that time. The success and potential of Enbrel was a key motivator for Amgen to buy Immunex.

People familiar with talks between the companies last week said Amgen might pay as much as $18 billion for its rival. Amgen shares dropped 6.4 percent on Thursday and 6.9 percent on Friday to close at $56.03. Immunex fell $1.34, or 5 percent, to $25.62 on Friday after climbing 10 percent on Thursday.

In trading before the opening of U.S. markets, Amgen shares traded as low as $53.11 and Immunex shares as high as $27.50. The companies expect to complete the transaction in the second half of next year, depending on shareholder and regulatory approval.

The transaction will dilute profit in 2003 and will probably add to earnings starting in 2004, Amgen said. The companies estimated merger-related savings at more than $200 million in 2003 and more than $250 million in 2004.

Pfizer Pharmacia acquisition deal:

In July, 2002, Pfizer, Inc. announced the acquisition of Pharmacia Corp. valued around $64 billion, which created the largest pharmaceutical company in the world with a projected $48 billion in annual revenue and a research budget of more than $7 billion.
As a result of the merger, the product portfolio of Pfizer was enlarged. Before the merger, Pfizer had a number of own important products such as Zoloft, Lipitor and Viagra. Due to the merger, Pfizer incorporated Pharmacia products such as Celebrex, Beztra, Detrol, Nicorette, Rogaine and Luden. 11 out of 12 combined blockbuster drugs of Pfizer and Pharmacia were patented untill 2010 (New York Times, 2002). The pipeline of products in the last stage of development was enlarged by a number of promising Pharmacia products (such as Eplerenone, Parecaxib, and CDP-870).

The prices for Pfizer’s products Prepidil and Prostin E2 have remained stable before and after the merger. The price for Prepidil remained constant at CHF50. The price for Prostin is volatile. The market shares of Pfizer have decreased from 15.5% in 2001 to 10.3% in 2005. Novartis Pharma was able to secure its dominant market position after the merger.

Sanofi-Aventis:

Sanofi-Aventis was formed in 2004 when Sanofi acquired Aventis. In early 2004, Sanofi-Synthélabo made a hostile takeover bid worth €47.8 billion for Aventis. Initially, Aventis rejected the bid because it felt that the bid offered inferior value based on the company's share value, and the board of Aventis went so far as to enact poison pill provisions and to invite Novartis to enter merger negotiations. The three-month takeover battle concluded when Sanofi-Synthélabo launched a friendly bid of $73.5 billion in place of the previously rejected hostile bid.

For example, if the Plavix and other patents were lost, Aventis said, Sanofi's pipeline was not expected to offset lost sales. Aventis noted that between 2004 and 2006 it expects to launch six new products, while Sanofi anticipates only three. Aventis also believes it has four more potential breakthrough products in its pipeline—including Alvesco (ciclesonide), an inhaled corticosteroid for chronic pulmonary disease—compared with Sanofi's one potential blockbuster, Acomplia (rimonabant). The drug, an endocannabinoid receptor antagonist (CB1A) under development for the treatment of obesity and smoking cessation, is expected to reach the market in 2005. Aventis also stated that the offer would dilute its sales in the United States and increase its exposure to European markets. The company said it saw few sales or competitive synergies, and significant differences in size and organizational cultures. In the end, "we don't need Sanofi, but they need Aventis," Landau concluded.

The paris stock exchange reacted to the news of merger of the two companies with clear falls in share values for both Sanofi and Aventis.

Bayer and Schering AG deal:

Bayer AG is a 150 years-old pharmaceutical and chemical enterprise specializing in healthcare products, agriculture products and hi-tech polymer materials. The group bought Schering AG for $17bn in 2006, which remains the group's largest deal to date.

Leading German pharmaceutical player Bayer continues to impress, with second-quarter (Q2) figures released in 2007 indicating a 64.7% year-on-year (y/y) leap in net sales at Bayer HealthCare amounting to 3.7 billion euro (US$5.1 billion). This growth spurt was matched for the first half of the year, which saw Bayer HealthCare gain revenues of 7.3 billion euro. Key to Bayer HealthCare's fortunes was pharmaceuticals unit Bayer Schering Pharma, formed out of Bayer's takeover of Schering AG last year. Still riding high on the post-merger wave, Bayer Schering Pharma saw stellar sales growth of 117.4% y/y to 2.6 billion euro during the second quarter and to just over 5 billion euro for the first six months of the year. In spite of special items related to ongoing acquisition costs, both Bayer HealthCare and Bayer Schering Pharma managed to post double-digit gains in operating profit, with respective increases of 21.4% y/y and 30.2% y/y during the second quarter. Conversely, parent company Bayer AG saw a rise of just 4.6% y/y in second-quarter operating profit, reaching 917 million euro, although group sales increased by 22% y/y to 8.2 billion euro in the second quarter and by 22.4% y/y to 16.6 billion euro over the first half of 2007.

Johnson & Johnson and Pfizer Consumer Health deal:

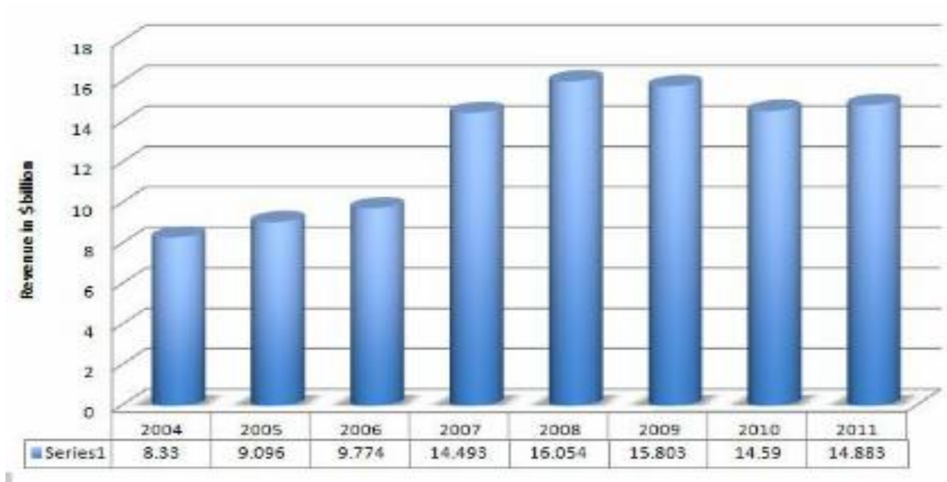
Johnson & Johnson, the world's most comprehensive and broadly based manufacturer of health care products, today announced that it has entered into a definitive agreement to acquire Pfizer Consumer Healthcare for $16.6 billion in cash.

The Johnson & Johnson Board of Directors has approved the transaction of Pfizer Consumer Healthcare's global business of personal care and over-the-counter (OTC) products in a deal costs around $16.6 billion. Acquiring Worldwide market-leading brands include LISTERINE oral care products and the NICORETTE line of smoking cessation treatments, LUBRIDERM, VISINE, NEOSPORIN, SUDAFED, ZANTAC and BENADRYL.

"This combination creates the world's premier consumer health care company," said William C. Weldon, Chairman and Chief Executive Officer of Johnson & Johnson. "Our consumer business has a long tradition of outstanding performance and a proven track record in growing consumer brands at above-category levels through innovation. This acquisition builds upon our broad base in health care products and our leadership objectives in the consumer, pharmaceutical and medical devices and diagnostics markets."

The Pfizer Consumer Healthcare business added a diverse portfolio of strong, growing, enduring brands that provided Johnson & Johnson leadership positions in nine additional categories, including large new segments such as smoking cessation and mouthwash.

#Figure 2: Consumer care Revenue in $ billion for J&J



AstraZeneca and Medimmune deal:

AstraZeneca acquired MedImmune Inc. for $15.6 billion, in perhaps the most emphatic sign yet of the push by big drug makers into biotechnology. The acquisition of MedImmune significantly accelerated AstraZeneca’s biologics strategy. The combination of MedImmune with AstraZeneca’s wholly-owned subsidiary Cambridge Antibody Technology (“CAT”) created a world-class, fully integrated biologics and vaccines business within the AstraZeneca Group with critical mass in research, development, regulatory, manufacturing and global sales and marketing reach and added two late-stage molecule to its pipeline: Numax, a follow-on to respiratory drug Synagis, as well as a refrigerated version of intranasal influenza vaccine, FluMist. The acquisition also increased AstraZeneca's total pipeline by 45 projects.

AstraZeneca spent a hefty sum to acquire MedImmune back in 2007, betting heavily on a lineup of experimental drugs that has failed to meet expectations. AstraZeneca made MedImmune the focal point of the pharma group's push into the biologics business, picking up the biotech's FluMist flu vaccine and the big-seller Synagis in the buyout. As the *Post* reports, AstraZeneca has invested heavily in the biotech unit since the purchase with the addition of more some 2,300 workers globally and in Maryland. And the blueprint for the biologics division called for churning out a newly approved drug annually.

Schering-Plough Corp. and Organon deal:

Schering-Plough Corp. merged with Dutch biotech group Organon BioSciences for $14.4 billion in a deal aimed at boosting its product portfolio in biotech-based drugs, women's healthcare and animal care products. Organon BioSciences was an excellent fit with Schering-Plough strategically, scientifically and financially, It proved as an growing strategy in primary care, providing immediate access to central nervous system and women's health care products. The acquisition of Organon BioSciences also filled a gap in their late-stage pipeline by adding five compounds in Phase III development and a number of promising projects in Phase II development.

Roche and Genentech deal:

Roche and Genentech reach a friendly agreement to combine the two organizations and create a leader in healthcare innovation. Roche intends to acquire all outstanding shares of Genentech for US$95.00 per share in cash. Deal came with cost savings of around $750 million to $850 million a year, was not the main goal of the deal; the goal was to improve coordination on product development.

The first quarter sales of Roche in 2009 showed a healthy 7 percent increase, a positive indication post-merger. Roche faces to lose more than 30 percent of its annual sales revenue and about $10 billion of its product portfolio due to patent expires in 2014. In the short run, Roche faces to lose 4 percent of its annual sales due to patent expires in its Pharmaceuticals division. (CellCept, Xenical)

Along with Chugai, Genentech accounted for over 40 percent of Roche's net annual revenues prior to Genentech's complete acquisition. Roche faced a setback in early 2009 when Avastin failed to gain an approval to prevent the recurrence of colon cancer in patients. While Roche can still find solace in its blockbuster drug continuing to rake in the big bucks just by continuing to prevent advanced stage cancers, it is definitely a bonus to know that it does not lose patent protection for more than five years.

Pfizer and Wyeth deal:

The board of Pfizer, the world's largest drug maker acquired a rival, Wyeth in 2009, for $68 billion, In 2008-2009 Pfizer was facing serious problems. Its third quarter results for 2008 revealed 90% decrease in revenues and 14 of Pfizer's patents were to expire in five years, including Lipitor, the best-selling drug in the world (New York Times, 2009b). Therefore, the motives for the merger were clear: Pfizer attempted to gain access to Wyeth's drug pipeline which included blockbusters such as Prevnar (the world bestselling vaccine), Sutent (treatment for cancer), Geodon (treatment for schizophrenia) and Zyvox (treatment for infections) (Stempel and Schiffer, 2009). The merged entity also intended to benefit from significant cost cuts, as layoffs of 19 500 employees had been announced.

It is also interesting to note that from a financial standpoint, Pfizer does not have much to gain from the acquisition of Wyeth. Clearly this acquisition is aimed at just diluting its expiry threats and buying Pfizer some more time to remain at the top in the pharmaceutical industry. In addition, Pfizer has decided to come out with more than 15 new products with each having annual revenue of around $1 billion and to not let any-one drug account for more than 10 percent of its total annual sales (as Lipitor did in the past). This strategy is to diversify its portfolio and products and reduce future risks.

Percent sales of Pfizer threatened due to patent expiry 2007–2013 pre merger	Percent sales of Pfizer threatened due to patent expiry 2007–2013 post merger
38.5%	34.7%

Merck & Co. and Schering-Plough Corp deal:

Merck & Co. agreed to buy rival Schering-Plough Corp. for $41.1 billion, in the latest attempt by pharmaceutical companies to diversify as they seek to weather the recession and cope with the unpredictability of drug development. Schering-Plough brings to Merck biotech, consumer-health and animal-health businesses, as well as an expanded presence in Brazil, China and other emerging markets.

Merck Chief Executive Richard Clark said the deal was in large part driven by the desire to diversify. "With the external environment, it's going to really require a breadth and depth of products," he said in an interview.

The Company's operations outside the United States are conducted primarily through subsidiaries. Sales worldwide by subsidiaries outside the United States were 57% of sales in 2011, 56% of sales in 2010 and 47% of sales in 2009. The increase in proportion of sales outside the United States in 2010 was primarily due to the inclusion of results of Schering-Plough following the close of the Merger.

Sanofi Genzyme deal:

French drug giant Sanofi and Cambridge-based biotech company have agreed to terms of a $20.1 billion buyout, local players in the market for rare disease drugs are contemplating what Sanofi's huge move into their field means for them. Genzyme's franchise of drugs for rare inherited illness such as Fabry disease and Gaucher's was a prime motivation for Sanofi's takeover.

Sanofi said it plans to make Genzyme its global center of excellence in rare diseases. More broadly, Sanofi's chief executive, Chris Viehbacher, said part of his company's growth strategy is to build more ties with outside academics and drug developers to bolster his firm's pipeline.

Two and a half years after buying local biotech Genzyme Corp. for $20.1 billion, Sanofi SA's chief executive said Wednesday that the deal has paid off handsomely for his company, sparking a business surge that has added $40 billion to the international pharmaceutical giant's market value. Genzyme has been among the fastest growing parts of Sanofi, with sales increasing 25.5 percent in the first half of 2013.

Actavis forest laboratories deal:

Actavis plc and Forest Laboratories, Inc. announced on February 18, 2014 that they have entered into a definitive agreement under which Actavis will acquire Forest for a combination of cash and equity valued at approximately $28 billion

The combination of Actavis and Forest creates a new breed of specialty pharmaceutical company, with size and scale, a balanced offering of strong brands and generics, a focus on strategic, lower-risk drug development and a flexible, scalable business model that permits it to adapt quickly to ever-changing industry dynamics and drive sustainable, long-term organic growth. The combined Company begins operations with a defined global management structure, led by a combination of Actavis and Forest senior executives, which has been built to leverage the unique talents across the organization and capitalize on global growth opportunities.

Forest Labs' shares traded for less than $35 in the month before Icahn's first proxy fight with the drug maker; prices hit $92 per share the day after the Actavis merger announcement. Today reported exceptional performance with non-GAAP net revenue increasing 44 percent to $4.01 billion for the quarter ended December 31, 2014, compared to $2.78 billion in the fourth quarter 2013. On a non-GAAP basis, diluted earnings per share increased 23 percent to $3.91 for the fourth quarter 2014, compared to $3.17 per diluted share in the fourth quarter 2013. GAAP revenues increased 46 percent to 4.06 billion for the quarter ended December 31, 2014, compared to $2.78 billion in the fourth quarter 2013. GAAP loss per share for the fourth quarter 2014 was $2.76, compared to GAAP loss per share of $0.86 in the prior year period. GAAP results were impacted by amortization and acquisition-related expenses, including impairments and legal reserves associated with acquired businesses.

Novartis GlaxoSmithKline deal:

This deal was clearly a bussiness transaction between two organizations to strengthening their core business. The deal came as an opportunity for GSK to build greater scale and combine high quality assets in Vaccines and Consumer Healthcare. Novartis's OTC portfolio is highly complementary to GSK's and has many well-known, widely recommended brands such as Voltaren, Excedrin, Otrivin, and Theraflu. Together, both companies will create the world's premier OTC business with clear opportunities to accelerate revenue growth.

The acquisition of Novartis's Vaccines business will significantly enhance the breadth of GSK's vaccines portfolio and pipeline, notably in meningitis, with the addition of Bexsero, an exciting new vaccine for prevention of meningitis B. The acquisition will also strengthen GSK's manufacturing network and reduce supply costs.

The third part of this transaction is acquisition of GSK's Oncology portfolio by Novartis. In recent past GSK has made excellent progress to develop a series of innovative medicines and this transaction will add up some potential medicines to Novartis's portfolio and help them to continue their legacy as world's leading oncology medicine provider.

Investors welcomed the deals, with Novartis shares in Zurich closing up 2.3 percent at 76.40 Swiss francs. GSK's share price in London soared 5.2 percent at 16.40 pounds with investors particularly cheered by the news that company is planning to return 4 billion pounds to shareholders following the closure of the deals. Eli Lilly shares fared less well, trading 0.6 percent lower.

Teva Actavis Deal:

In 2015 Teva Pharmaceutical Industries announced its acquisition of Actavis's (now Allergan) generics business. As per the press release on July 27, 2015, the deal size was $40.5 billion in cash and shares. The consideration was expected to comprise $33.8 billion in cash and $6.8 billion in Teva shares.

Teva is undergoing a business model transformation process to achieve higher profitability targets. Teva is changing its business model from being a volume-driven company to being a value-driven company. It's doing this by shifting its product portfolio toward high-value, complex generics products through an inorganic growth path. Actavis, now Allergan, has a strong generics R&D (research and development) pipeline that is a great fit for Teva's transformation process. For this reason, the Teva-Actavis deal will be a benefit.

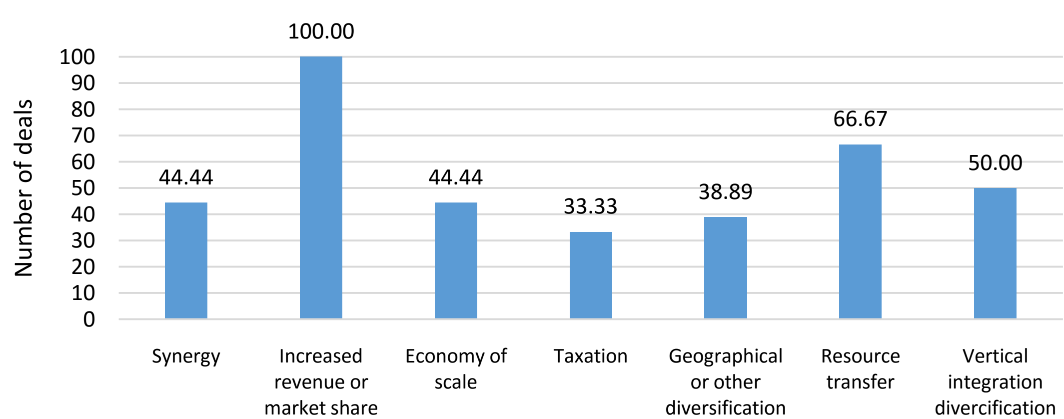
Results and Discussion:

#Table 4:Reason behind top 20 M&A Deals in Pharmaceutical Industry					
S. no	**Year**	**Acquirer company**	**Deal Type**	**Announced Value (bn $)**	**Reason Behind deal**
1	1999	Pfizer - Warner Lombert	A	87.3	To become strong in some speciality division by acquiring Lipitor
2	2004	Sanofi - Aventis	A	73.5	To improve R&D
3	2000	Glaxo Wellcome & SmithKline Beecham	M	72.4	To create synergies in R&D and sales force To become stronger in: anti-infective and CNS speciality
4	2015	Actavis – Allergan Inc.	A	70.5	To become leading Blockbuster Franchises in Ophthalmology, Neurosciences, and Dermatology.
5	2002	Pfizer – Pharmacia	A	64.3	To increase product portfolio by adding new blockbusters.
6	2009	Pfizer - Wyeth	A	64.2	To overcome the effect of upcoming patent offs To increase product portfolio by adding new blockbusters.
7	2008	Roche - Genentech	A	44	To improve coordination on product development by combining R&D
8	2009	Merck – Schering Plough	A	41.1	To addup biotech, consumer-health and animal-health businesses in portfolio. To expand their presence in Brazil, China and other emerging markets.
9	2015	Teva - Actavis	A	40.5	To diversify towards complex generics by acquiring Actavis's generic R&D
10	1998	Astra and Zeneca	M	30.4	To become powerful through combining the R&D
11	1996	(Novartis) Ciba Geigy and Sandoz	M	29	To remain competitive in the rapidly changing market through combine synergies.

12	2014	Actavis – Forest Laboretries	A	28	To become speciality p'ceutical company in branded and generics both
13	1999	Pharmacia – Upjohn & Monsanto	M	25.2	To become stronger through combined synergies
14	2010	Sanofi – Genzyme	A	19.6	To get hold on rare disease segment
15	2006	Bayer – Schering AG	A	18.4	To move into specialty pharmaceuticals
16	2001	Amgen - Immunex	A	16.8	To become major biotech company
17	2006	Johnson & Johnson – Pfizer consumer Health	B U	16.6	To become premium consumer health organisation
18	2007	AstraZeneca – Medimmune	A	14.7	To become major player in biotech industry
19	2007	Schering plough - Organon	B U	14.5	To boost product portfolio in biotech-based drugs, women's healthcare and animal care products.
20	2014	Novartis – GSK	B U	14.5	To strengthening their core businesses (oncology and Vaccine) To become a premier organization in consumer health division

Motivation:

#Figure 3: Motivation Behind M&A V/S No of deals



By studying of top 20 M&A deals in pharmaceutical industry, study indicate motivating factors behind all deals were: Growing through combined synergy was motivation behind 45% deals, a very common motivation behind all the deals was increasing revenue or market share, getting cost savings through economy of scale was motivation behind 45% deals, about 67% deals happened with the motive of resource transfer, growing in new geographical area or some other diversification was motivation behind around 40% deals, vertical integration as motivation was behind the 50% of deals and at the last saving tax was motive behind one third of deals. One very common aspect of big pharma M&A is their desire to develop R&D.

Trends:

In 1995 Ciba geigy and Sandoz merged together to create combined synergies, success of this deal motivated Astra & Zeneca and Pharmacia & Upjhon to merge together respectively in 1998 and 1999.

In 1999 Pfizer made an alliance with Warner Lombert to become strong in some specialty division and to develop it as a core strength to compete. This deal formed a trend in industry till now as it leads to eight more deals to happen with same motive.

In 2006 two important deals (Bayer – Schering AG and Johnson & Johnson – Pfizer consumer Health) were happened, followed by two more deals (Merck - schering plough in 2009 and Novartis – GSK deal in 2014), shows big pharma's interest towards nonprescription market and OTC/consumer products.

Data also shows big pharma's love for biotech industry as this industry shows potential in near future. Acquisition of biologics started with Amagen – Immunex deal in 2001 followed by AstraZeneca – Medimmune and Schering – Plough in 2007, Sanofi – Genzyme in 2010, and Novartis – GSK in 2014.

Conclusion:

To increase market share and revenue through geographical or other diversification and through resource transfer are proved to be the biggest motivation behind all top 20 M&A.

Pharmaceutical M&A are trending towards diversifying their business by showing higher value towards Consumer Health/OTC division and Biotech industry.

Initially organizations were merged to become a stronger entity, to expand their drug profile and to reach new geography, but by the time organizations diversed their strategy towards improving & developing core strengths.

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