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TITLE : Maximizing A Pharmaceutical Merger

Maximizing a pharmaceutical merger by DJ Phukan.

- Well-researched paper!
- Excellent Content: Research question^{is} clear. New insights in pharmaceutical mergers and the problems of integration. Very good examples.
- Delivery:
 - Many grammatical errors.
 - Could use some help from the Communications group (UMBS)
 - Should avoid "as per", mixing tenses and hyperboles

Allan Afuah.

Maximizing A Pharmaceutical Merger[□]

"Let our competitors merge, we'll surpass them while they sort through the merger integration.

- William Steere. PfizerCEO, January 1998

"Our success is that we integrated to create Novartis, people no longer think of Ciba-Geigy and Sandoz. It is like a marriage where the couple is indivisible and distinct from the partners.

- Dr. Danielle Vasella, Novartis Chairman and CEO

Introduction

The focus of this paper is on the integration phase of a pharmaceutical merger. As per studies by Galphin and Robinson¹; Smith and Quella²; Brunsman, Sanderson of Braxton Associates³, integration is the most critical phase of a merger. Integration involves timing and execution of major decisions that drive the merger process and thus creates the foundation of the new firm. Hence the Integration phase can create or destroy the value of the merging firms. Most pharmaceutical mergers have not succeeded in retaining the value of the predecessor firms (based on performance against the Pharmaceutical stock index in Appendix 1 or retaining their pre merger global market share in Exhibit 1) as per the Kostuch, Malchione and Marten of Boston Consulting Group⁴. A successful drug merger is defined for the purposes of this paper by the following suggested criteria

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- The new firm did not lose more than 15% of the combined market share of its parents in a two year period after the merger is completed (some loss is inevitable due to disposal of non-core units and dominant product categories to address anti-trust regulators).
- The firm outperforms the drug stock index in the period two years after merging.

[□] Dhananjay "DJ" Phukan prepared this paper under the supervision of Professor Allan Afuah

- The new firm is perceived to be in a stronger position than its predecessor firms were.
- The new firm realizes the synergies and strategic position envisioned.

Industry evolution in the 1990s

The United States is about 50% of the revenues of the global pharmaceutical market as per IMS⁵. The 1990's led to major changes in the United States healthcare. The drug industry has changed from a low competition, high profit industry into an industry under severe third party payor pressure and brutal competition. The changes occurred due to the following factors:

A. Soaring Costs of Drug Development:

Average development costs per drug have increased from about \$ 230 million in 1990 to about \$ 500 million in 1998 due to rising costs of drug research and field trials⁶. R&D budgets under \$ 1 billion are considered inadequate to be competitive^{5,6}. It is expected that drug development costs will continue increasing and force mergers for necessary resources. Resource constraints were cited as one of the causes of the creation Aventis by the merger of Hoechst Marion Roussel (HMR) and Rhone-Poulenc Rorer (RPR)^{8,40}. Major players Glaxo Wellcome (GW) and Novartis are offspring of the mid 1990s mergers. Dr. Danielle Vasella, CEO of Novartis has cited the rising cost of development to be a major cause of the Sandoz AG and Ciba Geigy AG merger that created Novartis. Dr. Vasella expects further mergers^{28, 47,50}. Industry analysts⁷ and industry expert Viren Mehta⁹ and consultants A.T. Kearney¹⁰ also expect the merger trend to continue as drug patents expire, R&D costs increase and markets demand greater resources.

B. Growth of Managed care

Managed care organizations (MCOs) like health maintenance organizations (HMOs) and preferred provider organizations (PPOs) now cover 80% of all insured Americans up from only 28% in 1990¹¹. Cost control and disease management are now crucial. Drug makers must get their products on the approved formulary list of the MCO. A physician is reluctant to write a prescription for an unlisted drug for a patient as the drug is either not covered by the MCO plan benefit or has a very high deductible⁸. Patients also want their prescription listed and covered. An unlisted drug effectively gets shut out from an MCO's membership. The drug firms must give volume discounts to the MCO and market the drug (on economic and efficacy outcomes) to get on the approved formulary list of the MCO⁸.

C. Healthcare reform and Payor pressure

Rising healthcare costs led to healthcare reform attempts. The best known was the unsuccessful attempt in 1992 by Hillary Clinton's panel. Under this model, the US government would be the single payer for all healthcare funded by payroll taxes. There was concern that the US government would regulate drug prices like much of the rest of the world. The Clinton plan failed due to its complexity and the objections of special interest groups. Other reforms include Medical Savings accounts and portable healthcare insurance. Industrial organizations like AT&T, GE (which have thousands of employees covered and are a major market for the drugs) have demanded and have obtained large discounts from drugmakers for allowing certain drugs to be covered by their healthcare plan¹². Hence there is severe third party payor pressure on the drug industry.

D. Food & Drug Administration (FDA) approval of drugs

Groups ranging from AIDS activists to the United States Congress have put pressure on the FDA to speedily approve drugs for life threatening conditions like AIDS, High Blood Pressure, Cancer etc. Hence, the time taken by the FDA to review and approve drugs has gone down from around 12-18 months in early 1990 to about 9-12 months in 1998⁸. The FDA has also allowed fast track or expedited review (about six months) for a breakthrough drug. Breakthrough drugs are those with significant therapeutic benefits, efficacy or safety over existing drugs. Expedited review drugs include Warner-Lambert's Rezulin diabetes drug^{34, 35, 36}. A major drug company has to have a good relationship with the FDA and understand the drug approval process. FDA approval has thus effectively created a major entry barrier for the United States drug market. Major non-US drug firms like GW have either developed this capability or have tied up with a US company (like Japan's Sankyo which tied up with Warner-Lambert to market Rezulin³⁵ in the United States). Other firms like Sweden's Pharmacia AB and Astra AB have merged or established a joint ventures (with US firms) respectively to gain this capability⁸.

E. Drug Controversy

The FDA's expedited review has also caused concern about the safety of the newly approved drugs in the United States. Posicor, a blood pressure medication, (made by Roche) and painkiller Duract, diet pills Phen-Phen and Redux (all made by Wyeth Ayerst, a unit of American Home Products (AHP)) were withdrawn shortly after their launch due to patient deaths and serious side effects⁸. Drugs like Viagra and Rezulin had their FDA labels changed for safety after some patient deaths. There is concern that the FDA, acting under pressure to approve

drugs quickly, may have missed side effect hazards in drug trial safety data. Physicians are very concerned about a new drug's safety. They have to be effectively persuaded to prescribe a new drug. Thus strong marketing, a solid reputation and a good salesforce are increasingly critical to promoting and selling a drug.

F. Direct to consumer marketing

A major event is the advent of Direct to Consumer (DTC) marketing. It is now possible to generate prescription demand for a drug by advertising and other methods more common in consumer products marketing. Schering-Plough (SGP) made Claritin the largest anti-allergy prescription medication despite a product that was widely considered inferior to Hoechst Marion Rousell's (HMR) Allegra due to effective DTC marketing^{10,37}. As per industry analyst Viren Shah⁷ all drug firms are rapidly creating DTC capabilities. Industry DTC advertising expense has gone from under \$100 million in 1995 to over \$ 1 billion in 1998^{38, 39}.

Present Industry Mergers

These industry dynamics have culminated in consolidation in the drug industry. In the last month of 1998, two mega-mergers have been announced. The first is the \$ 30 billion creation of Aventis from the merger of RPR and HMR, both firms borne from previous mergers. The second is the \$ 35 billion merger by Sweden's Astra and Britain's Zeneca creating AstraZeneca. These new merged firms will rank first and third respectively in the 1998 global rankings by pharmaceutical sales^{40, 41, 42, 43}.

Aborted Mergers

Three major drug mergers fell apart in 1998. The first was between SmithKline Beecham (SB) (a firm whose successful merger is researched in this paper) and AHP, a veteran of many mergers. This merger collapsed when GW (borne of the merger of Glaxo and Wellcome) offered a counter merger proposal to SB. SB terminated its merger with AHP and agreed to merge with GW^{29, 48}. The GW-SB merger collapsed later on power sharing disagreements between GW and SB executives. AHP and Monsanto then attempted a merger that fell apart in late October on similar issues of executive power sharing²⁹. These events suggest the following:

- The drug industry will see more mergers in the next two years
- There are many merger hazards. Most merged firms (See Exhibit 1) lost market share to firms like Merck, Pfizer and Johnson & Johnson, that have eschewed mergers.

- Most mergers have not achieved their objectives. Hence, the merged firm has to go down the merger road again. This is evident from the repeated mergers by RPR and HMR^{52, 40}.
- A well-executed merger dramatically alters the competitive landscape. It can create an industry leader like Novartis. The merger of Sandoz and Ciba-Geigy, created the leader in Lifesciences. Novartis is admired for its product, managerial, scientific, financial and other competitive strengths. These findings on Novartis are confirmed by a survey by Price Waterhouse Coopers on the most admired European firms⁵⁰.

The writer reviewed numerous articles that led to the of creation of Novartis and SB. These are considered successful mergers on the basis of the defined criteria. The Pharmacia & Upjohn (P&U) merger was reviewed to understand the mistakes of a merger²³. In addition articles on merger integration were also reviewed to provide a framework.

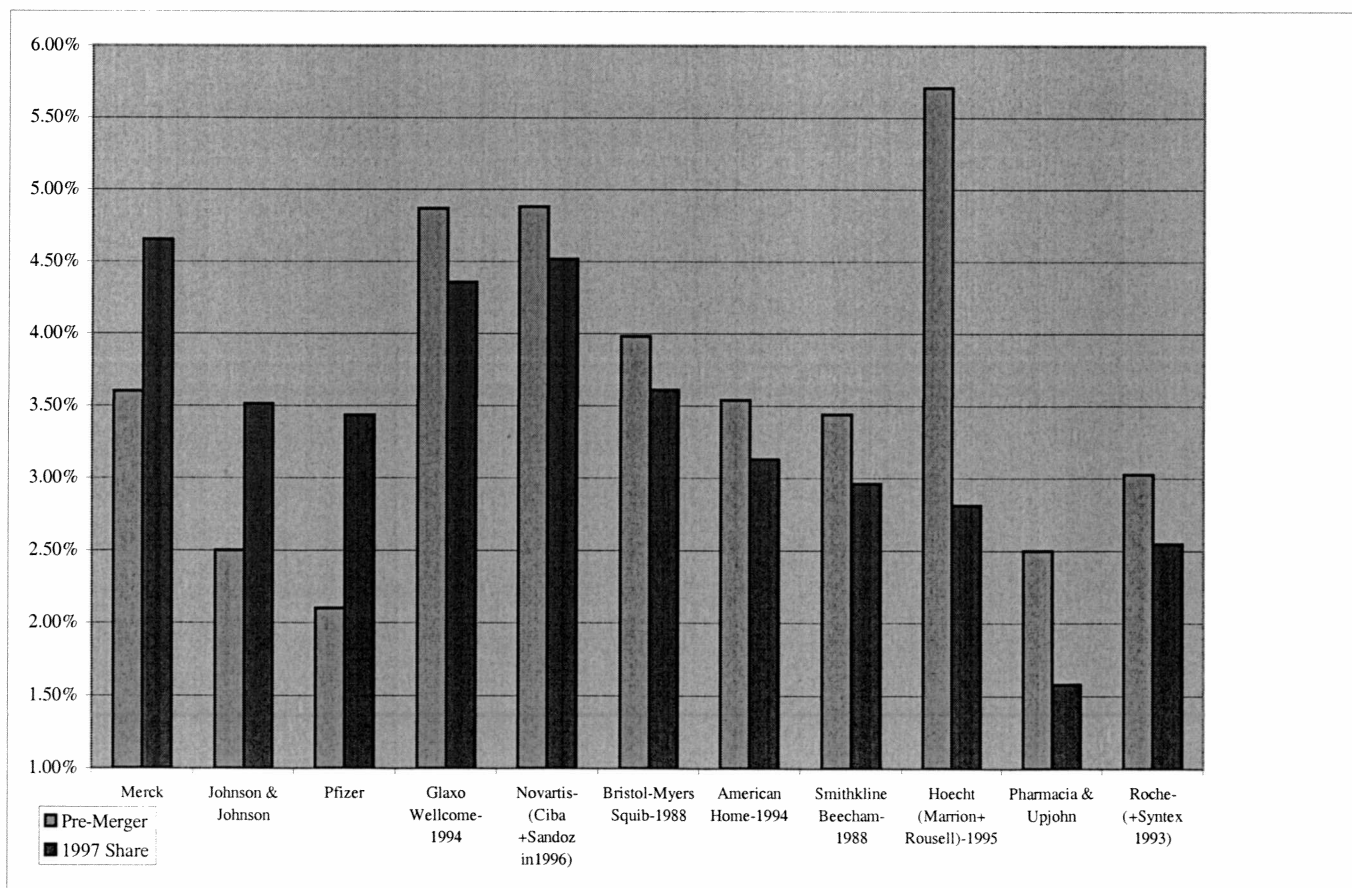
SB is considered a successful merger as a new firm distinct from its parents has been created. There was low loss of market share (see Exhibit 1) and synergies of over \$ 1 billion were realized over three years. SB is considered stronger today than its parents were in the pre-merger period⁴⁵. Without the merger, both of SB's predecessors, SmithKline Beckman Corp. and Beecham PLC would have been vulnerable to a hostile take over.

Novartis is considered among the most successful pharmaceutical mergers even though it is still underway. It has achieved its targeted strategic positioning and short-term goals. In 1997, its first year, Novartis' revenue and profits were up 10% and 25% respectively. Its management, financial, scientific and other strengths are widely admired in the pharmaceutical and life science industry⁵¹. If imitation is the most sincere form of flattery then Novartis is considered successful and a benchmark by competitors. Aventis has laid out financial and strategic targets similar to the ones that Novartis has achieved⁴⁰.

Exhibit 1: Market Share Loss on merger completion (Source: - IMS⁵)

	Pre-Merger	1997 Share	Change in Share	Gain/(Loss) % from Base year
Merck	3.60%	4.65%	1.05%	29%
Johnson & Johnson	2.50%	3.51%	1.01%	40%
Pfizer	2.10%	3.44%	1.34%	64%
Glaxo Wellcome-1994	4.87%	4.35%	-0.52%	-11%
Novartis-(Ciba+Sandoz in 1996)	4.88%	4.52%	-0.36%	-7%
Bristol-Myers Squibb-1988	3.98%	3.61%	-0.37%	-9%
American Home-1994	3.54%	3.13%	-0.41%	-12%
Smithkline Beecham-1988	3.44%	2.96%	-0.48%	-14%
Hoechst (Marion+ Roussel)-1995	5.71%	2.81%	-2.90%	-51%
Pharmacia & Upjohn	2.50%	1.38%	-1.12%	-45%
Roche-(+Syntex 1993)	3.03%	2.55%	-0.48%	-16%

Note: Merck, Pfizer and Johnson & Johnson did not merger- their 1994 market data is listed. All other listed firms merged (year in parenthesis is merger year). Data suggest merged firms lost share compared to non merger firms.





Our Vision for the merger is to create the worldwide leader in Life Sciences, focussed on innovation in healthcare, agribusiness and nutrition and also create a fast, focussed flexible company with a passion for competitiveness and implementation¹³.

- Statement of Sandoz and Ciba-Geigy Boards announcing the merger.

On March 7, 1996, the chairmen of the Boards of Ciba-Geigy AG and Sandoz AG announced the merger of their two firms. The new company created would have the name "Novartis". "Novartis" comes from the Latin term "novae artes" or new arts and new skills. By April, the shareholders of Sandoz and Ciba-Geigy had agreed to the merger of the two Basel-based Swiss firms. In December, Novartis was formed after clearing all regulatory approvals. It started its existence as the world's second largest pharmaceutical company with a market share of 4.4%^{5, 26}. Novartis was the world's eleventh and Europe's second largest firm measured by market capitalization as per Business Week. Novartis is the world's largest Lifescience firm. It holds the largest market share in Agribusiness and second largest share in Nutrition/health foods. The firm has a strong presence in the emerging fields of biotechnology with major investments in Chiron and other US based biotech firms^{26, 50}.

Novartis' business falls into three units: Healthcare, Nutrition, and Agribusiness. Healthcare accounts for about 60% of total sales and includes prescription and generic drugs; Over the Counter (OTC) products; and contact lenses, lens care products, and ophthalmic medications. Novartis' drugs treat immunological disorders, inflammatory diseases, central nervous system disorders, cardiovascular problems, cancer, and asthma. The nutrition division makes Gerber baby foods (the market leader), medical nutrition supplements and tube-feeding products. It also makes such international brands as Ovaltine malted drinks and WASA crackers^{21, 22}.

The company's agribusiness division makes herbicides, insecticides, and fungicides for crop protection; parasite-control products and medicines for pets and farm animals; and genetically engineered corn and other seeds. Novartis is disposing of non-core units to focus on Lifesciences. Its focus will include its famed gene-therapy operations⁵¹.

HISTORY

(Source: - Hoover's database and the Novartis website at <http://www.novartis.com>)

Johann Geigy began selling organic merchandise (spices, natural dyes) in Basle, Switzerland, in 1758. A century later the Geigy family began producing synthetic dyes. At that time Alexander Clavel entered the synthetic dye trade, forming the Gesellschaft für Chemische Industrie im Basle (Ciba). By the turn of the century, Ciba was Switzerland's largest chemical firm. After the First World War, Ciba, Geigy, and Sandoz (another Basle-based synthetic dye maker, established in 1886) formed a cartel, Basel AG, in order to compete with a rival German group, I.G. Farben. Basel AG shared profits, technology, and markets, using the profits to diversify into pharmaceuticals and other chemicals and also to gain a foothold in the US.

The Swiss cartel merged with its German counterpart in 1929 and later accepted the French and British as well. This so-called Quadrupartite Cartel lasted until 1939 when it was shattered by the Second World War leaving only Basel AG intact. Geigy scientist Paul Muller won a Nobel Prize in 1948 for inventing DDT. The Basel AG companies voluntarily dissolved the cartel in 1951.

Ciba and Geigy continued to diversify, as did Sandoz. In 1967 Sandoz entered the nutrition field by buying the Wander group of companies (dietetic products). Ciba and Geigy merged in 1970 and began a series of acquisitions in the US, including Funk Seeds in 1974. Sandoz also diversified into seeds, buying Minneapolis-based Northrup, King & Co. (1976) and Dutch Seed Company Zaadunie (1980).

Ciba-Geigy entered a joint venture with US biotechnology company Chiron, in 1986 to produce and market genetically engineered vaccines. It acquired 50% of Chiron in 1994. Sandoz also had been acquiring shares in US biotechnology companies, including Genetic Therapy and SyStemix (both in 1991). It bought Gerber (baby food, founded 1927) in 1994.

In 1996, 45 years after breaking up Basel AG, Ciba-Geigy and Sandoz reunited in an effort to boost market shares in their complementary activities and reduce costs. Sandoz sold its corn herbicide and US animal health businesses to get approval for the merger.

Novartis spun off Ciba Specialty Chemicals unit in 1997 as a non-core business. A class-action suit claimed Ciba Vision unlawfully limited contact lens sales through discount stores in order to inflate prices. The company then agreed to a settlement worth up to \$700 million in consumer rebates. Novartis bought Merck's insecticide and fungicide operations to strengthen its Agrochemical assets and maximize its Lifescience portfolio. Novartis temporarily pulled its top-selling laxative, Ex-Lax, from shelves. One of Ex-Lax's ingredients, phenolphthaleine (which had

been commonly used for decades in laxatives) was found to cause cancer in lab animals. The company reformulated the product.

Novartis announced in 1998 that it would spend a pacesetting \$250 million to build a genetic research center in California, and funded agricultural research at the University of California, Berkeley in return for access to discoveries. The company began to consolidate some of its core businesses. It announced plans combining its East and West Coast gene therapy operations, and later merging its over-the-counter health and nutrition businesses into a new consumer health division^{21,22, 50, 51}.

Novartis at the time of the merger in 1996 had over 134,000 employees in 150 countries. The firm also had 65 manufacturing facilities worldwide. The company has divested of non-core business. These include the firm's chemical business units. The firm has rapidly integrated its predecessor firms of Sandoz AG and Ciba-Geigy AG into the new entity¹³. By August 1997, 99% of pharmaceutical sales, marketing were integrated¹². In 1997 (the first fully year of operations) the firm was highly successful. Sales (of its core pharmaceutical, agrochemical business) increased 19% and profits were up 29%. The firm on one hand has cut costs rapidly and yet also grew. As per preliminary reports, 1998 has also been a successful year for Novartis despite the Asian economic crisis. Sales and profits are up 14% and 10% respectively. Novartis gets 95% of revenues from outside of Switzerland⁴⁷.

There are major challenges for Novartis¹³. In 1997 its operating margins were 25% in pharmaceuticals vs. 40% for Merck and Pfizer and 35% for Glaxo Wellcome. Sales in some markets (like the United States) in which Ciba-Geigy and Sandoz operated independently were down in 1997. However, 1998 sales are rebounding. It appears that integration took a toll^{14,19}.

In the Agribusiness sector, Monsanto and Dupont with major leads in the United States (the world's largest market) have locked out Novartis²⁹. In the second largest market, Europe, Novartis has a strong position. However there is strong resistance to genetically engineered foods and seeds. Novartis has been unable to create acceptance for its newer and more profitable products. It has to rely on its older products like pesticides that are less profitable and are rapidly getting commoditized⁴⁷.

However, Novartis has rapidly integrated. The new firm has a distinct image. It has articulated its vision and its strategy for managing businesses. The merger is off to a promising start. Novartis considers itself to be a Lifescience company. Lifescience is a new term that encompasses the Pharmaceuticals, Biotechnology and Plant Biology and Agrochemical businesses. The vision of

Lifescience rests on manipulating proteins (like DNA, RNA and amino acids) to create disease resistant high yield seeds for more food. Protein manipulation may cure disease from Gene Therapy and also help design better drugs and drug delivery technologies (drugs with higher efficacy and fewer side effects).

Exhibit 1: Novartis Financial Summary

(All items except for number of employees are in dollars)

(Sales, Net Income and Market Cap are in Million of dollars)

Year	1995	1996	1997
Sales*	31,138	27,100	21,329
Net Income	3,652	1,717	3,565
Earnings Per Share	2.64	1.25	2.44
Stock Price			
High	45.88	62.25	88.50
Low	25.47	41.75	51.88
Close	45.88	57.5	81.38
Employees	134,000	116,200	87,000

Source:- www.wsrn.com , www.novartis.com Hoover's database

*Note: -Sandoz Corn seeds and herbicides businesses were sold in 1996. In 1997, Ciba Chemical and Clariant (Sandoz's Chemical business) were spun off to shareholders. These were non-core businesses. Hence Novartis has become a smaller more focussed company since its merger.

Novartis Pentagon Portfolio

Novartis has used the Pentagon Portfolio method as a tool for speedy integration⁴⁶. It is a product life cycle management tool for strategic management. All business sectors of Novartis are classified as one of five classes (Source Industry Week⁴⁶). The classes are as follows:-

Development Businesses are new sectors in the Lifesciences. These opportunities have high long term potential while requiring high investment. Development businesses may have negative cash flow and may not be profitable in the near future. The strategic objective is to build a strong position and make strategic investments.

Growth units have grown past the development stage. This asset class is akin to the classic BCG Star. These growing businesses require investments but at a rate lower than development units. These units are profitable and also are growing. The objective is to maximize the profits and growth.

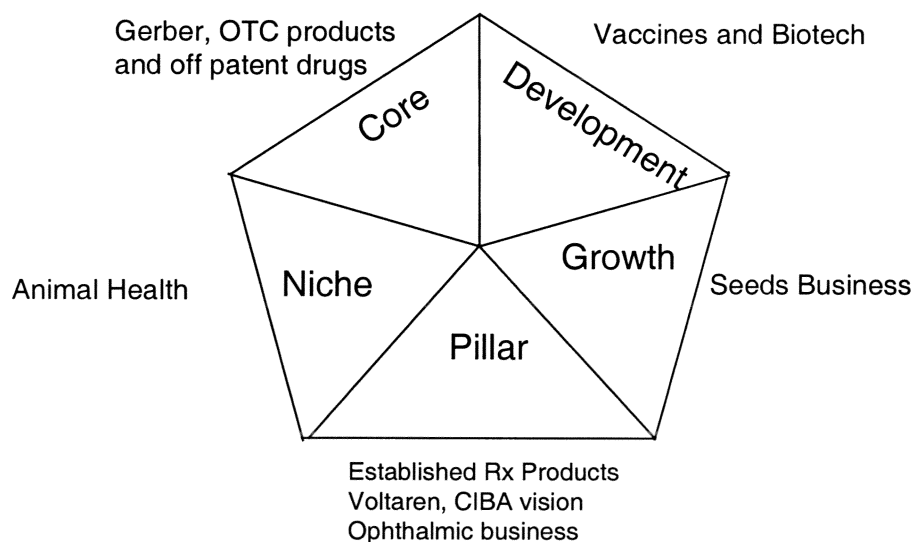
Pillars are the core competency of the firm. Growth units become Pillars when the business is at its peak and growth is leveling off. These units have high cash flows and can be optimized for further profits and cash. The units are at the mature or peak stage of the product life cycle. The objective is maximizing profit and efficiency while still achieve limited growth.

Pillars age into **Core** sectors. Cores businesses are at the end of the product life cycle but have high profits and cash flow. The firm's objective is to harvest the business. Core units are the classic BCG cash cow.

Niches are highly profitable business units that do not fit the other categories. They are kept as they add synergy to other sectors and or are highly profitable. Maximum value is the goal and

Exhibit 2:

Novartis Pentagon Portfolio



Source:-Industry Week, March17, 1997. Vive La Difference

hence the Niche sectors may be disposed for an attractive offer.

The Pentagon Portfolio uses the cash and profits generated from Core and Pillar sectors to fund Development and Growth business. Novartis can thus optimally balance the long-term investment and growth of the firm with a need for short-term earnings. Managers in each sector are evaluated and rewarded differently based on the type of sector classification. Core

and Pillar sector managers are rewarded for cost cutting and maximizing profit. Their bonuses are more in cash. Development Managers are rewarded on achieving market share and growth by payment in stock. Growth sector managers have growth and profit increase targets and rewarded by a mix of stock and cash. Novartis's rapid integration and high revenue growth indicate that the Pentagon model while simple and logical appears to be a successful⁴⁶.



SmithKline Beecham (SB) is one of the largest drug makers in the world. It makes products such as Geritol, and Tagamet. Its main operations are developing and making prescription drugs, OTC medicines, vaccines, and consumer care items. SB also provides clinical laboratory testing and pharmaceutical management services. It operates in 39 countries and sells its products throughout the world²².

SB's pharmaceuticals unit accounts for about 60% of sales. Its largest selling product is the antibiotic Augmentin followed by the antidepressant Paxil/Seroxat and vaccines for diphtheria, tetanus, and hepatitis. Some of its consumer products include Nicorette gum, Contac cold and flu treatment, Tums antacid, and Aquafresh toothpaste. Its Clinical Laboratories division performs about 100 million bodily fluid and tissue-sample diagnostic tests a year and is the industry leader in workplace drug testing. SB has a large stake in genetic diagnostics through its collaboration with Human Genome Sciences (HGS) and its diaDexus joint venture with Incyte Pharmaceuticals. These ventures will use extensive gene databases to identify the genetic predisposition to diseases and test effective treatments.

History

(Source: - Hoover's²² and SmithKline Beecham website at www.sb.com)

Thomas Beecham established an apothecary in England in 1847. He opened the world's first drug making factory in 1859, and began newspaper advertising for Beecham's Pills, a laxative. By the early 1900s, output surpassed one million pills per day. In 1924 land developer Philip Hill purchased the Beecham estate, including the pill business. He changed the name to Beecham's Pills Ltd. in 1928 and began acquiring other consumer products. In 1938 he bought Macleans, a US toothpaste company, and Lucozade, an energy-replacement drink that was within 15 years producing about half of the company profit. Beecham founded a research lab in 1943. Investment

in R&D paid off in 1959 when the company introduced the first partly synthetic penicillin and again in 1961 when it developed the first broad-spectrum antibiotic.

Beecham continued buying health-related consumer companies with strong positions in foreign markets, including Massengill (1971), Calgon (1977), Jovan (1979), J.B. Williams (Aqua Velva, Sominex, Geritol; 1982), and Norcliff Thayer (Tums; 1985). After years of poor earnings, Beecham sold off non-drug companies between 1987 and 1990 and merged with troubled SmithKline Beckman in 1989.

SmithKline started in 1830 as a small Philadelphia apothecary and became a major drug maker. It developed the first timed-release capsule (Dexedrine, 1944) and the first all-day cold remedy (Contac, 1960). Ulcer medication Tagamet was introduced in 1976. Tagamet transformed the company and by 1981 Tagamet was the world's best-selling drug. However, poor results from diversification and low R&D productivity had hurt the company forcing the merger.

SB entered research collaboration with Human Genome Science (HGS) in 1993 that gave it exclusive rights to HGS's gene database. In 1994 former Danish tennis star Jan Leschly became CEO. He had been recruited as President from Squibb Corp in 1989 where he was forced out when Squibb was acquired in 1989 by Bristol-Myers. The company made a series of acquisitions to bolster its strategic position. In 1994 SB purchased Diversified Pharmaceutical Services (one of the US's largest marketers of discount drugs to managed care companies) and Sterling Winthrop's nonprescription business from Kodak. SB sold the animal health division and Sterling's North American consumer lines (including Bayer aspirin).

Tagamet's sales plummeted when it went off patent in 1994. SB expanded its research to avoid over-reliance on a single drug in the future. The company obtained FDA approval in 1996 for such drugs as Hycamtin (for ovarian cancer) and NicoDerm (a nicotine patch). Deals in 1996 to license HGS data to other drug companies (Schering-Plough, Synthelabo, and Merck) totaled more than \$140 million for SB and HGS. In 1997 SB agreed to pay \$325 million to settle US government claims that the firm's Clinical Laboratories division filed fraudulent billings to Medicare and other government programs. Thirty-seven US health insurers made a similar claim, seeking reimbursement of hundreds of millions of dollars. Looking for cheaper ways to develop drugs and expand capacity for a new crop of leads from HGS, SB started looking for potential merger mates. SB courted rivals AHP in 1997 and GW in 1998, but both talks fell apart.

Exhibit 3: Smithkline Beecham PLC Financial Summary

(All items except for number of employees are in dollars. Sales and Net Income are in Million)

	1989	1990	1991	1992	1993	1994	1995	1996	1997
Sales	8,036	9,195	8,759	7,904	9,120	10,020	10,874	13,572	12,875
Net Income	782	1,635	1,238	1,103	1,203	111	1,542	1,836	1,862
EPS	0.75	0.99	1.13	1.04	1.13	0.53	1.40	1.63	1.63
Stock Price									
High	12.25	15.19	21.69	24.00	19.31	18.44	27.69	34.69	53.63
Low	10.03	9.44	14.06	17.59	13.75	13.19	17.63	24.31	32.56
Close	12.22	15.19	21.56	18.88	14.94	17.88	27.63	34.00	51.44
Employees	62,800	54,100	54,000	53,100	51,900	52,500	52,400	53,800	55,400

Source: - Hoovers database <http://www.sb.com> and <http://www.wsrn.com>
 Pharmacia & Upjohn

In 1995, Pharmacia & Upjohn, Inc. (P&U) was created by the merger of Sweden's drug maker Pharmacia AB with US drug firm Upjohn, Inc. P&U has faced many of the challenges to merger integration. P&U has suffered higher than anticipated merger costs as well as declining revenues and profitability. In 1995, at the time of its merger P&U was a \$7 billion firm. It was the tenth largest drug maker in the world with a 2.5% global market share. Currently the firm has a mere 1.4% market share of the global market share and is ranked sixteenth in market share by IMS. The firm has suffered culture clash and poor integration¹⁷. The company is trying to reconcile US style top-down and Swedish team-oriented management styles while centralizing corporate power in its new US headquarters in Bridgewater, New Jersey^{22, 23}.

The company obtains about 70% of its revenues from pharmaceuticals for central nervous system diseases, infectious diseases, inflammation, metabolic disorders, oncology, ophthalmology, and women's health. Growth hormone Genotropin is its top-selling prescription drug. Other leading drugs include Xanax, the world's largest selling treatment for anxiety and panic attacks; Healon, a viscoelastic product used in ophthalmic surgery; and the contraceptive Depo-Provera.

Consumer products include hair-loss treatment Rogaine, smoking-cessation products Nicorette and Nicotrol, as well as OTC health products such as Kaopectate antidiarrheals, Unicap vitamins, and Dramamine medications for motion sickness. P&U also makes in vitro allergy diagnostics systems (blood testing for allergens), biotechnology equipment, animal health products, and bulk drug chemicals.

History

(Source:- Hoover's²² and P&U website at <http://www.pnu.com>)

Dr. William Upjohn and his brothers formed Upjohn Pill and Granule in Kalamazoo, Michigan, in 1886. The company became highly successful due to William's patented friable pill, which disintegrated readily on swallowing (some pills of the day would not crumble even if struck with a hammer). Its most successful products around the turn of the century were anti-malarial quinine and the laxative Phenolax. By 1912 annual sales had passed \$1 million. Kaopectate was introduced in 1936 and Unicap in 1940. The company produced large amounts of penicillin and sulfanilamide during the Second World War. In 1956, Upjohn introduced Medrol, an anti-inflammatory with fewer side effects than any other existing drug. In 1957 it launched Orinase, the first oral agent for diabetes. Upjohn went public in 1958. The next year it introduced Depo-Provera, a contraceptive. Motrin (ibuprofen), introduced in 1974, had record-breaking first-year sales. Tranquilizers Xanax and Halcion were introduced in 1982 and 1983, respectively. Upjohn began marketing Rogaine, the first FDA-approved treatment for hair loss, in 1988.

Britain banned Halcion in 1991 after Upjohn admitted its failure to fully report adverse reactions to the drug. The FDA began a new investigation, which was dropped, reopened, and then, in 1996, resulted in a recommendation that the drug be reassessed. In the mid-1990s the company lost patent protection on several of its top-selling pharmaceuticals for anxiety, insomnia, and diabetes and in response began making some generic versions of these drugs. Patent expiration leads to loss of sales. Cheaper Generic drugs (drugs with the same chemical molecule made by others) replace the branded drug. A drug company may lose up to 80% of the sales and up to 90% of the profits of a drug in the year following patent expiration^{10, 11}. With no major drugs in development and suffering from slow sales growth, Upjohn merged with Sweden's Pharmacia.

Begun in Stockholm in 1911 with C. M. de Kunwald's energy pills, Pharmacia had quickly developed other products, including Sodamint, a product for sore throats and stomach problems. It later introduced laxatives (1923), developed plasma substitute Dextran (1943), and by 1985 was involved in such fields as biotechnology and ophthalmology. The company had acquired a

major Italian drug firm in 1992. However it did not integrate the Italian operations into the Pharmacia organization. This separation created problems for the subsequent P&U merger integration. In 1995, Pharmacia's aging product line and US distribution troubles made into a likely merger candidate. Swift negotiations with Upjohn followed and were successful. Both firms agreed to a merger of equals.

Upjohn and Pharmacia selected London as the new company's headquarters, but officials were unprepared for the clash in corporate styles. The American, Swedish and Italian units had a culture clash. The merger integration slowed down. Targeted synergies were not realized. Sales and profits (already hurt by patent expirations during the year) started falling even as merger costs rapidly climbed. CEO John Zabriskie resigned in early 1997. Fred Hassan, a former AHP executive was his successor. Soren Gyll, the former head of Volvo, became chairman, replacing Jan Eckberg, the former CEO of Pharmacia who temporarily served after Zabriskie's resignation. In the midst of the 1997 turmoil, Pharmacia & Upjohn merged its faltering life sciences division Pharma Biotech into Nycomed Amersham subsidiary Amersham International, creating the world's largest biotech supply firm; Pharmacia retained 45% ownership of the new company, Amersham Pharmacia Biotech. That year, with sales falling and profits falling further, Pharmacia & Upjohn shut down 24 surplus-capacity operations²³. and reduced the employee headcount by 15% or from almost 35,000 in pre-merger 1995 to 30,000 in 1997. Pharmacia & Upjohn continued to cut corporate fat in 1998 by selling its nutrition business to German pharmaceutical firm Fresenius; that year the company moved its headquarters from London to New Jersey; its American origins gaining strength as Sweden's government announced plans to sell its remaining stake in the firm.

P&U is attempting a corporate turn around. CEO Fred Hassan has placed all bets on saving P&U by revitalizing Rogaine (Minoxidil) and commercializing a major anti-biotic in development. P&U hopes that the antibiotic in development, a very broad spectrum application antibiotic, may turn out to be more potent than Vancomycin. Vancomycin from Eli Lilly is presently the world's most potent antibiotic. Rogaine was the world's first drug for hair loss. It was originally targeted at men. It faces stiff competition from Propecia (finasteride), a break through drug launched in 1998 by Merck. Merck and P&U are heavily advertising on TV, print media and DTC methods to promote their products. P&U is also targeting Rogaine with extra strength formula and also pitching the product for women⁵⁷.

Exhibit 4: Pharmacia & Upjohn, Inc: Financial Summary

(Sales and Net income are in Millions of Dollars. EPS and Share Prices are in dollars)

	1994	1995	1996	1997
Sales	6,823	6,949	7,176	6,586
Net Income	491	739	562	323
EPS	1.83	1.41	1.07	0.61
Share				
High	32.5	42.5	44.38	41.13
Low	29.5	30.63	34.125	27.5
Close	34.31	38.62	39.63	36.63
Employees	34,500	35,000	31,800	30,000

Source: - Hoover²², <http://www.pnu.com> and <http://www.wsrn.com>

Key Integration Components

There are appear to be lessons from successful and unsuccessful mergers based on the three reviwed mergers and articles on merger integration. Merger integration articles by Brusman,¹⁴ Davidson¹⁶, and KPMG Consulting⁵³ were reviewed for a guidelines. The first finding is that a merger must be planned out and integrated rapidly or momentum dissipates destroying value. The articles suggest that there are several components to integration. Each of these proposed components executed well helps the merger integration succeed. The articles reviewed the following components:-

- Leadership and Vision
- Critical Transition Initiatives
- Communication
- Portfolio Integration/ Operational Integration
- Culture & Organizational Transformation
 - Integration Team Dynamics
 - People Issues and Execution
- Managing Consultants
- Post merger initiatives

Leadership and Vision

Senior management must provide leadership and the vision for the merger^{14, 16}. The vision is the guide to making the merger work. Yet many firms do not elaborate the merger vision nor provide the leadership for the organizations to come together. The vision may include strategic areas and financial targets. The firms must merge quickly or they destroy momentum and incur high costs. Novartis's leadership first elaborated the vision of the merger and then quickly assembled 300 senior executives from both Ciba and Sandoz to provide leadership, create urgency and momentum for a speedy merger²⁷. Novartis's vision was to be the leading Lifescience firm of the world and grow using the Pentagon Portfolio. This vision helped the firm integrate rapidly. SB similarly identified 100 plus senior executives to lead during the merger and also articulated the vision to be a major drug company with strengths in Prescription and OTC²⁸. P&U's merger integration was off to a slow start. It started off with a cultural clash and ambivalence on the merger vision. It then lost momentum and suffered the risks of a merger going awry²³.

Critical Transition Initiatives

A merger creates serious organizational distractions as per Brunsman³. The organizations become very inward focussed and risk losing their competitive edge. Detailed planning at the merger is necessary. In pharmaceuticals, major drug launches can make or break the firm. Hence product launches and other critical initiatives must be identified at the onset of the merger. Teams for these initiatives must be created and given tenure throughout the merger. Isolating these teams with tenure enables drug launches to go as planned despite the distractions of the merger. At the time of the merger, SB was launching Augmentin, a major anti-infective in the US. SB set up a Augmentin team with a tenure and job security⁴⁵. Augmentin is today SB's largest selling drug. Novartis set up similar initiatives^{50,51}. As a result the 1997 launches of Diovan, a anti-hypertensive and Sandostatin in 35 countries were successful^{21, 18}.

A. Identify and retain Critical People

The firms should identify key people to be retained for the future⁵³. These important individuals may range from talented product managers to R&D scientists with rare expertise. These individuals are told of their job security and given a major role. Otherwise uncertainty can lead to the loss of talent to competitors. SB identified the product manager on Tagamet for such a role⁴⁵. Novartis tapped the head of Sandoz pharma- Dr. Daniel Vasella (who now is the CEO of

Novartis) as one such key individual²⁸. Both firms were successful in minimizing the loss of key employees. In contrast P&U lost key personnel, as such an initiative was missing²².

B. Strategic assessment followed by enhancement of targeted competencies

As per Brunsman³, the firm must do strength, weakness, opportunities and threat analysis at the start of merger integration. It is helpful to identify what additional capabilities must be acquired or developed to achieve the merger vision. SB identified enhancing the OTC marketing capabilities. SB also identified the need for senior executives, many of whom would be outsiders⁴⁵. SB thus hired Leshly from Squibb as SB President and recruited senior Schering-Plough executive Jean-Pierre Garnier, to head SB's Pharmaceutical division. Novartis has brought in talented outsiders and continues to enhance its biotechnology investments while it is completing its merger⁵⁰.

Communication-

Creating a new firm involves smooth and consistent communication as per Gauphin and Robinson¹. Effective communication brings momentum and enables a speedy integration. The communication must repeatedly reiterate the logic and vision for the merger both internally and externally. This important to create a new sense of identity and buy in from the people. Progress in all areas of the merger must be constantly communicated to insiders and outsiders to reinforce the joining of the new organization⁴⁵. Both Novartis and SB communicated progress, challenges and initiatives through out their respective firms⁴⁷.

A. The new Firm name and Corporate Image

As per Yakov¹⁷, it is critical that the firm develops a new name, corporate logo and other objects that promote an identity rapidly. If the firm creates the new image and identity quickly it is positive- for example the name Novartis was created before the merger was complete and is a distinct name from its parent firms¹³.

B. Overt and Subliminal Communication

Communication must be both overt and subliminal to reinforce the joining of the new firm and creation of the new. Personnel related organizational issues handled well create the personnel momentum to execute the merger^{17, 19, 20}. SB and Novartis created paraphernalia like stationary, fuzz balls, T-shirts, Frisbees etc. to create the identity and image of the new firm for all its employees and major customers^{13, 45}.

C. Addressing Rumors with Proactive Communication

The firm must recognize that rumors of layoffs, firings or bad news are inevitable^{1,14}. Rumors magnify unless addressed proactively. SB had a merger hotline update while Novartis used its Intranet to address rumors and also give out daily communication⁴⁷. No topic was off the table. Any topic that came up was addressed promptly. After initial hesitation, Novartis employees sent tough questions on the Intranet and received frank answers from top management. An honest and free flowing proactive communication process started. Dr. Vasella believes that open communication process provided a lot of momentum to the Novartis merger^{50, 51}.

Portfolio Integration/Operational Integration

As per Gopal and Kevin⁵¹ rapid portfolio integration is essential to a smooth merger and protect the firm's business assets. Slow or haphazard portfolio integration may minimize the portfolio and create a windfall for competitors. Some firms have too many products that are being promoted and thus none are being promoted effectively. Other firms' portfolios are too dependent on a few products and thus vulnerable to patent expirations. Integration is an opportunity for the new firm to define itself, its therapeutic focus and gain the necessary strengths for the future⁴⁶. The merger vision should guide the portfolio integration and management. Novartis has used the Pentagon Portfolio method as a tool for speedy integration^{15, 46, 47}. SB similarly integrated its portfolio, acquiring necessary products and divesting non-core product lines.

Culture & Organizational Transformation

As per Yakov¹⁷, a new culture helps create organizational change and thus the new firm. Stretch goals must be laid out. A major motivation tool is engaging people to reengineer functions, relationships guided by the vision. People can be highly energized, bought into the vision if they get a chance to change their jobs and are enunciated the reason for the function redesign. SB used the detailed Burke-Litwin organizational change model (Appendix 2)⁴⁵. It is important to identify the original culture of both predecessor firms and the target culture of the new firm. If one or the other culture dominates the new firm then problems of the predecessor organization remain. Further mergers become necessary as the objectives of the original merger are not met and neither is the envisioned value created. Hoechst appears to have suffered this malaise. Hoechst's rigid culture dominated its two mergers with Roussel Uclaf (RU) and Marion Merrill Dow (MMD)^{15, 40, 52}. Hoechst destroyed MMD's nimble and innovative culture. The value of both these mergers was not captured. As per Exhibit 1, HMR's three component firms had a pre

merger market share of 5.81%. If this share had been retained during merger integration, HMR would currently have been the world's largest drug firm. HMR's current market share is 2.81% and declining. It lost over 52% of the pre-merger market share. HMR could not make Cardizem (an anti-hypertensive) and Allegra (an anti-allergy drug) into blockbuster products (industry definition for sales above \$ 1 Billion) despite the excellent safety and efficacy profile of these two drugs. Allegra sales trail SGP's Claritin and Pfizer's Zyrtec. Pfizer's Norvasc has displaced Cardizem in the Calcium Channel blocker anti-hypertensives. This loss of value was partly due to the rigidity of Hoechst. By contrast Novartis has a rather different culture from Ciba-Geigy and Sandoz, though it retains elements of its predecessors. The other main area in cultural change deals with Integration Team Dynamics and People Issues & Execution

A. Integration Teams (I-teams)

I-teams restructure the old organizations into the new firm. As per Yakov¹⁹, I-teams are the builder-architects of the new firm. The top management must identify all integration areas and create teams for each area. Only high caliber employees from both firms should be on the teams. I-team members should not be assumed to have permanent jobs in appearance and fact to protect the integrity of the integration process. I-teams should be given a charter. A charter prevents overlap with other I-teams and also minimizes issues being missed or not addressed¹⁹. Novartis and SB quickly identified executives to lead and work on various integration teams and set the pace for quick integration^{27, 45}.

As per Yakov¹⁹, the I-teams must be trained well by consultants or integration experts. I-teams will review massive amounts of data and make critical decisions for the future. At the same time the members will be doing their existing jobs. This is a major challenge for individuals as well as the company. Both SB and Novartis found challenges on I-team training. The goal must be to place the best person for any job. Otherwise, the atmosphere become poisoned with an "us versus them" mindset and create a culture clash and retard progress. As per Dr. Vasella, Novartis had made it clear that the best person would be chosen for every role and that any executive who obstructed the merger would be gone no matter his or her position^{47, 50}.

The I-teams must also have a point person for conflict resolution¹⁹. This can be an outsider or a consultant. SB used McKinsey consultants as referees⁴⁵. Integration and I-team conflict is a balancing act. Excess conflict hurts culture and integration. No conflict can mean that issues were not debated and left unaddressed for the future. Both extremes create current and future problems for the organization^{18, 19}.

People Issues & Execution

People are the key to a successful merger²⁰. Personnel have to be given a reason to stay in the organization while the merger is under way. It is key for the management to recognize the stress in a merger. Personnel are being asked to merge and do their existing job. At the same time they may not have jobs in the new organization. The firm should try to minimize stress on its people by providing workshops, counseling. Firms lose good people as competitors lure them with good offers. A firm must minimize the loss of good people or it hurts the future. Hence the firm must bring out benefit policies quickly as well as the severance packages. If the firm cuts its benefits very quickly then a mass exodus of talent is likely as happened with P&U²³.

A. Downsizing

Merger Integration creates synergies, eliminates overlaps and thus employment positions. The new firm must be generous and fair to downsized employees. Many employees who lose their jobs have been loyal and long serving employees. It is very important for them to be treated fairly and generously. The treatment of downsized employees can make or break the firm's reputation²⁰. The new firm invariably starts hiring in a few years as growth picks up and it often re hires the downsized employees. Stingy severance packages create ill will with employees who are let go as well with employees who stay. A Pharmaceutical firm can not survive without hiring talented scientists and other gifted employees^{1,2, 15, 18, 19}.

A mean severance creates a bad reputation that is a major impediment to future hiring or future deals. AHP has discovered this unpleasant fact. In prior years, many Cyanamid employees were downsized in the AHP-Cyanamid merger^{29, 48}. The severance was considered a pittance (the pharmaceutical industry is usually generous with severance packages) despite many years of service. AHP is now negatively perceived in the pharmaceutical industry. It is now hard for the firm to hire good talent. There is speculation that mergers with SB and Monsanto fell through partly due to its AHP's Uncle Scrooge reputation²⁹.

Novartis and SB were generous with their downsized employees. Novartis even set up a venture firm that any employee could apply to fund an idea. The fund was to capture latent creativity. It was also created out of a mix of social responsibility for Basel (Ciba and Sandoz's hometown) and fears that cross-town rival Roche would snap up good people at Novartis' expense^{47, 50}.

Integration Momentum

The firm must maintain aggressive growth goals and articulate benchmarks⁵³. The goal must to be the best in class in functions, processes and products rather than just the better of the two

firms. Progress must be reported and reinforced. Values must be emphasized to create desired behavior. Behavior create habits that in turn create cultures and thus the core traits of the firms.

A. Unplanned events and Merger Risks

Managements often lose their poise and panic due to external events. The firm's stock price may lag its peers and fall while the merger is being digested. Unplanned delays hurt earnings and stock price. Managing only to meet Wall Street's expectations leads to short-term gain at the expense of deep long term pain^{53, 47, 46}. This pall of gloom may last a few years as the SB stock performance for the first three years after the merge indicates. The BCG study indicates that most pharmaceutical mergers do not outperform the industry index . It is imperative for the firm to keep its focus and maximize long-term value.

Consultants

Every pharmaceutical merger has involved extensive use of consultants⁵³. Consultants range from I/T system integrators to join the I/T system of the parent firms to Organizational Behavior and strategy consultants to create the new firm. Consultants are a necessary evil to execute a merger as merging organizations' lack the necessary resources to execute a successful merger^{30, 31}. Consultants on one hand can provide objective advice and short term resources. They can be objective referees to help anticipate requirements and integration options. However consultants are expensive and can distort the process if they are not managed or controlled. SB and Novartis managed consultants and gained value. At P&U consultants were not controlled. McKinsey, Booz Allen did not add value as per a former P&U executive⁵⁷. A firm can manage consultants by training its integration teams on using them. The consultants' role, results and time frame must be set up before the assignment starts^{14, 32}.

A. Large Brand Name Consultant versus mid sized specialist: -

It is often better to use specialist rather than the name brand large consultants (like McKinsey, Booz or Kearney). Novartis used many of these specialists and also set up a strong in house consulting arm. Specialists are often the thought leaders in that area. They may have deep academic expertise (like CK Prahalad or Gary Hamel) or be former stars like Tom Peters. In contrast with the majors, the specialists employ fewer newly minted MBAs and have longer staff tenure. At major firms like McKinsey, staff has a half-life of less than 2 years^{30, 31}. Specialist firms are more flexible, more committed, less expensive than the major firms are. Specialists allow the client greater say on the outcome. Finally they operate more by word of mouth and

referrals and so prosper or perish on account of client satisfaction. However, specialists firms often lack the resources of the majors³¹.

B. Internal Consulting Arm:

A strong internal consulting (internals) arm helps implement mergers. Novartis set up a strong in house consulting arm. Internals report to a VP or higher level and are tied to strategy and operations and know ground realities^{46, 50}. Novartis internals are made of highly talented employees with diverse nationalities, backgrounds and expertise. They are accountable for results. Novartis's internal consulting arm is an effective development tool for high potential line managers. The group has a global focus and sector expertise. A strong internal consultant arm helps manage the external consultants effectively and reduce costs³².

Post Merger Initiatives

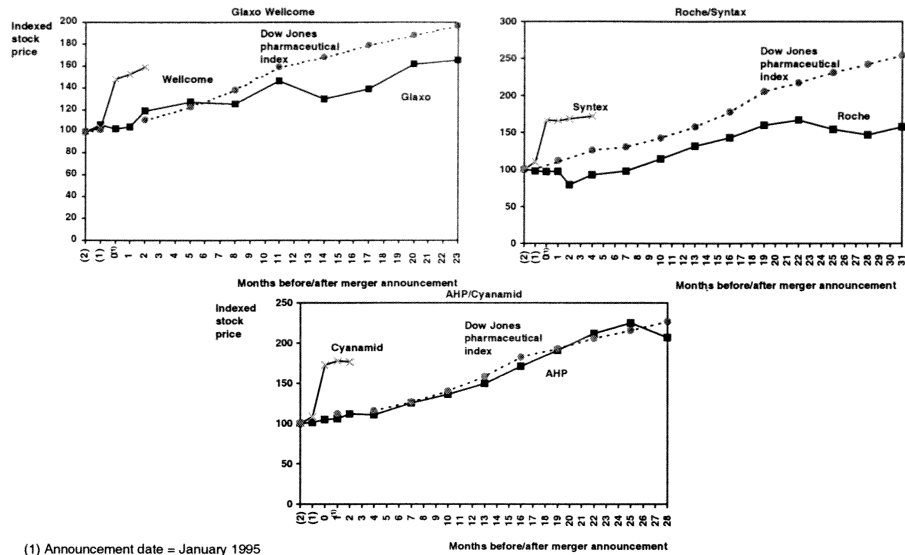
The firm must keep up the momentum for at least a few years of the new firm's existence. Rewards and Appreciation must be given when goals are achieved and results are good. The firm must keep building necessary competencies in all areas ranging from technical to managerial etc³³. SB acquired strong OTC expertise after its merger enabling it to make anti-smoking treatment "Nicorette" the world leader. It also hired talented outsiders to enhance its management bench strengths⁴⁵. Novartis has continued to make acquisitions in biotechnology to strengthen its position. Novartis has also attracted talented managers from competitors and outside the pharmaceutical industry as it develops new expertise and strengths^{50, 51}.

Conclusion

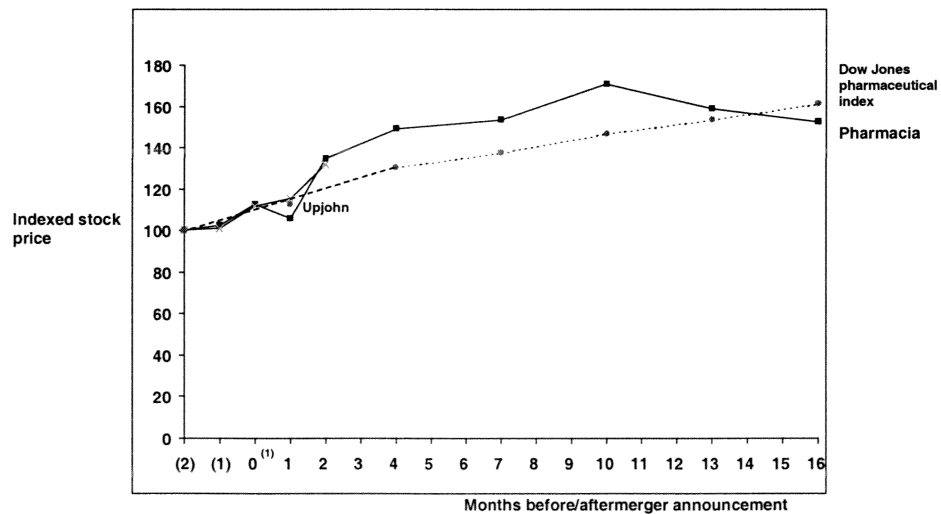
Mergers are a difficult and challenging opportunity. Properly executed mergers can change the competitive landscape as evident from Novartis. The Novartis merger had a clear vision- it was to become the leading Lifescience firm in the world with a top three position in all its markets achieved with its Pentagon Portfolio strategy⁴⁶. SB's vision was to achieve a global drug company with strong OTC and other capabilities. P&U on the other hand did not articulate its vision and suffered loss of market share and value²³. The coming mergers of RPR-HMR and Astra-Zeneca will ascertain if the merging firms will integrate effectively to redefine the pharmaceutical the industry like Novartis or lose value.

Appendix 1: Stock Performance of Recent Pharma Deals has lagged against Industry Performance (Source Boston Consulting Group)

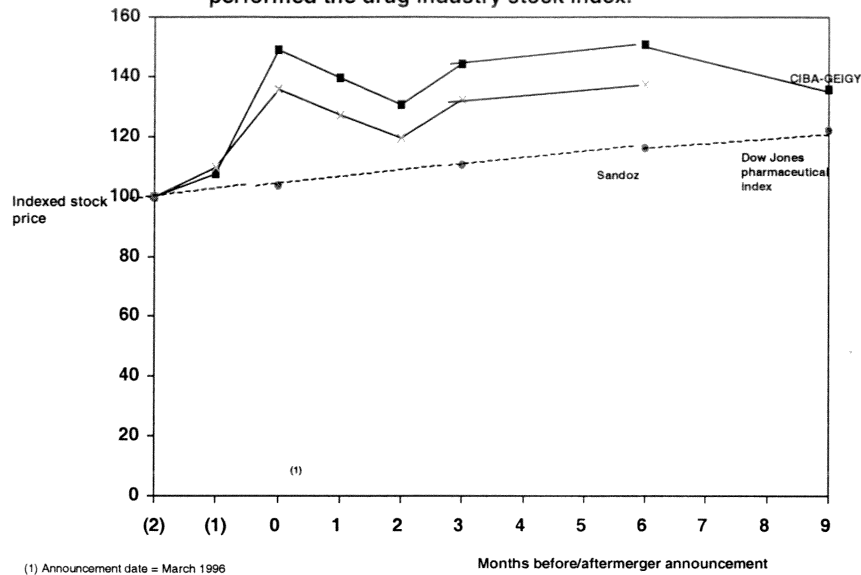
Shareholders of the Target Are Happy, Acquirer's stocks lags



PHARMACIA & UPJOHN

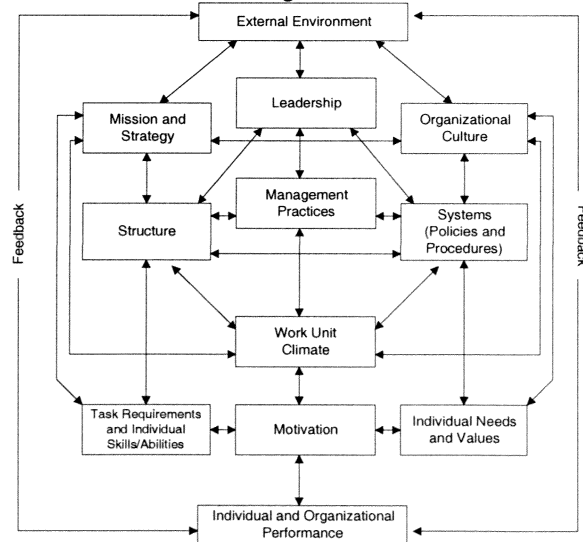


Appendix 1 :NOVARTIS is an exception as it has outperformed the drug industry stock index.



Appendix 2: Burke- Litwin Change Management Model

Appendix 2:The Burke-Litwin Model of Individual and Organizational Performance



Sources

1. Merger integration: The ultimate change management challenge. Timothy J. Gaphin and Donald E. Robinson .Mergers & Acquisition, Jan –Feb 1997 31n4 p24 (5).
2. Growth through acquisition. Kenneth W. Smith and James A. Quella, both of Mercer Management Consulting. Management Decision. September 1996 v34 n5 p28 (5).
3. Merger Integration: How to achieve value behind the deal during merger integration. Barry Brunsman, Scott Sanderson, Mark Van De Voorde (Braxton Associates of the Deloitte & Touche Consulting Group). Oil & Gas Journal, September 14, 1998 Pg. 21.
4. Post-merger integration: Creating or destroying value. Keith A Kostuch, Robert M. Malchione and Ivan Marten, of the Boston Consulting Group, Inc. Corporate Board, Jan-Feb 1998 v19 n108 p7 (4):
5. IMS Consulting, Plymouth Meeting, PA. IMS provides drug industry data and outlook.
6. Learnergy Maps, courtesy G. D. Searle (A Monsanto Company), July 1998. The Healthcare Advisory Board, “Rising Drug Development Costs” July 1998.
7. Zeneca Stays Independent, Andrew Woods. Chemical Week, April 15, 1998, Pg. 24,
8. The Astra-Merck Joint Venture: Managing Alliances. Harper, Pasterisis, Phukan, UMBS Case Study.
9. Viren Mehta, Drug Industry Analyst, Mehta/Islay Research Group, Iselin, NJ.
10. Pharmaceuticals Industry Outlook, 1998. Annual 1998 Outlook on Global Business Environment and Industry Trends. A.T. Kearney, Chicago, IL.
11. The Pharma Giants: Ready for the 21st Century. Perry L. Fagan and Robert H. Hayes. Harvard Business School Case # 9-698-070, May 6, 1998. Pg. 2, Paragraph 4.
12. The Pharma Giants: Ready for the 21st Century. Perry L. Fagan and Robert H. Hayes. Harvard Business School Case # 9-698-070, May 6, 1998. Pg. 4-5. Perry L. Fagan and Robert H. Hayes.
13. Novartis (A): Being a Global Leader. Srikant Datar and Carin-Isabel Knoop. Harvard Business School Case # 198-041.
14. Merger integration: the deal's not done yet! Chemical Market Reporter Dec 22, 1997 v252 n25 p16(1)
15. Making mergers work. (managing chemical industry mergers)(articles on Hoechst Healthcare) Adrian Willmott, Nick Wigdahl. ECN-European Chemical News Sep 15, 1997 v68 n1780 p29(3)
16. The siren call of mergers & acquisitions. (false beliefs and how to deal with these) Mike Davidson. Across the Board Oct 1996 v33 n9 p36 (5) View text with graphics and full content retrieval choices.
17. Corporate cultural fit and performance in Mergers and Acquisitions. Yaakov Weber. Human Relations Sep 1996 v49 n9 p1181(22)
18. Growth through acquisition. (corporate growth)(Managing Change in the Workplace) Management Decision Sep 1996 v34 n5 p28(2)

19. Merger integration problems. Leadership & Organization Development Journal Jan-Feb 1998 v19 n1 p59(2)
20. A new business paradigm? (the people factor and its influence on successful mergers and acquisitions) Mike Fiszer, Rosalyn McCarthy. Acquisitions Monthly June 1995 p60(3)
21. Source:- Novartis web page. <http://www.novartis.com>
22. Source: - Hoover's company report. <http://www.hoovers.com>
23. A Drug Giant's Allergic Reaction, Business Week, February 3, 1997, The Corporation Mergers; Pg. 122, By Julia Flynn in Windsor, UK, and Keith Naughton in Detroit, with Ariane Sains in Stockholm
24. Drug mergers. The Economist, Popping the question, January 24, 1998, U.S. Edition, Business, Finance and Science; Business; Pg. 64
25. Looking for the Right Pill, Business Week International Edition. March 25, 1996, International Business: Mergers; Number 3468; Pg. 24. By Julia Flynn in London, with Karen Lowry Miller in Basel, Joseph Weber in Philadelphia, and Joan O'C. Hamilton in San Francisco.
26. Drug mergers. The behemoth from Basle. The Economist, March 9, 1996, U.S. Edition, Business, Finance and Science; Pg. 65,.
27. Sandoz and Ciba pick 300 executives in preparation for big drug merger. Information Bank Abstracts, Wall Street Journal, May 8, 1996, Wednesday, Section B; Page 5, Column 1. By Stephanie Moore.
28. Doc swaps stethoscope for a pounds 50bn briefcase; The Independent (London), March 10, 1996, Sunday, Business Page 2. City & Business, Patrick Hosking
29. Another Drug industry Megamerger goes bust: A clash of cultures kills Monsanto, AHP marriage, Wall Street Journal, October 14, 1998, Wednesday, Section B; Page 1, Column 3, By Thomas M Burton and Elyse Tanouye
30. Confessions of an Ex-consultant, Fortune, October 14, 1996, Features/Gurus; Pg. 106.
31. Consultants have a big people problem. (growing demand for business consultants)(Smart Managing) Alex Taylor III. Fortune April 13, 1998 v137 n7 p162(4)
32. Guiding your consultant. Association Management. Arleigh Greenblat. Feb 1994 v46 n2 p63(5)
33. The siren call of mergers & acquisitions. (false beliefs and how to deal with these) Mike Davidson. Across the Board Oct 1996 v33 n9 p36(5)
34. Warner Lambert Q2 leaps 46 per cent. Pharmaceutical Business News July 29, 1998 v14 n322 p16(1)
35. The pills that saved Warner-Lambert. Brian O'Reilly, Fortune Oct 13, 1997 v136 n7 p94(2)
36. Drug high. (Warner-Lambert's new cholesterol reducing drug Lipitor causes company's stock price to rise to 88.5)(Brief Article) Business Week March 24, 1997 n3519 p44(1)
37. Schering-Plough. Investors Chronicle August 9, 1996 v116 n1488 p84(1)

38. Go on, it's good for you. (marketing of prescription pharmaceuticals) The Economist August 8, 1998 v348 n8080 p63(2)
39. To Your Health. (pharma marketing). Tim Stevens. Industry Week Sept 7, 1998. v247 n16 p56(1)
40. Hoechst, Rhone-Poulenc launch drug company. Stephen D. Moore, Thomas Kamm. Wall Street Journal. Europe Dec 2, 1998 p3
41. Astra Investors Breathe A Sigh of Relief. (Astra AB and Zeneca Group PLC merge to form Julia Flynn. Business Week Dec 21, 1998 p37(1)
42. Astra and Zeneca to create world's No. 3 pharma firm. (merger of Zeneca Ltd. and Astra AB). ECN-European Chemical News Dec 14, 1998 p5
43. Mega-Drug Deals, Financial Times (London). December 11, 1998, Friday, Pg1.
44. It ain't necessarily so. The Economist Oct 17, 1998 v349 n8090 p101(1)
45. From Promise to Performance: " A Story of the Merger and Making of SmithKline Beecham", Oxford University Press, 1993.
46. Vive La Difference, Industry Week, March 17, 1997, Technology & Innovation; Pg. 48.
47. Evolution of Value--Daniel Vasella of Novartis. Koberstein, Wayne, Pharmaceutical Executive, July, 1998, Pg. 40; ISSN: 0279-6570.
48. Lean Times Prompt Pharmaceuticals Industry Mergers, The European, November 23, 1998, Monday, ER- Pharma. By Cath Blackledge
49. Third Time's A Charm?; Gopal, Kevin. Pharmaceutical Executive, November, 1998, Pg. 34;
50. What the doctor ordered: He is tearing down the ramparts in the merged. Financial Times (London), October 12, 1998, Monday, London Edition. 1, Pg. 15. Profile of Daniel Vasella, Novartis
51. Merging into Success. Gopal, Kevin. Pharmaceutical Executive, October, 1997, Pg. 36;
52. No cure in sight for ailing Hoechst. Cath Blackledge. The European, Feb. 16, 1998, Business; Pg. 22.
53. Merger integration problems. Leadership & Org. Development Journal Jan-Feb 1998 v19 n1 p59(2)
54. Hiring and managing editorial consultants. David L. Armbruster. Technical Communication. Nov 1986 v33 p243(4)
55. Managing consultants: Martin Lasden. Computer Decisions July 1984 v16 p104(8)
56. Managing consultants. Canadian Banker. Ranjani Iyer Mohanty. Sept-Oct 1989 v96 n5 p48(7)
57. A former P&U strategic planning executive who wishes to remain anonymous.