ETM
ENGINEERING & TECHNOLOGY MANAGEMENT

Title: Understanding Mergers

Course: EMGT 520/620
Term: Fall
Year: 1998
Author(s): C. Artmann, A. Alvear, C. Huang, J. Forrester, D. Mottershead, P. Patanakul, P. Suteerachai and D. Thomson

Report No: P98070

ETM OFFICE USE ONLY

Report No.:	See Above
Type:	Student Project
Note:	This project is in the filing cabinet in the ETM department office.

Abstract: It is the intent of this paper is to assist in the understanding of mergers and why they occur. To simplify matters we structured the quantifiable descriptors and the qualitative issues in such a manner as to illuminate the reasons for the merger and predict success in the event the merger proceeds.

Understanding Mergers

**C. Artmann, A. Alvear, C. Huang, J. Forrester,
D. Mottershead, P. Patanakul, P. Suteerachai,
D. Thomson**

EMP-P98070

Understanding Mergers

Novell.

BOEING

CHRYSLER

ENGINEERED TO BE GREAT CARS

BOEING

The Quaker Oats Company

Travelers

Mercedes-Benz

MCDONNELL DOUGLAS

Snapple

citigroup

WordPerfect

MCI WORLDCOM

The Merger Group

- Christian Artmann
- Audrey Alvear
- Chiung-Hui Huang
- Janice Forrester
- Duncan Mottershead
- Peerasit Patanakul
- Pornthep Suteerachai
- Dolores Thomson

Content

1 Abstract

It is the intent of this paper is to assist in the understanding of mergers and why they occur. To simplify matters we structured the quantifiable descriptors and the qualitative issues in such a manner as to illuminate the reasons for the merger and predict success in the event the merger proceeds.

2 Introduction

We read many financial papers, journal articles, and business papers in attempts to understand why companies merge and what makes them successful. In addition, we spent much time pouring over books that were designed to help us understand all of these merger materials to no avail. Our efforts seemed futile; we could find little in the way of a general format or systematic method for understanding merger information. Each merger presented its own distinct set of complex issues. Frustrated with the help books, we devised our own method of understanding and evaluating mergers. We employed several structured thinking tools such as brainstorming, ISM (interpretive structural modeling) and decision tree analysis to develop a new method for understanding and evaluating mergers. We used our method in our attempts to understand several mergers and we were able to validate that it is a tremendous aid to understanding mergers and believe that it would be beneficial for companies to use our methodology as a preliminary investigation into potential merger situations. Mergers are very complicated situations and our proposed methodology is not to be taken as a complete in depth evaluation of a merger, but rather as an overview or an outline for the more complex issues.

2.1 Terminology

We have applied a certain degree of reductionism in that we have taken apart and categorized the prevailing reasons why corporations merge and what should be evaluated in determining if the merger should take place. We believe these two issues to be nearly one in the same. In order to discuss this issue we first need to disambiguate the terms necessary, sufficient, and condition. We are applying the term condition to the state of the quantifiable descriptor of a company. This is to include, but of course not limited to, P&L statements, market penetration, cash flow, and technology. When a corporation looks to merge there is always one or more motivational factors. These factors, such as need for cash flow, market penetration, etc are what we will call necessary conditions. If the prospects cannot satisfy their respective necessary conditions then the merger will not take place. If the prospects are able to meet these criteria, there are other mitigating conditions that factor into the viability of the merger. These conditions are considered to be sufficient conditions. In any merger, all conditions of the company need to be evaluated for compatibility. Depending on the individual requirements of the companies, various conditions will be necessary while others sufficient. As such, the evaluation of these conditions will uncover the motivation for merging as well as provide an indication as to the success of the merger. Predicting the success of a merger, however, requires not only evaluating the compatibility of the necessary and sufficient conditions but also the compatibility of qualitative issues, such as corporate culture, and amenable exogenous factors such as economic environment.

2.2 Methodology

The first step in understanding a merger is to categorize each of the factors into one of 3 strata, quantitative (financial, technology, and market), qualitative or exogenous. Further sub-categorization is necessary within the quantitative strata due to the large number of variables. This step will alert the individuals interested in the merger to any areas that have not been properly evaluated or areas that are incompatible. The second step is to determine what variables within each of the categories or sub-categories are necessary or sufficient conditions in the merger process. This will provide a structure for assessing the importance and the outcome of the considerations. In addition, this structure will very clearly articulate the motivation for wanting to merge.

2.2.1 Step 1

We are proposing that all of the information relating to a merger can be put into a very general outline. That all of the information that is evaluated and discussed in every merger will either be quantitative (financial, technology, and market), qualitative or exogenous. Quantitative financial category deals mainly with the information that you would find on a P&L statement, FERC forms, and other general accounting ledgers. We found that companies are primarily concerned with the financial issues such as cash flow, capital investments and profitability. The quantitative technology category can be very complicated in and of itself and it may be necessary to take advantage of further sub-categorization as presented below in Table 1. Technological issues range in diversity from production methods to the handling of R&D, to marketing and manufacturing methodologies. The quantitative market category primarily deals with the stability of the individual company's horizontal and/or vertical market penetration as well as their network distribution connections. Quantitative considerations are by far the easiest and most often considered simply because the information is readily available on a variety of corporate documentation. To the contrary, we have the qualitative issues, which are not as frequently evaluation but critically important. The qualitative issues deal with less tangible matters such as corporate culture, management styles, ethnic culture and the long-term goals of the individual companies. The final considerations are factors that are out of the control of the companies, but impact the likelihood of a successful merger. They are the exogenous variables such as global economy, antitrust issues and movement of the industry as a whole.

2.2.2 *Step 2*

Once the categorization has taken place, it is necessary to determine what conditions were necessary for the merger to take place; what were the reasons that the companies want to merger? Those variables are the necessary conditions, all others are the sufficient conditions. It is with these categorizations in mind that we proceeded with our readings on various mergers. We will demonstrate this technique of categorization and defining the condition of the categories by examining several successful and unsuccessful mergers.

Table 1: Major categories and sub-categories to be evaluated during a merger:

Quantitative			**Qualitative**	**Exogenous**
Finance	**Technology**	**Market**		
Cash flow	Production	Distribution Network	Corporate Culture	Anti-Trust
Capital	R & D	Horizontal Market Integration	Management Style	Economy
Profit	Marketing	Vertical Market Integration	Shareholders	World Market
Taxes	Manufacturing	Marketshare	Ethnic Culture	
	Technology Management	Name Recognition	Long Term Objectives	

3 Case Studies

We applied our method to 5 mergers, Boeing/McDonnell Douglas, Novell/WordPerfect, Quaker/Snapple, Citicorp/Travelers, and Daimler/Chrysler. Some of the mergers were successful, some were unsuccessful and some have yet to be determined. The first step in our process involves categorization of the variables or elements discussed in the merger. Presented below for each case study is a bit of history, the conditions they felt were necessary for merging, and a brief discussion on each of the strata. We then used our method to put all of the information for each merger into a simple to understand table, see Appendix 1. This table reveals the areas of each merger that were not evaluated, were evaluated and found to be compatible or incompatible and what variables were necessary for merging.

3.1 Boeing / McDonnell Douglas Merger

On December 15, 1996 aerospace giant, Boeing, announced that they would pay $13.3 billion in stock for control of McDonnell Douglas [1]. Boeing was looking to expand their defense division and McDonnell Douglas was looking to strengthen their shrinking commercial division. This would mark the largest merger in the history of the aerospace industry and could prove to be the last in the United States aerospace industry [2]. This particular merger appeared to come together quickly, however it was more than two years in the making. The three necessary conditions for the merger were financial, technological and market share. Boeing and McDonnell Douglas negotiated over these issues for two years until they came to an agreement.

3.1.1 Financial

Through the early ninety's, McDonnell Douglas faced losses on military and commercial programs that nearly drove the company to the brink of bankruptcy [3]. The once-proud Douglas Aircraft Co., accounted for roughly one of every four jetliners, its share of new orders had dipped below 10 percent and was heading toward 5 percent [3]. This is what marked the first in two years worth of talks between Boeing and McDonnell. However, in 1992 McDonnell Douglas was on the verge of a comeback aided by the resurgence of global demand for aircraft. Douglas secured a $2 billion order from ValuJet Airlines for a new airliner as well as securing contracts with Saudi Airlines, Taiwan and Turkey. McDonnell got another major boost when the Air Force committed to buy $18 billion worth of transport jets. This allowed McDonnell to negotiate from a position of strength. However, when a ValuJet caught fire and crashed into the Florida Everglades, intense government scrutiny of the carrier forced it to ground it's fleet [3] and that financially hurt McDonnell. After the ValuJet halt, McDonnell decided to finance an internal study of their operations. The study revealed that $15 billion over 10 years was required to sufficiently compete in all segments of the airliner market. Specifically, targeting to compete against Boeing's 747 jumbo jet. For McDonnell to continue with the project would require betting the future of the company on a project with no guarantee of success, so the project was therefore cancelled. Additionally, McDonnell Douglas lost a major defense contract in November 1996, which faced the company with the prospect of merging or collapsing [1]. McDonnell was looking to bolster its defense business and solve the question of what to do with its struggling commercial aircraft unit; Boeing was the natural choice. Boeing was interested in a merger with McDonnell Douglas to strengthen its defense unit. Just as the merger talks began, they just as quickly broke down over money. One reason for the breakdown of merger talks was, financing a merger with stocks is trickier than financing a merger with cash. The values of the shares on both sides are variable [3]. Investment bankers and specialists in the field of merging companies estimated that merging the two companies would generate $1 billion a year in savings. This was one point used to sell the idea.

3.1.2 Technological

Early merger talks, between Boeing and McDonnell Douglas, were mainly focused around each of their helicopter divisions. Each company thought that McDonnell's Apache program might complement Boeing's Chinook program [3]. In the commercial arena, the merger was expected to result in the production of larger airplanes [4]. Issues of IT compatibility were not addressed, thus, the merger will create such IS problems as managing enterprise wide computers [5]. The merger could leave Boeing having to handle McDonnell Douglas' outsourcing pact with IBM, a 10-year contract. Integrating the two companies' IS infrastructure will result in staff consolidation. Other defense companies that merged recently such as Martin Marietta and Lockheed, successfully combined their IS cultures but had to clear major hurdles [5]. This was something that Boeing and McDonnell were willing to deal with, but was not directly addresses in the literature.

3.1.3 Market Share

The increase in global competition has made mergers between large companies not only acceptable but also necessary to survive in the today's world market. In the early 1980's regulators prevented market power abuse by rejecting mergers between large companies. However, in the 1990's merger deals are expected to meet no resistance from regulators [6]. For instance, Lockheed and Martin Marietta had joined forces to become the nation's biggest military contractor and Northrop Corp. teamed up with Grumman Corp. With all the merger activities, Wall Street was pushing McDonnell Douglas to make the next big move in aerospace mergers [3]. In late 1996 McDonnell Douglas' board of directors granted permission to: buy Texas Instruments Corp.'s defense assets, bid on Hughes Electronics Corp.'s defense unit or pursue a merger with Boeing. McDonnell decided to pursue a merger with Boeing mainly because the prices being paid for defense properties were too high [3]. The merger with Boeing would create an aircraft company with 66% of the global market share [7]. The partnership will give rise to the world's 10^{th} largest firm and the United State's top exporter [4]. Additionally, the merger would produce a single aircraft company with 70% of the world's backlog of plane orders [8].

3.1.4 Qualitative

Shareholder approval for the merger was not as difficult as antitrust issues. According to one leading aerospace industry analyst, Joseph Campbell of Lehman Brothers, the merger between

Boeing and McDonnell Douglas will benefit shareholders, customers and employees [1]. Campbell went on to say "This new company is not only going to do very well as it's now constructed, but it's loaded with dough and it's going to grow." [1] It did not take long for shareholders to approve the idea of merging the two companies knowing that the merged company will top $48 billion in revenues. Additionally, the combined work force will include more than 200,000 employees spread across major hubs in Seattle, St. Louis and Southern California [1]. Employees fear massive lay-offs due to deep cultural divides between two rivals [8].

3.1.5 Exogenous

Anti Trust violations, approval by shareholders and cultural differences were considerations the merger needed to address. The European Union began voicing objections on the basis of antitrust almost as soon as the merger was announced. This was in part to protect European consortium, Airbus Industry, and the only remaining competition in the commercial aircraft market. The EU's basis for attempting to halt the merger was that such a merger would control 75% of the aircraft market [9]. Boeing and McDonnell submitted over 8 million pages of information that supported the merger to the Federal Trade Commission. Four of the FTC's five members replied in a joint opinion: "The failure to improve technology and efficiency of its commercial aircraft products has led to a deterioration of Douglas Aircraft's product line to the point that the vast majority of airlines will no longer consider purchasing Douglas aircraft." [3] The FTC approved the merger. The EU was still voicing that the merger was unacceptable due to unfair competition. Each company and their allies including President Bill Clinton and more than 100 members of Congress returned fire across the Atlantic [10]. Senator Slade Gorton of Washington said "The Europeans are asserting antitrust authority in an extraterritorial manner where there is no relevance, other than the fact that we sell airplanes in their market." [3] Eventually, Boeing agreed to several conditions designated to protect Airbus Industry from unfair competition [11], [12], [13]. This ultimately sealed the merger.

3.1.6 Conclusions

Overall the Boeing McDonnell Douglas merger has proven to be successful. Boeing was looking at strengthening their defense business and McDonnell Douglas was looking at strengthening their commercial unit. Boeing and McDonnell Douglas together provided a perfect fit for meeting these necessary conditions for merging.

3.2 Novell / WordPerfect

WordPerfect Corporation developed one of the first word processing programs for Personal Computers. By the late 1980's their share of the word processing market had grown to around 80%. However, they made their first major strategic error when they were extremely slow to release a Windows-compatible version of their software. WordPerfect eventually released a Windows version, but then compounded their earlier error when they also failed to anticipate the huge market for "Office Suites", which combined word processing packages, accounting programs and other popular software products [14]. WordPerfect attempted to recover from the second error by forming an alliance with Borland to produce a suite using a combination of the two companies' products.

As the world's leading provider of network software, Novell wanted to lead the industry's evolution to networked applications, communications and data [15] and saw a merger with WordPerfect as a means of realizing this goal. Unfortunately, Novell had no experience in the Desktop applications market or the types of distribution networks necessary to get the product to market. By the time they sold WordPerfect to Corel, market share was down below 5% and the Microsoft Office suite dominated the market.

The necessary condition for the merger was vertical market integration. WordPerfect was a one-product company and needed to expand its product base. Novell wanted to move into the desktop applications market to support its plans to move into networked applications.

3.2.1 Financial

In July 1994 Novell merged with WordPerfect Corp. in an exchange of 59 million shares of its stock and options, valued at approximately $855 million [15]. The merger created the third largest Software Company in the world behind Microsoft Corp. and Computer Associates with combined 1993 annual revenues of $1.8 Billion. Novell also bought Quattro Pro for $145 Million and sales rights for the Paradox database software from Borland International Corp. Less than two years later, in March 1996, Novell sold the WordPerfect group to Corel for just $186 million [16] [14].

3.2.2 Technological

Prior to the merger with Novell, WordPerfect was a privately held company. In the early days of the PC, its WordPerfect for DOS captured 80% of the market for word processing packages. However, it was late to market with its WordPerfect version for Windows and it began to lose its dominant position in the market. WordPerfect was also late in entering the "Office Suite" market, however all was still not completely lost. It entered the market through an agreement with the Borland Company to combine the WordPerfect word processor into a package with Borland's Quattro Pro spreadsheet and Paradox database programs and was released with the name Borland Office for Windows. In the beginning, the level of integration between the programs in the Borland Office suite was not as high as that of either of their competitors due to the applications having been developed inside two separate companies [17]. After the merger, Novell integrated the Office applications more completely, but did not show a true commitment to the product. This affected the morale of the WordPerfect developers.

Corel is showing more commitment to WordPerfect and the employees are more motivated. It is still developing the WordPerfect Office Suite with WordPerfect Office 2000 currently being developed. It is scheduled for release three to four weeks before Microsoft releases its Office 2000 Suite in April/May 1999. The WordPerfect Suite is rumored to have a price tag of $89 for an upgrade and $129 for an upgrade with voice recognition [18] – the same price as its current Suite. They also have a Java version of the WordPerfect suite that they have developed recently that may bring them some extra revenue. However, as the Network PC concept for which the Java version was originally designed has cooled off, it is now slated for use on the Mac computer [19], with the Mac-specific development being halted.

3.2.3 Market Share

In the late 1980's, WordPerfect had 80% of the word processing market. In 1993, when WordPerfect entered the Office Suite market through its agreement with Borland, Microsoft's sales were 700,000 units and the other Office Suite competitor; Lotus Corporation's sales were 100,000 units. The reduction of market share to under 5% during its association with Novell is attributed to Novell's lack of commitment to the product and its lack of understanding of the retail distribution system. Most of WordPerfect's sales reps were laid off and Novell "literally wiped out international sales" according to the product's former general manager, Mark Calkins. Novell reduced funding for marketing and made the WordPerfect employees feel that Novell was not interested in the success of the product [20]. This caused a decline in sales of the WordPerfect Suite to almost nothing. Since the purchase, Corel has improved its total market share from around 5% [21] to 19.2% although, due to its pricing strategy, it has just 9% of Office Suite revenues.

3.2.4 Qualitative

Some commentators questioned the merger as being too soon after Novell's acquisition of five companies the previous year that moved the company into the field of applications development tools when Novell's strengths were in operating systems. It appeared to many that these companies had not yet been integrated, and acquiring a Desktop Applications company was yet another new field for Novell to contend with [22]. Further doubts were voiced due to the completely different nature of customer support. Novell' support systems were used to dealing with knowledgeable network administrators. Word Perfect had a very good name for support, but its average user had nowhere near the same level of technical knowledge [23].

3.2.5 Exogenous

Although Corel is not in particularly good shape, CEO Michael Cowpland is demonstrating his commitment to WordPerfect and the employees are being motivated. Initially, the results were very good -- in September 1996 Corel had 48.6% of Suite *retail market* units sold ahead of Microsoft's 47.7% [20]. However, despite its good reviews, this was attributed to an upgrade price of $99 against that of Microsoft's $219 and pent-up demand from many of the 20 Million loyal

WordPerfect users [16], [20]. Microsoft's domination of the corporate market, estimated at 80% in September 1996 would be difficult to attack.

3.2.6 Conclusions

The WordPerfect story shows how a very successful product can very quickly lose market share with bad decisions. The slow reaction to move from WordPerfect for DOS to a Windows version and its inability to predict the market for Office Suites resulted in its initial sale to Novell. The merger with Novell could have consolidated the product and improved it if Novell had understood that this product's market needed to be handled much differently than its highly technical operating systems market. Novell also did not understand the distribution and marketing techniques for a Desktop Applications product. They decimated the sales force and reduced marketing, which resulted in plummeting sales. Using our methodology may have brought to light the fact that there were areas that the companies could not evaluate, such as distribution channels and corporate culture, due to the lack of stable information from the companies.

The sale to Corel was almost too late for WordPerfect. However, CEO Michael Cowpland's commitment to the product may bring back some of the previously loyal WordPerfect users who left the fold in frustration at the apparent lack of commitment to the product by Novell.

3.3 Quaker / Snapple

"Snapple was one of the consumer success stories of the 1990s. The little New York Company took on the giants of the beverage industry and generated spectacular results, doubling profits three years in a row. The analysts strongly recommended the stock and consultants sang the company's praises while criticizing the traditional beverage firms. Then Snapple began to refer to "distribution problems". Consumers still seemed excited about the brand and the market appeared wide open. So what could be the problem? Nevertheless, the stock price began to fall."[24]
The necessary conditions for the merger were that Snapple needed to expand its product base and Quaker wanted to increase its beverage business into juice and exotic drinks.

3.3.1 Financial

Snapple Corp makes exotic juices and iced tea and grew from $3 Million in 1986 to almost $700 Million in 1994 [26]. Quaker Oats Company felt that it could repeat the success of its purchase of Gatorade's parent company for $240 Million and the growth in sales of Gatorade from $100 Million to over $1 Billion, with an 80% share of the sports drink market at the time of the merger. In November 1994 the $6.3 Billion Quaker Oats company announced a merger with Snapple Beverage Corp for $1.7 Billion [25] [26]. In March 1997, Triarc purchased Snapple from Quaker for just $300 million [27]. Quaker's almost 2½ year association with Snapple cost them around $1.4 Billion – which translates into a loss of around $1.6 Million PER DAY!

3.3.2 Market and Distribution

At the time of the merger, there were questions about the ability of Quaker to manage two very different distribution channels. Quaker's extremely successful Gatorade product, which had around 80% of the sports drink market, is distributed through a warehouse system while Snapple is delivered directly to stores [25]. However, most people in the industry at the time believed that the merger was good for both companies and that the distribution issues could be resolved. This turned out not to be the case!

Snapple's distribution problems were due to various long-term contracts and various incentive schemes and different contractual rights that were too inflexible for the needs of the market. Snapple's 300 distributors deliver directly to stores. Gatorade's distributors deliver to warehouses. When Quaker attempted to make major changes e.g. to take the supermarket accounts from the Snapple distributors and give them to the Gatorade distributors, the Snapple distributors refused. Quaker eventually backed down but this took some time to resolve [26]. Triarc, the company that bought Snapple from Quaker, is a New York based company that, among others, owns the Arby's fast food restaurant chain and several soft drink brands, including Royal Crown and its own trendy drink called Mistic [28]. Triac understands direct-store-delivery and its acquisition of Snapple will mean better distribution for its Mistic brand and give the RC brand exposure where it previously had none.

3.3.3 Qualitative

Quaker also fired Wendy Kaufman, the "Snapple Lady"; Quaker never adequately replaced one of the symbols of Snapple beverages and her position. To the relief of many of her fans, Triarc was successful in bringing back the "Snapple Lady".

3.3.4 Conclusions

The Snapple story shows that it is extremely important to thoroughly research your target company. Quaker appeared to have been surprised by the different approach to distribution that had been used by Snapple and the many and varied deals that had been made with these distributors. They also appear to have lacked a willingness to understand the distribution differences that lead to their newly acquired distribution network working against them instead of for them. They attempted to force their own distribution methods onto Snapple and tried to change the "laid-back" corporate culture of Snapple. These two decisions by Quaker caused alienation of the employees and an evaporation of profits [29].

Experts have speculated that the sale to Triarc will be beneficial to Snapple as they share similar corporate culture and their distribution networks are similar.

3.4 Citicorp / Travelers Group

On April 6, Citicorp and Travelers Group Inc announced the merger of the companies. The new company name is Citigroup Inc.; it is expected to be the world's largest financial service company. Travelers Group is a financial conglomerate that offers insurance and investment banking services. It became the nation's third largest brokerage firm. Citicorp is the 2nd largest commercial bank in the United States and the world's leading distributor of credit cards. On October 8th, Citicorp and Travelers Group received the conditional approval of the Board of Governors of the Federal Reserve System to become a bank holding [1].

The necessary conditions to this merger are the demand of technology that is ever increasing, especially in the financial industry, the globalization of the markets and competitive pressures. The sufficient conditions are that both companies have a strong position in each market; both wants to expand their business to other locations; and both have capital, technology and resources to combine their operations.

3.4.1 Financial

In the Financial markets, the companies not only need a broad range of products to offer to their clients, they also need good capital behind them to support the risks of the economies. In that respect, this merger provides a diversified range of services and capital support from both companies, allowing Travelers Group to reduce its underwriting risk by half and Citicorp to reduce its risk in Asia risk also by half. Since there is a small amount of duplication and overlap among

Citicorp and Travelers consumer business, this merger can also lead to a reduction of cost in those common areas. Its market capitalization would rank Citigroup as the number one worldwide financial Services Company. Citigroup would have had assets for 1997 of almost $700 billion, net revenues of $50 billion, operating income of nearly $7.5 billion and equity of more than $44 billion.

3.4.2 Technology

Today's markets are becoming more integrated. The spread of market economies, lack of trade barriers and the availability of low cost, fast transportation and the impact of the applied technology, permit more businesses to have access to more customers and lead to new competitors. "The Financial Industry is an information intensive industry in which IT is playing a strategic role" [31]. In this area, technology permits more efficient and secure ways of process financial information with cost reduction.

The technology aspect of this merger has a fundamental role. Citigroup will have a good development and investment in technology. Citicorp is recognized as one of the most important financial groups with a high IT maturity and Citibank has an enhanced set of services offered by telephone access, ATM's, personal computers and other electronic delivery mechanisms, as well as on site banking for some locations.

Citigroup is creating global products in global platforms with the help of the technology.

However, Madden's article [32] establishes the idea that the IT consolidation of Citigroup will require a transition team with representatives from both companies to assess IT and other needs -- Citicorp has 11 networks with around 60,000 PC's.

3.4.3 Market

Distribution Network: Citigroup will have many products to offer but also many distribution channels. The range of financial services that Citigroup manage are:

- Banking and Customer finance
- Asset Management
- Credit and Charge Cards
- Property /Casualty Insurance
- Retirement products
- Investments
- Investment banking
- Trading

Using their diverse businesses as channels, their businesses are:

- Commercial Credit
- Salomon Smith Barney
- Salomon Smith Barney
- Asset Management
- Primerica Financial Services
- Citicorp real state
- Citibank
- Travelers Life & Annuity
- Travelers Property Casualty.

3.4.3.1 Vertical Market Integration

Inside the US they will be ahead of the competition with a broader range of solutions. Some foreign banks can already offer insurance and banking in the US, but only a few actually do. Citigroup will have an installed customer base of over 100 million customers in 100 countries. Citigroup will catch new markets since they can compete with the same range of solutions as other International Banks or Financial Groups.

3.4.4 Qualitative Analysis

Citigroup will have as Co-Chairmen and Co-Chief Executives Officers, the current Chairmen and Chief Executives of Citicorp and Travelers respectively. They will also serve as Co-Chairmen of a 24-person board of Directors that will also include eleven outside directors from the actual boards of each company. One of the challenges in this merger is the way in which the co-chief executives officers must share responsibilities and leadership as well as having subordinates that have to report to two CEO's. The major difficulty learning to share power [33].

3.4.5 Exogenous

3.4.5.1 Law

In this case there are no applicable anti-trust laws; the only laws to consider are related to regulatory organizations, such as the Federal Reserve. Recently, the Federal Reserve significantly liberalized the existing restraints on combination between banks and securities firms. The remaining barrier is insurance and banking. Americans banks are restricted from offering insurance underwriting. The Glass Steagall Act of 1933 [34], [35] limited the mixing of banks and insurers under the same company, in an attempt to ensure financial stability. Because of this, Citicorp could not realize some insurance activities that are inside the areas of Traveler's business. The insurance part that Citicorp cannot realize today is almost half of the profit of the Travelers' group. Under the present laws, Citigroup can operate within the combined company for a two-year period, which may be extended for three additional one-year periods by the Federal Reserve Board. However, for the extension, the Federal Reserve Board has imposed some restrictions. At the end of this period Citigroup will evaluate its alternatives in order to comply with any laws, and then apply with bank holding companies. However, Citigroup expects that the laws will change favorably in the early future.

Citigroup has been approved by other institutions such as state insurance commissions, relevant banking insurance and other regulatory authorities, and received approvals from stockholders of both former companies.

Many analysts such as: Pardee [36] and Chookaszian [37] and Hennessey [38] consider that this merger is of public interest. However, the merger will likely go through some restrictions such as Glass Stegall on the insurance side, and other restrictions on the securities side.

3.4.5.2 World market

Since 1990 there have been many important mergers such as ABN and AMRO (218 Billion, 1990), Chemical Bank and Chase Manhattan (297 billion, 1996), Mitsubishi Bank and Bank of Tokyo (752 Billion, 1996) and others [39]. The US legislation has made many changes since 1994. These changes remove legal barriers to geographic expansion both within and across the states. Because of the restrictions imposed upon the American Banks by Glass-Stegall and the holding bank legislation, they have not been able to maintain a dominant role in international financial markets. The Citigroup merger is a cross pillar merger, where it will offer a broader range of products to its actual and new customers, combining the insurance area with the bank area. Changes in the laws can lead to other changes in the financial environment, such as, smaller firms could feel forced to link up to keep market share, or other international banks will consider merging, e.g. Canadian Banks. According to the Competition Bureau [40], the key motivation of these types of cross pillar mergers, where the institutions involved offer different range of products, is the achievement of economies of scale. This merger will permit Citigroup to compete at the same level of Universal Banks and other European and Asian companies that already offer banking, insurance and investment services together.

3.4.6 Conclusions

There are many factors that lead to this merger. First, demands of technology are ever increasing. Second, the globalization of the financial markets and the competitive pressures of local markets. Finally, the demands of customers, who want to obtain a full range of financial services from a single institution. This merger has many opportunities to be successful, is in a good position in the market, and it has a huge installed customer base, technology and experience. However, they must be careful in management style and the corporate structure. Travelers will gain the network of distributed services and the market that Citicorp already has. Citicorp can reduce operational costs, offering more services, and gain new customers in other locations with different or broader solutions.

3.5 Daimler / Chrysler

The automotive industry trends show the industry to be oversupplied. The vehicle demand in the world market is decreasing while vehicle production capacity is continually increasing. Because of the excess capacity in the automotive industry, consolidation is inevitable; it is projected that of the 40 auto companies now, there will be about 20 in the next century [41]. Being early and being able to pick a partner when both are financially secure is beneficial. This is one of the reasons why the merger between Daimler and Chrysler occurred. The other main reasons were Chrysler's desire to compete in the global market and Daimler wanting to expand its distribution channel in the North America market.

3.5.1 Financial

Mercedes-Benz is one of the companies in Daimler AG that consistently achieved a large proportion of the revenues and profit. In 1997, Mercedes was responsible for 75 percent of the revenues and 84 percent of the overall profit [42]. On the other side, Chrysler earned the highest returns among the big three American automobile manufacturers [42]. After the merger, the new company has an opportunity to reduce overhead costs. The duplicate research and development programs can be reduced by $1.7 billion over the next three years. Furthermore, the potential combined purchasing power can save the new company as much as 40% or approximately $900 million over the next three years [43] [44].

3.5.2 Technological

Daimler is a low volume and high quality automaker. Chrysler is a high volume and economy-price automaker. Chrysler spends $590 per vehicle on R&D, which is only one-fourth of Daimler [45]. Improving Chrylsler's product quality by transferring high technology in R&D from Daimler will be the asset that Chrysler was hoping to acquire from Daimler.

Chrysler is known as the efficient automaker. It is hoped that Chrysler's lean operating system and SCORE program will improve Daimler's efficiency and lead to purchasing cost reductions [46].

3.5.3 Market

Daimler and Chrysler are the fifteenth and the sixth largest automakers respectively in term of sales volume. Combining the 890,000 unit sales of Daimler and the 3,048,000 unit sales of Chrysler [47] [48], DaimlerChrysler will become the fifth largest automaker. Daimler has a strong position in the luxury car and commercial truck segment. Chrysler has a strong position in the minivan and light truck segment. The new combined company covers not only most of car and truck segment but also the premium and economy class of passenger car [49]. In addition, the strong distribution channels of Daimler in Europe and the strong distribution channels of Chrysler in North America will provide markets for the new company to enter.

3.5.4 Qualitative

Daimler and Chrysler are an almost perfectly fit with each other. However, there are some weaknesses that both companies have to consider. Daimler and Chrysler have differences in corporate culture. Daimler has an inflexible and conservative culture while Chrysler has a flexible and risk-taking management culture [50] [51]. If Daimler can perceive and utilize Chrysler style, Daimler will benefit by breaking down its conservative culture. However, the management style and reputation of Chrysler might reflect on Daimler's perceived quality [52].

The new DaimlerChrysler Company will have co-CEOs. This might create a weakness in terms of slowing the decision making process. There have been few successes documented of two CEO's sharing the power in one company [53].

3.5.5 Exogenous

Even though the new company will be the fifth largest automaker in the world, it still has the weak presence in Asia's market -- which is where the two auto companies hope to expand their production bases. The combined efforts of Mercedes' superior R&D combined with Chrysler's quick time to market may provide the necessary advantage for DaimlerChrysler to advance in the Asian market [45].

The Daimler and Chrysler merger not only creates a new global automotive company, but also increases the pressure to respond on even the biggest automakers. Researchers expect that additional mergers and/or acquisition are inevitable [54]. Therefore, DaimlerChrysler might not fully realize their expected benefit from this merger.

3.5.6 Conclusions

The merger of Chrysler into Daimler-Benz is a watershed event for the global auto industry. It is an offensive action by ambitious participants that are seeking to reset the industry's playing field. Chrysler solves its lack of international exposure. Daimler solves its need to have models with higher sales potential than its high-priced luxury cars. The deal not only creates a new global automotive company, but also increases the pressure to respond on even the biggest automakers.

The success of any combination depends upon the ability of the new organization to win over the hearts and minds of employees. They have to be convinced that their earnings, prospects, and career paths are better under the unified regime than when they were divided [55].

4 Conclusion

We have shown that our technique is applicable to a wide variety of mergers. That when we applied the technique to the mergers under consideration, we were able to very clearly identify variables that were not evaluated, areas of incompatibility and compatibility as well as highlighting the reasons why the companies were interested in merging. We believe that our method, while simple in its formation, is a very valuable tool if one is interested in understanding mergers. And, that our tool could serve as a guide to companies that are interested in merging.

5 Future Work

Future works should include a more extensive evaluation of mergers as well as surveys to be competed by those that are or were directly involved in mergers in order to determine a complete list of sub-categorization. The list of sub-categories should then be tested for exclusivity using factor analysis. We also believe that it would prove to most valuable if cross-classification methodologies were employed to determine the impact of the various strata on the outcome of the merger. And finally, it would prove to be more informative if we incorporated the use of weights in the 'Merger Compatibility Checklist'.

6 Appendix

6.1 Appendix 1 Merger Compatibility Checklist

MERGER COMPATIBILITY CHECKLIST								
			Boeing / McDonnell Douglas	*Novell / Wordperfect*	*Quaker / Snapple*	*Citicorp / Travelers*	*MCI / WorldCom*	*Chrysler / Daimler*
Quantitative	**Finance**	**Cash Flow**	C	C	C	C	C	C
		Capital	C	C	C	C	C	C
		Profit	C	C	C	C	C	C
	Technology	**Production**	C	C	C	C	?	C
		R&D	C	C	C	?	C	C
		Marketing	C	I	I	C	C	C
		Manufacturing	C	NA	C	NA	NA	C
		Technology	C	C	C	C	NE	C
	Market	**Distribution Network**	C	I	I	C	C	C
		Horizontal Market Integration	C	C	C	NA	C	C
		Vertical Market Integration	NA	NA	NA	C	C	NA
		Marketshare	C	C	C	C	C	C
		Name Recognition	C	C	C	C	C	I

			Boeing / McDonnell Douglas	Novell / Wordperfect	Quaker / Snapple	Citicorp / Travelers	MCI / WorldCom	Chrysler / Daimler
Qualitative		**Corporate Culture**	I	I	I	C	I	C
		Management Style	C	I	I	C	C	C
		Shareholders	C	NA	C	C	C	C
		Ethnic Culture	NA	NA	NA	C	?	I
		Long Term Objectives	C	C	C	C	C	C
Exogenous		**Anti-Trust**	C	NA	NA	NA	NA	NA
		Economy	C	C	C	C	C	C
		World Market	C	C	C	C	C	C
		Other Laws	NA	NA	NA	C	NA	NA

KEY

- C Compatible
- I Incompatible
- NA Not Applicable
- ? No Literature
- NE Not Evaluated

Necessary Condition

Sufficient Condition

7 Bibliography

[1] http://cnnfn.com "Boeing deal good for all" CNN Financial Network, December 16, 1996

[2] Casey Wian http://cnnfn.com "Merger just latest in wave" CNN Financial Network, December 16, 1996

[3] Christopher Carey, http://www/slnet.com/postnet/news/ "Goodbye Mac, Hello Boeing," POSTnet Special Report July 26, 1997

[4] "Air merger expected to foster competition," Journal of Commerce and commercial, December 17, 1996 v410, n28871, p1A(2)

[5] Thomas Hoffman, "Boeing merger faces IT turbulence," Computerworld, December 23, 1996 v30, n52, p1(2)

[6] Michele Kayal, "Global competition alters view of merger," Journal of Commerce and Commercial, December 30, 1996 v410, n28879, p1A(2)

[7] "Boeing-MD flies away with aircraft orders," American Metal Market, December 26, 1996 v104, n249, p2(1)

[8] R. A. Melcher, "Boeing and McDonnell: will it fly?" Business Week, December 4, 1995 n3453, p36(1)

[9] Fred Coleman, "Boeing: stalled on the runway," U.S. News & World Report, July 28, 1997 v123, n4, p50(1)

[10] Michele Kayal, "Clinton prepared to fight over Boeing merger," Journal of commerce and Commercial, July 18, 1997 v413, n29017, p1A(2)

[11] Bruce Barnard, "EU approves Boeing merger after last minute concession," Journal of Commerce and Commercial, July 24, 1997 v413, n29021, p6A(1)

[12] "Europe approves," The Economist, July 26, 1997 v344, n8027, p5(1)

[13] "Boeing-McDonnell gets thumbs-up," Business Week, August 4, 1997 n3538, p42(1)

[14] Schofield, J., "Business/Special Report: GATES CRASHER: Canada's software king takes a run at Microsoft". Maclean's, 1997, pp44.

[15] Wheelwright, G., "New CEO outlines vision for 'Greater' Novell", TCP, 1994

[16] Kirchner, J., "Novell to WordPerfect Users: Drop Dead!", PC Magazine, March 26, 1996, pp37.

[17] Rohrbough, L., "Borland/Wordperfect Form 'Virtual Corporation'", Newsbytes News Network, April 1993

[18] Ricadela, A., "News: Corel, Microsoft Pitch New Office Suites", Computer Retail Week, November 1998.

[19] Ferranti, M., "Corel CEO Michael Cowpland outlines company strategy", InfoWorld Electric, June 1997.

[20] Hamm, S., "Corel's Suite Deal", PC Week, September 1996.

[21] Berst, J., "Corel's purchase of WP is just perfect enough", PC Week, February 1996.

[22] Comaford, C., "Novell/WordPerfect: Strategy or Anarchy?", PC Week, April 1994.

[23] Smalley, E and Smalley Bowen, E., "Novell, WordPerfect seek to calm fears over post-merger support", PC Week, July 1994.

[24] Harbour, S.E., "Five Rules of Distribution Management", Business Horizons, May-June, 1997, v40 n3 p56(3).

[25] "Distribution Issues surround Quaker-Snapple merger", Beverage Industry, November 1994

[26] Moukheiber, Z., "He who laughs last: was Quaker taken when it paid $1.7 Billion for Snapple? (Company Profile)", Forbes, Jan 1996.

[27] Holleran, J., "Snap-less: Quaker Oats gives up the fight to revive Snapple", Bverage Industry, April, 1997, v88 n4 p6(1).
[28] Peltz, J.T., "Quaker-Snapple: $1.4 Billion is down the drain; Acquisitions: Soured partnership to end with huge loss for cereal company, which will sell beverage firm for $300 Million.; Home Edition", Los Angeles Times, March 1997.
[29] "Why too many mergers miss the mark", The Economist, Jan 1997, v342.
[30] Federal Reserve Release, Press Release, Sept 23,1998.
Seiberg, Jaret " Citi-Travelers gets the Nod for Dinancial Powerhouse", American Banker, Sept 24,1998, v163 n191, p1(1).
Feldman, " Federal Reserve Board approves Citibank-Travelers Merger",Knight-Ridder, Tribune Business News, sept 24, 1998, pokrb982663af.
[31] Gupta, Karimi, Somers, " Alignment of a Firm's Competitive Strategy and Information Technology Management Sophistication: The missing Link", IEEE Transactions on Engineering Management, Vol. 44, No. 4, November 1997.
[32] Madden, Jhon, " Megamerger Should Yield IT Economies. (Citicorp and Travelers Group merge to create Citigroup) (Company Business and Marketing) PC Week, April 13, 1998 v15 n15 p14(1)
[33] The Economist, " Upheaval at Citigroup", Nov 7, 1998, p76(1)
Spiro,Silverman," Where does the buck stop at Citi? ", Business Week, Nov 16, 1998, p 180 (4)
[34] Seiberg, Jaret, " Fed Expected to Act Soon On Citigroup Deal Approval", American Banker, August 18, 1998, v163 n 164 p1(1).
[35] Lahart,Kevib, " The way were how the banks did themselves in (histoy of the Glass-Stegall Act)", Financial world, Jan 12, 1988, v 157 n2 p 26(3).
[36] Pardee, Scott, " Mother all Mergers", Journal of Commerce and Commercial, april 16, 1998, V416 n 29200 p6A(1).
[37] Chookaszian, "The Buzz from the sidelines", Best Review- Life Health Insurance Edition, May 1998, v98 n1 p25(1)
[38] Hennessey, Mannino, Saucer, Browers, Noonan,"Covering the world with one umbrella", Best's Review – Life Health Insurance Edition, May 1998 v98 n1 p24(3).
[39] The National Online Bank Mergers. http://tv.cbc.ca/national/pgminfo/banks/
[40] Competition Bureau Industry Canada, " The Merger Enforcement Guidelines as Applied to a Bank Merger", 14/07/98. http://strategis.ic.gc.ca/SSG/ct01280e.htm
[41] Vlasic, Bill, "The first global car colossus," Business week, May 18, 1998.
[42] Shearlock, Peter, "Behind the merger wheel," *The Banker*, pp.20-23, June 1998,.
[43] Seaman, Barret "Here comes the road test," *Time magazine*, vol. 151 no.19, May 18 1998.
[44] Sorge, Marjorie and Mark Phelan, "The deal of the century," *Automotive Industries*, pp46-51 June 1998.
[45] Automotive Industries "What Chrysler can do for Daimler,", July 1998 v178 n7 p77 (1).
[46] European Rubber Journal, *Daimler-Chrysler could be good*, v180 n6 p.38 June 1998.
[47] Chrysler Corporation " Annual Report 1997".
[48] Daimler-Benz AG "Annual report 1997".
[49] Automotive Industries Magazine, "1997 Worldwide Product Charts: North America", March 1998.
[50] Khol, Ronald, "The stereotypes about Germans and Americans are wrong," *Machine Design*, 1998V.70, p. 6, June 18.

[51] Launder, G. "DaimlerChrysler," *Warburg Dillon Read (Europe),* Aug. 19 1998
[52] Keller, Maryann, "Why DaimlerChrysler might not work", *Automotive Industries*, p.248, June1998.
[53] Johnson, Richard, "CEOs share power, not natures," *Automotive News*, v. 71, p. 48 May 11 1998.
[54] Wielgat, Andrea and Barbara McCellan, "Who's next", Ward's Auto World, pp. 26-29, June 1998.
[55] Tom and Jeff Green, "Putting People before Strategy", *Ward's auto world*, pp.51-55, July 1998.