Can Mergers be Exploited to Consistently Generate Value and Gains?

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A Thesis

In the Department of

Finance

Presented in Partial Fulfillment of the Requirements

For the Degree of

Master of Science in Finance (MSc)

at Concordia University

Montréal, Québec, Canada

December 2021

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CONCORDIA UNIVERSITY

SCHOOL OF GRADUATE STUDIES

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Abstract for Masters

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Abstract: Despite the amount of research in the field of mergers and acquisitions, there still exists a significant gap in the literature. In fact, there is strong debate regarding the knowledge of the key determinants of post-merger performance. One side argues that the determinants are unknown to us and powerless in predicting performance whereas the other side asserts that many are captured in our understanding of the complicated process of mergers. Therefore, this study seeks to evaluate both sides of this debate and provide a better understanding of the conceptual framework of M&A. In addition, this study seeks to identify some of these still unknown determinants and generate a benchmark for future study to help facilitate their identification and research.

Key words: cross-border; domestic; cumulative abnormal returns; key determinants; post-merger performance; value creation; value destruction.

Acknowledgments

I would like to thank the following people, without whom I would not have completed my research and the thesis in time, and without whom I would not have made it through my master's degree in finance.

First and foremost, to my parents, who have helped and supported me all these years in my education and studies, and who one day I hope to pay back their generosity and immense support.

To my friends for their support and help throughout my time in the master's program, specifically, fellow master's students, Alex Jiang, whom without I would not have been successful in my studies and would have gained the confidence I needed in the beginning of the program.

Thank you to all for without I would not be in the position of completing my thesis.

Dedication

Part of this work, specifically my multiple event-based study, was inspired by Michael Hitt, Jeffrey Harrison, R. Duane Ireland, and Aleta Best and their article titled "Attributes of Successful and Unsuccessful Acquisitions of US Firms." I thank them for that.

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I. Introduction

1.1 General Introduction

Mergers and acquisitions (M&A) have become increasingly common over the past few decades, stretching over seven historically marked waves dating back from 1893. In fact, the total worldwide value from M&A over the course of 2018, according to Mergermarket, reached a total of $3.5 trillion USD, despite the decline in number of deals closed, the highest value since 2010. That number, according to Deloitte's annual survey, is only expected to grow in the coming years. In addition, cross-border mergers and acquisitions have also increased in size and in value (Shimizu, et al., 2004) as well as in importance (Hitt, Franklin, & Zhu, 2006). Consequently, M&A has been a heavily researched topic.

Evidently, mergers are expected to generate significant synergies for the combined entity. Otherwise, mergers would not be a popular method of growth. Yet, prior literature has struggled in identifying these exact sources of synergies. Moreover, as is well documented in the literature, many mergers fail in realizing the potential synergies for various reasons and end up destroying significant shareholder value post-merger. However, prior literature has provided limited understanding in how and why they become a successful merger or a failure.

In fact, the sources of gain and losses in mergers and acquisitions have been heavily debated. Even despite the heavy emphasis of research on this field of finance, scholars do not agree on the exact sources of value creation and value destruction. A large group of scholars assert that these post-merger performance sources can be measured and be used to predict the success rate of a merger whereas an equally large group reject that notion and claim that the sources are not yet known.

This discrepancy in the literature may be due to several reasons. Notably, there are many different methods of quantifying these sources of gain or loss with each having their own benefits and drawbacks. Krishnakumar and Sethi (2012) find that research conclusions will differ when different event methodologies are used to evaluate performance.

1.2 Insight on Mergers

1.2.1 Reasons for Executing Mergers

According to Brouthers et al. (1998) in their literature review, acquirers are motivated by several different reasons which are essentially the pursuit of goals by managers that are not directed towards the maximization of shareholder wealth. For example, an acquirer instead of seeking to maximize the performance of the combined entity may seek instead to improve its image to the public, increase the prestige of the management team or to obtain access to necessary competencies, among several other motives, which are listed by Brouthers et al. in table 1.

Further, mergers may also be caused by overly confident managers believing they know better than the market and have learnt from their past mistakes and so can apply that knowledge to execute a better merger than the last one. This phenomenon is known as hubris and is especially problematic when the managers apply the same mistakes and consequently receive the same end results. Finally, managers may also believe that past empirical studies are inaccurate and fail to properly measure the true success rate of mergers. As a result, even despite the empirical evidence stating otherwise, managers believe their mergers are successful and are thus unconcerned about previous failures and continue to participate in M&A activity.

1.2.2 The Driving Forces Behind M&A Activity

The key determinants, or motives, of mergers and acquisitions, in the general landscape, have been extensively researched in the literature. Past scholars provide a deep understanding on what exactly motivates a firm to grow inorganically over the more natural and organic method. In general, although Anand and Singh (1997) assert that targets are selected regardless of their performance, research has generally shown that acquirers tend to seek those that are profitable with strong prospective growth options (Mahoney and Pandian 1992; Vermeulen and Barkema 2001). Other research points to the opposite and claim that certain acquirers are attracted to firms that are in financial distress (Bruton et al. 1994).

In terms of cross-border M&A, the main determinants of cross-border mergers and acquisitions can be summarized as: 1) valuation differences, 2) proximity of the countries including cultural similarities and a common language, 3) the level of trade between the countries, 4) accounting standards and investor protection, and 5) tax effects. Therefore, although somewhat similar in nature to domestic mergers, cross-border M&A do in fact behave differently and are, thus, driven and intensified by factors different than those of domestic mergers.

1.3 The Level of Merger (Domestic & Cross-Border M&A)

Eckbo and Thorburn (2000), in their study on Canadian targets, document that the Canadian acquirers, or rather the domestic bidders, earn significantly more than their American counterparts, the foreigner bidders. They also find that the domestic bidder earns significantly more in abnormal returns when the equity size relative to the target is at its smallest and when the method of financing involves stock payment. In addition, this discrepancy in earnings between domestic and foreign bidders is not caused by direct foreign investment controls, horizontal product market relationships or acquisition propensities. Goergen and Runneboog (2004) find supporting findings in their study on European domestic and cross-border takeover bids. Specifically, they find that domestic bids generate greater short-term wealth effects than do cross-border mergers contrary to their expectations.

Interesting enough, the impact of a merger will be significantly larger on a domestic transaction than it will be on a cross-border transaction (Capobianco, 2017), holding all things equal. If the impact is positive, the domestic merger will significantly outperform a cross-border merger whereas if it is negative, it will be significantly outperformed by a cross-border merger. This impact is influenced heavily by proximity factors, such as whether the economic and legal system and culture are similar or not, as well as by the risk propensity of the bidder.

Overall, the literature, in general, asserts that cross-border acquisitions destroy firm's value. As a result, domestic acquisitions should outperform cross-border acquisitions due to the lower risk of culture clashes during the critical phase of a merger, the integration process.

On the other hand, Bertrand and Zitouna (2005), report that efficiency gains are larger among cross-border acquisitions than they are for domestic acquisitions. This finding thus puts into question the general view that foreign takeovers adversely impact firm performance and, subsequently, fail in generating value for their shareholders.

Finally, in their study on South Korean firms, Lee et al. (2019) report no significant differences in performance between cross-border mergers and domestic mergers. Therefore, the post-merger

performance may depend upon the cultural fit and stability of the intergroup status relations between the acquirer and the target. As such, there may be other factors that would have to be considered before comparing the performance of a cross-border merger to a domestic one.

1.4 The Type of Merger (Related & Unrelated M&A)

There are five main types of mergers of which three will be studied in this research. Of the three studied, they can be classified as either related or unrelated mergers. For a deeper look into them, refer to the appendix. However, in short, both vertical and horizontal mergers are considered related mergers whereas conglomerates are unrelated mergers.

Melicher and Hempel (1971) document that there are significant differences in the financial characteristics of conglomerate mergers and horizontal as well as vertical mergers. For all three types of mergers, the period is a major differentiating characteristic suggesting the importance of institutional factors, such as antitrust pressures, accounting procedures and managerial emphasis, which have all contributed to the decline of conglomerate mergers. Moreover, they find evidence suggesting that both horizontal and vertical mergers outperform conglomerate merges in terms of the operating synergy realized. Though, they do acknowledge that conglomerate mergers are often conducted for more short-term benefits. Further, they also document that companies involved in conglomerate mergers subtracted leverage from their capital structures whereas those involved in either horizontal or vertical mergers added leverage to their capital structures. Finally, companies engaged in vertical or horizontal mergers were more willing to pay higher premiums than those companies engaged in conglomerate mergers.

The rest of the paper is organized as follows. Section II extensively elaborates on the existing related literature. Section III describes the data and sample. Section IV explains the methodology used to compute the results and relationship between the variables. Section V analyzes the findings across the three sub sections (the two qualitative parts as well as the multiple event study). Section VI discusses the results and their implications. Finally, Section VII concludes with avenues for future research.

II. Literature Review

2.1 The Contrasting Views

Several potential sources of value creation and value destruction have been identified in prior literature. Yet, they are often contested. They may not apply to all mergers and may not even be a key determinant in the post-merger performance.

According to the well-established theory of M&A, there are three main hypotheses that motivate mergers and acquisitions. These can be classified into two different categories. The synergy hypothesis (Penrose, 1995; Bradley, Desai and Kim, 1990; Seth, 1990) contends that the combination of two companies provides greater value than the separate companies would otherwise be able to. This is possible due to the improved changes in economy of scope and scale, among other potential value-enhancing sources, arising from the merger. As such, Seth et al. (2000) document that mergers motivated by synergy predominantly increase the value of the firm and can, thus, be characterized as value-increasing acquisitions. On the other hand, the managerialism hypothesis (Marris, 1964) asserts that managers seek M&A for their own personal and selfish reasons, often at the expense of their shareholders. Consequently, such M&A activity can be classified as value-reducing acquisitions. Finally, the hubris hypothesis (Roll, 1986) argues that managers who are overconfident in their abilities to evaluate target firms attempt more acquisitions than otherwise to extract more economic value. Generally, the gains in such acquisitions are offset by the losses. As a result, they are neither value-increasing nor value-reducing acquisitions. Using this classification of acquisitions, sources of gains and losses are easier to identify and organize.

On the one hand, several scholars contend that, using this classification of motives for acquisitions, several of the key determinants of post-merger performance are well-known and can accurately be used to predict the future performance of a merger. For those mergers motivated by value-increasing aims, several scholars have identified numerous sources of value creation. For instance, Stigler (1968), Edwards (1955), and Lorie and Halpern (1970) all find that market power, the ability to manipulate the market price, is a significant value creation tool. Further, well documented by many, economies of scale (Scherer, 1980), the ability to produce more goods or services at a lower cost, (Wiggins, 1981) and of scope, the capacity to produce a larger variety of goods or services at a lower cost, (Baumol et al. (1983), Teece (1980), etc…), are also essential in deriving positive value from M&A activity. In other words, they provide a massive cost advantage to the company.

Finally, for those mergers motivated by managerialism, two possible sources of value destruction are known: risk reduction and empire building. Both tend to destroy value for, ultimately, the same reason. They both lead to sub-optimal investments. Managers, when motivated by empire building, are more concerned with acquiring greater control within the firm. Likewise, there are superior and smarter options, such as portfolio diversification, than conducting mergers for risk reduction reasons.

Eun et al. (1996) report that not only are cross-border mergers generally driven by synergy reasons, but also that foreign acquirers significantly benefit from the target's research and development capabilities. In addition, Penrose (1959) contends that cross-border acquisitions allow for a more efficient utilization of the excess resources of the combined firm for long-term profitability. Lastly,

Bauer et al. (2016) document two additional determinants, integration, and cultural differences, of post-merger performance that are crucial to a successful cross-border merger. They find that human integration tends to destroy value whereas task integration creates value. Unsurprisingly, cultural differences hamper performance while similarities are more beneficial to task integration.

Yet, on the other hand, many other scholars argue that due to the low success rate of mergers and acquisitions (e.g. Homburg & Bucerius (2006), Copeland et al (1990))) – for instance, Copeland et al, in their study of 116 mergers, found that only 23% were successful while 61% were outright failures – the key determinants of post-merger performance do not accurately explain future performance of M&A and are thus unknown. King et al. (2004) conducted a meta-analysis on the common indicators, consisting of whether the acquisition was made by a conglomerate firm, whether the target was a related firm, the method of deal financing, and the amount of prior M&A experience the bidder had, of post-acquisition performance and concluded that these four common key metrics do not impact the post-merger performance. As a result, they claim that there must be unidentified variables that may better explain and predict the post-merger performance. Likewise, according to several scholars, such as Hitt et al. (1998), Sirower (1997), and Davis and Stout (1992), the existing theories are not reliable in predicting post-merger performance. Hitt et al. (1998), concludes that to better understand the reasons responsible for the success rate of acquisitions, more work would be required.

Moreover, regarding cultural differences affecting the merger outcome, many researchers report inconclusive results between this relationship (e.g. Teerikangas and Very (2006)), and Jemison and Sitkin (1986)). They simply point out that due to their inconclusive reports and contradicting evidence, cultural differences as a predictor of post-merger performance are unreliable and not known for certain.

Therefore, the literature can be summarized into two different views. On one side, scholars claim that the common key metrics of post-merger performance are able to accurate. In contrast, other scholars assert that these existing predictors fail in explaining the post-merger performance. These competing views give rise to the question of which of these perspectives is correct, or better, can still unknown predictors be identified and measured in a researchable method. If so, future research can contribute to this area of understanding.

Problem Statement: there exists a large gap in the current literature regarding the knowledge of the sources of value in mergers and acquisitions. In fact, there are conflicting reports on these determinants. Some report that they can explain the success of the merger. Whereas, others, on the grounds that most mergers end up destroying shareholder wealth, contest that the existing metrics do not explain the post-merger performance.

Research Objective: As a result, the goal of this study is to help fill the gap in the exiting literature in a twofold procedure. Firstly, this study seeks to investigate the existing and commonly used key metrics of post-merger performance. Secondly, this research attempts to identify or eliminate some of the unknown metrics of post-merger performance.

For a more in-depth analysis of the literature, as well as a literature review on the key metrics studied in this research, refer to the appendix.

2.2 The Studied Traits

2.2.1 The Quantitative Study

In this study, the research will be twofold. First, those determinants that can be measured quantitatively using the market model to extract and analyze the necessary data will be studied. The rest that are harder to measure and lean more towards subjective values are studied in an extensive multiple case-study for both the top performing mergers and the worst performing.

As part of the quantitative study, this research studies the following variables:

1. Economies: The gains are expected to be generated from the decrease in costs in combining redundant operations, workforce and so on so forth.
2. Market Power: Market power is the ability to freely raise prices after acquiring a larger market share. A larger share in the market provides stronger control in the industry or market.
3. Operating performance: Stronger performance in operations can improve the productivity of its assets
4. Cost Cutting: The reduction of expenses of the combined entity makes the firm more cost efficient and profitable.
5. Relative Size: The larger the target is relative to the acquirer the greater and riskier are the gains
6. Pre-Acquisition Performance: A stronger acquiring firm can be expected to perform better post-merger than a poorly run acquirer.
7. Relatedness: The relatedness of a merger can help ensure the strategic fit between the companies.
8. Cross-Border: CBMA can take advantage of the increased exposure to local markets and internalization.
9. Method of Payment sends a signal of the bidder's confidence in the acquisition to the market.
10. Organizational Learning: Previous M&A experiences can help the acquirer enjoy a smoother merger, especially when conducted with sufficient time in between mergers.
11. Sufficient Time: Mergers done with enough time in between acquisitions can avoid losing control.
12. Tax Benefits: Firms can take advantage of tax benefits from mergers.
13. Proximity of Firms: The proximity of the two firms can help limit issues from cultural clashes.
14. Internalization: Internalization is the concept that firms can benefit from cross-border acquisitions by exploiting tangible and intangible firm-specific assets (Markides and Oyon (2003)).
15. High Premiums: Paying large premiums make it much harder to generate net positive gains from the merger.
16. Hostile Takeover: Hostile takeovers are costly, time-consuming, create discord between the two firms and pressure the target firm into using defensive measures.
17. Defensive Mechanisms used to fight off takeovers damages the target's appeal and value.

18. Free Cash Flow: Excessive amounts of FCF can lead to agency costs and wasteful spending.
19. Debt Level: High debt levels render the firm, and merger, riskier and likelier to default.
20. Hubris: Hubris managers tend to be blinded by overconfidence and commit poor decisions.

2.2.2 The Event Study

Next, the multiple event study focuses on qualitative variables and is inspired by Hitt et al., in which they studied the key attributes of 12 successful and unsuccessful firms following a merger. Interestingly, they find that no single trait can explain the post-merger success of any one merger. Hitt et al. identified eight positive traits that help explain successful mergers.

I. Complementary Assets, Resources or Strategies

As discussed above, the strategic focus of a merger tends to create positive value relative to a more diversifying focus. A strong strategic focus greatly facilitates the stream of synergies from the merger and creates a competitive advantage. Hit et al. find that all 12 acquisitions that were successful had assets or resources that complemented those of the acquirers. As a result, they conclude that resource complementarities are of greater importance of market relatedness. In fact, such mergers were able to better achieve economies of scale, of scope, and market power. Intriguingly, resources do not need to be similar to be considered complementary. Indeed, Harrison et al. (1991) find evidence that firms with different, but complementary, resources achieved stronger synergies than those firms with similar resources.

II. Friendly Acquisitions

Friendly acquisitions lead to smoother negotiations and to easier management integration of the combined entity. In addition, they may even lead to lower premiums. They also tend to lead to favorable post-merger outcomes. Indeed, Hitt et al. find that all the successful mergers involved friendly negotiations and can thus be considered a major determinant of post-merger success. The fact that none of the successful mergers were hostile takeovers strongly supports the argument that hostile acquisitions hamper the chances of post-merger success by causing higher premiums, thus, reducing future financial returns, and increasing the difficulty of cooperation of the target firm's managers during the integration process.

III. Low-to-Moderate Debt Position

Although the use of debt certainly has its own benefits, leveraging a merger at too high levels can significantly hurt the chances of success of the merger. Debt can alleviate the issues of excess free cash flow but, at the same time, lead to increases in financial risk. Hitt et al. (1990) report that the use of debt reduces earnings and hampers the innovation of a firm, effectively destroying firm value. In general, low-to-moderate levels of debt may be the most efficient strategy in conducting mergers. Indeed, D'Aveni (1994) shows that such levels extend the strategic flexibility for managers, allowing them to operate more effectively. Finally, Hitt et al. formulate that low-to-moderate debt levels significantly explains the post-merger performance of a firm. They find that 10 of the 12 successful mergers displayed such debt levels.

IV. Experience in Implementing Change

Recent experience in implementing change can be instrumental in facilitating the integration, and notably the different corporate cultures, of the combined entity. Such firms, according to Hitt et al., are more flexible and possess developed adaptation skills, allowing them to adapt quickly to the changes needed to efficiently integrate. Smoother transitions lead to greater extraction of the potential synergies. However, the experience is only valuable to firms that can learn. When a firm has strong organizational learning, it can apply its experience to conduct better target selection, negotiations, and integration. Hitt et al. find that 8 of the 12 successful mergers had extensive experience in implementing change.

V. Emphasis on Innovation

Although many scholars have argued that an active acquisition strategy inhibits the innovation of a firm, Hitt et al. find that 8 of the 12 successful mergers remained committed to their innovation and invested strongly in their R&D. They also find that the acquirers also put in place strategic policies to maintain an emphasis on innovation. The importance of maintaining an emphasis on innovation contributes mainly over the long-term of the merger. According to Hitt et al., doing so allows the combined entity to maintain market leadership and a competitive advantage over the long-term regardless of the industry the entity is operating in.

VI. Focus on Core Businesses

Often, firms lose focus on what made them successful through mergers and acquisitions. These firms stray away from their core strengths and start struggling following the merger. Therefore, firms maintaining focus on its core businesses are expected to perform significantly better following a merger. Hitt et al. claim that the continued focus on the core businesses, and even the use of acquired resources to leverage the core businesses, greatly benefits the combined entity by allowing it to maintain its strengths, create a long-term competitive advantage, and facilitate the achievement of synergies. In their sample of the 12 successful mergers, they find that at least seven maintained a focus on their core businesses.

VII. Careful Selection of Target

The careful selection of acquisition targets, or, in other words, the insurance of the appropriate amount of due diligence before conducting a merger, is one of the most crucial determinants of success of any merger. The selection process, although lengthy, should be skillfully conducted in a careful and deliberate manner. Each potential candidate should be thoroughly analyzed before the final selection is made. Having a careful selection process of targets can drastically increase the chances of post-merger success. It allows the bidder to avoid overpayments, reducing the probability of paying a high premium, and helps identify and acquire firms with the strongest complementarities. Hitt et al. report that five of the 12 successful mergers involved targets that were chosen carefully. More importantly though, they find that 11 of the 12 unsuccessful mergers failed to conduct enough target evaluation and planning.

VIII. Financial Slack

The availability of excess free cash flow has its benefits and drawbacks. Scholars have found ample evidence suggesting that excessive free cash flow can cause serious harm to the firm value and post-merger performance of the combined entity. Conversely, it also has its benefits. According to Hitt et al., financial slack can lead to better access to financing, be it debt or equity, and at a lower

cost. In their event study, they find that five of the 12 successful mergers had significant amount of financial slack at hand. They were able to put it to good use and thus avoided the typical pitfalls of excessive free cash flow that many other firms face and struggle with.

As for negative traits that destroy value, Hitt et al identified six commonly observed in unsuccessful mergers. They are discussed below:

I. Large or Extraordinary Debt

Continuing the discussion on debt levels, extraordinary high levels of debt can have a negative impact on the firm value following the merger. According to Hitt et al., who find that 11 of the 12 unsuccessful mergers compiled too much debt, such high levels lead to higher financing costs, higher risk, and increased chances in making tradeoffs with long-term investments to pay back the liabilities. They also report that four of the mergers suffered substantial net losses after their acquisitions due to the high accumulation of debt.

II. Inadequate Target Evaluation

As mentioned above, poor target evaluation can be detrimental in the chances of post-merger success. Hitt et al. claim that not paying enough attention to due diligence can cause the firm to pay higher premiums, take on higher risks, and potentially add a business that does not fit its overall business strategy. Among the 12 unsuccessful mergers, they find that 11 of them failed to conduct proper target evaluation. They attribute this lack of evaluation to managerial hubris and their overconfidence, who believe that they can effectively manage the merger when in reality they could not (Roll (1986)).

III. Ethical Concerns

Ethical concerns can be a major issue for firms conducting mergers, either directly due to the merger or indirectly involving any one of the firms participating in the merger. Ethical concerns hover around the acquisition like a black cloud. Not only do they negatively affect the outcome of the merger, but so do they damage the reputation of the firms involved in the merger. As a result, ethical concerns can strongly reduce the chances of a successful merger and affect the post-merger performance. In fact, Hitt et al. find that 10 of the 12 unsuccessful mergers suffered from ethical concerns. Ethical concerns indirectly destroy firm value by diverting funds and the focus of the managers to legal battles instead of productive uses, such as R&D, and important activities, namely the integration process.

IV. Major Changes in the Top Management Team

When major changes across the top management team are initiated, the firm loses its identity and strategic leadership. According to Hitt et al., these changes usually occur because of poor social performance. Of the 12 unsuccessful acquisitions that experienced major changes in the top management team, nine were associated with ethical concerns. They report that many top executives, including even the CEOs, were let go in the years following the merger. As a result, the integration process suffers due to the disruption in the leadership as well as its oversight. In addition, Hitt et al. claim that the sudden change in the management's structure essentially confuses the subordinates regarding the acceptable behavior of the firm (Pastin 1986)). This causes

the firm to be more prone to additional ethical problems and suffer chaotic conditions within the existing leadership.

V. Lack of Control due to Multiple Acquisitions

A firm cannot focus on multiple acquisitions within a short period of time without losing control. Conducting multiple acquisitions at the same time makes it more difficult to focus appropriately on the evaluation of any one target firm as well as on the necessary negotiations. In addition, since the management team is distracted by the other potential acquisitions, the integration process may also struggle as a result. Worse, the stream of realized synergies may then be reduced as well. Hitt et al. document that nine of the 12 unsuccessful were involved in multiple acquisitions within a short period of time.

VI. Diversification

The concept of diversification need not simply be of a conglomerate to be considered as such. Most forms of diversification in a merger are, in fact, unrelated acquisitions. However, Hitt et al. also consider those acquisitions that had little relatedness between the core businesses of the target firm and the bidder firm as a form of diversification. In addition, even those related mergers that were part of an overall diversification strategy were considered as an attempt at diversifying. In all, Hit et al. found that six of the 12 unsuccessful acquisitions involved some form of diversification.

Other determinants studied in this research include retention of key employees, early positioning, governmental participation, the cultural factor, empire building, presence of rumors, high-tech industry, and the value of the transaction.

2.2.3 New Potential Determinants

Finally, I also seek to identify or at least eliminate unexplored and unknown potential determinants of M&A performance. For a more in-depth analysis of their expected impact, refer to the appendix. I list only the main ones below.

I. The Number of Advisors: Advisors provide advice on the firm and the complexity of the deal and may thus help select a strong target.

II. Competing Bids: The increased competition may improve the quality of target selection.

III. Termination Fee: The termination fee locks up both parties into the deal and may prevent either party of pulling out even if the fit is determined to be poor.

IV. Target Bankruptcy: to avoid filing for bankruptcy, a target may sell off assets, divisions, or even the entire company at large discounts.

V. The Increase in the Offering Price: The increase in the offering price may signal increased confidence from the acquirer's side.

The entire list of determinants is summarized in table 2 under four panels for each type of research section.

III. Data and Sample

3.1 Sample Construction & Classification

3.1.1 Sample Construction

To construct the data sample of this research, I use a similar technique employed by several scholars in the prior literature, (e.g. Gao et al. (2015), and Shahrur (2005)). I use the Securities Data Corporation (SDC) database to extract all the proposed mergers that occurred within a certain predefined period. In this case, I use an 18-year period, ranging from the start of the century, January 01, 2000, to the end of 2018, December the 31st. I make a series of restrictions to produce more meaningful results.

1. First, following the definition of mergers of majority interests by SDC, I retain only those mergers where the bidder did not own a majority interest in the target, and, following the merger, obtained a majority interest.
2. Second, the announcement date of the mergers must be determinable by the SDC database.
3. Third, both the target and bidder firm must be publicly listed firms such that they have readily available information and data from the Center for Research in Security Prices (CRSP) that can be used to calculate the cumulative abnormal returns.
4. Fourth, I only consider those mergers that are considered completed. Therefore, all those that are still classified as pending or intended, considered withdrawn or labeled as rumor are removed.
5. Fifth, the firms must have a Standard Industrial Classification (SIC) code that can be used to determine whether the merger can be characterized as a conglomerate, vertical or horizontal merger.
6. Sixth, following Gao et al.'s reasoning, I exclude the deals in financial and regulated industries, which are easily identified with SIC codes ranging anywhere between the following ranges: 6000–6999, 4000–4099, 4500–4599, and 4800–4999.
7. Seventh, the merger deal value must exceed $10 million.
8. Finally, since WRDS does not provide data on over-the-counter securities, these are excluded from the dataset.
9. As an aside, for the first part of the research, that is the quantitative section, the bidder and the target must have data available from Compustat.

In table 3, I show an example of my sample selection, in this case, for American domestic mergers, using the above criteria to construct my data.

Once the restrictions are imposed, the CRSP 'Code lookup' function is used to locate the PERMNO code of each acquirer participating in the merger data sample. Together with the announcement date, the EVENTUS function can be used to directly compute the cumulative abnormal returns in the short-term as well as in the long-term of each market event for the acquiring firm.

3.1.2 Merger Classification

The SIC codes can be used to determine the classification of a merger. Established by the United States in 1937, the SIC System has long been used by government agencies around the world to classify industries. Although it was eventually replaced in the United States by the North American

Industry Classification System (NAICS code), the SIC system continues to enjoy important usage including in the academic literature of mergers and acquisitions. A SIC code contains four digits each representing altogether the major group, industry group, and the industry sector of the company. The first two digits represent the major group of the business. The first three digits define the industry group. Finally, the last digit indicates the industry sector. For example, as Kappel (2018) demonstrates, a company with SIC code of 5713 indicates that its major group 57 identifies its general type of business as operating in the Home Furniture, Furnishings, And Equipment Stores major group. Its industry group of 571 identifies that the company's business is specific to home furniture and furnishings. Finally, using the full SIC code, the industry sector of 5713 is a company in a retail store that sells floor coverings.

A company may have multiple SIC codes if it operates in more than one industry. However, a company may only have one primary SIC code. The primary SIC code is based on the industry that generates the highest revenue for the company. See the Table 4 for the classification of the ranges of SIC codes. Further, to ensure I correctly classify each merger in its appropriate category, I employ a two-step procedure that is consistent with prior literature such as that by Ellis (2014).

In the first step of the classification procedure, I simply assume that, for all mergers, their correct classification can be determined by cross-checking the SIC codes of both the acquiring firm and the target firm. Following Eckbo's (1992) method, a horizontal merger is identified when the target and bidder firm share the same four-digit SIC code. Next, when the target and bidder are not in the same industry but share the same first digit in their SIC codes, the merger is vertical Otherwise, when the SIC codes are completely different the merger is considered a conglomerate. I demonstrate the procedure in several examples in table 5.

In the second step, for all non-horizontal mergers, I manually read over all the available documents pertaining to the merger in question and assess whether they have been correctly classified in the first step of the procedure. In cases where the information is not convincing enough to adjust the classification, I make no change.

3.2 Data & Sub Samples

3.2.1 Data Description

After merging both the SDC and WRDS data into one, I generate an overall sample size of 2,473 observations distributed over 6 subsamples over an 18-year period, since the start of the decade, from January 01, 2000, to the end of the most recent year at the time of writing, December 31, 2018. The largest subsample is the American domestic M&A subset with 1664 observations. The six subsets are laid out in Figure 1 of appendix A and are described below:

1. The American Domestic M&A, where both the acquirer and the target are American firms, subset contains 1620 observations.
2. The Canadian Domestic M&A, where both the acquirer and the target are Canadian firms, subset contains 227 observations.
3. The American Acquirer Cross-Border M&A, where only the acquirer is an American firm and excluding Canadian targets, subset contains 214 observations.
4. The American Target Cross-Border M&A, where only the target is an American firm and excluding Canadian acquirers, subset contains 200 observations.

5. The American Acquirer, Canadian Target Cross-Border M&A, where the acquirer is an American firm and the target a Canadian firm, subset contains 149 observations.
6. The Canadian Acquirer, American Target Cross-Border M&A, where the acquirer is a Canadian firm and the target an American firm, subset contains 63 observations.

In total, I collected 1,847 domestic M&A observations and 626 cross-border M&A observations. The data is then sorted into the different classifications of a merger, horizontal, vertical, or conglomerate, thus, creating more subsamples from the same data. In short though, I identified 482 conglomerates, 1,115 horizontal mergers, and 876 vertical mergers.

3.2.2 Sample Distribution

Most of my sample involved an American firm either as either the acquirer or the target totaling 92.9% of the sample. Canadian firms were involved in 15.8% of the observations. As for the years, most of data reverts around the first eight years before the financial crisis of 2008 with 56%, rounded up, falling within those years. From 2008 and onwards, the number of mergers declined significantly per year. Only 44% of the data was extracted in the following 11 years. See table 6 for the sample distribution in numbers.

3.3 Limitations

I ran into several limitations when gathering and cleaning the data. They are summarized in bullet point form below:

- Several of the observations had announcement dates on days the market was closed, for example, during the weekend.
- In addition, although the permno as well as the cusip were identifiable, certain events did not contain enough data for the estimation periods. Still, the largest issue was the fact that many events had cusip or permno codes with dates ranging that did not coincide with the announcement date. Consequently, of the total sample size of 2,473, 295 had to be written off. They were however kept in the original data sample as they do provide useful information when conducting the event study.
- Compounding effects, which were hard to control for, may have distorted some of the results of my findings.

IV. Methodology

4.1 Methodology Construction

4.1.1 The Market Model Event Study

There are three accepted methodologies that can study M&A as events. My research employs the event study technique, which are the most popular method used by scholars and most accurate for measuring the value post-merger. In addition, this technique offers an insightful methodology in understanding the root-cause of the success or failure of a merger. Under the assumption of market efficiency, in which stock prices fully reflect the information available to the public, Fama and Malkiel (1970) contend that the information of the announcement date of a merger are fully and immediately reflected in the price of the underlying security. Hence, an accurate understanding of the worth of a merger can be obtained by studying the movement of stock prices around the announcement date.

4.1.2 Event window and Estimation Period

Since my study contains two parts that are different in time horizon, I observe several widows of different length. The announcement date, also known as the event date, of the merger is defined as t = 0 and is the central point of the event study. The event is the public announcement of a merger. To capture the gradual release and spread of the news of the merger to the public market, I utilize an appropriate event window, defined as [t1, t2], a pre-defined period that hovers around the announcement date. In my case, I employ a symmetric event window spanning 61 days, 30 days both before (t1) and after (t2) the announcement date, included. In other words, the event window, [t1, t2], is equal to [-30, +30].

To accurately estimate the normal returns, I use a maximum estimation period length of 255 days and a minimum length of 3 days. Generally, all the events observe 255 days for their estimation period. The estimation period is regressed over 46 days prior the event date and does not coincide with any other periods or windows. Therefore, it is defined as [T1, T2] equating to [-301, -46]. Moreover, I use a combination of symmetric and asymmetric alternative windows within the event period to measure the short-term impact of a merger on the post-merger performance of the acquiring firm. In terms of symmetric windows, I employ the popular window of [-1, +1] to study the short-term impact of the event. This window is particularly important as it avoids potential pitfalls of confounding effects from any potential spillovers that have no relevance or context to the event being studied. As a result, it is the main window that will be studied for measuring the short-term impact of a merger on post-merger performance.

Finally, since I am also interested in the long-term performance of a firm following the merger for my multiple case event study, I apply the post-event period and investigate longer-term event windows. The window studies is the six-month long-term [+31, +211].

4.1.3 Constructing Abnormal Returns

To calculate the abnormal returns of the acquiring company due to a merger, I follow the market model. The abnormal returns reflect a stock's over- or under-performance relative to its expected return. I observe the acquirer's abnormal returns instead of those of the combined entity since I want to focus on primarily the acquirer's point of view.

I define the abnormal returns using the following equation:

Abnormal Return = Actual Return – Expected Return

Or, in mathematical expressions, as: $AR_{it} = R_{it} – E(R_{it})$, where: AR_{it} represents the abnormal return for firm i on day t; R_{it} is the actual return for firm i on day t; and $E(R_{it})$ is the expected return for firm i on day t.

The actual returns are simply those measured during the event period. They can be calculated using the change in share price formula as shown below: $R_{it} = \frac{P_t - P_{t-1}}{P_{t-1}}$, where P_t is the price of the security at time t and P_{t-1} is the price at t-1, or in other words, one day before t. I omit the dividends from the share prices to extract a better analysis.

On the other hand, the expected returns are benchmarked during the estimation period, and computed using the popular model, the Capital Asset Pricing Model (CAPM). Essentially, using the risk-free rate together with the market return, a benchmark index, and the beta, which measures the volatility of the stock relative to the market, the CAPM model calculates the expected return as shown below:

Expected Return = Risk-free Rate + beta*Market Risk Premium

Or, in mathematic expressions, as: $E(R_{it}) = r_f + \beta_i(R_{mt} – r_f)$, where: r_f represents the risk-free rate; β_i is the beta of firm i; and R_{mt} is the market return at day t. I use the CRSP value weighted market index as the benchmark for the market returns. This index is preferable over the other indexes as CRSP calculates it consisting of all stocks traded on the New York Stock Exchange (NYSE), American Stock Exchange (AMEX), and NASDAQ markets in a value-weighted manner. The security issues are weighted by their market capitalization at the end of the previous period. According to several scholars, such as Canina, Michaely, Thaler, and Womack, (1998), value-weighted indexes have less bias and are likelier to represent a portfolio held by investors than equal-weighted indexes.

The cumulative abnormal return (CAR) measures the total impact of an event over a certain period and is computed simply as the summation of the abnormal returns. In a mathematical expression, this can be expressed as: $CAR(t_1, t_2) = \sum_{t=t_1}^{t_2} AR_{it}$.

Finally, the market adjusted return model follows the same exact procedure except for the calculation of the abnormal return (AR). In this model, it is calculated as: $AR_{it} = R_{it} – R_{mt}$, where AR_{it} is the abnormal return for firm i on day t; R_{it} is the actual return for firm i on day t; and R_{mt} is the market return on day t. This model is of special interest as it effectively avoids some of the errors potentially committed by the market model. Whereas the market model estimates the beta over the estimation period, potentially causing the returns to be linearly related to the market returns, the market adjusted return model avoids this since it does not require an estimation period.

4.1.4 Testing for Significance

As with any studies, testing for significance is a crucial part of the analysis. The null hypothesis (H_0) states that mean abnormal return within a predefined event window is not different to zero. On the other hand, the alternative hypothesis (H_a) states that the merger does have a significant

effect on the returns of the firm's shareholders. In this research, the CAR figures will be tested using the Rank Test Z.

Nonparametric tests, such as the rank test, avoid making such faulty assumptions and is, thus, more effective, and powerful than their parametric counterparts in detecting abnormal stock price changes. Luoma (2011) finds evidence that the rank test, known as the GRANK test statistic, is one of the most powerful tests for shorter and longer CAR-windows. The test is robust against cross-correlation caused by event date clustering, which has led other testing procedures to over-reject the null hypothesis, and to event-induced volatility. Fundamentally, the rank test ranks the abnormal return of each firm in the data sample over the combined period of both the estimation and event windows. It then compares the AR with the expected average rank under the null hypothesis of no abnormal return. In short, the Rank Z Test can be defined as:

$$z_{grank} = \frac{\bar{K}_0}{S_{\bar{K}_0}} = \sqrt{\frac{12N(L_1+2)}{L_1}}\,\bar{K}_0,$$

where the standard deviation of $\bar{K}_0$ can be expressed as: $S^2_{\bar{K}_0} = \frac{L_1}{12N(L_1+2)}$.

Finally, the key determinants of post-merger performance are investigated using a two-tailed t-test along with their respective p-values to test for significance. Under the null hypothesis, the key determinant in question would have no impact on the abnormal returns of the underlying security. Under the alternative hypothesis, the determinant would have a significant effect on the CAR.

The t-test effectively compares the average values of two data sets and determines whether they are statistically different or if they are essentially the same. Since the subsamples do not contain an equal number of data observations, I use the unequal variance t-test, also called the Welch's test, which can be formulated as:

$$t - value = \frac{Mean_1 - Mean_2}{\sqrt{\frac{Var_1^2}{n_1} + \frac{Var_2^2}{n_2}}},$$

where $mean_1$ and $mean_2$ are the average values of each sample set; n_1 and n_2 are the number of observations in each sample set; and Var_1 and Var_2 are the variances of each sample set. Using these same variables, the degrees of freedom can be expressed as:

$$Degrees\ of\ Freedom = \frac{\left(\frac{Var_1^2}{n_1} + \frac{Var_2^2}{n_2}\right)^2}{\left(\frac{\left(\frac{Var_1^2}{n_1}\right)^2}{n_1 - 1} + \frac{\left(\frac{Var_2^2}{n_2}\right)^2}{n_2 - 1}\right)}.$$

The p-value is then computed to assess the probability associated with the t statistic and compared to the significance level. The null hypothesis can be assessed depending on the value relative to the critical value. The null is rejected when the p-value is less than the significance level.

4.1.5 The Estimate Method

To draw inferences between the CAR and the key determinants, I employ the ordinary least squares regression. Essentially, "it estimates the relationship by minimizing the sum of the squares in the

difference between the observed and predicted values of the dependent variables configured as a straight line." (encyclopedia.com)

4.2 Part 1 – The Quantitative Study Methodology

4.2.1 Measuring the Key Determinants

In addition to describing the methodology, I hypothesize, based on the prior literature, the determinants that are expected to generate value and those that are expected to destroy value.

4,2,1.1 Value-Enhancing Determinants

1. Economies of Scope and Scale

Economies of scale and scope generated from a merger are difficult to measure. However, mergers are often conducted to exploit the potential synergies which are cited and estimated based on these economies. Mergers are expected to decrease expenses associated with their product or service offering as well as increase the firm's revenues. Therefore, we can substitute these economies with the synergies of the merger.

However, due to the lack of necessary input for calculations, I instead use the expected synergies cited by the acquirer from the merger, which is drawn directly from the SDC database. In other words, the synergy variable is equal to the expected synergies. The expected synergies are given in both pre-tax and after-tax values.

$Syn = Expected\ Synergies\ Cited\ by\ Acquirer_{PT,AT}$, where PT and AT denote pre-tax and after-tax, respectively.

Hypothesis 1: Considering that synergies are well known to be one of the main sources of gain, I expect the potential economies, if any, to serve as a significant and positive determinant of post-merger performance.

2. Market Power

Mainly observed in horizontal mergers, market power increases the power of the firm on the price levels of the market it operates in. As a result, the merging firm gains power over its rivals, which should lead to increases in performance. There are several ways of measuring this determinant. One can inspect the cumulative abnormal return of horizontal mergers in relation to those of vertical mergers and observe for any significant differences between the two. If horizontal mergers do enjoy significant benefits from any potential increases in market power, then they should be characterized with significantly higher CAR figures than their vertical counterparts. If no differences are found, then they are assumed to not enjoy any advantages from increases in market power.

The other method would be to use Tobin's Q as a measure of market power. Under this approach, the market power (MPower) can be defined as: $Tobin's\ Q = \frac{Total\ Market\ Value\ of\ Firm}{Total\ Asset\ Value\ of\ Firm}$.

However, since the replacement cost of total assets is difficult to estimate, the equation can be expressed as: $Tobin's\ Q = \frac{Equity\ Market\ Value + Liabilities\ Market\ Value}{Equity\ Book\ Value + Liabilities\ Book\ value}$. Finally, under the

assumption that the market value of liabilities is equivalent to the book value, the expression can be simplified to: $Tobin's\ Q = \frac{Equity\ Market\ Value}{Equity\ Book\ Value}$.

Hypothesis 2: The increases in market power following the acquisition should improve the gains extracted from the merger primarily in the long-term.

3. Operating Performance (Resource Allocation)

A merger will struggle to extract gains if it does not have strong operations in place. Therefore, it is expected that high operating performances, including mainly strong resource allocation, should positively impact the abnormal returns. The operating performance (OP) can be measured by studying a few ratios prior to the merger. I investigated the following five ratios: The Inventory Turnover, the Fixed Asset Turnover, the Accounts Receivable Turnover, the Operating Cycle, and the Cash Conversion Cycle. These ratios measure the operating efficiency, performance, activity, and working capital management of the firm.

The Inventory Turnover (IT) ratio simply measures the productivity of a firm's inventory, or in other words, how fast the firm sells its inventories. It can be expressed as:

$Inventory\ Turnover = \frac{Net\ Sales\ LTM}{Inventory\ LTM}$, where LTM denotes 'last twelve months.' High ratios imply strong sales whereas, inversely, low ratios imply low sales as well as possible overstocking.

The Fixed Asset Turnover (FA) ratio, a standard measure of operating performance used by analysts, measures a firm's strength to generate sales from its fixed-assets investments and can be expressed as:

$$Fixed\ Asset\ Turnover = \frac{Net\ Sales\ LTM}{Net\ Fixed\ Assets}.$$

The Accounts Receivable (AR) Turnover ratio calculates the number of days the firm requires to collect its receivables. The ratio can be expressed as:

$$Accounts\ Receivable\ Turnover = \frac{Net\ Sales\ LTM}{Accounts\ Receivable\ LTM}.$$

The Operating Cycle (OC) ratio measures the number of days the firm requires to convert inventory into cash. The ratio can be expressed as:

$$Operating\ Cycle\ Ratio = \left[\frac{Inventory\ LTM}{Cost\ of\ Goods\ Sold\ LTM}\ x\ 365\right] + \left[\frac{Receivables\ LTM}{Sales\ LTM}\ x\ 365\right].$$

Finally, the Cash Conversion Cycle (CCC) ratio measures the number of days the firm requires to convert resources into cash. Essentially, it measures the time between cash inflows and cash outflows from its main line of business. The ratio can be expressed as:

$$Cash\ Conversion\ Cycle\ Ratio = \left[\frac{Inventory\ LTM}{Cost\ of\ Goods\ Sold\ LTM}\ x\ 365\right] + \left[\frac{Receivables\ LTM}{Sales\ LTM}\ x\ 365\right] - \left[\frac{Payables\ LTM}{Cost\ of\ Goods\ Sold\ LTM}\ x\ 365\right].$$

Overall, high levels of operating performance should positively improve the performance of the firm following the merger. We, thus, come to hypothesis #3.

Hypothesis 3: Firms with high levels of operating performance should enjoy significantly higher cumulative abnormal returns than other firms.

4. Cost Cutting

The reduction in expenses or cost of goods sold (COGS) could help improve the long-term performance of the combined entity. Firms with lower expenses will theoretically enjoy an easier time in generating profits. Therefore, I expect firms with lower COGS to be positively correlated with the gains of the merger. I measure the variable by studying the COGS of the combined entity immediately after the merger.

$COGS = COGS_{Acquirer} + COGS_{Target}$, where the COGS of each party is measured over the past 12 months prior to the merger.

Hypothesis 4: Mergers with high COGS should experience lower returns than those with lower expenses.

5. Target Pre-acquisition Performance

In theory, the market will react more favorably when a target with strong past performance is selected. I utilized two measures of pre-acquisition performance. First, I measured the target's stock performance one month prior to the merger announcement and investigated for any potential correlation between any performance improvements and abnormal returns. Essentially, past stock performance improvements can be measured using the following formula: $\text{Stock Performance} = \frac{Stock\ Price_{-2} - \text{Stock Price}_{-31}}{\text{Stock Price}_{-31}}$, where Stock $Price_{-t}$ is the stock price t days before the event date (t=0).

However, I measured the target's pre-acquisition performance using the return on assets (ROA) financial ratio, which measures the profitability level of a firm's assets in generating revenue and the return of equity (ROE). I believe that is a more suitable measure of past performance as performance in stock price is subject to high volatility, some of which is due not to the company's performance itself but rather more general market pressures. The variables can be expressed as:

$$ROA = \frac{Net\ Income}{Total\ Assets}, \&$$

$$ROE = \frac{Net\ Income}{Shareholders'Equity}.$$

Hypothesis 5: Mergers involving targets with strong pre-acquisition performance are expected to significantly outperform those that do not involve such targets.

6. Corporate Age (Organizational Learning)

Corporate age is measured with the use of a binary variable, also known as a dummy variable. It takes on the value of 1 if the merger under question was conducted with prior experience or takes on the value of 0 if the merger was completed with no prior merger experience. The variable can be expressed as:

Learn = 1, if merger was conducted with prior experience.

Learn = 0, if merger was conducted with zero prior experience.

Hypothesis 6: Experienced acquirers are expected to outperform those with no performance.

7. Tax Benefits

Mergers can be conducted for their tax benefits. Companies may pursue M&A to avoid paying high taxes on gains generated throughout the year by expensing acquisition costs against profits. Therefore, I formulate the following hypothesis:

Hypothesis 7: Mergers should enjoy positive gains from any tax benefit extracted from the merger.

Tax benefits can be measured by investigating the acquirer's deferred taxes, leverage, including its capital structure, and depreciation. I thus study the firms' deferred taxes in the twelve months leading up to the merger. In addition, I also calculate the net operating loss (NOL) of the target firm and investigate whether its presence is positively correlated with the post-merger performance. To extract the net operating loss, I simply study the target's net income in the last twelve months prior to the merger. If a firm suffered negative net income, only then can NOL be carried into the next fiscal year. In cases where the net income is negative, the NOL is equal to that loss. Conversely, if the net income is positive, then the NOL is equal to zero as a profit was generated and thus no carryforwards are possible.

NOL = |(Net Income)|, if a loss was recorded,

NOL = 0, if no losses were registered.

8. Proximity of Firms

The proximity of firms should lessen the issue of cultural differences between the target firm and the acquirer. As a result, over the long-term, the negative impact from potential cultural differences should be lessened. Therefore, I expect the proximity of the merging firms to have a positive impact on the post-merger performance.

Hypothesis 8: Mergers between firms of close proximity should experience larger abnormal returns over the long-term than otherwise.

To measure this determinant, I use two dummy variables that will represent the proximity of the firms. These two variables are the 'same state' dummy variable and the 'bordering state' dummy variable. I study these two variables on the American Domestic M&A subsample. I define them below:

- Same state variable:

  Same state = 1, if target was in the same state as the acquirer.

  Same state = 0, if merger was not in the same state as the acquirer.

- Bordering state variable:

  Bordering state = 1, if the target's state borders the acquirer's state.

  Bordering state = 0, if the target's state does not border the acquirer's state.

Finally, I also calculated the distance between each firm based on the city the firms are located. This distance is then regressed against the CAR and tested for significance. This method is done for consistency.

9. Human Capital

The productivity of a firm's employees can be vital for the success of a merger. Employees are responsible for day-to-day operations. In addition, employees play a large role in the integration process of the merger. To measure this variable, I employed the sales revenue per employee ratio. It is calculated as shown below:

$$Sales\ Revenue\ per\ Employee = \frac{Net\ Sales\ LTM}{Number\ of\ Employees}.$$

In theory, firms with high employee productivity should enjoy larger gains than those with low to moderate levels of employee productivity.

Hypothesis 9: Acquirers with productive employees, or high levels of human capital, should enjoy larger returns than those with lower levels of human capital.

10. Internalization (CBMA)

Internalization, an important source of value creation for CBMA, can be assessed in the long-term.

Hypothesis 10: Cross-border acquisitions that benefit from the presence of internalization should enjoy larger abnormal returns over the long-term than those that do not.

Consistent with Francoeur, to measure internalization, I study the abnormal returns over a five-year period since the announcement date in a separate study.

Utilizing Francoeur's methodology, I define these two variables. The R&D Expense level can be measured by dividing the Research & Development in the last 12 months by the median value. Mathematically, this can be expressed as following:

$$R\&D\ Level = \frac{R\&D\ Expense\ LTM}{R\&D\ Median\ Value}.$$

The second variable, the level of know-how, includes the intangible assets, including patents and trademarks as well as the goodwill, including the expertise and reputation gained, from previous acquisitions, of the acquirer. The level of know-how can be measured by dividing the intangible assets by the median value.

$$Know\ How\ Level = \frac{Intangible\ Assets\ LTM}{Median\ Value}.$$

11. Investment Policy

Like internalization, firms with high investment policies may enjoy larger success in the long-term when conducting mergers. I employ two measures of investment policy. I define them below:

$Capital\ Expenditure\ rate = \frac{Capex}{MV\ of\ Assets}$, where capex denotes capital expenditure and are simply the funds spent by a firm to buy, maintain, or upgrade its fixed assets.

$R\&D\ rate = \frac{R\&D\ Expenditure}{MV\ of\ Assets}$, where for both rates, MV denotes market value.

Hypothesis 11: Acquirers with strong investment policies are expected to enjoy larger abnormal gains than those that do not invest as much.

12. Merger Negotiation

The negotiation is an important process of any merger. Negotiations can often be dissected by observing the amount of premium offered to close out the deal.

Hypothesis 12: Acquirers executing strong merger negotiations should enjoy significantly larger abnormal gains than those that failed to do so, primarily, in the short-term.

To measure the strength of the negotiations by the acquirer, I construct my own methodologies. I first construct a simple binary method in which I use a dummy variable to denote mergers executed with low premiums as good negotiations and those with high premiums as bad. To evaluate the premiums, I calculate the median and average values of the amount of premium offered. Those above are considered high premiums whereas those below are low premiums. Simply put, I define the dummy variable as:

Good Negotiation = 1, if premium is lower than the average.

Good Negotiation = 0, if premium is higher than the average.

However, given its simplicity, I relied on a more sophisticated but still similar method. I employ a multiple binary method and classify the mergers into different classifications based on the premium offered. The dummy variable takes on the value between -3 and +2. These are classified as shown in the figure below:

Figure 2: Classification of Negotiation

+2: Smaller than 20% (<20%)
+1: Between 20% and 40% (20%-40%)
0: Between 41% and 60% (40%-60%)
-1: Between 61% and 80% (60%-80%)
-2: Between 81% and 100% (80%-100%)
-3: Larger than 101% (>101%)

13. Relatedness (Related vs. Unrelated Acquisitions)

Related acquisitions are expected to outperform unrelated acquisitions as the presence of a strategic fit should lead to more favorable returns. Therefore, I reach the following hypothesis:

Hypothesis 13: Related mergers should be associated with stronger returns than unrelated mergers.

I used a dummy variable to represent the relatedness and tested it against the cumulative abnormal returns to investigate for any significance. The dummy variable can be expressed as:

Related = 1, if merger is considered a vertical or horizontal merger,

Related = 0, if merger is considered a conglomerate merger.

<u>14. Consideration Offered</u>

The consideration offered may have a significant impact on the market reaction of the merger. Essentially, in cash offers, the acquirer is ready to accept all of the potential risks and rewards associated with the merger. Conversely, in stock offers, the acquirer seeks to share the risks with the target firm. As a result, cash offers are seen as a signal of the acquirer's confidence in its ability to extract value from the merger whereas stock payments indicate the inverse, a lack of confidence.

Therefore, I devise the following hypothesis:

Hypothesis 14: Acquisitions financed by cash payments are expected to significantly outperform those financed by stock exchanges.

I employ two techniques to measure the impact of cash offers on the post-merger performance. Firstly, I investigate acquisitions financed by all-cash offers and all-stock offers and study for statistical differences between the two groups. I use dummy variables to do so and express them as shown:

All-Cash = 1, if acquisition is financed by only cash; if not, All-Cash = 0,

All-Stock = 1, if merger is financed by stock only; if not, All-Stock = 0,

Mixed = 1, if merger is financed by both stock and cash; if not, Mixed = 0.

In addition, I also study the percentage of cash of each acquisition. The percentage of cash is simply equal to the amount of cash offered relative to the total consideration offered.

Percentage Cash = $\frac{Cash\ Amount\ in\ Final\ Offer}{Total\ Amount\ of\ Final\ Offer}$.

<u>15. Sufficient Time</u>

The amount of time in between mergers may be a crucial determinant of post-merger performance. Simply put, mergers with sufficient time may enjoy the proper control and commitment to its integration process whereas rushed mergers may suffer from the lack of a structured plan. As a result, I formulate my next hypothesis:

Hypothesis 15: Acquisitions that were executed with enough time relative to its most recent and following acquisition should significantly outperform those acquisitions that were instead rushed.

To measure this determinant, I first define a rushed merger as any acquisition that was announced within just one year following its most recent past attempt and less than year before the next announced merger. On the other hand, a merger with sufficient time is considered to have had at least the chance to benefit from the reserved period when the acquisition was done more than one year since the prior experience and one year before the next merger. I then employ a dummy variable to represent sufficient time and express it as shown below:

Time = 1, if acquisition is not considered a rush merger.

Time = 0, if acquisition is considered a rush merger.

I also study the acquirer's capacity to learn by studying the similarity of the target firm to the acquirer's previous targets in its past mergers. In theory, if pertinent, an acquirer can learn more from its experiences and apply that knowledge to its current merger if the events are similar in nature. Therefore, to capture this relationship, I define the dummy variable 'Similar" as shown below:

Similar = 1, if current target is similar to its previous targets,

Similar = 0, if current target is not similar to its previous targets.

Targets can be said to be similar if they operated in similar industries, businesses, or markets. If the acquirer had no experience, the variable is left blank.

16. Early Wave Positioning

The idea that acquirers can time the M&A market and position itself ahead of waves is not an uncommon proposition in the literature. Theoretically, if an acquirer can time the market and get behind the curve of the numerous M&A waves, it can potentially avoid paying the larger premiums that usually take place at the apex of the wave. Thus, in the case that timing mergers is possible, I would formulate larger gains among those that execute mergers earlier in the wave than those that do later.

Hypothesis 16: Acquisitions that were executed around the start of an M&A wave should enjoy larger gains than those that completed their deals later during the wave.

To measure this determinant, I use a dummy variable, wave. During my sample, there were two recognized M&A waves that took place 3 years apart from each other. The first wave in my sample is the sixth wave that lasted between 2003 and 2008, and the second wave is the seventh wave that began in 2011 and is still lasting today. Therefore, with these two waves, I can define the early positioning as those mergers conducted in the first year of either wave. In other words, any merger that was conducted after 2003 during the first wave, or after 2011 during the second wave are not considered as mergers having taken advantage of the early positioning of M&A activity. I define my dummy variable as shown:

Wave = 1, if merger was conducted in either 2003 or 2011,

Wave = 0, if merger was conducted in any other year.

4,2,1.2 Value-Destroying Determinants

1. High Premiums

High premiums can make it more difficult to extract any net gains from the merger. Therefore, consistent with the theory, acquirers paying out large premiums should be correlated with larger negative abnormal returns. I thus come to the following hypothesis:

Hypothesis 17: Acquirers paying out high premiums are expected to suffer larger abnormal returns than those that avoid doing so.

To measure the premiums, I extract the information directly from the SDC database. I chose 4 weeks prior to the announcement over 1 week prior or 1 day prior as doing so should give a more accurate value of the true premium of the merger. 1 week prior and certainly, 1 day prior, will be heavily distorted by the gradual leakage or knowledge of the impeding merger announcement. To classify mergers as high or low, I divide the premium offered by the average premium. A high premium would then be classified when the value is equal or larger than one whereas a low premium would be considered as such when the value is smaller than one. The conditions are expressed below.

$$High\ Premium: \frac{Premium_x}{Median\ Premium} \geq 1$$

$$Low\ Premium: \frac{Premium_x}{Median\ Premium} < 1,$$

where $premium_x$ is the premium offered by acquirer x to the target to close out the deal.

2. Hostile Takeovers (From the Acquirer Side)

Hostile takeovers tend to decrease the wealth of shareholders by diverting essential resources, most notably the time and effort required to successfully integrate two companies together, in the fight for control over the target's company. As a result, hostile mergers are expected to be associated with lower abnormal returns around the announcement date, primarily over the short-term. Hostile mergers usually take form of proxy battles, tender offers, and, at times, litigation battles. I thus formulate the following hypothesis:

Hypothesis 18: Mergers involving hostile takeovers are expected to suffer significant negative abnormal returns over the short-term.

Hostilities can be identified by investigating the deal attitude of the merger. Therefore, to measure this variable, I employ a dummy variable in which it equals to 1 when the merger is hostile and equals to 0 when it is friendly. I express this below.

Hostile = 1, if merger attitude is hostile,

Hostile = 0, if merger attitude is friendly.

In addition, I also studied which form of hostility is associated with the largest negative returns. Typically, of proxy battles and tender offers, the former is the least expensive to the firm. Tender offers require heavy premiums to convince shareholders to sell within a certain time. Consequently, I expect tender offers to be associated with the largest negative returns of the two. To put my hypothesis in question, I employed dummy variables, one for each form, tracking their occurrences. They are defined below:

- Proxy Battle Variable
  Proxy = 1, if merger involved a proxy battle,
  Proxy = 0, if merger did not involve a proxy battle.

- Tender Offer Variable
  Tender = 1, if merger involved a tender offer,
  Tender = 0, if merger did not involve a tender offer.

In addition, I also measured the impact of litigation battles on the abnormal returns. To do so, I employed another dummy variable and define it below:

Litigation = 1, if merger involved a litigation battle,

Litigation = 0, if merger did not involve a litigation battle.

Finally, many acquisitions that are characterized with the presence of proxy battles, tender offers, or litigations battles can still be considered as friendly, or rather non-friendly, mergers. Thus, I also combined these three variables into one variable called 'non-friendly' to denote mergers that were conducted as neither hostile nor friendly mergers. I then regress this variable against the CAR and test for significance.

3. The Entrenchment of Defensive Mechanisms (From the Target Side)

Just like when a hostile takeover is initiated by the acquirer, the target's reaction is an important value-destruction determinant. Defensive techniques better protect the target against mergers by rendering an acquisition less appealing and harder to achieve for the acquirer. I thus formulate my next hypothesis:

Hypothesis 19: Defensive mechanisms employed by the target firm are expected to reduce the gains of a merger in the short-term.

To measure the impact of defensive mechanisms, I investigate their presence for every merger in my sample. Their presence is confirmed if the merger involved any of the following defenses: 1) Asset Lockup, Stock Lockup, Lockup Agreement owned by target, and other Lockup, 2) Poison Pill, including Backend and Flipover, 3) Greenmail, 4) Pac-man, 5) Recapitalization, 6) Repurchase, 7) Scorched Earth, 8) Self-Tender, 9) Voting Plan Poison Pill, 10) White Knight, 11) White Squire, and 12) any other defensive tactics. These variables are extracted directly from the SDC database. If a merger contained any of the mentioned defenses, then it is considered as a defended takeover. I then employed a dummy variable and defined it as:

Defense = 1, if merger involved a defensive mechanism,

Defense = 0, if merger did not involve a defensive mechanism.

4. Cultural Differences (Distance between Cities)

The cultural differences can be assessed by measuring the distance between the firms. Typically, regions close to one another will share greater cultural similarities than those regions that are instead distant. To measure the distance, I construct my own methodology. In the multiple linear regression model, I use the firms' city as the point of reference. The variable distance is defined below:

$$Distance = \frac{Distance\ between\ Merging\ Firms}{Longest\ Distance}$$

Long distances, which represent greater cultural differences, will be closer to the value of one whereas short distances will orient towards zero. Overall, I expect greater cultural dissimilarities to adversely impact the abnormal returns of the event. I thus formulate the following hypothesis:

Hypothesis 20: Mergers between firms distant from one another are expected to suffer larger negative gains relative to those mergers between firms closer to each other.

5. Risk Reduction

Mergers are often conducted for risk reduction purposes. However, mergers motivated to diversify their business portfolio suffer in their post-merger performance. Therefore, to measure the impact of risk reduction through mergers, I employ a dummy variable and express it as shown below:

Risk Reduction = 1, if merger is considered a conglomerate,

Risk Reduction = 0, if merger is not considered a conglomerate.

Hypothesis 21: Mergers motivated by risk reduction reasons, otherwise known as conglomerates, are expected to decrease the abnormal returns of the acquiring firm.

6. Free Cash Flow

The agency costs associated with high levels of FCF tend to depress the firm value due to poor investment decisions undertaken by the management team. Therefore, I expect high free cash flow to be negatively correlated with the abnormal returns generated by a merger.

Hypothesis 22: Acquirers conducting M&A with high levels of free cash flow are expected to suffer in their post-merger performance relative to those with more moderate levels of free cash flow.

To measure the free cash flow, I use the standard formula. The variable (FCF) is defined as:

$$Free\ Cash\ Flow = Cash\ from\ Operations - Capital\ Expenditure$$

I then employ a similar strategy I have been using to compare the free cash flow from firm x to the largest FCF. I express this relationship below:

$FCF\ Level = \frac{FCF_x}{Median\ FCF}$, where FCF is the free cash flow of firm x.

7. High Level of Debt

Generally, mergers and acquisitions are financed substantially with the use of debt. Subsequently, firms conducting mergers, with already high levels of debt, risk worsening their financial situation, potentially, to levels beyond repair. This increased risk following the merger should detract investors and a sell signal may occur. As a result, I expect firms with high levels of debt prior to the merger announcement to suffer in their abnormal returns around the event date.

Hypothesis 23: Acquirers conducting M&A with high levels of debt are expected to suffer in their post-merger performance relative to those with more moderate to low levels.

I measure the debt using the acquirer's net debt in the last twelve months. I then employ the same methodology to measure the relative debt level. Doing so, I define the debt level as shown:

$Debt\ Level = \frac{Debt_x}{Median\ Debt}$, where $debt_x$ is the debt of firm x in the last twelve months. Analogous to before, high debt levels will orient towards values larger than one whereas low levels will have values smaller than one.

The debt can also be measured relative to its total equity. This is known as the gearing ratio and is expressed as shown below:

$Gearing\ Ratio = \frac{Total\ Debt}{Total\ Equity}$.

8. Presence of Rumors

Rumors are essentially the leakage of information before the official announcement. According to the literature, they tend to harm the abnormal returns of a merger announcement for both the acquirer and the target. I thus formulate my next hypothesis:

Hypothesis 24: Rumored mergers are expected to suffer in their short-term post-merger performance relative to non-rumored mergers.

To measure this determinant, I use a binary variable that simply equals to one when the deal had been rumored prior to the announcement. The variable equals to zero when the deal did not begin as a rumor. I express this binary variable below:

Rumor = 1, if merger began as a rumor,

Rumor = 0, if merger did not begin as a rumor.

9. Empire Building

Managers, or more specifically CEOs, concerned with their level of power may intend to complete mergers to gain stronger control on the company. As a result, their best interests are not aligned with those of shareholders. Consequently, I devise the following hypothesis:

Hypothesis 25: Mergers conducted to increase the level of power of the managers are expected to suffer more significantly than otherwise.

Empire building can be spotted when a serial of acquisitions within a short period of time are executed and defined as the increase in size following the merger. Since the 'Sufficient Time' variable already captures mergers conducted too close to one another, I will simply study the direct increase in size of the combined market value and book value (separately).

Empire Building:

1. $Increase\ in\ Market\ Value\ = \frac{MV\ of\ Acquirer + MV\ of\ Target}{MV\ of\ Acquirer} - 1$, where MV denotes the market value.
2. $Increase\ in\ Book\ Value\ = \frac{BV\ of\ Acquirer + BV\ of\ Target}{BV\ of\ Acquirer} - 1$, where BV denotes the Book value.

4.2.1.3 Neutral Determinants

1. Cross-Border vs. Domestic Acquisitions

Cross-border M&A may enjoy from internalization and international market penetration but suffer from the increased difficulty of target integration due to the stronger cultural differences. Likewise,

domestic mergers enjoy from greater cultural similarities but do not penetrate any new markets at the international level. As a result, both may perform at par relative to one another.

Hypothesis 26: Domestic mergers are not expected to outperform their cross-border counterparts.

To measure the impact of cross-border M&A on the abnormal returns, I employ a dummy variable, CBMA, and test for significance.

CBMA = 1, if merger is a cross-border acquisition,

CBMA = 0, if merger is not a cross-border acquisition.

2. Relative Size

The relative size plays an important role in the significance of the abnormal returns generated around the merger announcement. In general, the stakes are higher. However, in terms of directional movement, I do not see much attribute to it, on its own.

Hypothesis 27: The relative size of the target to that of the acquirer is not expected to be a significant determinant.

The relative size can be measured as shown: $Relative\ Size = \log\left(\frac{Target\ Size}{Acquirer\ Size}\right)$.

To measure the firms' sizes, I considered two techniques that should produce similar results. Firstly, I will use the market value, the market capitalization, four weeks prior to the announcement to measure the firms' sizes. In other words, the expression can then be formulated as: $Relative\ Size = \log\left(\frac{Market\ Value\ of\ Target}{Market\ Value\ of\ Acquirer}\right)$.

The alternative method is to instead use the sales approach. Under this technique, the pre-merger sales are utilized as a measure of firm size. The appropriate expression then becomes: $Relative\ Size = \log\left(\frac{Target\ Sales\ Premerger}{Acquirer\ Sales\ Premerger}\right)$. This alternative approach is used as a robustness check.

3. Governmental Participation

The reports on governmental participation are inconclusive. Unlike business firms, the government has its interest aligned differently. While profits and a successful merger are still perceived as important, the government is also motivated by political and social considerations. In addition, when the government is involved, it gains some control over its outcome either directly or indirectly. As a result, it is difficult to predict the impact of governmental participation on the abnormal returns.

Hypothesis 28: Mergers involving governmental participation are not theorized to increase or decrease the abnormal returns of the event.

To measure its impact, I employ a dummy variable and express it as shown below:

Gov = 1, if merger involved government participation on the buy- or sell-side,

Gov = 0, if merger did not involve government participation on the buy- or sell-side.

In addition, as a check of robustness, I study the impact of state laws on mergers and acquisitions. Mergers conducted in states, provinces, or countries where laws regulate them are flagged with the value of one in the dummy variable 'State Laws.' If no laws regulate the mergers, the variable takes on the value of 0. I express this dummy variable below:

State Laws = 1, if merger is completed in a state that regulates mergers,

State Laws = 0, if merger is completed in a state that does not regulate mergers.

4. Hubris (Poor Decision Making)

The tendency of managers to commit to poor investment decisions can be harmful to the firm's performance and sustainability. With mergers, the stakes are higher. However, according to the past literature, hubris should neither negatively or positively impact mergers and their future performance.

Hypothesis 29: Mergers conducted by hubris managers are neither expected to perform better or worse than mergers without the presence of hubris.

To identify and measure hubris, I first investigate for any mergers that were conducted as non-first attempts that suffered significant negative abnormal returns in the long-term post-event window. I do the same for those non-first attempt mergers that suffered significantly negative abnormal returns in their short-term event window and draw any inferences. In short, these mergers that were completed even though the firm previously suffered massively in the past from a merger event are considered as hubris. I then use a dummy variable and define it as:

Hubris = 1, if prior merger suffered significant and negative abnormal returns,

Hubris = 0, if prior merger did not suffer significant and negative abnormal returns.

This method was preferred over the typical method, which looks at the acquirer's overconfidence after enjoying large success in previous mergers, as I believed I would gain a better understanding of managers overly believing in their own capabilities after failed mergers would indicate otherwise. A disastrous merger should have served as a red flag. Instead, other mergers were undertaken.

4.2.1.4 Control Variables

1. **Transaction Value**

The total amount of the transaction can have an important impact on the CAR of the combined entity. Akin to the relative size, the larger the transaction value, the riskier the merger is on the acquirer. Larger acquisitions are harder to execute and integrate. If they fail, they can have profound effects on the combined entity even potentially causing the firm to declare bankruptcy. On the other hand, a successful merger can be a huge boon for the acquirer. Therefore, including the transaction value as a variable in my multiple linear regression model would be important to better control for its effects.

I measure the variable by simply extracting it from the SDC database and test it against the CAR of the acquirer.

2. High-Tech Industry

According to the literature, companies operating within high-tech industries experience a more difficult time in managing mergers. Matteo et al. (2013) find that despite the popularity of mergers and acquisitions in the high-tech industry, these mergers have struggled mightily due to the high complexity of the integration process. Unlike traditional companies with physical assets, companies in high-tech industries tend to possess more intangible assets that are more digital than physical. As a result, integrating two companies without any physical infrastructure is more challenging. Hence, controlling for this variable would also be important in gaining a better understanding on mergers and the determinants of post-merger performance.

Just like the transaction value variable, I extract the information directly from the SDC database. Using a dummy variable, companies located within high-tech industries are considered 'high-tech.' Otherwise, they are not. For a merger to be considered 'high-tech,' at least one of the two parties, either the acquirer or target, must be located within a high-tech industry. As such, I measure the dummy variable as following:

HighTech = 1, if either the acquirer or target operates within a high-tech industry,

HighTech = 0, if neither the acquirer nor the target operates in a high-tech industry.

4.2.1.5 Summary of Variables

In table 9 in the appendix, I tabulated and summarized the determinants in several panels. The table provides a description and the formula used to define them.

4.2.2 The Multiple Linear Regression Model

I formulated my multiple linear regression models by fitting all the mentioned variables. For a deep look at the models, refer to the appendix.

4.2.3. Assumptions

When regressing the metrics against the CAR, I make a series of assumptions.

1. Firstly, I assume that there is a linear relationship between the dependent variable and the independent variables.
2. Secondly, the independent variables are not highly correlated with one another. If they are, I employ the standard techniques to deal with them.
3. Thirdly, the observations of my dataset are selected independently and randomly.
4. Finally, the residuals are normally distributed with a mean of 0 and variance of σ.

4.3 Part 2 – The Multiple Case Study Methodology

4.3.1 Methodology Construction

In this section of the research, I perform a multiple case study analysis on the 25 top and worst performing mergers. I use the daily Eventus Basic Event Study. Since I am interested in the performance of the acquiring firm, I base my event study on the post-merger performance of the

acquiring firm. The mergers are ranked according to their CAR in the long-term, (+31, +211) window, to identify the top and bottom 25 mergers. I retain only those events with significant p-values in the long-term window of (+31, +211).

4.3.2 Data Control

For this event study, I study the CAR of the acquirer firm over a half year period because the determinants are more long-term oriented and cannot be accurately measured in the short-term. In addition, I am not specifically interested in the temporary success but rather in the sustainable post-merger success of an event. Further, I chose to look at a six-month period rather than a longer period because long-horizon event studies are known to have many limitations, including the tendency of abnormal returns to be highly skewed to the right, to have low power, and are prone to the joint-test problem, a problem in which testing for market efficacy may be impossible. Finally, consistent with Hitt et al. (2002), I employ an iterative approach when studying each one of the final 25 top and worst performing mergers. This allows for an organized and accurate predetermined sequence of studies on each of these events.

4.3.3 Information Collection and Analysis

To collect the necessary information, I sort through hundreds of published materials, including business press accounts, annual reports, and press releases. Like Hitt et al. (2002), I focus on "company histories, rationales for the acquisition, pre- and post-acquisition activities, organizational characteristics, strategic focus, firm interrelationships, management attitudes and actions and the activities of external stakeholders, such as competitors or other bidders." This generates a more in-depth view of the merger in question. Upon reading through these articles, I cross-examine each merger for the presence or absence of each key determinant.

4.3.4 Descriptive Statistics on the Top 25 and Bottom 25 Mergers

Descriptive statistics are presented in table 10 and 11 in the appendix. For a deep look, refer to the appendix where I discuss them.

4.3.5 Description of Determinants

To define the key determinants, I employ a rigid system to ensure consistency. Although these determinants are mainly subjective values, I define them as summarized below:

Determinants of Successful Mergers

1. Complementary Assets, Resources or Strategies: the complementary of assets and resources can be seen when the acquirer selects a target that has assets that complement and enhance those of the acquirer. Further, this trait can also be noted when the strategies of both companies can improve the outlook of the combined entity.

2. Friendly Acquisitions: A friendly acquisition is characterized by friendly talks that promote the relationship between the management group of the two parties and the facilitation of the deal.

3. Low-to-Moderate Debt Position: The debt level can be studied both before and after the merger. A low-to-moderate debt position can also be observed by investigating the amount of debt used to finance the transaction. For this trait, if the acquirer had a manageable position in its debt and did not increase it significantly following the merger, then the presence can be confirmed.

4. Experience in Implementing Change: The experience in change is most often gained from completing mergers prior to the one in question. The experience may also be earned from the expertise and knowledge of the management team which may have members that served in roles responsible for completing acquisitions for different companies in the past. However, the experience in change can be nullified if the firm does not have sufficient time to learn. Further, if the previous merger, or mergers, is too dissimilar to the current one then there is no capacity to learn.

5. Emphasis on Innovation: The emphasis on innovation and R&D is observed when the acquirer continues to make healthy and consistent investments in its R&D. The acquirer can also maintain its commitment on innovation via strategic policies that promote a long-term vision for the combined entity.

6. Focus on Core Businesses: The continuous focus on the company's core business can be understood when the acquirer merges with a target that allows it to maintain its focus or uses the target's strengths and resources to strengthen it.

7. Careful Selection of Target: The methodical process of planning, selecting, and analyzing the target among a long list of prospective alternative options can be observed to determine the presence of this trait. The negotiation process is an important determinant of this trait. Lengthy and tactically completed negotiations can hint at the level of planning the acquirer had ensured.

8. Financial Slack: Much like debt, I study the free cash flow prior and following the merger. Acquirers with strong levels of cash above their short-term liabilities are characterized with this trait in their merger.

Determinants of Unsuccessful Mergers

1. Ethical Concerns: Ethical concerns can interrupt and distract the acquirer's management team from the integration process. It can also result in the dismissal or resignation of key leadership that was responsible for the decision-making of the merger. Ethical concerns occur mainly before and after the merger but at times during the merger.

2. Large or Extraordinary Debt: Large or extraordinary debt can be defined as exceedingly high levels of debt that can even risk violating debt covenants.

3. Major Changes in the Top Management Team: I investigate for major change that can be classified as organization wide change that affects the whole company, transformational change that impacts the company's strategy, and personnel change that disturbs the leadership core.

4. Lack of Control due to Multiple Acquisitions: The loss of control can occur when the acquirer is involved in too many acquisitions, significant change in the management team or structure of the company and its operations, and/or, among a few other potential reasons, a significant legal battle within a short period before, during or after the merger.

5. Diversification: I observe diversification if either the merger between the two parties was considered unrelated or it was part of a larger strategy to diversify the firm. Therefore, even if the merger in question can be considered a related one, if the acquirer conducted multiple mergers to diversify its core business, then it will meet the criteria of this trait.

6. Inadequate Target Evaluation: The improper evaluation of the target can occur when the merger is rushed, or completed in a short period, or when the acquirer disregards the glaringly obvious red flags that should have been spotted prior to the decision to merger.

The additional traits I studied are listed in Table 12. Further, I list and summarize the criteria I employed for each of the traits in table 13 in the appendix. Further, the traits of both successful and unsuccessful mergers, and their effects, are defined and summarized in the table constructed by Hitt et al. (table 14).

4.4 Part 3 – The New Determinants Study Methodology

In this section, I attempt to study new, previously understudied, or less popular potential determinants of the post-merger performance. To do so, I employ a similar methodology to that of the quantitative study (part 1). The goal of this section is to identify or reject new determinates to provide a better understanding of the success and failure rate of mergers.

4.4.1 Measuring the Key Determinants

1. Competing Bid: The presence and the number of competing bids is defined by the presence of at least one other bidder other than the eventual acquirer to have purchased the target.

It can thus be defined as:

Bid = 1, if there is at least one other bidder,

Bid = 0, if the acquirer is the only bidder.

Further, the number of bids is also tested and is simply equal to the number of bids the target received.

2. Advisors: The presence of advisors on either side of the acquirer and target is simply the total amount of money spent on advisor fees in millions and/or the number of advisors, both drawn from the SDC database.

Adv_{Acq} = the amount spent by the acquirer on advisor fees,

Adv_{Tar} = the amount spent by the target on advisor fees.

The presence of advisors is also tested and represented by simple binary variable is employed:

$Advisor_{(Acq, Tar)}$ = 1, if the acquirer (Acq) / target (Tar) employed the aid of an advisor(s);

$Advisor_{(Acq, Tar)}$ = 0, if the acquirer (Acq) / target (Tar) did not employ the aid of an advisor(s);

3. Termination Fee: Termination fee is used as leverage against the breakup of negotiations. In other words, if either party intends on backing out of the deal, it must pay a specified fee to the other party involved. It is drawn directly from the SDC database and is measured in USD.

TermFee = the amount required to back out of the merger.

4. Mismatch or Partial Match of Considerations: The mismatch of considerations can be measured when the target firm did not receive the exact consideration it had sought initially.

Mismatch = 1, if considerations offered by the acquirer and sought by the target do not match,

Mismatch = 0, if considerations do match.

The partial match is instead measured when at least one of the considerations sought matches those offered by the acquirer in its final offer.

Partial = 1, if considerations offered by the acquirer match, at least, partially with that sought by the target.

Partial = 0, if considerations do not match at all.

5. Portfolio Company Activity: The activity of the acquirer's portfolio can be drawn directly from the SDC database. If the company has an active portfolio, the dummy variable will be equal to one. If not, it will equal 0.

Activity = 1, if the company has an active portfolio,

Activity = 0, if the company does not have an active portfolio.

6. Fairness Opinion: Fairness opinions can be sought by either the acquirer or the target. It provides either party about the fairness of the terms offered. It can be measured by its presence in a merger, which is drawn from the SDC database.

Fair = 1, if a fairness opinion by either part was requested,

Fair = 0, if no fairness opinion was requested.

7. Divestiture: certain targets may sell off only parts or subsidiary units instead of the entire company. The SDC database flags any merger that was completed as a divestiture. I define my dummy variable as shown:

Divest = 1, if the target was sold as a divestiture,

Divest = 0, if the target was not sold as a divestiture.

9. Definitive Agreement: a definitive agreement outlines the conditions and terms the acquirer must undertake to fulfil its end of the deal. Such agreements often restrict what an acquirer can or cannot do. This variable is expressed as shown:

DefAgr = 1, if the merger was signed with a definitive agreement,

DefAgr = 0, if the merger was not signed with a definitive agreement.

10. Collar: Collars may be used to limit the fluctuation of the stock of either the target or the acquirer when stock exchanges are used. I measure this variable simply by investigating its presence.

Collar = 1, if the use of a collar was employed in the merger,

Collar = 0, if no collar was used.

11. Target Bankrupt: Target firms may be forced to be sold off when it is facing financial distress. As such, an acquiring firm may seek to purchase the struggling company and take advantage of lower prices. To measure this variable, I draw it directly from the SDC database.

Bnkrpt = 1, if the target was bankrupt or facing bankruptcy prior to the merger,

Bnkrpt = 0, if the target was neither bankrupt nor facing bankruptcy prior to the merger,

12. Change in Offer: An acquirer may change its offer price after new information is out or to increase the chances of the sale. I measure this variable by calculating the percentage change from the final offer relative to the initial offer.

$$\text{ChangePrice} = \frac{(Final\ Price - Initial\ Price)}{Initial\ Price}$$

13. Total Fees: For this variable I measure the total fees from both the acquiring firm and the target firm in two separate variables. It is also drawn directly from the SDC database.

$TFees_{Acq}$ = the total amount spent by the acquirer on fees,

$TFees_{Tar}$ = the total amount spent by the target on fees.

5.4.2 The Multiple Linear Regression Model

Fitting the determinants, I formulate the model as

$$\begin{aligned} CAR\ (t_1, t_2) = {} & \beta_0 + \beta_1 AdvAcq + \beta_2 AdvTar + \beta_3 TarTerm + \beta_4 Mismatch + \beta_5 Activity \\ & + \beta_6 Fair + \beta_7 StockIss + \beta_8 DebtIss + \beta_9 Divest + \beta_{10} DefAgr + \beta_{11} Collar \\ & + \beta_{12} Bnkrpt + \beta_{13} ChangePrice + \beta_{14} AcqFee + \beta_{15} TarFee + \varepsilon \end{aligned}$$

where β_0 is the intersect of the model, β_x are the betas of each determinant, and ε is the error term.

4.4.2 Assumptions

The same assumptions are made in this section as those made in the first part of this thesis. Refer to them above.

V. Results

5.1 The Quantitative Study

The results are displayed in Table 15. The findings are summarized in the form of key takeaways.

5.1.1 The Key Takeaways

Expected Synergies

Key Takeaway 1: The expected synergies cited by the acquirer for completing the merger do not improve the post-merger gains.

One of the main motivations for completing mergers is the expected benefits from merging the operations together to gain better control of costs and achieve economies of scope and scale. However, the expected synergies, in both after taxes and before taxes, were adversely associated with the gains in the short-term, indicating investors do not put much value in the expectations of the synergies. In the long-term, they were positively correlated with the gains, though at a non-significant level.

Cultural Differences

Key Takeaway 2: Cultural differences attributed to the distance between countries and states do not destroy post-merger value.

Whereas many studies conclude that cross-border mergers perform significantly worse than their domestic counterparts, I find no evidence supporting that CBMA perform worse than DMA. In fact, in the short-term windows, the impact was positive and even significant in the event date. However, the impact did reverse to negative but insignificant in the long-term. Moreover, when measuring the distance between the firms the results were similar. This time around, although not significant, the impact was positive in each of the windows tested. Finally, when focusing on cultural differences in the United States, companies located in states bordering each other and in the same state do not outperform those that were further away from one another. The results were all insignificant in their respective windows.

Relatedness vs Diversification

Key Takeaway 3: The relatedness of a merger only generates value in the long-term.

In the short-term windows, related mergers do not significantly outperform unrelated mergers. However, in the long-term, related mergers significantly outperform unrelated mergers indicating that related mergers are potentially easier to integrate into the core business of the acquiring firm than mergers that diversify the core strategy. This result is strengthened by the findings in the event study in which I find that many of the worst mergers struggled heavily to integrate different business strategies.

Organizational Learning

Key Takeaway 4: Learning through experience has a significant impact on the post-merger performance especially when the mergers are conducted with sufficient time in between them and when the past targets were similar to the current one.

The impact of learning was found to be significantly positive in the long-term window. Although the impact in the short-term windows was insignificant, mergers, when conducted after at least one year after the previous and before the following merger, enjoyed significant gains in the days leading up to the merger and following the merger. This finding would suggest that the market favorably viewed and reacted positively to those mergers that were conducted after previous experience in a timely and strategic manner. In fact, those that were conducted too close to previous and subsequent mergers suffered significantly worse than those that had sufficient time in between mergers. Moreover, past targets play a positive role in the post-merger performance when they are similar in operations or operated in similar industries. In fact, when the current target was similar to previous targets purchased by the acquirer, the merger generated significant returns in the short-term (-1, +1) and long-term (+31, +211) windows.

Tax Benefits

Key Takeaway 5: Mergers conducted for tax reasons do not enjoy any significant gains.

Contrary to expectations, tax benefits do not create any value for the combined entity. Instead, they tend to destroy shareholder value following the merger of the two companies. Results indicate that the target's deferred taxes and tax loss carryforward tend to negatively impact value. More specifically, deferred taxes were found to significantly hinder the post-merger performance in the (-1, +1) window. As such, these findings indicate that mergers should not be conducted for tax purposes as shareholders may suffer from such a decision.

Negotiation

Key Takeaway 6: The negotiation and the structure of the deal are imperative to the chances of post-merger success.

The negotiation, specifically the amount of premium over fair market value and the structure of the deal, was found to be significant to the post-merger performance. Deals that were characterized by all-cash offers significantly outperformed their all-stock counterparts in all three of the windows tested. All-stock offers suffered significant and negative returns. All-cash offers returned positive and significant value. Deals that were comprised of mixed considerations enjoyed positive but insignificant returns.

The amount of premium was also found to be important. Using the multiple binary method reveals that mergers that were able to avoid overpayments enjoyed significant and positive returns in the short-term windows. This may suggest that investors are more comfortable investing in a company that does not pay large and irrational amounts of premium to foster an acquisition. The impact in the long-term, though, was insignificant. Its worth mentioning that, although the level of premium, measured in percentage, fluctuated year over year, it stayed within a range of between 30% and 50%, specifically the 1 day prior premium (Table 16).

Market Power

Key Takeaway 7: The penetration and enlargement of market power do not necessarily generate value for the combined entity.

The increase in market power through two different measures was determined to be insignificant specifically in the shorter-term windows, suggesting that investors do not necessarily perceive the

penetration of market power as a major growth option to the combined entity. This could be because the acquirer may simply be acquiring greater access to a market that they already have a presence or influence within. In fact, the larger the market share the acquirer had before the merger, the more negative the impact of target market power had on post-merger returns in the short-term. The combined market power was found to be positive in the event date window but negative in the (-1, +1) window (both insignificant). The influence remained insignificant in the longer-term window.

Defensive Mechanisms by the Target Firm

Key Takeaway 7: The presence of defensive mechanisms employed by the target firm harms the value of the combined entity in the short-term only.

Although individually the presence of hostile talks, proxy battles, tender offers, litigation battles do not have a significant impact on the post-merger performance, altogether, deals characterized by the use of defensive mechanism significantly destroy shareholder value in the short-term (-1, +1) window. The impact remains negative in the event date window but insignificant. It is positive in the long-term window but also insignificant. These findings would suggest that the presence or even potential of a non-friendly battle does scare off investors in the days leading up and proceeding the announcement of the merger, causing a selloff of the acquiring firm's stock.

Free Cash Flow

Key Takeaway 8: The advantages of holding free cash may outweigh its disadvantages.

The Free Cash Flow Hypothesis asserts that wasteful or inefficient spending is likelier to occur when a firm has high levels of free cash, resulting in larger agency costs, specifically when in it holds more than its short-term liabilities. However, contrary to the hypothesize, I find that large levels of free cash flow do not destroy shareholder value. Instead, acquirers with large financial slack prior to the merger, possibly to take advantage of opportunities, generate positive value though only significant in the days leading up to and following the merger, the (-1, +1) window. The effects remained positive but insignificant in both the event date and long-term window.

Past Information

Key Takeaway 9: The past financial performance does not predict future performance.

Investors tend to select those companies that have performed well in the past before deciding to invest. However, I find no evidence that past performance helps explain the future performance of the combined entity. Neither measure of return on assets (ROA) or return on equity (ROE), from both the target and the acquirer, show a significant correlation with the post-merger cumulative abnormal returns. Similar unexpected results are obtained from the current ratio.

Measures of operating performance, such as inventory turnover, fixed asset turnover, accounts receivables turnover, accounts payables turnover and operating cycle ratio, have a weak correlation with the post-merger returns. Only receivables turnover and payables turnover had a significant impact in one of the windows. The accounts receivables turnover (ART) was significant and positive in the short-term (-1, +1) window whereas the accounts payables turnover (APT) was positive and significant in the long-term window. Other than that, results were insignificant but tended to be positive. The significance of the ART in the short-term suggests that investors value

the firm's ability to collect its receivables owed. In addition, judging by the significance of the APT in the long-term window, those companies that more quickly paid off its debt enjoyed greater returns than those that were slower. The cash conversion cycle (CCC) offers supportive evidence. The CCC had a positive and significant impact in the event date window, meaning the quicker the firm can convert its inventory into cash flows from sales, the more enticed are investors to add the firm to their portfolio. Finally, the cost of goods sold had a negligible impact on the returns in all three of the windows.

Further, the target's share price increase prior to the merger has no impact on the performance of the acquisition. All three measures used as proxy, the one-week increase, the three-week increase, and the four-week increase, returned generally negative but insignificant values across all three of the windows. In total, due to the lack of consistent evidence, I conclude that the past financial performance of either the target or acquiring firm fail in explaining the future performance of the combined entity.

On the other hand, the short-term performance of the merger in terms of cumulative abnormal returns in the (-1, +1) window does have an impact on the long-term performance of post-merger gains. The performance in the event date window although positive had no significance on the long-term gains. In other words, this would suggest that the strong initial performance of a merger may be able to predict the future performance of the company, at least in terms of its stock performance.

DEBT

Key Takeaway 10: The amount of debt acquired from the target seems to, at most, only matter in the eyes of investors and not to the long-term performance of the company.

In general, the amount of debt from the acquirer has little impact on the post-merger performance. In fact, although a negative impact was pre-theorized, acquirer total debt had a positive but insignificant impact on the post-merger returns. This is an interesting finding as it provides no support to the numerous studies identifying debt as a negative catalyst to shareholder returns following the merger. As for the target's debt, I find conflicting results. On one hand, the total amount of debt has a significant and negative impact on the CAR of the short-term windows. Yet, I find the opposite in relation to the target's debt ratio. The impact is positive and significant in the short-term windows. Both variables are insignificant in the long-term window. Thus, I conclude that the amount of debt should not destroy shareholders value in the long-term if it is adequately managed.

Key Takeaway 11: Internalization does not play a major role in the performance of cross-border mergers.

Although theorized that internalization is a major reason in explaining the frequency of cross-border mergers and their performances, I find no evidence that CBMA benefit from either the level of know-how or R&D. Although positive, neither the acquirer's nor he target's know-how were significantly correlated with the post-merger returns. This result was consistent in both the total sample and the cross-border sub sample. This would suggest that CBMA mergers are instead conducted for reasons not related to internalization or that the gains from internalization are rather small and not sufficient to justify an acquisition.

5.1.2 Other Takeaways

Rumors: Rumors may benefit mergers. The leak of information prior to the merger announcement generated significant positive value in the event date window. Its effects remain are insignificant in the other windows. This finding suggests that rumors, instead of scaring off investors, attract them by generating hype and upwards momentum in the short-term. Mergers are exciting and, thus, investors attracted to them to quickly benefit.

Hubris: Results failed to provide evidence that the management's overconfidence in completing successful mergers, despite their poor track record, had a destructive impact on the chances of post-merger performance. I find a negative but insignificant in the short-term windows but a positive but insignificant impact in the long-term. This may suggest that learning from experience(s) may circumvent the possible negative impact of hubris.

Human Capital: The human capital, measured by employee productivity, had little impact on the post-merger performance of the combined entity. I find that the acquirer's as well as the target's human capital had a negative but insignificant impact on returns in the short-term windows. However, unlike that of the target in which its human capital impact remained negative in the long-term window, the acquirer did enjoy a positive but insignificant impact in the long-term window. These results may indicate that the past performance of employees does not necessarily translate to future performance or, specifically, offer better chances of a successful integration of the two companies.

Early Wave Positioning: Timing mergers by their wave occurrences is meaningless. The early wave positioning had a negative but neglectful impact on the post-merger performance across all three of the windows tested. In other words, mergers attempting to take advantage of waves do not extract gains and are better off avoiding such a strategy.

Goodwill: Goodwill is inconsequential to the post-merger performance. Specifically, I find no evidence supporting a correlation between the amount of goodwill and the abnormal returns. In general, the amount of goodwill from the acquirer's side had a positive but insignificant impact on the post-merger returns in the short-term windows. However, the effects were negative but insignificant in the long-term window. Strangely enough, I find exactly the opposite effects from the amount of goodwill from the target's side.

Governmental Participation and State Laws: The presence of state laws and the participation of government bodies tend to destroy shareholder value following the merger. Generally, both variables had a negative impact on the post-merger returns. Governmental participation had a larger impact in the long-term on the CAR than did state laws. In fact, the participation of the government was found to significantly destroy value in the long run whereas state laws only had a negative but insignificant impact. Therefore, we can conclude that laws regulating mergers affect the mergers more when government bodies get involved. However, the impact, though negative, was insignificant in the short-term windows. This suggests that although investors may get scared off in the short-term, the real damage occurs in the long run when the firm is more restricted in its business doings.

Capital Expenditure (CapEx): Investments on physical assets by the acquiring company tends to depress the stock in the eyes of the investors. In the short-term windows, investors negatively react to such expenditures in a significant way. However, this fades off in the long-term and loses

its significance. The target's CapEx has little impact on the post-merger returns of the combined entity.

Relative Size: The relative size of the acquirer to that of the target plays an important role in the post-merger performance of the combined entity. Indeed, for both measures of relative size, the determinant was found to be significantly correlated with the cumulative abnormal gains at the highest level of significance. However, whereas the relative size variable that employs market value as input returns a positive impact, the other variable that uses sales instead produces a negative relationship. This seemingly contradictory finding can be explained by the highly dependent relationship between relative size and the coefficient of the abnormal returns. In fact, there is some empirical evidence suggesting that such a relationship is crucial to understand and control before testing the relative size to the merger. Jansen (2015) report that the contradictory empirical evidence between relative size and acquisition wealth effects are due to "a misspecification of the functional form of the relation between Cumulative Abnormal Returns (CAR) and relative size." (Jansen, 2015) They conclude that the relative size is significant for both wealth-enhancing mergers and wealth-destroying mergers. As for the short-term windows, the market negatively reacts to small targets relative to the acquirer.

Know-How: The know-how levels do not create much value to the combined entity following the merger. The acquirer's know-how positively impacts the post-merger returns but at a significant level only in the short-term (-1, +1) window. In other words, the acquirer's level encourages investors in making the decision to invest in the firm, but that intangible good does not necessarily translate to the post-merger performance of the combined entity. The target's know-how level was found to be negative but significant only at the same window. Therefore, the effects of one another are neutralized.

Research & Development (R&D): The positive impact of research and development is mainly observed in the long-term following the merger. In fact, in both measures of R&D, the magnitude of the correlation is greatest in the long-term window. In addition, whereas the amount of R&D is insignificant and positive in the short-term windows, The R&D rate is significantly negative in the same windows, possibly suggesting that investors do not value much, in the short-term, the importance of R&D.

Empire Building: The attempt of gaining excessive power at the expense of shareholders proxied by the increase in firm size is detrimental to the post-merger returns. Indeed, the process of empire building, measured by the increase in book value and market value, is adversely correlated with the gains specifically in the short-term at a significant level.

Coinsurance: Although this trait was not directly studied in this research, considering the literature that asserts that the coinsurance effect is mainly observed among conglomerate mergers, the fact that conglomerates do not outperform related mergers may signify that, even under its presence, coinsurance would not be significant enough to justify undertaking conglomerate mergers for their conscience benefits.

5.1.3 Control Variables

High-Technology Industry: Companies within the high-tech industry suffered significant value reduction gains in the two short-term windows and were heavily outperformed by those that were not considered high-tech companies. This would suggest that investors have significantly less

confidence in high-tech companies pulling off a successful merger than their non-high-tech counterparts. High-tech companies may face a more difficult time in integrating the expertise and infrastructure of the target into its existing operations. In fact, this finding coincides with those by Matteo et al. (2013) who find that despite the popularity of mergers and acquisitions in the high-tech industry, these mergers have been disappointing due to the high complexity of the integration process. Therefore, it is important to consider the type of industry the company is in before reaching any conclusions.

Value of Transaction: The larger the value of the transaction, the more the acquirer struggled to generate value. This relationship is most easily spotted in the short-term windows in which the impact of large transactions is significantly negative on the cumulative abnormal returns. This is sensical as the larger the merger the more profound the consequences of a poor merger on the acquirer's core operations. In the long-term however, the company did not suffer sources of significant value reduction associated with the size of the transaction. Its influence was still negative. This suggests that acquirers can manage the size of the transaction regardless of the initial market reaction.

5.2 The Event Study

My main results on the top and bottom 25 mergers are reported and listed on Table 20, 21, 22, 23, and 24. Table 25 presents the stats and comparison. Finally, Table 26 and 27 contain the additional traits studied for each case. The results are based on my readings of each of the cases, which can be read in detail in appendix B.

5.2.1 The Determinants of Successful Acquisitions

1. Complementary Assets, Resources and Market Presences

The fit between resources, assets or, in several cases, market presences was determined to be crucial in the success of the mergers. In fact, of the 25 successful mergers, 22 had, at least, some form of strong matching synergies between the two companies involved. In many cases, the merger was motivated to penetrate new regional or product markets in which the acquirer, previously, had no presence. For example, Hovnanian Enterprises acquired Washington Homes to expand its market reach in several of the largest states of the construction industry. Following the acquisition, it became the largest builder in New Jersey and California. It also diversified its service offerings within the industry by penetrating several niche markets. Importantly, with the combination of two entities, Hovnanian gained access to the land buying business as previously both companies on their own were too small to compete.

In other cases, the two companies clearly had a fit in resources and assets. For example, when iVillage acquired Women.com, it perfectly supplemented its digital subscription services with the popular magazines that Women.com specialized in. The two companies both targeted women struggling with similar issues and with the acquisition iVillage had expanded its reach on women of different ages. In a different case, Bookham exceled after its merger with Avanex due to no small part to their combination of expertise and assets. By merging, Bookham's expertise in components gained massively from Avanex's modules and subsystems expertise, allowing the combined entity to become one of the largest suppliers in the optical components and subsystems industry.

In several other cases, the acquisition of important assets allowed the acquirer to diversify its revenue streamline and provide massive long-term potential. For instance, Mallinckrodt acquired Sucampo to lessen its dependency on its main product that accounted for more than one third of its sales as well as to acquire several prospective drugs in their late stages of development. As part of its larger plan of diversifying its revenue streamline, Mallinckrodt also acquired Ocera Therapeutics after the target, on its own, was struggling heavily with the design and deployment of its main drug. Similarly, Cephalon acquired Salmedix for its main drug, Treanda, and with the combination of expertise, knowledge, and equipment, that neither firm had on their own, were able to successfully develop the drug and enjoy massive sales of over $1 billion just six years after the merger.

Conversely, most of the unsuccessful mergers failed to exemplify a matching of resources, assets, or, even, market presences. Only seven of the 25 had complementary assets of some kind. Those that did, however, still failed in taking advantage of the potential complementary synergies due to their struggles in other areas to integrate the target. For example, as an internet access provider, Terra Networks acquired Lycos Inc for its once popular search engine. However, Terra failed to realize the alarming decrease in popularity in the search engine and paid a high premium for a company's valuation that depended solely on the dot-com bubble. With the crash of the bubble and the failed integration, Lycos became almost worthless relative to its original investment. Likewise, in perhaps the largest failure in merger history, the AOL Time Warner merger, the two companies did have a very strong match in complementary assets and resources but a terrible fit in management team. With the management team of both firms fighting over control of the combined entity, in combination with several other fatal sources of failure, the merger had no hope of succeeding.

Therefore, all in all, mergers exemplifying a strong match in resources, assets or market presences enjoy a significant advantage over those mergers that do not only when they are tailored to exploit the complementary synergies. In such cases, the acquirer, as well as the target firm, enjoy significant advantages that allow the combined entity to excel following the merger including the crucial and sustainable long-term competitive advantage over their rivals in the industry, and markets, in which the combined firm operates.

2. Friendly Acquisition

Just like Hitt et al.'s results, I found that all 25 of the successful mergers were friendly. However, unlike their study in which they found cases where the acquirer was a white knight, I found none were white knights. In several cases though, the merging companies were on friendly terms long before the decision to merge was announced. For example, in the Alamos Gold and Carlisle Goldfields merger, the two firms had formed a strategic partnership in which both companies benefited greatly and thrived together several months before the eventual announcement. In all cases, the negotiations were on very friendly terms which, in theory, would allow for a more efficient and effective integration of the target firm through open and steady communication from the management teams.

However, practically, that is not always the case. In fact, of the unsuccessful mergers, all but one involved a hostile takeover in which only the prior rounds of negotiation and attempted takeover were unfriendly. When Precision attempted to merger with Grey Wolf, all three of its initial attempts were rejected. On its final attempt, after the target's shareholders had vetoed against the

merger from a competing offer, Grey Wolf abdicated and agreed to a friendly merger. Moreover, in the AOL Time Warner merger, the merger also involved friendly negotiations but once done, the management teams embroiled themselves in a disastrous struggle for power of the company. In another case, although the merger was friendly, the acquiring firm, Sears Roebuck, was tricked into believing it was not the only competitor for the target, Lands' End, and ended up paying a very high premium and, through incompetence and disappointment, failed to properly integrate the target. On the other hand, displaying brilliant planning and management integration, O'Rielly, one of the top performing acquirers, after retaining the management team of the target firm, invited the newly acquired members to participate and assist in the integration process. Subsequently, it enjoyed a much easier time in incorporating the different corporate cultures relative to those firms that struggled after their merger.

On its own though, the friendliness of a merger may be the less important determinant in facilitating a successful merger. In fact, of all the positive traits found in successful mergers, it was the trait the most associated with the 25 failed mergers with 23 of them involving a friendly acquisition. Other than the one hostile acquisition, one was considered neutral. In many cases, with the target firm having more information of its own situation, many targets were more than willing to engage in friendly talks to sell off its business before its situation, along with its market valuation, would worsen. As a result, many unsuccessful mergers were done either at low premiums or even at large discounts.

3. Low-to-Moderate Debt Position

Maintaining a favorable debt position following the merger was determined to be integral in the success of a merger. Only one of the 25 successful mergers had a debt-to-equity ratio exceeding 1.5. Further, following the merger, 21 were able to decrease or maintain its debt position. Inversely, of the four that increased its debt position, only one increased it by more than 17%. Often these firms decreased its debt position by acquiring targets that had low debt or by financing the acquisition with solely stock. For example, International Flavors & Fragrances financed its acquisition of Bush Boake Allen with an exchange of solely stock. It also decreased its debt-to-equity ratio by 26% from 0.28 to 0.21. In other cases, acquirers sold off units, divisions, or subsidiaries to finance its acquisition, inject the firm with more liquid assets and decrease its overall debt that it accumulated through the merger. Bristol Myers Squibb financed its acquisition that was purchased by cash by selling its profitable unit, ConvaTec, for $4.1 billion. Of the six that financed its acquisition with the use of external financing, only two increased its debt position. The only acquirer that increased its debt level significantly, O'Reilly Automotive Inc, had, prior to the merger, a low debt position of 0.06% which increased to 34%. It also refrained from raising additional debt via external financing.

On the other hand, of the unsuccessful mergers, only 12, half of that displayed in successful mergers, had a low-to-moderate debt position. Further, nine increased its debt position following the merger, which is more than twice the amount that did in the successful group. For example, all three of Internet Capital Group, Precision Drilling Trust and United Natural Foods managed to increase their debt level by more than 127%. Further, nine raised external debt to finance their acquisitions, thus, raising their debt levels even more. Several firms, such as Precision and Energizer Holdings Inc, raised their debt levels dangerously close to violations against debt

covenants and, subsequently, forced to divest assets or even entire subsidiaries to reduce its debt level.

As Hitt et al. summarize, the advantages of maintaining a non-high debt position are aplenty. Firms may avoid paying higher interest rates and risking harm to their credit ratings. With higher interest rates, companies must pay larger amounts of interest for each payment. In addition, when the cash flow starts to decline, firms with too much debt face significant issues in meeting their loan payments and may, even, be forced to decrease its costs of sales, such as cutting jobs, sell off certain units or businesses, or decrease its investments on research, which may have long-term repercussions, especially among industries in which innovation is key for the sustainability of the firm. Subsequently, the risk of bankruptcy is higher for those firms with high debt level. Therefore, firms with low-to-moderate debt position are the most structured to continue their strategic competitiveness and focus.

4. Experience in Implementing Change

In three fourths of the successful acquisitions, that is 19 of the 25, the acquiror had a good amount of experience in implementing major change either through acquisitions or restructuring, sometimes in the form of both, but mainly in the form of the former. In addition, several of the target firms had ample experience in implementing major change. Subsequently, especially when both parties involved were experienced, the merger benefited from a more effective integration of the different corporate, and at times, national cultures.

Shire PLC, prior to its ViroPharma merger in late 2013, had extensive experience in acquisitions. In fact, since 1997, Shire had completed 12 major mergers including the megamergers of BioChem Pharma Inc in 2001 for $4 billion, Transkaryotic Therapies Inc in 2005 for $1.6 billion and New River Pharmaceuticals Inc in 2007 for $2.6 billion that rivaled the ViroPharma merger in size. In addition, ViroPharma had previously acquired Lev Pharma for $442.9 million in 2008 granting the target some strong experience in change. Shire had also deliberately acquired companies in megamergers, that had values exceeding $1 billion, after a prolonged amount of time to allow it to carefully integrate the large target firms and ensure the combined entity would have sufficient time to adapt and adjust following the event.

Even the completion of a couple or so acquisitions would be enough to better grasp the essential fundamentals of a merger and its critical integration stage. O'Reilly Automotive Inc, for example, prior to its largest merger in history of CSK Auto, in which it paid $1 billion, had completed just a few deals including its acquisitions of Hi-Lo in 1998 for $47.8 million, in which the acquirer gained invaluable experience in converting and modernizing the stores of the target, Mid-State Automotive in 2001 for $46.2 million, and Midwest Automative Distributors in 2005 for $61 million. Its couple of acquisitions significantly increased its store count and launched it as one of the five largest auto parts chains in the United States. It also had experience in selling some of its stores to competing firms. In 1998, it sold seven of the stores it acquired in the Hi-Lo merger to rival Auto Parts Wholesale. The target also had experience in acquisitions. CSK grew predominantly through mergers and acquisitions with its largest completed in 2005, three years prior to the merger, with purchase of Murray's Inc for $170 million in cash. As a result, O'Reilly firmly understood the elements of a successful merger and the criticalness of including the acquired team in the integration process of converting the stores into those of the acquirer. Likewise, Lilly Eli had executed 19 acquisitions prior to its merger with Armo Biosciences since

1962 along with seven additional acquisitions completed by its Elanco Products Company division, a veterinary pharmaceutical unit.

The experience in international mergers is also important for the success of cross-border deals. Computer Sciences Corp had plenty of experience in acquisitions but, importantly enough for its cross-border merger with UXC Ltd, it had prior experience in international deals. In addition to its domestic deals, the American IT company had acquired Fixnetix, a British service provider in capital markets, for $110 million in 2015. With the experience and the significant market expansion in the Oceanic region, CSC would excel after successfully integrating the target firm into its existing Oceanic operations.

The experience may have also been gained through the recruitment of a high-ranking director or executive who previously had enough experience in integrating target companies. For example, prior to its acquisition of Armo Biosciences, Lilly, under the former regime of John Lechleiter, struggled heavily in developing its drugs and was implicated in numerous lawsuits and unethical practices. Following the departure of the former CEO and succession of David Ricks, the new CEO commenced a major management shakeup replacing many ineffective executives with experienced talent. Notably, one of the recruitments was a veteran, Christi Shaw, from Novartis AG, a Swiss multinational pharmaceutical company, who had a very rich line of experience in conducting acquisitions. With the new and improved team in place, Ricks shifted the company's strategic focus from low-potential drugs to high-end ones. His decisions and emphasis on rewarding performance allowed the acquirer to bounce back from its dark days and shine to this day.

Hence, the experience in past domestic and/or cross-border acquisitions is imperative for the success and more efficient integration of a merger. Essentially, the strong knowledge in implementing change allows for better exploitation of the synergies of a merger. Further, this experience must be processable given enough time to do so. As can be observed with the worst performing mergers, 20 of the 25 worse mergers struggled heavily due to a lack of control of conducting too many acquisitions and implementing major change in too short of a time, as will be seen later in the results of the negative traits.

5. Emphasis on Research and Innovation

Most of the successful mergers, 22 of 25, involved acquirers that were able to maintain or even increase their emphasis and commitment to R&D and innovation. As such, consistent with Hitt et al., I found supporting evidence that M&A activity does not dissuade or cut back on a firm's commitment to its R&D and innovation. Many of these acquisitions were committed in highly innovative industries that require a very high commitment to its development of prospective options. For instance, the Lilly Eli and Armo, Bristol Myers Squibb and Kosan, Shire and ViroPharma, and Mallinckrodt and Ocera and Sucampo mergers were all completed in the pharmaceuticals industry. Other highly innovative industries include the software, biopharmaceutical, health care, internet, and information technology segments, which all require continuous and heavy investments in the R&D of a firm to compete among the competitors. In fact, many of these acquirers implemented or maintained strategic policies and targeted firms with high levels of R&D to increase its emphasis. For example, Manor Care, even after the merger, continued to invest millions of dollars to develop its skilled nursing facilities, rehabilitation therapy businesses and home health businesses, including its employees. Likewise, International Flavors

& Frag Inc dedicated research centers to the development of taste and smell for future products. Other companies, such as Lilly Eli, Bristol Myers Squibb and Mallinckrodt purchased several targets with the direct purpose of increasing its innovation and acquiring prospective assets.

Naturally, not all industries are high tech and require significant investment in R&D. Yet, even for those industries, were the acquirers still able to maintain a strong emphasis on innovation. For example, both Lennar and Hovnanian, operating in the home construction industry, were able to innovate their service offerings by combining their strengths with those of the target and serve more markets, including niche ones, with different service expertise and specialty. In addition, O'Reilly Automotive placed a very strong discipline in innovating and modernizing the numerous stores it had acquired by following a strict plan for all its mergers and acquisitions. It also invested to modernize its existing stores and differentiate itself from its competition. Further, in the only unrelated merger among the successful acquisitions, May Department Stores planned ahead and completely innovated its selling platform before acquiring David's Bridal and its wedding registries which subsequently faced a much easier time in generating sales.

Therefore, the significance of a healthy commitment to its innovation cannot be understated. In fact, only four of the unsuccessful acquirers remained committed, often heavily decreasing costs on R&D, selling off units, or laying off researchers and scientists of the combined entity, at times, because of their alarming increase in debt position. For example, whereas most big drug companies invested around one fifth of its total sales into R&D, Valeant invested a tiny 3%. The firm was also notorious for laying off the scientists of the numerous target firms it had acquired immediately after the completion of the merger. Ultimately, following its many acquisitions committed in short order, Valeant, under new management, was forced to sell off several of its units to reduce its debt position. Moreover, most of the unsuccessful acquirers placed a much stronger emphasis on inorganic growth over the organic route.

Hence, in short, the importance of innovation to mergers is essential to their success. Due to all of the advantages described above, maintaining an emphasis on innovation allows for the sustainable and long-term competitive advantage the firm may enjoy over its rivals following its merger.

6. Focus on Core Business and Strengths

Only two of the twenty-five successful acquirers were unable to maintain a focus on its core business(es) or strengths. Thus, most successful mergers entailed some form of continual on the acquirer's core business(es) allowing the various acquirers to apply their knowledge and expertise to ensure not only a smoother integration but an efficient leverage of the target, its resources, and its strengths. Often the focus on core business came in the form of market penetration or product development.

In many cases, the acquirer was motivated to expand its service or product offering to the same markets or industries in which it operated but at different geographical regions, either, or both, internationally, and even, nationally. For instance, International Flavors & Fragrances, after years of planning the potential expansion into the States and India, acquired Boake Allen, which had a very strong presence in those two international markets. The target also had operations in 36 other countries. The acquisition significantly expanded IFF's market reach and vaulted it as the top player in flavors while strengthening its hold as the number one in fragrances. Likewise, Computer Sciences Corp, Hovnanian, and Lennar all significantly expanded their reach in their respective

regions following their acquisitions. Further, FLIR Systems expanded into the Canadian market following its merger with Lorex Technology. With an already strong presence in the States, the combined entity placed itself as one the top industry players in all of North America.

In other instances, the acquirer was motivated to use its existing strengths and core business to develop newer products acquired from the target. By combining the two sources of synergies, the know-how with the asset or, high potential. product, while staying true to their core business(es), both the acquiring and acquired firms reaped tremendously from the synergies. For example, Reuters was one of the leading companies in providing financial information. However, it was late in understanding the trends that altered the landscape of its industry. On the other hand, Multex had strong knowledge and expertise in providing financial content online on its leading site. Following the acquisition, the combined entity boosted a heavily trafficked site offering the top-quality services that Reuters were known for. As a result, the merger circumvented Reuters weaknesses in the wake of the growing popularity of the internet and allowed the firm to excel within its core businesses and strengths it possessed prior to the merger.

On the other hand, less than half of the unsuccessful acquirers were able to maintain a focus on their core business(es). In fact, thirteen of them diverted from their core strengths and business(es), sometimes very blatantly. For instance, Nortel attempted to penetrate the internet industry moving it away from its core business in the telecommunications industry. As part of its ill-fated plan, it acquired two companies in separate deals. It first acquired Architel Systems for $409 million in April 2000 and then proceeded to acquire Alteon Websystems in July 2000 for $7.8 billion. Its sudden strategic refocus in an industry in which it had little expertise and knowledge resulted in its massive subsequent struggles and selloffs of the two acquired markets. In early 2002, it sold off Architel products to MetaSolv for just $35 million and in 2009 it sold off Alteon for $17.65 million, both at net losses exceeding 90% of their original value. Other times, the acquirer essentially forced the target to lose its focus and conform instead to the acquirer's business strategy. For example, Internet Capital Group turned its Chinese conglomerate company, Harbour Ring, which specialized in toy-making and product-development services, was targeted for its strong presence in the Chinese market. However, the deviation from its core businesses, expertise and knowledge caused the subsidiary to significantly suffer following its merger and forced ICG to sell it off at a large loss just one year after the announcement.

Therefore, mergers that do not cause the acquirer or the acquired firms to divert away from their strengths lead to substantial benefits. The sustainability of the combined entity, as well as its competitive advantage extracted from the merger, may depend, or be influenced by the continued focus on the core business(es) of the firms.

7. Careful Selection of Acquisition Targets

Whereas none of the unsuccessful acquirers carefully selected its targets, 21 of the successful acquirers conducted a thorough selection and analysis of the target. For most of the cases, the acquirer had engaged in lengthy pre-merger planning as well as tactical negotiations. This led to a stronger match between companies and a lower premium to close out the deal, ultimately allowing the combined entity to reach its intended synergies more easily. RF Micro and TriQuint engaged in deliberate and lengthy planning and negotiating to ensure the smooth integration of two large companies. In fact, excluding the pre-merger planning, the acquisition took almost one full year to

complete. Announced in February 2014 and completed in January 2015, the two companies finally merged as equals.

In certain cases, the acquiring firm had entered partnerships with the target before the merger. This allowed the acquirer to gain better insight of the target firm, including its strategic leadership, core business(es), assets and strengths. As such, the acquiring firm would gain a better idea of the potential performance of a possible merger. Alamos Gold formed a strategic partnership long before their eventual merger when Alamos, then known as AuRico, purchased 20% of the target's total outstanding shares. The partnership flourished and after months of planning, the decision to merge was taken by both firms. Last of note, the negotiation process must not necessarily be long for the adequate evaluation of the target. For instance, although the negotiation process was relatively short, both the acquiring firm, First Majestic, and the target firm, SilverCrest Mines, had ensured due diligence through a lengthy pre-merger planning to ensure the match existed between the two firms. In all, the careful selection of the target firm was vital for acquirers to avoid poor target acquisitions and subsequent selloffs. It also facilitated a smoother integration process following the merger.

8. Financial Slack

Of the eight traits of successful acquisitions identified by Hitt et al., financial slack was determined to be the least associated with the top performing mergers. In fact, only twelve had moderate or high free cash flow at the time of the merger, one fewer than the number associated with the unsuccessful mergers. Often though, the amount of cash at hand was significantly dwarfed by the total debt. For instance, Manor Care had $248.5 million of cash but also had $840.5 million of debt prior to the merger. Six also had a negative balance on their free cash flow with another seven having a low level. Interesting, of the six with a negative cash balance, all conducted a careful selection of their respective target candidates. Only one of those with low cash, failed to adequately perform sufficient pre-merger planning. Further, only five had significant free cash flow. Of the twelve that had at least a moderate cash flow level, only Cephalon held more cash than its debt position. Prior to its merger with Salmedix, it held a cash balance of $128.4 million and total debt of just $17.78 million.

These results would indicate that most of the successful acquiring firms were tied up and could not freely use its cash balance. Although the firms would thus not be able to capitalize on the benefits of holding high amounts of cash relative to debt, they would also be restrained from making poor investment decisions. Subsequently, the chances of conducting a thorough analysis and evaluation of the target candidates as well as a smart selection would logically be higher to ensure the money allocated for investments would not go to waste and aggravate its debt position. For the top 25 mergers, this was certainly the case. For instance, Eli Lilly had a cash balance of $4.57 billion but had total debt exceeding $11.69 billion.

In terms of highly favorable debt position, 15 of the successful acquirers had a low debt position. According to Hitt et al., these acquiring firms would be able to assume significant amounts of debt without harming its financial picture. Subsequently, such firms were able to finance their acquisitions through debt or equity at lower rates than otherwise. Inversely, of the unsuccessful acquirers, nine also had favorable debt positions. However, none performed adequate target evaluation.

Nonetheless, although it offers significant advantages in facilitating and lowering financing costs and rates, financial slack may also serve as a detriment against performance by inciting firms with large cash balances to more carelessly invest in investments that fail to match with its strengths and capabilities. As a result, it is not too surprising that unsuccessful mergers were more associated with this trait than the successful mergers. The main lesson one can draw from these results is that it is crucial to maintain an investment discipline throughout the board of directors.

5.2.2 The Determinants of Unsuccessful Acquisitions

1. Ethical Concerns

Ethical concerns were determined to be a significant and adverse driver of unsuccessful mergers. In fact, Eighteen of the 25 unsuccessful mergers were involved in unethical, controversial or, even, illegal practices. Of the 18, six had numerous executives charged with insider trading. Many of the unethical practices were drawn mainly from the acquiring firm. However, in certain cases, the target firm was also involved in unethical business practices. For instance, both the acquirer, Tyco International, and the target, Sensormatic Electronics were implicated in major corporate scandals. Prior to the merger, Sensormatic was accused of fraudulent reporting its revenue and some of its vice presidents were tied with insider trading. But worse, Tyco's top executives were involved in one of the most infamous charges of embezzlement. Former chairman and chief executive, Dennis Kozlowski, and senior management team, including former CEO, Mark Swartz, faced charges of embezzlement of $600 million.

For the most part, ethical concerns were observed prior to the merger and were thus not directly related to the merger. For instance, Lakshmi Mittal, the owner of Ispat International, faced constant backlash for his highly unethical business practices in which he was notorious for taking advantage of a country's struggling economy by buying out local companies and immediately laying off the employees forcing thousands jobless. In one example, he launched a hostile and successful takeover of its largest rival, Arcelor, headquartered in France, and laid off the employees. In certain cases, acquirers were implicated in unethical behavior after the merger. Often, these were lawsuits that costed millions of dollars and harmed its reputation. For example, a year or so after the merger, Cisco Systems was sued and accused of misleading investors through statements and of insider trading. The case was only settled in 2006 with the payments of $91.75 million.

Some mergers were completed during the heat of the lawsuits even though negative news tend to depreciate the valuation of the firm and thus of the combined entity following the merger. Apple was involved in one of the largest litigation battles in history with its largest rival, Samsung. In addition, Apple was accused of anti-competitive behavior, shady tax practices, and, among several others, stealing original designs and claiming them as its own. Teck Comino also completed its merger with Global Copper during several lawsuits over its poor environmental record.

Inversely, only seven of the successful mergers involved unethical behavior. Often these were observed much prior to the actual merger. In addition, the firms that endured through controversial practices often cleaned its higher management team ensuring that such practices would no longer be tolerated. For example, around two years prior to its merger with Kosan Biosciences, Bristol Myers Squibb had its corporate offices raided by the FBI for charges of collusion. BMS were also involved in numerous other controversial and unethical practices including a major accounting scandal in 2002. However, as a part of a significant management turnover, the new CEO would

lay off all the executives that were involved in the collusion. In addition, the firm was able to refocus its business strategy and ensure a more rigid and strict internal monitoring to avoid similar occurrences. In the unsuccessful mergers, it was not uncommon for the accused executive to retain his job within the firm. For instance, after accepting a loan from a portfolio manager from its largest shareholder in exchange for a position in the board, John Schiller, the founder of Energy XXI, although lost his title as the firm's chairman, would continue as the CEO for another two years.

In all, regardless of the relation of the unethical, controversial practices or illegal activities to the merger in question, such negative news significantly harms the reputation of the acquirer and, thus, the combined entity, causing an immediate depreciation in value. Therefore, when premiums are paid for a valuation that will soon be heavily depreciated the actual premium is significantly higher. In addition, its struggles due to the repercussions may adversely impact its book performance and aggravate its debt position. The chances of a successful merger consequently suffer, especially when corrective actions are not undertaken.

2. Large or Extraordinary Debt (High Debt Levels)

Large of extraordinary debt was the second least associated determinant of the six negative traits. Over half had large debt levels. Of the 14 though, four of the acquiring firms had extreme levels of debt. Inversely, only one of the successful acquirers had a high debt level. Many of the unsuccessful acquirers accumulated significant additional debt heavily raising its debt-to-equity (gearing) ratio to levels dangerously close to violations against debt covenants. For instance, Precision Drilling, with the acquisition of Grey Wolf and numerous prior ones, raised its gearing ratio by 137% and risked violated debt covenants. However, it was bailed out by AIMCo, an investment management corporation, receiving a large injection of cash but at a heavy discount of 39% on its shares. The firm was so inefficient at managing its debt that as part of the deal with AIMCo, it was forced to hire two directors as well as a financial expertise to better manage it. Notoriously, the AOL Time Warner merger best exemplified the issues of accumulating too much debt. Following the merger, the combined entity had increased its debt position by a staggering 4,606.63%, accumulating an additional $18.1 billion of total debt. This heavily restricted its ability to innovate and invest in its R&D. Combined with several other sources of failure, the merger was a disaster.

Whereas many of the successful mergers that accumulated significant debt were able to effectively reduce its debt position, the unsuccessful mergers were unable to do so and continued to hold excessive levels of debt. Eventually, this forced the acquirers to sell off assets and even units to reduce its debt load. For instance, Nortel, after having accumulated significant amounts of debt with numerous acquisitions, was forced to liquidate all its assets in 2009. At times, the acquisitions were undertaken even despite its alarmingly increase in debt and depletion of cash reserves. For instance, Tyco International made $55 billion of acquisitions in the four years prior to its merger with Sensormatic Electronics and incurred significant losses from its investments. Yet, despite its past record of failure in M&A, it completed another large merger in 2001 purchasing the target for $2.3 billion in stock.

Therefore, the effective mentoring of the combined entity's debt position cannot be overemphasized. Firms that fail to monitor and increase its debt position following its merger face higher chances of an unproductive merger.

3. MAJOR CHANGES IN MANAGEMENT OR STRUCTURE

In nineteen of the unsuccessful mergers, the acquirer and, at times, the target firm, endured major changes in its top management team or firm structure. Inversely, thirteen of the successful mergers experienced change in its leadership core. However, in general, these changes were observed at a wider gap before or after the merger. Whereas most of the unsuccessful acquirers experienced change within a few months of the mergers, the successful acquirers experienced change year(s) prior or after the merger. Regardless, significant changes in the makeup of the firm can upset the leadership core and direction of the firm. As a result, the continuity of leadership becomes difficult to maintain. Changes occurred both prior to and after the merger. When they occurred before, the pre-merger planning was affected. Likewise, when they occurred after the merger, the post-merging planning of the integration process suffered. In both cases, the overarching result of disruption in the leadership core was the same.

In many cases the change in leadership was a direct result of unethical or illegal business practices. As mentioned, Tyco International was involved in a major corporate scandal when its top executives were charged with embezzlement. As a result, the firm was forced to undergo massive change in its management team and structure. The two accused of theft resigned and the firm named an interim CEO until a permanent replacement would be named. In the same year, a permanent CEO was finally appointed. The succeeding CEO proceeded to gut the existing board of directors. As such, there was little to no control of the megamerger that was conducted prior to the massive scandal. The management change essentially destroyed the leadership direction in which the Sensormatic merger was executed. Other firms also went through multiple shifts in their leadership core because of both unethical business practices and financial struggles. A year after its mergers with Alteon and Architel, in 2001, Nortel's then CEO, Roth, retired after its massive struggles following the merger. His intended replacement, Chandran, the then COO, refused the job, and resigned as a resulted. The then CFO, Dunn, was chosen as the permanent replacement. However, Dunn was eventually fired in 2004 after being accused of bookkeeping irregularities by both the U.S. Securities and Exchange Commission and the Ontario Securities Commission. Therefore, in times where the continuation of strategic leadership is essential for the success of a merger, there was no harmony within the firm.

Other times, the change in management resulted from the toxic environment between the management teams of the two merging companies. In the AOL Time Warner merger, after numerous power struggles between the teams, who acted as two separate forces of power, the combined entity suffered through several major changes in its management team including the replacement of the CEO, Jerry Levin, in favor of president, Richard Persons. AOL's former CEO and founder was also forced to depart as the firm was in deep financial crisis.

At times, the changes were more tragic. Despite the abrupt and sad change in leadership, the mergers were still completed in quick succession of the death of one of its executives. For instance, Nahum Melumad, a former executive PhotoMedex, died just one month prior to the merger between PhotoMedex and LCA-Vision, which greatly upset the ambiance of the firm. Yet, despite his tragic passing, the merger was not delayed. Steve Jobs, co-founder and former CEO of Apple died less than one year prior to the merger with AuthenTec. In his regime, Apple would almost completely shy away from inorganic growth. In fact, during his 13-year regime, the firm had completed just two major acquisitions. With the subsequent shift in strategic leadership, Apple

changed its business strategy and focused heavily on inorganic growth. The two largest mergers in its history were completed right after the end of the Jobs regime.

Firms also made significant changes to their structures prior the merger which also upsets the strategic leadership and business model of the firms. Terra Networks was in the midst of reorganizing its business when it acquired Lycos for $12.5 billion as part of its larger plan called "Operation Verónica" launched by its parent company to buy out shareholders in its Latin American subsidiaries. In another instance, Internet Capital Group had split its operations into two locations to be managed independently by the two founders of the company just one year before its merger with Harbour Ring. It also hired three new executives to lead a new team for its expanding operations into Europe.

In short, major changes in the management team or structure may significantly alter the strategic leadership and focus of the firm. For mergers to succeed, the effective integration of the merging companies is vital and relies tremendously on strong and consistent leadership as well as proper monitoring. However, with the disruption of the management core shortly prior or after the merger, achieving proper integration and control becomes significantly more difficult. In addition, as Hitt et al. articulate, such changes in the top management may indicate conflict in the governance of the firm.

4. Lack of Control

Most (20) of the unsuccessful acquirers suffered from a lack of control mainly due to the completion of too many acquisitions within a short period of time. On the other hand, only seven of the successful mergers failed to maintain a lack of control. For many of the unsuccessful mergers, the acquirers were involved in at least one other acquisition within just months of each other. For example, Akamai acquired InterVu for $2.8 billion two months after acquiring Network24 for $203.6 million, which was its only experience in M&A. As a result, it struggled to gain much experience from a merger in which its integration was not yet finished. Having failed to adequately evaluate its strategic options including the target, Akamai struggled to integrate its acquisition and sustain its competitive advantage it once held. In principle, acquirers may tend to prioritize and focus on the large mergers. Yet not only was that not commonly the case but so do smaller but still major acquisitions chip away at the focus and time of the acquirer. As such, maintaining a degree of control undoubtfully becomes harder to achieve.

In other cases, the acquirer was in the middle of multiple major acquisitions within the same year. For example, JDS Uniphase acquired SDL for an industry-wide record of $45 billion after acquiring within less than 52 weeks Optical Coating Laboratory Inc (OCLI) for $6.2 billion and E-TEK Dynamics for $15 billion. Instead of focusing its efforts on its largest merger in its history, it proceeded to execute multiple acquisitions. Overall, within a 20-month period, it had purchased 11 companies, which ultimately played an integral part in its eventual collapse. Valeant Pharmaceuticals also completed its Synergetics merger far too close to its prior acquisition. Just one month after acquiring Sprout Pharmaceuticals Inc for $1 billion, it announced its merger with Synergetics for $195 million. Further, immediately after the merger, it acquired another firm, Doctor's Allergy Formula. In all, in the year of its acquisition, 2015, it completed six acquisitions with Salix Pharmaceuticals being its largest at $14.5 billion. In addition, one year prior to the Synergetics merger, in 2014, Valeant made a bid for fellow pharmaceutical giant, Allergan, but

lost out to Actavis in a $66 billion transaction. Consequently, the firm had little to no control in any of its merger.

Hence, in all, executing multiple mergers at the same time or within a short period may strongly prevent the acquiring firm from focusing its efforts on a single merger, hindering the chances of a successful integration and, ultimately, merger. Mergers need exceptional planning to succeed. Attempting to integrate multiple acquirers at the same time is a difficult task to achieve. It is also more difficult to extract and apply any of the learning from the prior experience as these acquisitions may have not been fully completed or even integrated.

5. Diversification

Diversification was determined to be the trait the least associated with the unsuccessful mergers at just seven of twenty-five were characterized as unrelated acquisitions. However, none of the successful mergers were a diversifying purchase. The discrepancy in results would suggest that diversification played a larger role in the failure of the mergers than the success. Six of the seven mergers that were unrelated had neither complementary resources nor matching core businesses while the one failed to exploit its complementary synergies. Inversely, the successful unrelated merger was able to exemplify and capitalize on the strong fit in resources and capabilities. Regardless, given that 25% of the total sample were conglomerates, the unsuccessful mergers were associated with two more than the expected number of 5. Energizer, a battery manufacturer and consumer goods company, purchased Playtex to diversify its reliance on its main sales market. In doing so though, diverted away from its core business into a market it had no expertise in. As a result, its struggles worsened, and the firm was eventually forced to spun-off Playtex.

In addition, one merger, although was not in itself diversification, was part of a larger strategic plan to diversify the firm. The Grey Wolf acquisition by Precision Drilling was not an unrelated merger as both firms operated in the same industry of the Oil Well Services. However, the merger was part of a larger plan to diversify the firm. In fact, the acquirer completed numerous diversifying acquisitions during the same time.

In all, diversification did not seem to play a significant role in explaining the failure rate of the worst performing mergers. However, because none of the successful mergers was unrelated by nature, it may play a role in harming the chances of a successful merger.

6. Inadequate Target Evaluation

Incredibly, all unsuccessful mergers failed to adequately evaluate the target firm. Conversely, only three of the successful mergers failed to entail a proper and short-sighted analysis of their respective target firms. Although it is easy to judge with hindsight, in several cases it was clear the unsuccessful acquirer had not performed adequate target evaluation and an analysis of its strategic options. For example, Valeant Pharmaceuticals did not consider its organic strategic options for its growth model and instead heavily preferred to grow through mergers and acquisitions. It invested around 5 to 7 times lower than the mean R&D commitment of its industry even despite its struggles in producing value from its mergers. The Internet Capital Group – Harbour Ring also suffered from a lack of preparation and consideration of the target firm and its strengths. Instead of focusing on the target's primary businesses and capabilities, ICG attempted to force its business model on the target and exploit its strong presence in the Asian market. However, the retained management, entrusted to direct the acquired Asian subsidiaries, had little expertise or knowledge

in the business-to-business e-commerce market. As a result, the target struggled profoundly and was eventually sold at a fraction of its original investment.

In certain cases, the merger was rushed and clearly not sufficiently planned. According to JDS Uniphase's CEO, talks with SDL started on the same day that the E-TEK merger was completed, which was just twenty days before the announcement of the SDL merger. With such little time, it was clear that the merger was poorly planned and executed. The SDL merger was valued at $45 billion and yet barely three weeks were placed into the decision and the planning of its largest acquisition in its history.

Strangely enough, in other cases, due diligence was not ensured prior to the merger and its negotiations. Apple, possibly due to overconfidence, had not done any due diligence prior to its mergers with AuthenTec. Apple was desperate to conclude the acquisition for two reasons. First, it did not want its largest rival, Samsung, to purchase the company before it could and second, it wanted to add the acquired technology to its soon-to-be released iPhone 6. As a result, it attempted to accelerate talks by extending an offer for the company after months of discussing a commercial agreement. After the target countered the offer, Apple ended talks citing a concern in its due diligence which was conducted only after the counter. Despite the concern, talks resumed, and a deal was finalized.

Finally, in several cases, the merger was motivated by the acquiring firm to buy out or keep up with its rival. When a merger is executed to eliminate or compete with its rivals, a merger can be short-sighted, and, ultimately, unproductive. For many, the acquirer gained no new market presences and failed to complement its assets or capabilities with that of the target. In fear of losing its position as the top player in the industry, Akamai merged with InterVu to keep up with the growing competition. The move was quickly executed and failed to complement the acquirer's core business with that of the target firm and instead diverted its focus from its strengths. The Nortel mergers were also motivated, but this time, to distance itself from its main rivals.

In short, the proper evaluation of the target firm and strategic options is crucial in avoiding poor target selections and unproductive mergers.

5.2.3 Other Traits, Characteristics or Determinants

1. Offer Consideration

More than half (13) of the successful mergers were completed with all-cash offers. Seven were all- or almost all-stock offers. The remaining five mergers were mixed offers. Inversely, only eight of the unsuccessful mergers were all-cash offers, seven were all-stock offers, and the rest (9), excluding one which had an unknown consideration offer, were mixed offers. This discrepancy in consideration offers suggests that the successful acquirers, at the time of the acquisition, were more confident in their merger potential than the unsuccessful ones.

In general, though, results do not indicate that cash offers were significant in explaining the success or failure of a merger. Essentially, of the successful mergers, 18 were characterized with cash offers and 12 with stock offers. Conversely, of the unsuccessful mergers, 17 were characterized with cash offers and 16 with stock offers. The difference is not large enough to indicate any correlation. This would make sense as a merger, to succeed in the long-term, would depend primarily, among potentially others, on the key determinants described and identified by Hitt et al.

Still, the confidence of the acquirer in the merger offers a glimpse of the preparation and evaluation of the target firm.

2. Cross-Border M&A

Previous results in the research indicated that the level of the merger does not influence the abnormal returns observed in the short-term. However, interestingly enough, whereas six of the successful acquisitions were cross-border deals, which is one more than expected mean of five, thirteen of the unsuccessful mergers were cross-border deals, more than double the amount associated with the successful mergers and close to triple the expected mean. These findings would indicate that the unsuccessful acquirers tend to struggle more at integrating the different national and corporate cultures. As a result, CBMA may impact the difficulty of the integration process. In addition, although many had sufficient experience in prior acquisitions, few had experience in cross-border deals. Consequently, firms were often inexperienced in dealing with international mergers and could not adapt to the different set of needs that a CBMA would normally need to successfully integrate.

3. Premium Level

On average, the premiums were larger for the successful merger than they were for the unsuccessful ones. For the successful mergers, the average premium was 66.8%, 58.4%, 50.8% based on the four-week, one-week prior and one day prior closing prices, respectively. Conversely, for the unsuccessful mergers, the average premium was 38.6%, 37.3%, 29.4%. Although it may seem counterintuitive as one may expect the top performing mergers to be associated with lower premiums it is not necessarily the case.

A target that offers more potential in the long-term should sell at a higher premium. Further, after a thorough and careful selection of the best target, the acquirer would be more determined in completing the merger and in paying a higher premium. Inversely, having stronger access to information on its current and future financial picture, the target firms of the unsuccessful group of mergers, expecting its performance to worsen, may be more than willing to engage in talks and avoid asking excessive premiums in fear of driving off a potential buyer. The results also indicate that premiums add to the difficulty of integrating and extracting value from mergers.

4. Target Resale

An interesting revelation of two groups of mergers was that several of the unsuccessful mergers were sold off, often, as early as just a few years and at a fraction of their initial investment. In fact, whereas at least six failed mergers were sold off, only one of the successful mergers was ultimately liquidated. In early 2000, Terra Networks acquired Lycos for $12.5 billion. However, just four years after its largest merger, it sold off the target for a tiny fraction of just $105 million in 2004, representing an astounding 99% loss on its original cost. Nortel also sold its target, Alteon, for a net loss exceeding 99.7%. After acquiring the target in 2000 for $7.8 billion, it sold it off in 2009 for a meagre $17.65 million. To make matters worse, Nortel sold its Architel acquisition for $35 million in 2002 after purchasing it in 2000 for $395 million.

An additional two of the unsuccessful mergers were spun-off. After enduring deep struggles with its core business and acquisition of Lands' End, Sears Roebuck spun-off the target in 12 years after its merger. However, interesting enough, not satisfied with the production of the merger, Sears

had, according to multiple reports, put the target up for sale with a price tag of $1.2B, which had the sale materialized would have represented a net loss of 37% on its original investment, just two years after its acquisition. One merger also became worthless and could not be sold just one year after its announcement. Within a short period of time, JDS Uniphase made three megamergers that in value amounted to over $66 billion. A year after its series of acquisitions, the company collapsed and reduced 83% of its workforce closing 29 offices and plants and firing 16,000 employees. The $66 billion it had invested in the three companies, including the $45 billion in the SDL merger, evaporated and unsalvageable.

5. Transaction Value

One of the most intriguing differences between the two groups of mergers was the average transaction value. With an average of over $3,554 million, the transaction value for the poorly performing mergers averaged almost seven times that of the top performing mergers, which had an average value of $525.2 million. This finding supports the ideology that mergers larger in size offer a higher risk than the potential returns. The successful mergers returned, on average, a 116% cumulative abnormal return while the unsuccessful returned an (absolute) average of 190%.

6. Reason for Acquisition

In general, the successful mergers were more long-term tailored whereas the unsuccessful mergers were mainly short-term oriented. Whereas many of the failed mergers were motivated based off ongoing industry events, the successful mergers were more considerate of its future performance. Many of the unsuccessful mergers were completed to better compete with rival firms and gain cost savings through the elimination of redundant resources, departments, or units. Inversely, in general, the successful firms were executed to combine the assets, resources, expertise, and markets of two merging firms. As a result, the multiple case study offers some evidence regarding the strategic mentality of successful and unsuccessful mergers.

5.3 New Determinants

Statistics of the variables are presented in Table 28. Results are drawn from the table of significance (Table 29).

Nearly all the mergers employed advisors to help with the selection and planning of the event. The average number of advisors per merger was 2.23. Next, most targets (95%) had only one interested party, at least in the form of an official bid offer. Interesting enough, more acquirers were willing to raise their offer price to complete the deal than those that decreased their final offer. However, before completing the deals, close to three fifths (59.6%) of either the target or acquirer sought the fairness opinion of a third-party.

To finance the deals, acquirers were more willing to raise additional debt than issue stock to avoid further dilution of the ownership of its existing shareholders. To protect itself against ceased negotiations, close to three fourths (70.3%) of mergers were associated with a termination fee. The average termination fee clocked in at $43.16M. Finally, surprisingly, the target firms spent more during the merger process, at an average of $12.51M, than the acquiring firms, averaging $10.97M.

5.3.1 Results

The number of advisors: the number of advisors on both sides can be important in structuring a sound deal. Advisors can better identify targets to pursue. In general, most acquisitions were characterized with the presence of advisors on the side of the acquiring firm (74.9%) as well as the target firm. (92.4%). However, the presence or the number of advisors taking part of the deal plays no part in determining the outcome of M&A deals. The impact was negative but insignificant. The negative impact may be due to misalignment of the advisors' goals with those of the firms. Their fees are not impacted by the ultimate success of the merger. As such, advisors may not necessarily be preoccupied with a successful outcome but rather with closing out the deal.

Competing bids: The presence of competition may have differentiating effects on the outcome of an M&A deal. On the one hand, competition may increase the quality level of target selection. However, on the other hand, managers may become more hubris and outbid the competition, paying larger premiums. Empirically, even though competition had no impact in the short-term, it had a significant and positive effect in the long-term. Therefore, competition increases the quality of target selection and thus creates positive value.

Termination fee: A provision meant to limit risk, the termination fee is typically paid by either party if one, after entering talks, decides to exit negotiations and/or pursue a merger with another party. As a result, the firms are more tempted to sell to the original party and avoid large fees. Effectively, the termination fee locks both parties into the deal unless one is willing to pay a large fee to recompensate the other. Therefore, theoretically, the termination fee should be a negative factor in predicting the success rate of M&A deals. Unsurprisingly, the termination fee played a significant and negative role in explaining the outcome of mergers in the short-term of the acquisition. Its effects, while still negative, were no longer significant in the long-term.

The Mismatch of consideration: The mismatch may indicate discord and cause friction between the two negotiating parties. It may thus adversely impact the flow of negotiations, increasing the risks of an aborted merger. Surprisingly, the matching, even partially, had a significant and positive impact on the post-merger performance. The impact was, however, significant in the short-term windows but insignificant in the long-term. The partial match remained significant and positive in all windows. In other words, the mismatch tends to create value for the combined entity post-merger.

Portfolio company activity: the portfolio activity of the acquiring firm can be an important source of diversification to reduce its risk and reliance on a successful merger. However, of the 2172 mergers studied, only 10% of the acquirers were engaged in such form of diversification. In the short-terms windows studied, the activity is positive but not significant. Its effect turns negative in the long-term but stays insignificant. As a result, company portfolio activity has no impact on the success rate of M&A deals.

Fairness opinion: fairness opinions are provided to gain a better understanding of the proposed terms. The fairness opinion considers the growth potential of the target firm to reach a more accurate number. As a result, the fairness opinion is more long-term oriented. This unbiased opinion may thus reduce the risks of over- or under-payment. In my sample, more than half (59.6% or 1294) was characterized by the request of a fairness opinion. And for good reason. Although in the short-term windows, the effects of the determinant were positive but insignificant, they were

significant and positive in the long-term. In other words, a more in-depth analysis of the target firm reduces the long-term risk and installs more confidence in the market.

Total fees: Theoretically, the more the two parties spend the more engaged and willing are the parties to reach a deal. Analytically, the total amount spent on fees had no significant impact on the returns. Further, the acquirers that spent more were correlated with larger losses in the long-term, suggesting that larger spending does not improve the chances of a successful merger.

Source of funds: Typically, a firm finances acquisitions by issuing debt or equity. In the total sample, only 35 (1.6%) acquirers issued common stock and more than double, 71 (3.3%), issued new debt. Whereas stock issue was generally negative and non-significant, debt issue was positive and significant in the short-term window only. In other words, the issuance of debt is judged more favorably by the market than the dilution of shares.

Divestiture: in certain cases, the target may sell off units or divisions from its main entity but continue to operate. Divestitures tend to be sold off due to poor performance and/or a bad fit. In the sample, only 3% or 65 deals involved targets as divestitures. The impact of acquiring a divestiture on post-merger performance was negligible and mainly negative in all three windows. As such, divestitures have zero to negative impact on the post-merger performance.

Definitive agreement: a definitive agreement acts as a binding contract that obligates the parties to undertake or avoid certain actions. More than 10% of the mergers had no definitive agreements signed. The effects of a definitive agreement were negative in all three windows, suggesting that such a contract restricts the capability of the combined entity following the merger. In fact, in the long-term window the effects were significantly negative.

Collar: collars are used to reduce the risk and uncertainty among stock-financed deals by imposing a range of value for stock exchanged deals. Only 4.2% of the mergers in the sample employed collar. In the short-term windows, collars had a positive but insignificant impact. Yet, in the long-term, they significantly destroyed value.

Target bankrupt: A bankrupt target may be sold and purchased at a lower price than were it not in financial distress. Acquirers can take advantage of the situation. Indeed, even though only 25 deals involved bankrupt targets, the impact of selecting a bankrupt firm was significantly positive in the short-term windows. In addition, in the long-term, they were also able to avoid larger losses. This finding supports the findings of Meier & Servaes (2014) that acquirers can take advantage of distressed firms and create value. However, the impact was negative and insignificant in the long-term, suggesting that its gains are only temporary.

Increase in price: An acquirer may offer more to close out the deal if it feels confident that the deal would produce positive value. Increases in the price offer can signal confidence from the acquirer to the market and may thus be positively viewed. Of the total sample, 136 acquirers increased their offer. The average increase was 21.76% of the original offer. Inversely, 54 acquirers decreased their final price by an average of 18.10%. Interesting enough, acquirers increasing their offer price enjoyed significant and positive returns in the event date window. In other windows, although insignificant, the effects remained positive. Further, these firms enjoyed significantly larger CAR than those that decreased their offers. In addition, it solidly beat out those firms that neither increased nor decreased on their offers.

5.3.2 Main Takeaways

1. Risk reduction decreases returns.

The reduction of risk through activities, conditions and restrictions on mergers and acquisitions do not increase their returns. In fact, there is evidence of the inverse. This finding would support the belief that mergers should not be executed to reduce risk as not only are there cheaper options of doing so but so does the market tend to react unfavorably to such restrictions.

2. Strong negotiations are favorably reflected by the market.

Deals that were completed after effective negotiations enjoyed significant value. In fact, those acquirers that increased their offers significantly overperformed those that ended up offering less. Further, the presence of competing bids had a significant impact on the long-term of the combined entity. In other words, competition increases the acquirer's motivation to carefully select the appropriate target for its future growth. As such, tactical negotiations tend to increase the confidence of the market as well as the fit. Further, strong negotiations are reinforced by the decisions to seek fairness opinions to ensure maximal understanding of the target firm and its growth options as a combined entity.

3. Bankrupt firms are better targets than divestitures.

Divestitures are often spun off due to their underperformance. Inversely, bankrupt firms are not necessarily sold off due to underperformance but, more commonly, due to financial issues. As a result, whereas divestitures are not seen as strong buys by the market, bankrupt firms are often considered as such. Accordingly, the selection of bankrupt firms tends to significantly outperform that of divestitures.

4. Although fees are generally insignificant, termination fees destroy value.

Fees generally do not have an impact on mergers. However, the termination fee does destroy value. The characteristics and potential consequences of termination fees are seen as a trap by the market and thus weaken the valuation. Lastly, despite the amount spent on advising, it has no impact on the performance.

VI. Discussion & Implications

6.1 Discussion

There are multiple propositions that can be extracted from this research on M&A. In fact, when studying all three parts of the research and their findings, a few recurring themes can be noticed that provide a stronger understanding of the determinants of post-merger performance.

6.1.1 The Propositions

First Proposition

One of the most distinguishable themes was the fact that many risk-reduction policies or mechanisms tend to depress shareholder value following the merger in the long-term. For example, the use of collars to enclose the price within two limits and the signing of definitive agreements that outline restrictions the acquirer must abide to following the merger harm shareholder value. Further, a greater number of the poorly performing mergers were associated with diversification attempts, through acquisitions, than the successful ones. In addition, diversification through portfolio activity has no impact on outcome of a merger.

Proposition I:

Risk-reducing methods do not add any value either in the short- or long-term following a merger. Instead, they tend to destroy value.

This proposition is reinforced by the finding that, in general, the increase in debt position, if it is not excessive, does not impact mergers negatively in the long-term. Further, although holding free cash flow can be risky due to its disadvantages, it adds more value than not in the short-term and has no impact in the long run. Therefore, the larger exposure to risk does not necessarily adversely impact mergers. However, when combined with poor decisions and performance following the merger, risk can act as a rapid catalyst for depression of a combined entity's stock. As for investors, they are willing to accept risk if they are appropriately rewarded for it, for example with the potential of higher returns.

Second Proposition

Numerous measures of past financial performance of both the target and acquiring firms are mainly insignificant or inconsistent in providing any credible evidence. For example, popular measures of ROA and ROE are contradictory. In addition, the timing of merger waves does not provide any strategic benefit.

Proposition II:

Mergers cannot be predicted based on past financial performance or timed based on trends.

In truth, mergers can be said to act like the rest of the stock market. Past financial information can be used to hopefully select better investments. However, there is no guarantee that the performance will be carried over into the future. In the case of mergers, predicting the combined performance based on the past information of the two previously separate entities only makes it less likely to be feasible. In addition, just like timing the market is an almost impossible endeavor, timing mergers

is likewise difficult. In other words, mergers can be said to follow the semi-strong form of the Efficient Market Hypothesis.

THIRD PROPOSITION

The structure of the deal can be interpreted to better understand the confidence level of a merger from the acquirer's point of view. In doing so, the structure of the deal can help predict future performance of the combined entity. In past literature, it has been well documented that the structure of the deal signals confidence, or the lack of, to the market. Cash offers tend to signal that the acquiring firm is confident of a successful merger whereas stock offers signal the lack of confidence.

Moreover, another important aspect of the deal is the level of premium offered to close out the deal. High premiums make it harder to generate net positive value in the long-term. However, the impact of high premiums tends to be overstated. Specifically, there is a decreasing impact of the size of the premium. In addition, once a premium has been set, a decrease may serve as a red flag whereas an increase may project the increased confidence to the market. Therefore, premiums can be used strategically to gain a better idea of the merger.

Finally, the size of the deal, as well as the relative size of the acquirer to that of the target, is also essential to consider. The larger the merger is in terms of value the more difficult it is to integrate the target into the acquiring firm. On the other hand, small mergers are easier to conduct but not to extract positive value. Small targets relative to the acquirer have less to offer to the shareholders of the acquiring company and thus the risk may not be worth taking. Mergers that are neither too small nor too big seem to play a better role in generating value.

Proposition III

The structure and size of the deal are key indicators of the potential performance, and in magnitude, of mergers.

Therefore, all in all, although not a perfect indicator on its own, the structure of the deal can serve as a strong starting point in predicting the chances of a successful merger. The size of the deal can instead serve as an indicator of the magnitude of the returns. Large mergers should be expected to have a wider range of value disparity relative to smaller mergers.

FOURTH PROPOSITION

The proper and disciplined governance of management was critical in executing a successful merger. In fact, many of the poorly performing mergers suffered from different sources of poor governance that when combined made the merger more complicated and difficult to manage. For example, many of the mergers were done after or during the firm was involved in poor ethical and legal concerns as well as significant changes in the leadership team and structure of the firm. Many mergers were also conducted during a series of mergers thus making it harder to maintain control of the individual ones. To make matters worse, these mergers were recklessly done without proper evaluation of the target and/or alternatives, oftentimes rushed to keep up with competition. Further, numerous firms were also done to increase the level of power of the management team within the firm at the expense of the best interests of their shareholders. Those firms that were motivated to increase their power and size suffered greatly.

On the other hand, many of the value generating mergers were executed with a rigid plan due to the proper governance of management. In fact, these mergers were mainly done within an allocated period of at least one year granting the individual mergers sufficient time and allowing the management team to maintain control. Many were also done after at least one prior experience of which numerous were similar in operations and business. However, an even bigger part of the success was the understanding of the two entities. The mergers were done to complement each other's assets with a strong focus on the acquirer's core business. This careful selection and planning of a merger allowed the acquirer to enjoy better chances than otherwise. In addition, a stark contrast to the worst performing mergers, the top successful mergers were done with appropriate levels of debt.

Proposition IV

The proper and disciplined governance of the management team is integral to the chances of a successful merger.

This is a particularly important proposition as it demonstrates the key importance of the meticulous planning that a merger requires to generate positive value in the long-term. Without such efforts, a merger may be fated to fail. Therefore, it is critical for management to consider the multiple aspects that make the planning as complete as possible. An effective check against poor governance is the presence of competing bids. They render mergers more expensive which increases the chances of a strong fit with the target firm.

Fifth Proposition

Domestic mergers do not post better results than cross-border mergers in either the short- or long-term. However, on the other hand, the relatedness of the merger may outperform unrelated acquisitions especially when the related mergers focus on the core businesses and strengths of the acquirer. Of the top and worst performing mergers, only failed mergers were conglomerates indicating that unrelated mergers suffer more than their related counterparts. Vertical mergers though do not outperform horizontal mergers.

Proposition V

Although they may be more difficult to execute and integrate, cross-border mergers do not perform worse than their domestic counterparts. The level of merger only matters when comparing unrelated to related mergers. Related mergers suffer less than unrelated mergers. However, vertical mergers fail to outperform horizontal mergers.

This is an important proposition as it asserts that cultural differences, both nationally and in the corporate world, do not weaken merger performance. Neither does the distance between firms across, and within, countries. Instead, the nature of industry, whether the companies are operating in high-tech industries, has a larger impact. Further, unrelated mergers tend to underperform their related counterparts. However, mergers motivated by vertical integration should not be expected to outperform horizontal mergers, suggesting that the expansion of operations or consolidation of companies is equally as important.

Sixth Proposition

The acquisition of market power, or a larger share of the market, does not necessarily boost the returns and the chances of a successful merger. More precisely, the acquisition of market power on its own, has no conclusive impact on the returns. However, when motivated by egocentric reasons such as empire building, the returns associated are negative. Market power also fails to deliver net positive returns when the acquisition of market from the target firm overlaps with that of the acquirer. In contrast though, the penetration of previously untapped markets boosts returns and increases the chances of a successful merger.

Proposition VI

The enlargement of market power does not necessarily increase the performance of the combined entity following the merger. Instead, the strategic motives behind the acquisition of market power have a stronger impact on the post-merger returns.

In other words, the proper governance is critical in acquiring a strong indication of its chances of performing well. This information is often difficult to acquire before the merger is announced and presents an additional layer of risk. Managers though can control for this issue and ensure mergers are only completed for strategically sound reasons. In fact, as exemplified by the top mergers, the penetration of the acquirer's market reach in a previously untapped market added more value than the enlargement of presence in an already established market, a trap which many of the worst performing mergers fell into. Therefore, on its own, market power fails to provide an indication of the chances of a successful merger.

SEVENTH PROPOSITION

The last major implication is the importance of a firm's commitment to research and development (R&D) and innovation. In fact, the most important intangible asset tested in this research is a company's R&D and innovation. Quite telling is that fact that most of the top successful acquirers kept or even increased their commitment to R&D and innovation whereas most of the unsuccessful failed to maintained or even weakened their own commitment. The continual investments in its innovation capabilities are critical in ensuring the company maintains its competitive advantage over the competition and avoids becoming complacent. However, excessive spending on R&D is not necessarily a smart decision as its magnitude in size makes it more challenging to extract value. In other words, the smart and efficient investment of its assets in R&D is what makes a larger difference. Inversely, the know-how level, as well as the level of goodwill, has no true impact on a merger.

Proposition VII

The importance of a firm's continual commitment to its R&D and innovation cannot be understated. It is more instrumental to the chances of successful merger in the long-term than other measures of intangibility assets such as the amount of goodwill and know-how.

This does not necessarily mean that the amount of goodwill and the level of know-how are irrelevant. Instead, they fail to impact the chances of a successful merger. When combined with other strengths and assets, such as the smart combination of a firm's know-how and R&D, they become helpful in making a merger succeed. Therefore, acquirers should be prudent in making sure their level of R&D and innovation does not suffer because of a merger.

6.1.2 Other Propositions

In addition, there are numerous other implications that can be extracted from this research.

- The amount of fees spent, such as advisory fees, to complete the merger does not offer any better chances than those that spend less. Therefore, firms should avoid spending unnecessarily on fees and focus instead on their capabilities to execute a merger.
- The expected synergies cited by the acquirer should not be overstated in importance. Specifically, economies of scale and scope do not play a critical role.
- Tax benefits also fail to add any value the combined entity. It would thus be senseless for managers to be motivated by tax reasons as, if any, are more than offset by the negative values associated with mergers.
- Further, defensive mechanisms employed by the target firm tend to harm value in the short-term. Thus, engaging in friendly negotiations and avoiding hostile talks, and their associated costs, would be encouraged.
- Moreover, rumors generate significant value in the short-term. Hence, managers should not be concerned if talks are leaked to the public.
- Finally, the involvement of government bodies tends to depress value of the combined entity. Managers should thus avoid deals that would likely attract the attention of authoritative bodies that can oversee the merger and even force talks to terminate. These deals should only be undertaken if the management team is confident of the chances of a finalized deal and certain of its long-term impact on the combined entity.

6.2 Implications & Contributions

6.2.1 Implications

There are many implications from this paper. Before formulating this thesis, I had hoped to find middle ground between the two general opposing theories of the literature. With this research, I can conclude that both sides of the argument have their merits. Even though I find a few determinants that show a correlation, with some being strong, with the CAR of the combined entity following the merger, there are still many that are unknown. In fact, even my full model with all the determinants incorporated fails to explain much of the abnormal returns following the merger. Therefore, the two arguments are not mutually exclusive and can coexist together in common ground.

Secondly, I present empirical evidence regarding many of the key determinants studied in previous studies, helping to further our understanding on mergers. In general, mergers are difficult to understand and predict. However, with an effective scope of study on those in question can provide investors stronger chances of successful decisions. In addition, managers can use the framework to better execute their acquisitions. I further Hitt et al.'s study by enhancing it. Whereas only positive traits are tested on the top performing mergers and the negative traits on poorly performing mergers, I apply, as an extension, the same criteria to the two different groups of mergers and compare between them.

Further, one of the main lessons that can be drawn from this study is that there are multiple aspects to consider before executing a merger. An acquirer needs to understand both sources of value-creation and value-destruction before executing a merger to maximize its chances of a successful

purchase. In addition, a company should not be overly focused on a single determinant, no matter how important that trait may be. Instead, it should consider all potential sources of failure and success on a weighted basis from most to least important.

In addition, even with high confidence levels from the leadership team, no company is too big to fail, a trap many companies fell into. This may lead the acquirer to believe that small and, perhaps, even large mergers will have small consequences on its operations if they were to fail. As I show in my multiple event study, this sentiment is dangerous and could cause a company to collapse and lose its relevance in the market.

6.2.2 Contributions

As for the main contributions, there are plenty.

1) **Deep Dive in the literature debate regarding the presence of M&A determinants:** this research started with a thorough analysis of the contrasting arguments of our knowledge of M&As in the literature. I grouped them into two separate groups and organize the main argument presented by each group. Whereas one group of literature states that the determinants of post-merger success are unknown to us, the other asserts that some of them are known to exist and can be controlled for to better predict the chances of a successful merger.
2) **Exploring and furthering the research of mergers and acquisitions**: The results help provide strong insight on the reasoning and foundations of the two arguments. I show that several key determinants that may be obvious and expected to impact mergers have no correlation with the future abnormal gains. In addition, certain traits produced results that opposed the expected correlation with the CAR of a merger. However, at the same time, I also show a few determinants that have a strong and consistent relationship with the CAR.
3) **Comprehensive breakdown of the most and least successful mergers:** In my multiple event case study, I studied the top 25 and bottom 25 performing mergers of my sample. I also studied the most notorious and largest failed merger since the start of the 21st century, the AOL Time Warner merger. There are many key traits that lead to a successful or disastrous merger. Interesting enough, not a single of the mergers were characterized by just one trait. Subsequently, an acquirer should control for the most traits it can to maximize its chances of a successful merger.
4) **Presenting and eliminating potential determinants of post-merger performance**: In the final part of my research, I studied several determinants and, at least to my knowledge identified a few previously unexplored determinants of post-merger performance. In addition, I also eliminated a few as they show no correlation with the CAR of the combined entity following the merger. This part of the research once again proves both sides of the argument as there are still hundreds if not thousands of unknown and still unexplored determinants of post-merger success. Once identified, they can strengthen our understanding on what causes a merger to fail and what helps a merger succeed.

All in all. I hope this thesis serves as a starting point for further research on the unknown and unexplored determinants of post-merger performance. Identifying the most important ones can further our understanding on what decides the outcome of a merger and help formulate an accepted framework to accurately predict future success or failure of a merger.

VII. Conclusion

7.1 Summary of Findings

This thesis has important meaning to better understand the mechanics of mergers and acquisitions. It finds middle ground between the two sides of the argument in the literature. While many, if not most of the determinants are still unknown and, thus, unexplored, I report several findings that correlate the future performance of the combined entity to several key determinants tested. With these findings, I formulated key propositions. Firstly, risk reduction measures do not add any value to the merger. Instead, they destroy value for the shareholders. Secondly, the performance of a merger cannot by predicted based on past financial data nor can it be timed based on trends. Thirdly, the structure and size of the deal are key indicators of the potential performance of mergers. Fourthly, the proper governance of the management team is critical. Fifthly, cross-border mergers do not necessarily perform worse than domestic mergers although they may complicate the integration process. On the other hand, unrelated mergers perform worse than related mergers including both vertical and horizontal mergers. Sixthly, the expansion or enlargement of market power does not boost the chances of a successful merger. Finally, the commitment of the acquirer on R&D expenses and innovation is also critical to avoid complacency. However, internalization does not play a major role in the performance of cross-border mergers. Therefore, in all, these findings further our current understanding and provide a deeper insight on the mechanisms of M&A.

7.2 Summary of Research Methodology

In this research, the determinants of post-merger performance were tested against the CAR of the acquiring company in three different sections using two main techniques. The first and third sections were based on the quantitative technique in which the determinants are tested directly to determine for any significance between the independent variables and the dependent variable. The first and main section essentially collects the already debated determinants in the literature and studies them against the CAR. The final section is simply the attempt to identify new and previously unexplored determinants of post-merger performance. In the second section, I studied pre-selected traits based on the study by Hitt. et al using a qualitative method. I conducted a multiple event study based on the 25 best- and worst-performing mergers within the total sample. Finally, results and implications from all three of these sections are collected to form my propositions.

7.3 Avenue for Future Research

Even despite my lengthy research on the determinants of post-merger performance, most key traits are still unknown. As result, accurately predicting mergers is nearly impossible. Therefore, I encourage further research in the still unknown area of understanding of these important phenomena in the financial world. An important aspect to consider is the fact that no merger is impacted by a singular determinant. In other words, numerous traits need to be studied when studying the one determinant in question. After all, as Jensen and Ruback put it best, "knowledge of the source of takeover gains still eludes us. [Jensen and Ruback 1983, p. 47] Written almost forty years ago, this quote still holds true. Future research can go a long way in extending our knowledge in the field of Mergers and Acquisitions.

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Appendix

Appendix A: Tables & Figures

Introduction

Table 1: Motives for Mergers

Table 1. Motives for mergers
Economic motives
Marketing economies of scale
Increase profitability
Risk-spreading
Cost reduction
Technical economies of scale
Differential valuation of target
Defence mechanism
Respond to market failures
Create shareholder value
Personal motives
Increase sales
Managerial challenge
Acquisition of inefficient management
Enhance managerial prestige
Strategic motives
Pursuit of market power
Acquisition of a competitor
Acquisition of raw materials
Creation of barriers to entry

Brouthers et al. (1998). Pg 348.

Literature Review

Table 2: Summary of Literature Review

Summary of Literature Review				
Determinant	**Theorized Nature of Determinant**	**Description**	**Research Status**	**Empirical Knowledge Status**
Panel A: Quantitative Study				
Positive Traits				
Economies of Scale and Scope	Value-Enhancing	Gains are expected to be generated from the decrease in the average costs across its product and service offerings.	Deep Research	Contested
Market Power & Market Share	Value-Enhancing	The increase in market power is the ability to freely raise prices after acquiring a larger market share.	Deep Research	Heavily Contested
Coinsurance Effect	Value-Enhancing	Following the merger, the probability of default is significantly reduced through the benefits of the coinsurance effect.	Sufficient Research	Contested
Operating Performance	Value-Enhancing	Improvements in operations can lead to significant increases in cash flow as well as to the productivity of its assets.	Deep Research	Contested
Cost Cutting	Value-Enhancing	Reductions in expenses should lead to stronger gains for the combined entity moving forward.	Limited Research	Lack of Research and Evidence
Relative Size	Greater Potential of Absolute Gains	The larger the value of the transaction, or the target, relative to the acquirer, the greater is the potential of gains.	Deep Research	Contested
Pre-acquisition Performance	Correlation Between the Past and the Future	Much of the post-merger performance could depend on the pre-merger strength and performance of the acquirer.	Limited Research	Leaning Towards a Positive Relationship
Relatedness	Value-Enhancing	The relatedness promoting acquisitions that fit the acquirer's market strategy can guide the post-merger performance more smoothly.	Sufficient Research	Contested
Cross-Border M&A	Benefiting from sources of gains	CBMA can benefit from the increased exposure to local geographic markets as well as from internalization. On the other hand, they may struggle due to cultural differences.	Deep Research	Heavily Contested
Method of Payment	Projects State of Acquirer	The method of payment sends a signal of the bidder’s confidence in the acquisition to the market	Deep Research	Inconclusive but leaning towards a positive effect
Organizational Learning	Value-Enhancing	With the absorptive capacity to learn, previous M&A experiences can play a large role in helping the acquirer conduct a smoother merger.	Deep Research	Contested

Sufficient Time	Value-Enhancing	Mergers need enough time between acquisitions to avoid losing control. Thus, with sufficient time, mergers can benefit greatly over those that are rushed.	Limited Research	Leaning Towards a Positive Relationship
Tax Benefits	Value-Enhancing	Firms can take advantage of mergers for the tax benefits they provide including deferred taxes and tax loss carry forwards.	Sufficient Research	Contested
Proximity of Firms	Value-Facilitation	The close proximity of the two parties involved in the merger can avoid typical pitfalls like cultural dissimilarities.	Sufficient Research	Contested
Internalization	Value-Enhancing	Firms can greatly benefit from cross-border acquisitions by exploiting tangible and intangible firm-specific assets	Sufficient Research	Leaning Towards a Positive Relationship
		Negative Traits		
High Premiums	Value-Destruction	High premiums make it harder on the acquirer to generate value from their acquisitions and to, at least, match it to the expected synergies.	Deep Research	Contested but leaning towards a negative effect
Risk Reduction	Value-Destruction	Risk reduction through the form of diversification tends to harm shareholder value as there are more efficient methods of doing so for a firm.	Deep Research	Contested
Hostile, Unfriendly Takeovers	Value-Destruction	Hostile takeovers are costly and time-consuming and create discord between the two parties involved.	Deep Research	Leaning Towards a Negative Relationship
Entrenchment of Defensive Mechanisms	Value-Destruction	The use of defensive techniques to fight off a takeover damages the firm's appeal or worsens the deal for the acquirer.	Sufficient Research	Leaning Towards a Negative Relationship
Free Cash Flow	Value-Destruction	Excessive amounts of FCF can lead to agency costs as the management team fail to align their own interests with those of their shareholders	Deep Research	Contested
Debt Level	Value-Destruction	The debt level tends to increase significantly following a merger and may even risk violating debt covenants.	Sufficient Research	Mainly a Negative Relationship
Hubris	Value-Destruction / No Impact	Hubris managers tend to be blinded by overconfidence and hence make poor decisions.	Limited Research	Leaning Towards a Negative Relationship

Panel B: Multiple Event Study				
Determinant	**Theorized Nature of Determinant**	**Description**	**Frequency**	**Knowledge Status**
		Positive Traits		
Complimentary Assets, Resources or Strategies	Value-Enhancing	The strategic focus facilitates the stream of synergies from the merger and creates a competitive advantage.	Characterized by 12 of 12	Positive Relationship
Friendly Acquisitions	Value-Enhancing	Friendly acquisitions lead to smoother negotiations and to easier management integration of the combined entity.	Characterized by 12 of 12	Positive Relationship
Low-to-Moderate Debt Position	Value-Enhancing	Low levels of debt in a merger can help decrease the financing costs as well as the risks involved.	Characterized by 10 of 12	Positive Relationship
Experience in Implementing Change	Value-Enhancing	Experience in implementing change can be instrumental in facilitating the integration process.	Characterized by 8 of 12	Contested
Emphasis on Innovation	Value-Enhancing	The emphasis on innovation and research is critical for the long-term success and sustainable competitive advantage for the combined entity.	Characterized by 8 of 12	Leaning Towards a Positive Relationship
Focus on Core Businesses	Value-Enhancing	The focus on the core businesses allows the acquirer to leverage its assets to facilitate the achievement of synergies.	Characterized by 7 of 12	Positive Relationship
Careful Selection of Target	Value-Enhancing	The skillful selection of target can help avoid overpayments and identify and acquire firms with the strongest complementary fit.	Characterized by 5 of 12	Positive Relationship
Financial Slack	Value-Enhancing	Financial slack can lead to better access to financing and at a lower cost.	Characterized by 5 of 12	Contested
		Negative Traits		
Large or Extraordinary Debt	Value-Destruction	High levels of debt can lead to higher financing costs, higher risk, and decreased chances in committing to long-term investments.	Characterized by 11 of 12	Mainly a Negative Relationship
Inadequate Target Evaluation	Value-Destruction	Poor target evaluation can lead to overpayments, higher premiums, higher risks, and a poor strategic with the target.	Characterized by 11 of 12	Negative Relationship
Ethical Concerns	Value-Destruction (Incl. Indirectly)	Ethical concerns damage the reputation of the firms involved in the merger.	Characterized by 10 of 12	Negative Relationship
Major Changes	Value Disruption	Major changes across the management team tends to cause the firm to lose its identity and strategic leadership.	Characterized by 9 of 12	Negative Relationship
Lack of Control	Value Disruption	The loss of control due to multiple acquisitions done within a short period of time can limit the time needed to focus on any one merger.	Characterized by 9 of 12	Lack of Research and Evidence
Diversification	Value Disruption	The lack of relatedness between the core businesses of the two parties can hamper the strengths of the combined entity.	Characterized by 6 of 12	Contested

Panel C: Other Studied Determinants				
Determinant	**Theorized Nature of Determinant**	**Description**	**Research Status**	**Knowledge Status**
Characteristics of the Executives	Value Creation / Destruction	When conducting mergers, managers may be motivated by hubris, managerialism, or synergistic reasons, which can greatly impact the returns.	Sufficient Research	Existing Relationship
Retention of Key Employees	Value-Enhancing	The retention of employees is fundamental to facilitate the integration process and expand the knowledge of the firm.	Deep Research	Mainly a Positive Relationship
Early Positioning	Value-Enhancing	Early positioners of merger waves can take advantage by avoiding high premiums and exploiting the information asymmetry held.	Sufficient Research	Contested
Governmental Participation	Value Disruption	The involvement of authoritative bodies in a merger can complicate its process and impose conditions and restrictions the acquirer must respect.	Sufficient Research	Contested
The Integration Process	Value Disruption	The integration process if the critical step in merging all contrasting cultures into one entity.	Deep Research	General Understanding of its High Importance
Empire Building	Value-Destruction	Empire is a significant agency cost and is characterized by power-hungry managers and a random series of acquisitions.	Limited Research	Lack of Research and Evidence
Rumors	Value Disruption	Rumors leak information, including the merger, to the market before its official announcement.	Deep Research	Contested
High Tech Industry	Value Disruption	The high level of technology growth and high uncertainty compound the difficulties of a successful merger.	Limited Research	Contested but leaning towards a negative effect
Transactional Value	Greater Volatility of Returns	Large transactions tend to impact the operations and state of the acquirer and its operations more significantly.	Limited Research	Contested

Panel D: New Potential Determinants				
Number of Advisors	Value Identification	The expertise of advisors can be used to better to select a target and understand the complexity of the deal.	Limited to Little Research	Lack of Research and Evidence
Competing Bids	Improved Governance	The increased competition may improve the quality of target selection.	Limited Research	Lack of Research but Small Evidence of a Positive Correlation
Termination Fee	Value-Destruction	The termination fee may lock-in either party into a deal they may no longer desire.	Limited to Little Research	Lack of Research but Small Evidence of a Negative Correlation
Mismatch of Consideration	Value Disruption	The mismatch in the final offer may indicate disharmony in the negotiation stage of the two firms.	Limited to Little Research	Lack of Research and Evidence
Portfolio Company Activity	Value-Facilitation	A company can diversify its business by engaging with its own portfolio.	Limited Research	Lack of Research but Small Evidence of No Impact.
Fairness Opinion	Value-Facilitation	Fairness opinions can be used to gain a better understanding on the fairness of the deal offered,	Limited to Little Research	Lack of Research and Evidence
Total Fees	Value Creation / Destruction	The total amount of fees is the total actual value spent on completing the merger,	Limited to Little Research	Lack of Research and Evidence
Financing Method	Value Destruction	The issuance of stock dilutes ownership whereas that of debt instead raises the risk level of the firm.	Limited Research	Lack of Research but Evidence of Negative Correlation
Divestiture	Value Destruction	Individual units of a company tend to be sold after a previous failed merger.	Limited Research	Lack of Research but Evidence of Negative Correlation
Definitive Agreement	Value Restriction	A definitive agreement defines the final terms of the deal between the parties and stipulates conditions.	Limited Research	Lack of Research and Evidence
Collars	Value Restriction	Collars are used to limit the fluctuation of the final price.	Limited Research	Lack of Research and Evidence
Target Bankruptcy	Value Creation	Targets facing financial distress may sell off its units or the entire entity at discounts to avoid declaring bankruptcy.	Limited Research	Lack of Research but Small Evidence of a Positive Correlation
Increase in the Offering Price	Projects State of Acquirer	The increase in the offering price may signal increased confidence from the acquirer's side	Limited to Little Research	Lack of Research and Evidence

Data & Sample

Table 3: Example of sample selection

Sample Selection

Imposed Restrictions	**Sample Size**
Initial Sample Restrictions	
0) DATABASES: Special Merger Sectors (Aus/NZ) (MA, OMA, IMA)	-
1) Date Announced: 01/01/2000 to 12/31/2018 (Custom) (Calendar)	-
2) Target Nation: US	205650
3) Target Public Status: Public	27115
4) Acquiror Nation: US	24551
5) Acquiror Public Status: Public	18568
6) Containing SIC Codes	18568
7) Completed Mergers	6008
8) Bidder Acquired Majority Stake (>50%) after Owning Less than 50%	3493
8) Transaction Value Exceeding $10M	3082
9) Non-financial and Regulated Industries	1638
Initial Sample	
Additional Sample Restrictions	
10) Price and related data available from CRSP	1620
Final Sample	**1620**

Source: Thomson Reuters Date: 12/14/2019

Table 4: Classification of Industries based on SIC codes

Range of SIC Codes	Division
0100-0999	Agriculture, Forestry and Fishing
1000-1499	Mining
1500-1799	Construction
1800-1999	not used
2000-3999	Manufacturing
2000-3999	Transportation, Communications, Electric, Gas and Sanitary service
5000-5199	Wholesale Trade
5200-5999	Retail Trade
6000-6799	Finance, Insurance and Real Estate
7000-8999	Services
9100-9729	Public Administration
9900-9999	Non-classifiable

Table 5: Merger Classification Example

Date Announced	Target Name	Target Short Business Description	Target Primary SIC Code	Target Industry Sector	Acquiror Name	Acquiror Short Business Description	Acquiror Industry Sector	Acquirer Primary SIC Code	Classification
11-08-15	Plum Creek Timber Co Inc	Own,operate timberlands	0811	Agriculture, Forestry, and Fishing	Weyerhaeuser Co	Own,operate timberlands	Agriculture, Forestry, and Fishing	0811	H
04-03-01	DTM Corp	Mnfr special industry mach	3559	Machinery	3D Systems Corp	Develop 3D printing software	Prepackaged Software	7372	C
08-30-10	Cogent Inc	Dvlp fingerprint biometric sys	7373	Business Services	3M Co	Mnfr,whl surgical,med equip	Measuring, Medical, Photo Equipment; Clocks	3841	C
06-26-07	Web.com Inc	Pvd hosting,consulting svcs	7375	Business Services	Website Pros Inc	Dvlp Internet software	Prepackaged Software	7372	V
06-26-00	HomeGrocer.com	Pvd online grocery shopping	7375	Business Services	WebVan Group Inc	Online grocery store	Business Services	7389	V

Figure 1: Sample Distribution of Subsamples

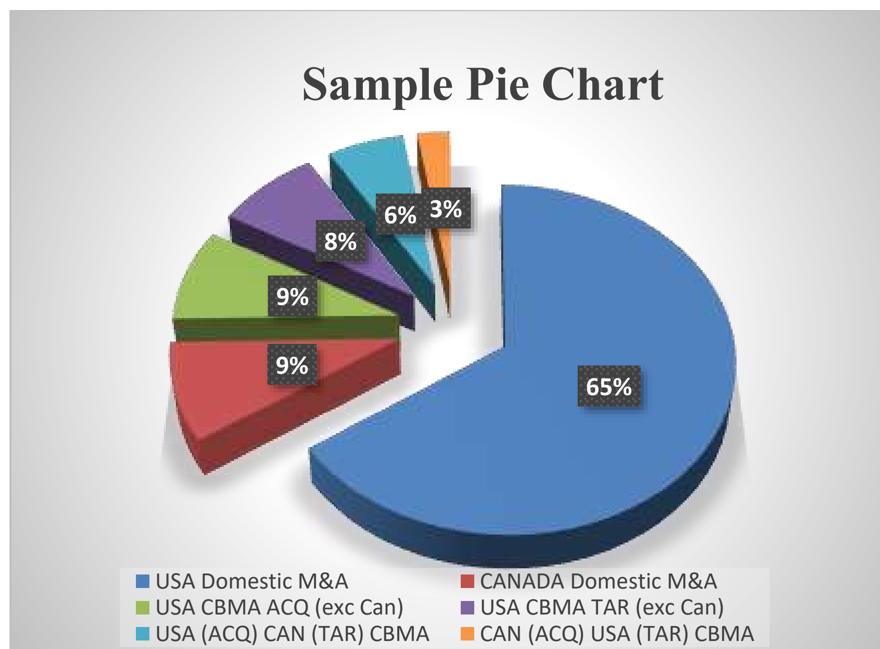


Table 6: Sample Distribution

Panel A

Nationality	Frequency	%
United States	2024	92.9%
Canada	344	15.8%

Panel B

Year	Frequency	Cross-Border	%	Domestic	%	Horizontal	%	Vertical	%	Conglomerate	%
2000	287	68	23.7%	219	76.3%	104	36.2%	128	44.6%	55	19.2%
2001	209	43	20.6%	166	79.4%	99	47.4%	64	30.6%	46	22.0%
2002	134	30	22.4%	104	77.6%	59	44.0%	54	40.3%	21	15.7%
2003	137	30	21.9%	107	78.1%	65	47.4%	48	35.0%	24	17.5%
2004	142	31	21.8%	111	78.2%	61	43.0%	49	34.5%	32	22.5%
2005	151	33	21.9%	118	78.1%	73	48.3%	40	26.5%	38	25.2%
2006	154	44	28.6%	110	71.4%	62	40.3%	57	37.0%	35	22.7%
2007	170	47	27.6%	123	72.4%	71	41.8%	58	34.1%	41	24.1%
2008	117	32	27.4%	85	72.6%	59	50.4%	32	27.4%	26	22.2%
2009	102	24	23.5%	78	76.5%	52	51.0%	30	29.4%	20	19.6%
2010	115	34	29.6%	81	70.4%	51	44.3%	47	40.9%	17	14.8%
2011	77	20	26.0%	57	74.0%	40	51.9%	28	36.4%	9	11.7%
2012	93	26	28.0%	67	72.0%	30	32.3%	42	45.2%	21	22.6%
2013	80	18	22.5%	62	77.5%	46	57.5%	21	26.3%	13	16.3%
2014	102	29	28.4%	73	71.6%	52	51.0%	36	35.3%	14	13.7%
2015	128	35	27.3%	93	72.7%	69	53.9%	34	26.6%	25	19.5%
2016	97	23	23.7%	74	76.3%	44	45.4%	37	38.1%	16	16.5%
2017	85	30	35.3%	55	64.7%	38	44.7%	35	41.2%	12	14.1%
2018	93	29	31.2%	64	68.8%	40	43.0%	36	38.7%	17	18.3%
Total	**2473**	**626**	**25.3%**	**1847**	**74.7%**	**1115**	**45.1%**	**876**	**35.4%**	**482**	**19.5%**

Table 7: Statistics on organizational learning

Table 10	CAAR(-1, +1)	CAAR (0, 0)	CAAR (+31, +211)
Number of Mergers			
Acquirers with 1 Merger	-1.73%	-1.12%	-15.34%
Acquirers with 2 Mergers	-1.03%	-0.66%	-10.30%
Acquirers with 3 Mergers	-1.83%	-1.29%	-10.18%
Acquirers with 4 Mergers	-0.37%	-0.72%	-0.27%
Acquirers with 5 Mergers	-1.15%	-1.04%	-5.98%
Acquirers with 6 Mergers	-0.17%	-0.81%	-8.28%
Acquirers with 7+ Mergers	-0.23%	-0.47%	-5.60%
Learning			
Acquirers with 1 Merger	-1.73%	-1.12%	-15.34%
Acquirers with Multiple (2+) Mergers	-0.92%	-0.81%	-7.77%
Acquirers with 3+ Mergers	-0.86%	-0.88%	-6.51%
Acquisitions done as first attempts	-1.58%	-1.01%	-14.05%
Acquisitions done as second attempt	-1.07%	-0.97%	-4.96%
Acquisitions done a third attempt and onwards	-0.48%	-0.66%	-7.18%

Table 8: Statistics on the Sufficiency of time between mergers

Managing Mergers				
Panel A (with and without prior experience)				
Acquisitions done within 3 months	**88**	**-2.34%**	**-1.48%**	**-13.12%**
Acquisitions done within 3 to 6 months	**59**	**-0.93%**	**-0.89%**	**-18.58%**
Acquisitions done within 6 to 12 months	**126**	**-0.94%**	**-1.26%**	**-10.32%**
Acquisitions done within 1 to 5 years	**473**	**-0.38%**	**-0.53%**	**-3.95%**
Acquisitions done after 5 years after first merger	**180**	**-0.51%**	**-0.76%**	**-2.34%**
Panel B (Without prior experience)				
Acquisitions done within 3 months	**15**	-3.11%	-1.62%	-15.28%

Acquisitions done within 3 to 6 months	**8**	1.42%	-0.26%	-56.78%
Acquisitions done within 6 to 12 months	**14**	-3.12%	-3.10%	-27.61%
Acquisitions done within 1 to 5 years	**114**	0.03%	-0.23%	-3.76%
Acquisitions done after 5 years after first merger	**81**	-0.96%	-1.02%	-3.70%
Panel C (With prior experience)				
Acquisitions done within 3 months	**73**	-2.18%	-1.45%	-12.67%
Acquisitions done within 3 to 6 months	**51**	-1.30%	-0.99%	-12.59%
Acquisitions done within 6 to 12 months	**112**	-0.67%	-1.03%	-8.15%
Acquisitions done within 1 to 5 years	**359**	-0.50%	-0.62%	-4.01%
Acquisitions done after 5 years after first merger	**99**	-0.15%	-0.54%	-1.23%

Methodology

Figure 2: Classification of Negotiation

+2: Smaller than 20% (<20%)
+1: Between 20% and 40% (20%-40%)
0: Between 41% and 60% (40%-60%)
-1: Between 61% and 80% (60%-80%)
-2: Between 81% and 100% (80%-100%)
-3: Larger than 101% (>101%)

Table 9: Summary of Variables

Panel A: Positive Traits

Variables	Description	Measure	Expression (Formula)	Symbol Description
Positive Theorized Traits	**These traits are expected to be positively correlated with the post-merger abnormal returns of the combined entity.**	CAR_i	$CAR_i = +X\beta_j + \varepsilon$	**where the CAR denotes cumulative abnormal returns in the window i, where i denotes the windows (-1, +1), (0,0) & (+31, +211), X denotes the independent variables, B their betas, and e the error term**
Synergies (	Synergies can capture the expected benefits from economies of scale and scope by the increase in firm size.	Syn	$Syn = Expected\ Synergies_{PT,AT}$	where Syn denotes Synergies, and PT and AT denote pre-tax and after-tax, respectively.
Market Power	The market power measures the power of the firm on the price levels of the market it operates in	MP	$CAR_H\ Vs.\ CAR_V$	where H denotes horizontal mergers and v denotes vertical mergers.
			$Q = \frac{Equity\ Market\ Value}{Equity\ Book\ Value}$	where Q denotes Tobin's Q
Operating Performance	The operating performance measures the effectiveness and efficiency of the firm's use of its assets.	OP	$IT = \frac{Net\ Sales\ LTM}{Inventory\ LTM}$	where IT denotes Inventory Turnover, and LTM is Last Twelve Months
			$FAT = \frac{Net\ Sales\ LTM}{Net\ Fixed\ Assets}$	where FAT denotes Fixed Asset Turnover, and LTM is Last Twelve Months
			$ART = \frac{Net\ Sales\ LTM}{Accounts\ Receivable\ LTM}$	where ART denotes Accounts Receivable Turnover, and LTM is Last Twelve Months
			$OCR = \left\lvert \frac{Inv}{COGS}\ x\ 365 \right\rvert + \left\lvert \frac{RCBL}{Sales}\ x\ 365 \right\rvert$	where OCR denotes Operating Cycle Ratio, Inv (inventory), COGS (cost of goods sold), RCBL (receivables). All in Last Twelve Months
			$CCC = \left(\left\lvert \frac{Inv}{COGS} \right\rvert + \left\lvert \frac{RCBL}{Sales} \right\rvert - \left\lvert \frac{Pay}{COGS} \right\rvert \right) x365$	where CCC denotes Cash Conversion Cycle Ratio, and Pay (Payables); All in Last Twelve Months
Cost Cutting	Cost Cutting measures the reduction in expenses.	CC	$COGS = COGS_{Acq} + COGS_{Tar}$	where COGS denotes Cost of Goods Sold in the last twelve months, Acq (Acquirer), Tar (Target).
Pre-Merger Performance	This determinant measures the target's performance preceding the merger.	TPP	$ROA = \frac{Net\ Income}{Total\ Assets}$	where both the net income and total assets are in the last twelve months
			$ROE = \frac{Net\ Income}{Shareholders'\ Equity}$	where both the net income and shareholders' equity are in the last twelve months
Organizational Learning	Corporate age, or organizational learning, captures the acquirer's experiences from past M&A.	Learn	Learn = 1, if acquirer had experience Learn = 0, if acquirer had no experience	where learn is a dummy variable that takes on the value of either 0 or 1.
Tax Benefits	This variable measures the benefits of taxes in M&A.	TaxB	DefT = Deferred Taxed LTM	where DefT denotes defereed taxes and LTM denotes last twelve months
			NOL = |(Net Income)|, if a loss was recorded NOL = 0, if no loses were registered	where NOL denotes Net Operating Loss and Net Income is in the last twelve months.
Proximity	The proximity of the two parties is used as a proxy for cultural similarities (at the corporate and national level).	Prox	Same state = 1, if both in same state Same state = 0, if not in same state	where 'same state' is a dummy variable that equals 1 if both the acquirer and the target are located in the same state and 0 if otherwise.
			Border = 1, if states border Border = 0, if states do not border	where 'border' is a dummy variable that equals 1 if both the acquirer and the target are located in states that border one another and 0 if otherwise.
Human Capital	The human capital measures the productivity of the firm's employees.	HC	$SRPE = \frac{Net\ Sales\ LTM}{Number\ of\ Employees}$	where SRPE denotes Sales Revenue per Employee, and LTM last twelve months.
Internalization	Internalization captures the intangible assets and knowledge of the firm.	Intern	$R\&D\ Level = \frac{R\&D\ Expense\ LTM}{R\&D\ Median\ Value}$	where R&D denotes research and development, and LTM last twelve months.
			$Know\ How\ Level = \frac{Intangible\ Assets\ LTM}{Median\ Value}$	Where the intangible assets are recorded over the last twelve months.
Investment Policy	The investment policy measures the acquirer's commitment to its long-term prospects.	Invest	$CAPEX\ rate = \frac{CAPEX}{MV\ of\ Assets}$	where CAPEX denotes the capital expenditures and MV market value. Both in the last twelve months.
			$R\&D\ rate = \frac{R\&D\ Expenditure}{MV\ of\ Assets}$	where R&D denotes the research and development and MV market value. Both in the last twelve months.

Panel B: Negative Traits

Negative Theorized Traits	These traits are expected to be negatively correlated with the post-merger abnormal returns of the combined entity.	CAR_i	$CAR_i = -X\beta_j + \varepsilon$	where the CAR denotes cumulative abnormal returns in the window i, where i denotes the windows (-1, +1), (0,0) & (+31, +211), X denotes the independent variables, B their betas, and e the error term.
High Premiums	High premiums capture the acquirer's potential overpayment and over-confidence in the final offer.	Prem	$Low\ Premium: \frac{Premium_x}{Median\ Premium} < 1$	where premium x is the premium offered by acquirer x to the target to close out the deal.
			$High\ Premium: \frac{Premium_x}{Median\ Premium} \geq 1$	
Hostile Takeovers	The hostility of a merger indicates the nature of negotiation talks between the two parties. Hostile talks signal an unwillingness to merge.	Host	Hostile = 1, if merger attitude is hostile;	where 'hostile' is a dummy variable that takes on the value of 1 if the merger was characterized with hostile talks, or 0 if the merger was on friendly terms.
			Hostile = 0, if merger attitude is friendly.	
			Proxy = 1, if merger involved a proxy battle; Otherwise, Proxy = 0.	where 'proxy' is a dummy variable that takes on the value of 1 if the merger involved a proxy battle, or 0 if not.
			Tender = 1, if merger involved a tender offer. Otherwise, Tender = 0	where 'tender' is a dummy variable that takes on the value of 1 if the merger involved a tender offer, or 0 if not.
			Lit = 1, if merger involved a litigation battle; otherwise, Lit = 0.	where 'Lit' is a dummy variable that takes on the value of 1 if the merger involved a litigation battle, or 0 if not.
Defensive Mechanisms	Defensive mechanisms indicate the target's willingness to be sold off.	Def	Defense = 1, if target employed defensive mechanism(s), Defense = 0, if target did not employ defensive mechanism(s).	where 'defense' is a dummy variable that takes on the value of 1 if the target used 1) Asset Lockup, Stock Lockup, Lockup Agreement owned by target, and other Lockup, 2) Poison Pill, including Backend and Flipover, 3) Greenmail, 4) Pac-man, 5) Recapitalization, 6) Repurchase, 7) Scorched Earth, 8) Self-Tender, 9) Voting Plan Poison Pill, 10) White Knight, 11) White Squire, and 12) any other defensive tactics, or 0 if none were used.
Cultural Differences	The distance between the parties can capture the cultural differences at, specifically, the corporate level.	CD	Distance = Actual distance (b/w the target and the acquirer)	The actual distance is measured in km and is the distance between the cities of the parties' headquarters.
Risk Reduction	This variable captures the risk reduction purposes of conducting mergers.	RR	RR = 1, if merger is considered conglomerate;	where 'RR' denotes risk reduction and is a dummy variable that takes on the value of 1 if the merger is unrelated (conglomerate), or 0 if not.
			RR = 0, if merger is not conglomerate.	
Free Cash Flow	Free Cash Flow captures the potential issues, known as agency costs, of holding large amounts of cash	FCF	FCF = CFO - CAPEX	where FCF denotes free cash flow, CFO cash from operations, and CAPEX capital expenditures. All in the last twelve months.
High Debt	High Debt captures the weakening of the firm's financial picture.	Debt	$Debt\ Level = \frac{Debt_x}{Median\ Debt}$	where debt x is the total debt of firm x in the last twelve months.
			$Gearing\ Ratio = \frac{Total\ Debt}{Total\ Equity}$	where both the total debt and total equity are in the last twelve months.
Rumor	Rumors capture the leak of information before the official announcement.	Rumor	Rumor = 1, if merger began as a rumor;	where 'rumor' is a dummy variable that takes on the value of 1 if rumors leaked the merger to the public, or 0 if no rumors were reported.
			Rumor = 0, if no rumors were reported.	
Empire Building	Managers concerned with their own power may intend to complete mergers to increase at the expense of future performance.	Emp	$Inc\ in\ MV = \frac{MV\ of\ Acq + MV\ of\ Tar}{MV\ of\ Acq} - 1$	where Inc in MV denotes the increase in Market Value, Acq (Acquirer), Tar (target) and MV (Market Value).
			$Inc\ in\ BV = \frac{BV\ of\ Acq + BV\ of\ Tar}{BV\ of\ Acq} - 1$	where Inc in BV denotes the increase in Book Value, Acq (Acquirer), Tar (target) and BV (Book Value).

Panel C: Neutral and Control Traits

Neutral Theorized Traits	**These traits are not expected to be correlated with the post-merger abnormal returns of the combined entity.**	CAR_i	$CAR_i = X\beta_j + \varepsilon$	**where the CAR denotes cumulative abnormal returns in the window i, where i denotes the windows (-1, +1), (0,0) & (+31, +211), X denotes the independent variables, B their betas, and e the error term**
Cross-Border Merger	The Cross-Border Merger variable captures the international nature of the acquisition.	**CBMA**	CBMA = 1, if merger is cross-border	where 'CBMA' is a dummy variable that takes on the value of 1 if the merger is cross-border, or 0 if it is instead domestic.
			CBMA = 0, if merger is not cross-border.	
Relative Size	This variable measures the relative size of the target to that of the acquirer.	**RS**	$RS_1 = \log\left(\frac{MV\ of\ Target}{MV\ of\ Acquirer}\right)$	where RS1 denotes relative size 1, and MV market value, which is measured using the market capitalization 4 weeks prior to the event.
			$RS_2 = \log\left(\frac{Target\ Sales\ Premerger}{Acquirer\ Sales\ Premerger}\right)$	where RS2 denotes relative size 2, and the sales premerger are measured in the last twelve months.
Governmental Participation	This variable measures the impact authoritative bodies may have on mergers.	**GOV**	Gov = 1, if merger involved government participation; otherwise Gov = 0.	where 'gov' is a dummy variable that takes on the value of 1 if an authoritative body was involved in the merger, or 0 if no authoritative body participated.
			Law = 1, if merger is completed in a state that regulates mergers; otherwise, law = 0.	where 'law' is a dummy variable that takes on the value of 1 if the merger was conducted in a state that regulates mergers, or 0 if mergers are not regulated.
Hubris	Hubris captures the over-confidence and poor decision making from the acquirer's management team	**Hubris**	Hubris = 1, if prior merger suffered significant negative CAR; Otherwise Hubris = 0.	where 'hubris' is a dummy variable that takes on the value of 1 if the acquirer suffered significant and negative CAR on its previous acquisition, or 0 if otherwise. Hubris is tested in each of the 3 windows.
Control Variables	**Control variables are used to control for any potential confounding effects that may be related to the dependent variable**	**N/A**	**N/A**	**N/A**
Transaction Value	This variable measures the total transaction value, including the premium, paid to the target to close out the deal.	**TV**	TV = Total Transaction Value in USD	The total transaction value of the final offer is extracted directly from the SDC database and is measured in USD.
High-Tech Industry	This variable indicates the type of industry the merger is completed within.	**HighTech**	HighTech = 1, if either party operates within a high-tech industry, Otherwise HighTech = 0.	where 'HighTech' is a dummy variable that takes on the value of 1 if either the acquirer or target operated winin a high-tech industry, or 0 if neither operated in a high-tech industry.

Table 10: Descriptive Statistics on the Top- and Worst-Performing Mergers

Panel A – The Top 25 Performing Mergers

TOP 25 Mergers							
Bidding Firm	**Target Firm**	**Date of Acquisition**	**CAR (-1,1)**	**CAR (0,0)**	**CAR (+31,+211)**	**Related Industries**	**Relatedness**
IVILLAGE INC	Women.com Networks	February 5, 2001	45.11%	2.46%	314.65%	Media (Communications)	Horizontal
BOOKHAM INC	Avanex Corp	January 27, 2009	-13.31%	-1.92%	231.70%	Telecommunication (Optical components)	Horizontal
MEDICINOVA INC	Avigen Inc	December 23, 2008	8.10%	0.48%	206.27%	Healthcare (Biotech & Pharma)	Horizontal
ALAMOS GOLD INC	Carlisle Goldfields Ltd	October 15, 2015	-3.75%	-5.29%	184.07%	Materials (Metals & Mining)	Horizontal
FIRST MAJESTIC SILVER CORP	SilverCrest Mines Inc	July 27, 2015	-7.75%	-13.83%	174.55%	Materials (Metals & Mining)	Horizontal
MANOR CARE INC	In Home Health Inc	July 11, 2000	0.44%	-0.53%	173.94%	Healthcare (Facilities & Svcs)	Vertical
COREL CORP	InterVideo Inc	August 28, 2006	6.50%	2.33%	144.21%	Software (Programming & Publishing)	Horizontal
SABRE HOLDINGS CORP	Getthere.Com Inc	August 25, 2000	-1.35%	1.32%	120.80%	Travel Services & Technology	Vertical
REUTERS GROUP PLC	Multex.com Inc	February 18, 2003	-18.10%	-12.63%	111.66%	Media & Information Services	Vertical
HOVNANIAN ENTERPRISES INC	Washington Homes Inc	August 28, 2000	-1.82%	-7.07%	109.42%	Consumer Discretionary (Home Construction)	Vertical
MAXLINEAR INC	Entropic Communications Inc	February 3, 2015	6.08%	1.20%	103.53%	Tech Hardware & Semiconductors	Horizontal
SCANSOFT INC	Nuance Communications Inc	May 9, 2005	-9.15%	0.26%	103.16%	Software	Horizontal
LENNAR CORP	US Home Corp	February 17, 2000	2.28%	5.74%	97.70%	Consumer Discretionary (Home Construction)	Horizontal
INTERNATIONAL FLAVORS & FRAG IN	Bush Boake Allen(Union Camp)	September 25, 2000	-23.98%	-11.56%	94.47%	Materials (Chemicals)	Vertical
MAY DEPARTMENT STORES CO	David's Bridal Inc	July 3, 2000	2.17%	1.65%	91.02%	Retailing & Specialty Retail	Vertical
ODYSSEY HEALTHCARE INC	VistaCare Inc	January 15, 2008	1.09%	-1.46%	85.77%	Health Care Facilities & Svcs	Horizontal
CEPHALON INC	Salmedix Inc	May 12, 2005	-1.93%	0.33%	81.93%	Healthcare (Biotech & Pharma)	Vertical
LILLY ELI & CO	Armo Biosciences Inc	May 10, 2018	3.08%	1.35%	48.64%	Healthcare (Biotech & Pharma)	Horizontal
R F MICRO DEVICES INC	TriQuint Semiconductor Inc	February 24, 2014	12.84%	20.20%	76.64%	Tech Hardware & Semiconductors	Horizontal
BRISTOL MYERS SQUIBB CO	Kosan Biosciences Inc	May 28, 2008	2.44%	-0.08%	53.28%	Healthcare (Biotech & Pharma)	Vertical
SHIRE PLC	ViroPharma Inc	November 11, 2013	0.20%	0.57%	50.71%	Pharmaceuticals, Healthcare, & Biotechnology,	Horizontal
COMPUTER SCIENCES (	UXC Ltd	October 6, 2015	-0.59%	0.12%	50.24%	IT services	Vertical
O REILLY AUTOMOTIVI	CSK Auto Inc	February 1, 2008	4.42%	2.54%	49.09%	Retail (Auto Parts)	Vertical
FLIR SYSTEMS INC	Lorex Technology Inc	October 25, 2012	2.78%	2.88%	48.99%	Imaging Technology & Electrical Equipment	Vertical
MALLINCKRODT PLC	Ocera Therapeutics Inc	December 26, 2017	-0.15%	1.10%	121.90%	Pharmaceutical	Horizontal
	Sucampo Pharmaceuticals Inc	November 2, 2017	-2.01%	-4.68%	90.40%		Horizontal
			0.52%	**-0.56%**	**116.11%**		

Panel B – The Worst 25 Performing Mergers

Bottom 25 Mergers							
Bidding Firm	**Target Firm**	**Date of Acquisition**	**CAR (-1,1)**	**CAR (0,0)**	**CAR (+31,+211)**	**Related Industries**	**Relatedness**
AKAMAI TECHNOLOGIES INC	InterVU Inc	Febreaury 07, 2000	-3.39%	-4.34%	-674.20%	Internet Media & Software	Vertical
INTERNET CAPITAL GROUP INC	Harbour Ring Intl Hldg Ltd	March 9, 2000	-11.23%	-5.72%	-672.21%	Internet Provider & Conglomerate (B2B, Toys ++)	Conglomerate
TERRA NETWORKS S A	Lycos Inc	May 16, 2000	-29.06%	-8.83%	-335.26%	Internet Media & Services	Horizontal
LION BIOSCIENCE AKTIENGESELLSCH	Trega Biosciences Inc	December 27, 2000	1.38%	5.54%	-323.23%	Software & Healthcare	Conglomerate
PHOTOMEDEX INC	LCA-Vision Inc	Febreaury 13, 2014	0.04%	-0.17%	-235.40%	Healthcare & Laser	Conglomerate
STONE ENERGY CORP	Bois d'Arc Energy Inc	April 30, 2008	-14.90%	-10.16%	-215.45%	Oil & Gas	Horizontal
J D S UNIPHASE CORP	SDL Inc	July 2010, 2000	-22.19%	-13.42%	-211.26%	Semiconductors (Lasers & Equipment)	Vertical
VALEANT PHARMACEUTICALS	Synergetics USA Inc	August 2, 2015	-0.40%	1.57%	-191.21%	Pharmaceuticals & Drug Delivery	Vertical
NORTEL NETWORKS CORP NEW	Alteon Websystems Inc	July 28, 2000	-8.43%	-3.96%	-163.81%	Telecommunications & Networking	Vertical
I S P A T INTERNATIONAL NVA	International Steel Group Inc	October 25, 2004	32.52%	26.75%	-156.87%	Steel	Horizontal
ENERGY XXI LTD	EPL Oil & Gas Inc	March 12, 2014	-2.89%	-7.81%	-145.20%	Oil & Gas	Vertical
TYCO INTERNATIONAL LTD	Sensormatic Electronics Corp	August 3, 2001	0.35%	1.29%	-144.07%	Electronics, Healthcare, Engineered Products	Conglomerate
NORTEL NETWORKS CORP	Architel Systems Corp	April 19, 2000	-5.01%	-1.31%	-142.44%	Telecommunications & Software	Conglomerate
PRECISION DRILLING TRUST	Grey Wolf Inc	June 10, 2008	-0.26%	-3.53%	-129.31%	Oil & Gas	Horizontal
BREITBURN ENERGY PARTNERS L P	QR Energy LP	July 24, 2014	-4.63%	-2.61%	-121.66%	Oil & Gas	Horizontal
TECK COMINCO LTD	Global Copper Corp	April 14, 2008	0.34%	-1.17%	-111.86%	Materials (Metals & Mining)	Vertical
CISCO SYSTEMS INC	ArrowPoint Communications Inc	May 5, 2000	-6.39%	3.68%	-110.20%	Tech Hardware & Semiconductors	Horizontal
UNITED NATURAL FOODS INC	SuperValu Inc	July 26, 2018	-22.98%	-16.19%	-103.88%	Retail & Wholesale (Distribution & Retailing)	Vertical
SEARS ROEBUCK & CO	Lands' End Inc	May 13, 2002	1.68%	-1.72%	-99.95%	Retail & Wholesale	Vertical
ENCANA CORP	Athlon Energy Inc	September 29, 2014	0.93%	2.24%	-95.57%	Oil & Gas	Horizontal
APPLE INC	AuthenTec Inc	July 27, 2012	0.20%	0.10%	-82.89%	Tech Hardware & Semiconductors	Vertical
INVERNESS MED INNOVATIONS INC	BBI Holdings PLC	December 11, 2007	-3.74%	-1.29%	-73.73%	Healthcare	Horizontal
DASEKE INC	Aveda Transportation & Energy	April 16, 2018	-0.21%	1.40%	-72.75%	Transportation	Horizontal
ENERGIZER HOLDINGS INC	Playtex Products Inc	July 12, 2007	5.50%	-0.13%	-72.07%	Consumer Goods & Personal Care	Conglomerate
KROGER COMPANY	Roundy's Inc	November 11, 2015	-0.64%	-0.45%	-57.92%	Retail & Wholesale	Horizontal
			-3.74%	**-1.61%**	**-189.70%**		

Table 11: Key stats on the top and bottom mergers

Descriptive Statistics

	Returns		
	CAR (-1,1)	CAR (0,0)	CAR (+31,+211)
Top 25 Mergers	**0.52%**	**-0.56%**	**116.11%**
Bottom 25 Mergers	**-3.74%**	**-1.61%**	**-189.70%**

	Consideration		
	All Cash	**All-Stock**	**Mixed**
Top 25 Mergers	**13**	**7**	**5**
Bottom 25 Mergers	**8**	**7**	**9**

	Level and Type of Merger			
	CBMA	**DMA**	**Related**	**Unrelated**
Top 25 Mergers	**6**	**19**	**25**	**0**
Bottom 25 Mergers	**13**	**12**	**18**	**7**

	Other			
	Premium (1WK)	**FCF**	**Transaction Value**	**Resale**
Top 25 Mergers	**58%**	**-6.45M**	**525.2M**	**1**
Bottom 25 Mergers	**37%**	**-24.99M**	**3,554.1M**	**6**

Table 12: List of Traits Studied in The Event Study

Determinants of Successful Mergers	**Determinants of Unsuccessful Mergers**	**Additional Determinant**
1. Complimentary Assets, Resources or Strategies	1. Large or Extraordinary Debt	1. Financing Method
2. Friendly Acquisitions	2. Inadequate Target Evaluation	2. Early Positioning
3. Low-to-Moderate Debt Position	3. Ethical Concerns	3. Retention of Key Employees
4. Experience in Implementing Change	4. Major Changes in the Top Management Team	4. Distance
5. Emphasis on Innovation	5. Lack of Control due to Multiple Acquisitions	5. Premium
6. Focus on Core Businesses	6. Diversification	6. Resale
7. Careful Selection of Target	7. The Integration Process (The Cultural Factor)	7. Financial Performance
8. Financial Slack	8. Empire Building	8. Transaction Value

Table 13: Summary of Criteria for the Traits of the Event Study

Panel A: Positive Traits

Positive Traits	Criteria				
Complementary Fit	Was there a power struggle or two clearly contrasting business strategies?	Was there a fit between the core businesses and management team of the two firms involved?	Did the two companies operate in different geographical markets?	Was the acquirer able to leverage the target's resources or assets to improve its operations?	Was the acquirer able to gain critical knowledge or expertise from the target that it previously lacked?
Friendly Acquisition	Did the target seek the help of a third-party?	Did the target attempt to make itself appear less appealing to avoid a takeover?	Did the acquirer attempt any hostile strategies (such as a proxy battle) to pressure the target?	Were the two parties involved in friendly talks?	
Low to Moderate Debt Level	Did the acquirer raise or borrow new debt to finance the acquisition?	Did the acquirer assume significant amounts of debt from the target firm?	Was the acquirer's debt position low prior and following the merger?	Are the acquirer's post-merger debt metrics in line with the average?	
Experience in Change	Were multiple mergers done at the same time?	Did the acquirer have experience in mergers or in structural change?	Did the acquirer leave enough space between acquisitions to better learn from them?	Were past targets similar to the current target?	Did the acquirer's leadership team comprise of veteran leaders who implemented change in the past?
Emphasis on Innovation	Did the acquirer's commitment to its innovation suffer following the merger?	Did the acquirer set in place a policy that maintained and favored continual investments to its R&D and innovation?	Was the target acquired to complement its emphasis on innovation?	Was the acquisition long-term oriented meant to improve its performance well into the future?	
Focus on Core Business	Was the acquisition done to diversify its core business?	Did the merger allow the acquirer to continue its focus on its core business(es)?	Did the core businesses of the parties involved complement one another?	Did the core business of the acquirer benefit from the merger?	
Careful Selection of Target	Was the target selection done too quick?	Were negotiations done carefully and skillfully?	Was there a partnership between the two firms prior to the merger?	Did the acquire seek the help and second opinion of a third party?	
Financial Slack	Did the acquirer have a large cash position prior and following the merger?	Was the acquirer's free cash flow excessively larger than its short-term debt and liabilities?	Was the financial slack sufficient to take advantage of opportunities in the market?		

Panel B: Negative Traits

Negative Traits	Criteria				
Ethical Concerns	Was either the acquirer or the target involved in legal or ethical concerns that could cause significant harm to its market value?	Did the acquisition directly cause ethical concerns?	Were key members of its leadership core implicated in any shady business doing such as insider trading?		
High Debt Level	Did the acquirer raise or borrow new debt to finance the acquisition?	Did the acquirer assume significant amounts of debt from the target firm?	Was the acquirer's debt position too high prior and following the merger?	Are the acquirer's post-merger debt metrics excessive relative to its peers?	
Major Changes	Was the firm involved in any major changes in its leadership core or business entity?	Can the change be considered organization wide change, transformational change, or personnel change?	Did the change occur specifically after the announcement date?	Was personnel change done in an efficient manner, quickly replacing the personnel, or was the post left vacant for long?	

Lack of Control	Was the acquirer involved in too many acquisitions, legal battles, ethical concerns, or structural change?	Did a change of leadership occur after the event date?	Was the target firm also involved in signficant activity before the merger?	
Diversification	Can the merger be classified as a conlomerate merger?	Did the combining parties have little in common in operations, knowledge, or expertise?	Was the acquisition part of a larger plan to diversify the firm?	
Inadequate Target Evaluation	Was the target rushed or done too quickly for external purposes?	Were negotiations done carefully and skillfully?	Was the merger completed withing a short period of time?	Did the acquirer ignore signs or red flags that it could have spotted before completing the merger?

Table 14: "Effects of successful and unsuccessful acquisition attributes" (Hitt et al. 2002).

Successful acquisition attributes

Attribute	Effect
1. Acquired firm has assets and/or resources that are complementary to the acquiring firm	High probability of positive synergy and competitive advantage
2. Friendly acquisition	Faster and more effective integration; possibly lower premiums
3. Merged firm maintains low-to-moderate debt position	Lower financing costs, lower risk (e.g. of bankruptcy and avoids tradeoffs associated with high debt)
4. Experience with change and skills of flexibility and adaptation	Faster and more effective integration; facilities achievement of synergy
5. Sustained and consistent emphasis on R&D and innovation	Maintain long-term competitive advantage in markets
6. Focus on core business and use of acquired firm resources to leverage core business	Maintain strengths, and long-term competitive advantage; achievement of synergy
7. Careful and deliberate selection of target firm and conduct of negotiations	Acquire firms with strongest complementarities and avoid overpayment
8. Financial slack (cash and/or favourable debt position)	Financing (debt or equity) easier to obtain and less costly

Unsuccessful acquisition attributes

Attribute	Effect
1. Large or extraordinary debt	Higher financing costs, higher risk (e.g. bankruptcy) and probability of having to make tradeoffs with long-term investments
2. Inadequate target evaluation	Pay premium price, and may take on higher risks, along with adding a business that lacks potential to provide positive synergy
3. Ethical concerns and/or opportunism	Inappropriate acquisition and/or negative effects on firm reputation
4. Changes in the top management team and/or structure	Loss (or lack) of strategic leadership, chaotic conditions within the firm
5. Multiple acquisitions and/or lack of control	Inability to focus managerial time and energy to select and negotiate acquisition or achieve synergy, ineffective governance
6. Diversification	Lack of managerial knowledge of business, loss of strategic control

"Attributes of Successful and Unsuccessful Acquisitions of US Firms." British Journal of Management · December 2002, p.103.

Quantitative Study

Table 15: Regression Results of Quantitative Study (Total Sample)

Panel A: Short-Term (-1, +1) Window

General Determinants

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	2172
Number of Observations Used	2172

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	19	1.08762	0.05724	8.21	<.0001
Error	2152	15.00655	0.00697		
Corrected Total	2171	16.09417			

Root MSE	0.08351	R-Square	0.0676
Dependent Mean	-0.01242	Adj R-Sq	0.0593
Coeff Var	-672.48670		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.04784	0.04885	-0.98	0.3275
CBMA	1	0.00489	0.00426	1.15	0.2517
Gov	1	0.00068447	0.02100	0.03	0.9740
State	1	-0.00178	0.00567	-0.31	0.7531
Rel	1	0.03715	0.04851	0.77	0.4438
Learn	1	0.00323	0.00403	0.80	0.4228
Suff	1	-0.00314	0.00431	-0.73	0.4671
Wave	1	-0.00302	0.00642	-0.47	0.6385
AllCash	1	0.02890	0.00469	6.16	<.0001
AS	1	-0.01407	0.00516	-2.73	0.0064
Hostile	1	-0.02197	0.02078	-1.06	0.2886
Proxy	1	0.02459	0.02999	0.82	0.4124
Tender	1	-0.00006304	0.00444	-0.01	0.9887
Ligtn	1	-0.00476	0.03746	-0.13	0.8989
Def	1	-0.02541	0.00979	-2.60	0.0095
RiskR	1	0.03251	0.04848	0.67	0.5018
Debt	1	0.01047	0.01022	1.02	0.3058
Rumor	1	0.01366	0.00793	1.72	0.0852
HiTech	1	-0.01657	0.00378	-4.39	<.0001
ValTrx	1	-8.35579E-7	2.967462E-7	-2.83	0.0048

CAPEX

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1864
Number of Observations Used	1864

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	0.05776	0.01444	2.03	0.0884
Error	1859	13.25295	0.00713		
Corrected Total	1863	13.31071			

Root MSE	0.08443	R-Square	0.0043
Dependent Mean	-0.01269	Adj R-Sq	0.0022
Coeff Var	-665.42663		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.01046	0.00268	-3.90	<.0001
AcqCAPEX	1	-0.06779	0.03138	-2.16	0.0309
TarCAPEX	1	0.01383	0.02613	0.53	0.5967
AcqCFCAPEX	1	0.00012473	0.00007588	1.64	0.1004
TarCFCAPEX	1	-0.00000179	0.00001451	-0.12	0.9020

Culture

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	2164
Number of Observations Used	2164

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	0.01230	0.00410	0.56	0.6443
Error	2160	15.92901	0.00737		
Corrected Total	2163	15.94130			

Root MSE	0.08588	R-Square	0.0008
Dependent Mean	-0.01250	Adj R-Sq	-0.0006
Coeff Var	-686.70793		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.01478	0.00338	-4.38	<.0001
Border	1	0.00339	0.00714	0.48	0.6346
SameState	1	-0.00007875	0.00515	-0.02	0.9878
Distance	1	0.00000123	0.00000111	1.10	0.2708

Debt

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1242
Number of Observations Used	1242

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	0.00862	0.00287	0.41	0.7464
Error	1238	8.68996	0.00702		
Corrected Total	1241	8.69858			

Root MSE	0.08378	R-Square	0.0010
Dependent Mean	-0.01262	Adj R-Sq	-0.0014
Coeff Var	-663.83147		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.01218	0.00241	-5.05	<.0001
TarGear	1	-0.00034874	0.00032155	-1.08	0.2783
Pendoc	1	0.00000806	0.00010583	0.08	0.9360
Debtdoc	1	-0.00000529	0.00008809	-0.06	0.9508

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1985
Number of Observations Used	1985

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	0.09445	0.02361	3.22	0.0122
Error	1980	14.54150	0.00734		
Corrected Total	1984	14.63595			

Root MSE	0.08570	R-Square	0.0065
Dependent Mean	-0.01326	Adj R-Sq	0.0044
Coeff Var	-646.30643		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.01530	0.00255	-6.01	<.0001
AcqDebt	1	1.532108E-7	1.288922E-7	1.19	0.2347
TarDebt	1	-0.00000461	0.00000151	-3.06	0.0022
TarDebtR	1	0.00641	0.00367	1.75	0.0808
AcqDER	1	0.00018296	0.00024946	0.73	0.4634

Taxes

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	899
Number of Observations Used	899

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	0.03963	0.01982	3.00	0.0503
Error	896	5.94684	0.00664		
Corrected Total	898	5.98647			

Root MSE	0.08147	R-Square	0.0067
Dependent Mean	-0.00647	Adj R-Sq	0.0044
Coeff Var	-1259.63321		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.00552	0.00279	-1.98	0.0482
TarDefTax	1	-0.00001395	0.00000578	-2.41	0.0160
AcqDefTax	1	2.669988E-7	0.00000137	0.19	0.8457

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	2065
Number of Observations Used	2065

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	0.01377	0.00688	0.95	0.3877
Error	2062	14.97033	0.00726		
Corrected Total	2064	14.98409			

Root MSE	0.08521	R-Square	0.0009
Dependent Mean	-0.01313	Adj R-Sq	-0.0001
Coeff Var	-648.74565		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.01280	0.00194	-6.59	<.0001
TarTaxB	1	-0.00002537	0.00002018	-1.26	0.2089
AcqTaxB	1	0.00000584	0.00000748	0.78	0.4346

FCF

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1867
Number of Observations Used	1867

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	0.02271	0.00757	1.06	0.3648
Error	1863	13.30016	0.00714		
Corrected Total	1866	13.32287			

Root MSE	0.08449	R-Square	0.0017
Dependent Mean	-0.01277	Adj R-Sq	0.0001
Coeff Var	-661.63449		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.01401	0.00296	-4.74	<.0001
AcqFCF	1	0.00000111	6.5868E-7	1.68	0.0925
TarFCF	1	0.00000235	0.00000689	0.34	0.7363
FCFlac	1	-0.00000906	0.00009467	[illegible]	0.9238

Goodwill

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	822
Number of Observations Used	822

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	0.00943	0.00471	0.81	0.4448
Error	819	4.76036	0.00581		
Corrected Total	821	4.76979			

Root MSE	0.07624	R-Square	0.0020
Dependent Mean	-0.00411	Adj R-Sq	-0.0005
Coeff Var	-1856.84703		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.00404	0.00302	-1.34	0.1809
AcqGW	1	0.00016348	0.00023254	0.70	0.4822
TarGW	1	-0.00012993	0.00010745	-1.21	0.2269

Human Capital

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1658
Number of Observations Used	1658

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	0.01176	0.00588	0.77	0.4617
Error	1655	12.57787	0.00760		
Corrected Total	1657	12.58963			

Root MSE	0.08718	R-Square	0.0009
Dependent Mean	-0.01447	Adj R-Sq	-0.0003
Coeff Var	-602.27159		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.01293	0.00249	-5.19	<.0001
AcqHC	1	-0.00251	0.00248	-1.01	0.3114
TarHC	1	-0.00053408	0.00102	[illegible]	0.6014

Know-How

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1353
Number of Observations Used	1353

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	0.03852	0.01926	2.89	0.0558
Error	1350	8.98739	0.00666		
Corrected Total	1352	9.02591			

Root MSE	0.08159	R-Square	0.0043
Dependent Mean	-0.00888	Adj R-Sq	0.0028
Coeff Var	-918.60767		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.00958	0.00243	-3.94	<.0001
AcqKH	1	0.00024298	0.00012810	1.90	0.0581
TarKH	1	-0.00009973	0.00005389	-1.85	0.0649

Consideration

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	2172
Number of Observations Used	2172

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	0.74242	0.37121	52.45	<.0001
Error	2169	15.35175	0.00708		
Corrected Total	2171	16.09417			

Root MSE	0.08413	R-Square	0.0461
Dependent Mean	-0.01242	Adj R-Sq	0.0453
Coeff Var	-677.50673		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.03641	0.00349	-10.42	<.0001
Mixed	1	0.00193	0.00443	0.44	0.6629
PerCash	1	0.00040824	0.00004189	9.74	<.0001

Market Power

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	853
Number of Observations Used	853

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	5	0.07112	0.01422	1.32	0.2519
Error	847	9.10444	0.01075		
Corrected Total	852	9.17556			

Root MSE	0.10368	R-Square	0.0078
Dependent Mean	-0.03760	Adj R-Sq	0.0019
Coeff Var	-275.75639		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.03157	0.00438	-7.20	<.0001
TarMP	1	-0.00301	0.00143	-2.10	0.0368
AcqMP	1	-0.00023259	0.00018716	-1.24	0.2135
IncMPQ	1	5.693761E-7	0.00000590	0.10	0.9231
CombMP	1	-0.00005258	0.00012477	-0.42	0.6717
IncMP	1	-9.29946E-7	0.00001142	-0.08	0.9351

Negotiation

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1952
Number of Observations Used	1952

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	0.00250	0.00083483	0.12	0.9513
Error	1948	14.12354	0.00725		
Corrected Total	1951	14.12604			

Root MSE	0.08515	R-Square	0.0002
Dependent Mean	-0.01422	Adj R-Sq	-0.0014
Coeff Var	-598.71105		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.01434	0.00197	-7.28	<.0001
Prem4W	1	0.00002018	0.00005193	0.39	0.6987
Prem1W	1	-0.00001921	0.00013086	-0.15	0.8833
Prem1D	1	-4.43375E-7	0.00008812	-0.01	0.9960

Premium

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1958
Number of Observations Used	1958

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	0.09151	0.04576	6.36	0.0018
Error	1955	14.05734	0.00719		
Corrected Total	1957	14.14885			

Root MSE	0.08480	R-Square	0.0065
Dependent Mean	-0.01428	Adj R-Sq	0.0055
Coeff Var	-593.90199		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.01536	0.00331	-4.64	<.0001
NegO	1	-0.00007247	0.00617	-0.01	0.9906
NegM	1	0.00434	0.00195	2.22	0.0263

Financial Ratios

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1274
Number of Observations Used	1274

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	16	0.15041	0.00940	1.46	0.1080
Error	1257	8.11353	0.00645		
Corrected Total	1273	8.26394			

Root MSE	0.08034	R-Square	0.0182
Dependent Mean	-0.01158	Adj R-Sq	0.0057
Coeff Var	-693.65096		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.01105	0.00633	-1.75	0.0812
AcqInvT	1	-0.00002060	0.00001952	-1.06	0.2913
TarFAT	1	0.00005954	0.00009051	0.66	0.5108
AcqFAT	1	-0.00012175	0.00012199	-1.00	0.3184
ART	1	0.00032058	0.00015493	2.07	0.0387
APT	1	0.00015077	0.00014209	1.06	0.2889
OC	1	0.00000907	0.00001984	0.46	0.6476
CCC	1	0.00004750	0.00004197	1.13	0.2579
COGS	1	-1.88901E-8	8.83028E-8	-0.21	0.8306
TarCR	1	-0.00062976	0.00024718	-2.55	0.0110
AcqCR	1	-0.00224	0.00114	-1.95	0.0508
ImprCR	1	-0.00131	0.00497	-0.26	0.7923
TarROA	1	0.00040719	0.00130	0.31	0.7539
TarROE	1	0.00002304	0.00015098	0.15	0.8787
ROEChange	1	0.00002932	0.00002850	1.03	0.3037
AcqROA	1	0.01985	0.01771	1.12	0.2625
AcqROE	1	-0.00082849	0.00190	-0.44	0.6632

R&D

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	833
Number of Observations Used	833

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	0.02351	0.00784	1.27	0.2823
Error	829	5.10160	0.00615		
Corrected Total	832	5.12511			

Root MSE	0.07845	R-Square	0.0046
Dependent Mean	-0.01141	Adj R-Sq	0.0010
Coeff Var	-687.50843		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.00984	0.00296	-3.34	0.0009
RD	1	0.00000173	0.00000783	0.22	0.8248
RDChange	1	-0.00231	0.00320	-0.72	0.4710
RDRate	1	-0.00626	0.00350	-1.79	0.0736

Relative Size

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1792
Number of Observations Used	1792

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	0.17890	0.08945	12.27	<.0001
Error	1789	13.04203	0.00729		
Corrected Total	1791	13.22093			

Root MSE	0.08538	R-Square	0.0135
Dependent Mean	-0.01450	Adj R-Sq	0.0124
Coeff Var	-588.79534		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.02809	0.00346	-8.11	<.0001
RS1	1	-0.00801	0.00412	-1.95	0.0519
RS2	1	-0.00459	0.00368	-1.25	0.2120

Sufficient Time

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	465
Number of Observations Used	465

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	0.03692	0.01846	3.99	0.0191
Error	462	2.13617	0.00462		
Corrected Total	464	2.17309			

Root MSE	0.06800	R-Square	0.0170
Dependent Mean	-0.00685	Adj R-Sq	0.0127
Coeff Var	-992.58469		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.00972	0.00495	-1.96	0.0503
Suff	1	0.00618	0.00642	0.96	0.3360
SuffBW	1	0.13421	0.05024	2.67	0.0078

Panel B: Event Date (0, 0) Window

General Determinants

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	2172
Number of Observations Used	2172

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	19	0.42201	0.02221	6.13	<.0001
Error	2152	7.80011	0.00362		
Corrected Total	2171	8.22212			

Root MSE	0.06020	R-Square	0.0513
Dependent Mean	-0.00943	Adj R-Sq	0.0430
Coeff Var	-638.15474		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.01446	0.03522	-0.41	0.6815
CBMA	1	0.00519	0.00307	1.69	0.0917
Gov	1	-0.01282	0.01514	-0.85	0.3974
State	1	-0.00243	0.00408	-0.60	0.5516
Rel	1	0.00565	0.03497	0.16	0.8740
Learn	1	-0.00316	0.00291	-1.09	0.2773
Suff	1	-0.00172	0.00311	-0.55	0.5792
Wave	1	-0.00160	0.00463	-0.35	0.7295
AllCash	1	0.01884	0.00338	5.57	<.0001
AllStock	1	-0.01196	0.00372	-3.22	0.0013
Hostile	1	-0.01310	0.01492	-0.88	0.3801
Proxy	1	0.01491	0.02162	0.69	0.4905
Tender	1	-0.00271	0.00320	-0.85	0.3975
Ltgtn	1	-0.00261	0.02701	-0.10	0.9229
Def	1	-0.01147	0.00706	-1.63	0.1042
RiskR	1	0.00523	0.03490	0.15	0.8809
DebtI	1	0.00094660	0.00737	0.13	0.8978
Rumor	1	0.00781	0.00572	1.37	0.1722
HiTech	1	-0.00572	0.00272	-2.10	0.0359
ValTrx	1	-4.23674E-7	2.132199E-7	-1.99	0.0471

CAPEX

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1864
Number of Observations Used	1864

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	0.03701	0.00925	2.46	0.0437
Error	1859	6.99850	0.00376		
Corrected Total	1863	7.03551			

Root MSE	0.06136	R-Square	0.0053
Dependent Mean	-0.00985	Adj R-Sq	0.0031
Coeff Var	-622.73530		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.00698	0.00195	-3.59	0.0003
AcqCAPEX	1	-0.03911	0.02281	-1.72	0.0865
TarCAPEX	1	-0.01941	0.01899	-1.02	0.3068
AcqCFCAPEX	1	0.00008822	0.00005514	1.60	0.1058
TarCFCAPEX	1	-4.00836E-7	0.00001054	-0.04	0.9697

Sufficient Time

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	930
Number of Observations Used	930

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	0.00127	0.00063575	0.26	0.7701
Error	927	2.25488	0.00243		
Corrected Total	929	2.25615			

Root MSE	0.04932	R-Square	0.0006
Dependent Mean	-0.00796	Adj R-Sq	-0.0016
Coeff Var	-619.93976		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.00781	0.00254	-3.08	0.0022
Suff	1	-0.00397	0.00549	-0.72	0.4701
SuffBW	1	0.00379	0.00629	0.60	0.5466

Debt

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1242
Number of Observations Used	1242

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	0.00028633	0.00008544	0.02	0.9952
Error	1238	4.57844	0.00370		
Corrected Total	1241	4.57878			

Root MSE	0.06081	R-Square	0.0001
Dependent Mean	-0.01128	Adj R-Sq	-0.0024
Coeff Var	-539.28086		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.01130	0.00175	-6.45	<.0001
TarGear	1	0.00003179	0.00023340	0.14	0.8917
PercInc	1	-0.00001684	0.00007621	-0.22	0.8252
DebtInc	1	0.00000966	0.00004420	0.22	0.8270

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1905
Number of Observations Used	1905

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	0.04840	0.01210	3.19	0.0127
Error	1900	7.51173	0.00379		
Corrected Total	1904	7.56013			

Root MSE	0.06159	R-Square	0.0064
Dependent Mean	-0.01059	Adj R-Sq	0.0044
Coeff Var	-581.07314		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.01320	0.00190	-6.94	<.0001
AcqDebt	1	1.341089E-7	9.263806E-8	1.45	0.1479
TarDebt	1	-0.00000268	0.00000108	-2.48	0.0134
TarDebtR	1	0.00630	0.00264	2.39	0.0170
AcqDER	1	0.00011539	0.00017931	0.64	0.5268

Taxes

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	2065
Number of Observations Used	2065

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	0.00633	0.00316	0.85	0.4295
Error	2062	7.71377	0.00374		
Corrected Total	2064	7.72009			

Root MSE	0.06116	R-Square	0.0008
Dependent Mean	-0.01043	Adj R-Sq	-0.0001
Coeff Var	-586.46203		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.01000	0.00140	-7.17	<.0001
TarTaxB	1	-0.00001854	0.00001449	-1.28	0.2009
AcqTaxB	1	1.755644E-8	0.00000537	0.00	0.9974

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	2164
Number of Observations Used	2164

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	0.00363	0.00182	0.48	0.6180
Error	2161	8.15347	0.00377		
Corrected Total	2163	8.15711			

Root MSE	0.06142	R-Square	0.0004
Dependent Mean	-0.00929	Adj R-Sq	-0.0005
Coeff Var	-661.14229		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.00844	0.00158	-5.34	<.0001
TarDefTax	1	-0.00326	0.00487	-0.67	0.5029
AcqDefTax	1	-0.00263	0.00323	-0.81	0.4156

FCF

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1867
Number of Observations Used	1867

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	0.01290	0.00430	1.13	0.3346
Error	1863	7.07275	0.00380		
Corrected Total	1866	7.08565			

Root MSE	0.06162	R-Square	0.0018
Dependent Mean	-0.00983	Adj R-Sq	0.0002
Coeff Var	-626.56522		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.01061	0.00152	-7.00	<.0001
AcqFCF	1	7.840227E-7	4.802578E-7	1.63	0.1027
TarFCF	1	-4.87214E-7	0.00000509	-0.10	0.9238
FCFInc	1	-0.00005702	0.00006904	-0.83	0.4089

Goodwill

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	822
Number of Observations Used	822

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	0.00380	0.00190	0.57	0.5676
Error	819	2.74475	0.00335		
Corrected Total	821	2.74855			

Root MSE	0.05789	R-Square	0.0014
Dependent Mean	-0.00347	Adj R-Sq	-0.0011
Coeff Var	-1670.16127		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.00350	0.00229	-1.53	0.1269
AcqGW	1	0.00011353	0.00017658	0.65	0.5160
TarGW	1	-0.00000849	0.00000859	-0.99	0.3242

Human Capital

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1658
Number of Observations Used	1658

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	0.00802	0.00401	1.04	0.3545
Error	1655	6.39599	0.00386		
Corrected Total	1657	6.40401			

Root MSE	0.06217	R-Square	0.0013
Dependent Mean	-0.00987	Adj R-Sq	0.0000
Coeff Var	-629.79174		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.00857	0.00178	-4.83	<.0001
AcqHC	1	-0.00244	0.00176	-1.38	0.1675
TarHC	1	-0.00010805	0.00072898	-0.15	0.8822

Hubris

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	923
Number of Observations Used	923

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	0.00042151	0.00042151	0.17	0.6775
Error	921	2.24511	0.00244		
Corrected Total	922	2.24553			

Root MSE	0.04937	R-Square	0.0002
Dependent Mean	-0.00824	Adj R-Sq	-0.0009
Coeff Var	-599.51851		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.00846	0.00171	-4.94	<.0001
Hubris	1	0.00227	0.00545	0.42	0.6775

Know How

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1353
Number of Observations Used	1353

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	0.01055	0.00527	1.56	0.2099
Error	1350	4.55557	0.00337		
Corrected Total	1352	4.56612			

Root MSE	0.05809	R-Square	0.0023
Dependent Mean	-0.00672	Adj R-Sq	0.0008
Coeff Var	-864.95821		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.00737	0.00173	-4.26	<.0001
AcqKH	1	0.00014786	0.00009120	1.62	0.1052
TarKH	1	-0.00003969	0.00003844	-1.03	0.3020

Consideration

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	2172
Number of Observations Used	2172

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	0.32339	0.16170	44.40	<.0001
Error	2169	7.89873	0.00364		
Corrected Total	2171	8.22212			

Root MSE	0.06035	R-Square	0.0393
Dependent Mean	-0.00943	Adj R-Sq	0.0384
Coeff Var	-639.65465		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.02566	0.00251	-10.24	<.0001
PerCash	1	0.00027203	0.00003005	9.05	<.0001
Mixed	1	0.00221	0.00316	0.70	0.4868

Market Power

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	853
Number of Observations Used	853

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	6	0.00939	0.00156	0.33	0.8933
Error	847	4.78083	0.00564		
Corrected Total	852	4.79022			

Root MSE	0.07513	R-Square	0.0020
Dependent Mean	-0.02822	Adj R-Sq	-0.0039
Coeff Var	-266.27461		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.02736	0.00318	-8.61	<.0001
TarMP	1	-0.00040484	0.00104	-0.39	0.6970
AcqMP	1	-0.00010148	0.00013561	-0.75	0.4545
IncMPQ	1	-1.69607E-7	0.00000427	-0.04	0.9684
CombMP	1	0.00004210	0.00008942	0.47	0.6416
IncMP	1	0.00000667	0.00000927	0.73	0.4631

Negotiation

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1968
Number of Observations Used	1968

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	0.06447	0.03223	8.86	0.0001
Error	1965	7.11524	0.00364		
Corrected Total	1967	7.17971			

Root MSE	0.06033	R-Square	0.0090
Dependent Mean	-0.01096	Adj R-Sq	0.0080
Coeff Var	-550.28931		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.01028	0.00236	-4.33	<.0001
NegO	1	-0.00391	0.00435	-0.89	0.3734
NegM	1	0.00452	0.00139	3.25	0.0012

Premium

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1952
Number of Observations Used	1950
Number of Observations with Missing Values	2

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	0.00570	0.00190	0.52	0.6712
Error	1946	7.16622	0.00368		
Corrected Total	1949	7.17192			

Root MSE	0.06068	R-Square	0.0008
Dependent Mean	-0.01103	Adj R-Sq	-0.0007
Coeff Var	-550.25600		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.01065	0.00141	-7.56	<.0001
Prem4W	1	-0.00002204	0.00003771	-0.58	0.5589
Prem1W	1	0.00000916	0.00009434	0.10	0.9226
Prem1D	1	0.00000799	0.00006430	0.12	0.9011

Ratios

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1274
Number of Observations Used	1274

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	16	0.08852	0.00553	1.57	0.0692
Error	1257	4.42441	0.00352		
Corrected Total	1273	4.51293			

Root MSE	0.05933	R-Square	0.0196
Dependent Mean	-0.00907	Adj R-Sq	0.0071
Coeff Var	-653.84027		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.01440	0.00468	-3.08	0.0021
AcqInvT	1	-0.00001021	0.00001441	-0.71	0.4787
TarFAT	1	0.00008718	0.00006684	1.30	0.1924
AcqFAT	1	0.00000298	0.00009008	0.03	0.9736
ART	1	0.00013234	0.00011441	1.16	0.2476
APT	1	0.00008616	0.00010493	0.82	0.4117
OC	1	0.00000927	0.00001465	0.63	0.5270
CCC	1	0.00005952	0.00003099	1.92	0.0550
COGS	1	2.314818E-8	6.520746E-8	0.35	0.7227
TarCR	1	-0.00044674	0.00018253	-2.45	0.0145
AcqCR	1	-0.00075425	0.00084505	-0.89	0.3723
ImprCR	1	0.00125	0.00367	0.34	0.7346
TarROA	1	-0.00035013	0.00095890	-0.37	0.7151
TarROE	1	0.00004688	0.00011149	0.42	0.6742
ROEChange	1	0.00006120	0.00002105	2.91	0.0037
AcqROA	1	0.01048	0.01308	0.80	0.4229
AcqROE	1	-0.00130	0.00140	-0.93	0.3532

R&D

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	833
Number of Observations Used	823
Number of Observations with Missing Values	10

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	0.02123	0.00708	2.37	0.0697
Error	819	2.44946	0.00299		
Corrected Total	822	2.47069			

Root MSE	0.05469	R-Square	0.0086
Dependent Mean	-0.00763	Adj R-Sq	0.0050
Coeff Var	-717.09374		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.00657	0.00222	-2.96	0.0031
RD	1	0.00000930	0.00001827	0.51	0.6110
RDChange	1	-0.00142	0.00223	-0.64	0.5237
RDRate	1	-0.00615	0.00244	-2.52	0.0119

Relative Size

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1792
Number of Observations Used	1792

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	0.09261	0.04631	12.63	<.0001
Error	1789	6.55824	0.00367		
Corrected Total	1791	6.65086			

Root MSE	0.06055	R-Square	0.0139
Dependent Mean	-0.01054	Adj R-Sq	0.0128
Coeff Var	-574.49855		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.02056	0.00246	-8.37	<.0001
RS1	1	-0.00933	0.00292	-3.20	0.0014
RS2	1	0.00041079	0.00261	0.16	0.8748

Panel C: Long-Term (+31, +211) Window

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	2172
Number of Observations Used	2172

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	19	27.96428	1.47128	3.86	<.0001
Error	2152	820.06449	0.38107		
Corrected Total	2171	848.01877			

Root MSE	0.61731	R-Square	0.0330
Dependent Mean	-0.10841	Adj R-Sq	0.0244
Coeff Var	-569.43052		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-1.52809	0.36112	-4.23	<.0001
CEMA	1	-0.04273	0.03151	-1.36	0.1753
Gov	1	-0.35401	0.15525	-2.28	0.0227
State	1	-0.01212	0.04188	-0.29	0.7723
Rel	1	1.35285	0.35857	3.77	0.0002
Learn	1	0.08882	0.02980	2.98	0.0029
Suff	1	0.06928	0.03187	2.17	0.0298
Wave	1	-0.02520	0.04748	-0.53	0.5956
AllCash	1	0.08107	0.03467	2.34	0.0195
AllStock	1	-0.09266	0.03813	-2.43	0.0151
Hostile	1	0.01405	0.15300	0.09	0.9269
Proxy	1	-0.00999	0.22170	-0.05	0.9641
Tender	1	0.01636	0.03279	0.50	0.6178
Litgn	1	0.33879	0.27690	1.22	0.2213
Def	1	0.02876	0.07236	0.40	0.6910
RiskR	1	1.32058	0.35780	3.69	0.0002
Debt	1	-0.07262	0.07555	-0.96	0.3365
Rumor	1	-0.00619	0.05865	-0.11	0.9160
HiTech	1	-0.03825	0.02791	-1.37	0.1708
ValTrx	1	-0.00000125	0.00000219	-0.57	0.5662

CAPEX

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1864
Number of Observations Used	1864

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	0.83266	0.20816	0.57	0.6875
Error	1859	683.93898	0.36791		
Corrected Total	1863	684.77164			

Root MSE	0.60655	R-Square	0.0012
Dependent Mean	-0.11780	Adj R-Sq	-0.0009
Coeff Var	-514.91713		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.11212	0.01925	-5.83	<.0001
AcqCAPEX	1	-0.09789	0.22545	-0.43	0.6642
TarCAPEX	1	-0.05999	0.18769	-0.32	0.7493
AcqCFCAPEX	1	0.00067479	0.00054589	1.24	0.2159
TarCFCAPEX	1	-0.00002928	0.00010422	-0.28	0.7788

Culture

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	2164
Number of Observations Used	2164

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	1.17868	0.39289	1.00	0.3907
Error	2160	846.62898	0.39196		
Corrected Total	2163	847.80765			

Root MSE	0.62607	R-Square	0.0014
Dependent Mean	-0.10829	Adj R-Sq	0.0000
Coeff Var	-578.13248		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.11491	0.02463	-4.67	<.0001
Border	1	-0.04142	0.05204	-0.80	0.4261
SameState	1	0.04510	0.03758	1.20	0.2303
Distance	1	6.207518E-8	0.00000812	0.01	0.9939

Debt

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1985
Number of Observations Used	1985

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	1.39393	0.34848	0.92	0.4502
Error	1980	748.45776	0.37801		
Corrected Total	1984	749.85163			

Root MSE	0.61482	R-Square	0.0019
Dependent Mean	-0.11075	Adj R-Sq	-0.0002
Coeff Var	-555.13513		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.13310	0.01898	-7.01	<.0001
AcqDebt	1	6.620998E-7	9.247101E-7	0.72	0.4741
TarDebt	1	-0.00000136	0.00001080	-0.13	0.8997
TarDebtR	1	0.04448	0.02633	1.69	0.0913
AcqDER	1	-0.00108	0.00179	-0.61	0.5446

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1242
Number of Observations Used	1242

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	0.02572	0.00857	0.02	0.9956
Error	1238	486.85387	0.39326		
Corrected Total	1241	486.87959			

Root MSE	0.62710	R-Square	0.0001
Dependent Mean	-0.12470	Adj R-Sq	-0.0024
Coeff Var	-502.87323		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.12408	0.01806	-6.87	<.0001
TarGear	1	-0.00053375	0.00241	-0.22	0.8245
PercInc	1	0.00009688	0.00078582	0.12	0.9020
DebtInc	1	-0.00005681	0.00045582	-0.12	0.9008

Taxes

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	899
Number of Observations Used	743
Number of Observations with Missing Values	156

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	0.51908	0.25954	1.01	0.3651
Error	740	190.33511	0.25721		
Corrected Total	742	190.85419			

Root MSE	0.50716	R-Square	0.0027
Dependent Mean	-0.07803	Adj R-Sq	0.0000
Coeff Var	-649.95433		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.08573	0.01981	-4.33	<.0001
TarDefTax	1	-0.00007217	0.00018120	-0.40	0.6905
AcqDefTax	1	0.00010290	0.00007259	1.42	0.1567

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	2065
Number of Observations Used	2065

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	1.12062	0.56031	1.48	0.2289
Error	2062	782.91107	0.37969		
Corrected Total	2064	784.03169			

Root MSE	0.61619	R-Square	0.0014
Dependent Mean	-0.11466	Adj R-Sq	0.0005
Coeff Var	-537.41522		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.12077	0.01405	-8.59	<.0001
TarTaxB	1	0.00015090	0.00014596	1.03	0.3013
AcqTaxB	1	0.00006278	0.00005407	1.16	0.2457

FCF

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1867
Number of Observations Used	1867

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	1.86649	0.62216	1.69	0.1663
Error	1863	684.33046	0.36733		
Corrected Total	1866	686.19695			

Root MSE	0.60608	R-Square	0.0027
Dependent Mean	-0.11838	Adj R-Sq	0.0011
Coeff Var	-511.98868		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.12740	0.01491	-8.54	<.0001
AcqFCF	1	0.00000665	0.00000472	1.41	0.1592
TarFCF	1	0.00007462	0.00005012	1.49	0.1367
FCFInc	1	-0.00003469	0.00007911	-0.42	0.6761

Goodwill

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	822
Number of Observations Used	822

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	0.02243	0.01122	0.10	0.9070
Error	819	94.14556	0.11495		
Corrected Total	821	94.16799			

Root MSE	0.33905	R-Square	0.0002
Dependent Mean	-0.04946	Adj R-Sq	-0.0022
Coeff Var	-685.45753		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.04813	0.01343	-3.58	0.0004
AcqGW	1	-0.00040978	0.00103	-0.40	0.6920
TarGW	1	0.00013972	0.00047785	0.29	0.7701

Human Capital

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1658
Number of Observations Used	1658

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	0.26893	0.13447	0.37	0.6936
Error	1655	608.18168	0.36748		
Corrected Total	1657	608.45061			

Root MSE	0.60620	R-Square	0.0004
Dependent Mean	-0.11577	Adj R-Sq	-0.0008
Coeff Var	-523.63787		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.12040	0.01732	-6.95	<.0001
AcqHC	1	0.01291	0.01721	0.75	0.4531
TarHC	1	-0.00385	0.00711	-0.54	0.5877

Hubris

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	923
Number of Observations Used	923

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	0.13183	0.13183	0.70	0.4036
Error	921	173.87587	0.18879		
Corrected Total	922	174.00770			

Root MSE	0.43450	R-Square	0.0008
Dependent Mean	-0.05833	Adj R-Sq	-0.0003
Coeff Var	-744.85679		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.06229	0.01506	-4.13	<.0001
Hubris	1	0.04009	0.04797	0.84	0.4036

Know How

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1353
Number of Observations Used	1353

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	0.10088	0.05044	0.21	0.8116
Error	1350	326.18218	0.24162		
Corrected Total	1352	326.28306			

Root MSE	0.49154	R-Square	0.0003
Dependent Mean	-0.08844	Adj R-Sq	-0.0012
Coeff Var	-555.78981		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.09171	0.01484	-6.18	<.0001
AcqKH	1	0.00049814	0.00077171	0.65	0.5187
TarKH	1	-0.00003519	0.00032524	-0.11	0.9139

Consideration

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	2172
Number of Observations Used	2172

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	10.98143	5.49071	14.23	<.0001
Error	2169	837.03734	0.38591		
Corrected Total	2171	848.01877			

Root MSE	0.62122	R-Square	0.0129
Dependent Mean	-0.10841	Adj R-Sq	0.0120
Coeff Var	-573.04221		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.21037	0.02579	-8.16	<.0001
PerCash	1	0.00163	0.00030934	5.26	<.0001
Mixed	1	0.03281	0.03273	1.00	0.3163

Market Power

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	853
Number of Observations Used	853

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	5	41.10970	8.22194	16.13	<.0001
Error	847	431.82202	0.50983		
Corrected Total	852	472.93172			

Root MSE	0.71402	R-Square	0.0869
Dependent Mean	-0.18947	Adj R-Sq	0.0815
Coeff Var	-376.86384		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.13409	0.03019	-4.44	<.0001
TarMP	1	0.00168	0.00988	0.17	0.8652
AcqMP	1	-0.01082	0.00129	-8.39	<.0001
IncMPQ	1	0.00007637	0.00004863	1.66	0.0905
CombMP	1	0.00012972	0.00085830	0.15	0.8800
IncMP	1	0.00005640	0.00007864	0.72	0.4735

Negotiation

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1958
Number of Observations Used	1958

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	0.03878	0.01939	0.05	0.9495
Error	1955	731.86352	0.37435		
Corrected Total	1957	731.90230			

Root MSE	0.61185	R-Square	0.0001
Dependent Mean	-0.10128	Adj R-Sq	-0.0010
Coeff Var	-604.13172		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.10536	0.02391	-4.41	<.0001
NegO	1	0.01056	0.04455	0.24	0.8128
NegM	1	-0.00452	0.01408	-0.32	0.7483

Premium

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1952
Number of Observations Used	1950
Number of Observations with Missing Values	2

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	1.09831	0.36610	0.98	0.4002
Error	1946	725.35960	0.37274		
Corrected Total	1949	726.45791			

Root MSE	0.61053	R-Square	0.0015
Dependent Mean	-0.10260	Adj R-Sq	-0.0000
Coeff Var	-595.05436		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.10286	0.01418	-7.26	<.0001
PremFW	1	-0.00005701	0.00003799	-1.50	0.1331
PremOW	1	0.00162	0.00094914	1.70	0.0886
PremOD	1	-0.00105	0.00064687	-1.62	0.1053

Ratios

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1274
Number of Observations Used	1274

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	16	5.92561	0.37035	1.55	0.0751
Error	1257	300.16913	0.23880		
Corrected Total	1273	306.09475			

Root MSE	0.48867	R-Square	0.0194
Dependent Mean	-0.08744	Adj R-Sq	0.0069
Coeff Var	-558.88815		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.05598	0.03852	-1.45	0.1464
AcqInvT	1	-0.00001882	0.00011871	-0.16	0.8741
TarFAT	1	0.00003019	0.00055055	0.05	0.9563
AcqFAT	1	-0.00026029	0.00074197	-0.35	0.7258
ART	1	0.00074174	0.00094236	0.79	0.4314
APT	1	0.00231	0.00086428	2.67	0.0077
OC	1	0.00014176	0.00012065	1.17	0.2402
CCC	1	0.00022023	0.00025527	0.86	0.3885
COGS	1	4.788905E-8	5.370966E-7	0.09	0.9290
TarCR	1	0.00090386	0.00150	0.60	0.5476
AcqCR	1	-0.02645	0.00696	-3.80	0.0002
ImprCR	1	-0.02682	0.03024	-0.89	0.3754
TarROA	1	-0.00272	0.00796	-0.34	0.7388
TarROE	1	0.00017312	0.00091031	0.19	0.8505
ROEChange	1	-0.00018885	0.00017335	-1.09	0.2762
AcqROA	1	-0.20197	0.10771	-1.88	0.0610
AcqROE	1	0.00809	0.01157	0.70	0.4846

R&D

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	833
Number of Observations Used	823
Number of Observations with Missing Values	10

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	4.42706	1.47569	5.25	0.0014
Error	819	230.37508	0.28129		
Corrected Total	822	234.00215			

Root MSE	0.53037	R-Square	0.0189
Dependent Mean	-0.08332	Adj R-Sq	0.0153
Coeff Var	-636.53993		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.10022	0.02151	-4.66	<.0001
RD	1	0.00026618	0.00017717	1.50	0.1350
RDChange	1	-0.05023	0.02163	-2.32	0.0205
RDRate	1	0.06857	0.02364	2.90	0.0038

Relative Size

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	1792
Number of Observations Used	1792

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	10.55439	5.27719	15.27	<.0001
Error	1789	618.07000	0.34548		
Corrected Total	1791	628.62439			

Root MSE	0.58778	R-Square	0.0168
Dependent Mean	-0.10857	Adj R-Sq	0.0157
Coeff Var	-541.38376		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.12955	0.02385	-5.43	<.0001
RS1	1	0.10589	0.02833	3.74	0.0002
RS2	1	-0.13790	0.02531	-5.45	<.0001

Sufficient Time

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	930
Number of Observations Used	930

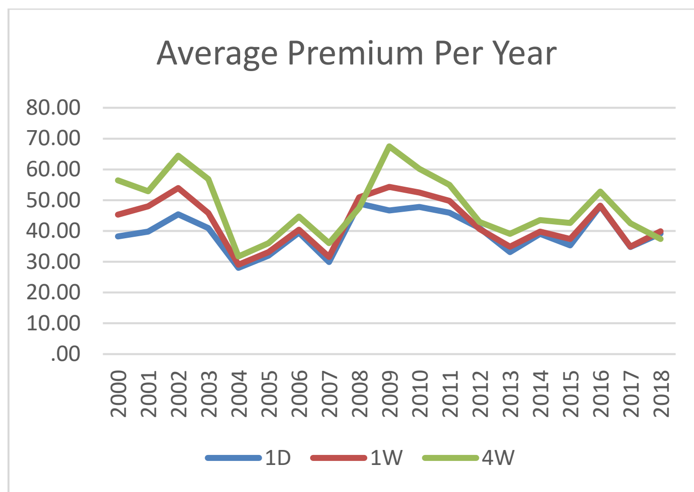
Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	2.28328	1.14164	5.85	0.0030
Error	927	181.05057	0.19531		
Corrected Total	929	183.33384			

Root MSE	0.44194	R-Square	0.0125
Dependent Mean	-0.05609	Adj R-Sq	0.0103
Coeff Var	-787.90188		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.11605	0.02276	-5.10	<.0001
Suff	1	0.01427	0.04917	0.29	0.7718
SuffBW	1	0.08659	0.05634	1.54	0.1247

Table 16: Premium Level Over Time

Panel A: Average Premium vs. Year



Panel B: Median Premium vs Year

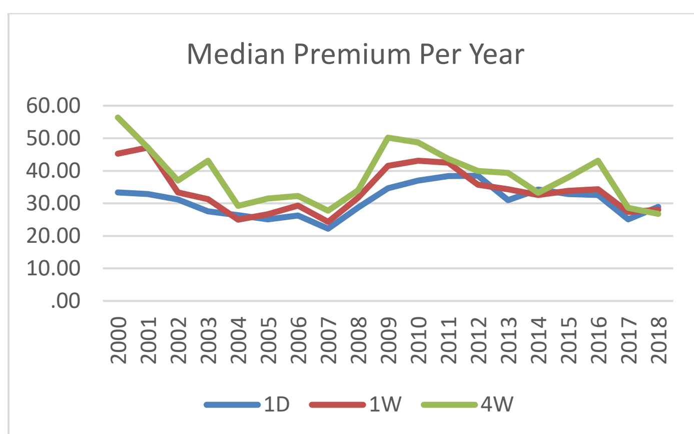


Table 17: Internalization in the CBMA Sub Sample

	Internalization (CBMA)			
	Average	**CAR (-1, +1)**	**CAR(0,0)**	**CAR(+31, +211)**
R&D				
Above Median	97.0	**0.57%**	-0.08%	**-4.78%**
Below Median	5.8	-0.13%	**0.48%**	-9.53%
Acq Know- How				
Above Median	18.40	**0.64%**	**0.22%**	**-3.92%**
Below Median	0.49	-0.39%	-0.18%	-17.89%

Tar Know- How				
Above Median	30.47	**0.38%**	**0.12%**	-9.64%
Below Median	1.35	-0.44%	-0.07%	**-8.45%**

	Median
R&D	13.6
Acq Know- How	1.97
Tar Know- How	0.99

Table 18: Comparison of Internalization between CBMA and DMA

CBMA	**Average**	**CAR (-1, +1)**	**CAR(0,0)**	**CAR(+31, +211)**
R&D	51.4	0.22%	0.20%	-7.16%
Acquirer Know- How	9.48	0.13%	0.02%	-10.87%
Target Know- How	15.87	-0.03%	0.02%	-9.04%

DMA	**Average**	**CAR (-1, +1)**	**CAR(0,0)**	**CAR(+31, +211)**
R&D	89.4	-1.58%	-1.09%	-9.93%
Acquirer Know- How	6.03	-1.20%	-0.96%	-9.52%
Target Know- How	12.91	-1.31%	-0.91%	-9.86%

Table 19: The Impact of Hubris

Hubris		**N**	**CAR(-1,+1)**	**CAR(0,0)**	**CAR(+31,+211)**
At Short-Term	**Hubris**	**115**	**-1.11%**		
	No Hubris	**808**	**-0.68%**		
At Event Date	**Hubris**	**138**		**-1.02%**	
	No Hubris	**785**		**-0.79%**	
At Long-Term	**Hubris**	**91**			**-2.47%**
	No Hubris	**832**			**-6.23%**

Event Study

Table 20: The Top 25 Acquisitions (Positive Traits)

Top 25 Acquisitions (Long-Term Window)												
Acquisitions					Positive Attributes							
Acquiror	**Target**	**Date**	**Industries**	**CAR (+31, +211)**	**Complimentary Assets**	**Friendly Acquisition**	**Debt Level**	**Experience in Change**	**Emphasis on innovation**	**Focus on core business**	**Careful selection of target**	**Financial Slack**
1. IVILLAGE INC	Women.com Networks	20010205	Women Solutions	314.65%	Yes	Yes	Very Low	Moderate	Yes	Yes	Yes	No (Negative FCF)
2. BOOKHAM INC	Avanex Corp	20090127	Optical components and subsystems	231.70%	Yes	Yes	Very Low	Strong	Yes	Yes	Yes	No (Negative FCF)
3. MEDICINOVA INC	Avigen Inc	20081223	Biopharmaceutical	206.27%	Yes	Yes	Very Low	None	Yes	Yes	Yes	No (Negative FCF)
4. ALAMOS GOLD INC	Carlisle Goldfields Ltd	20151015	Gold Mining	184.07%	Yes	Yes	Low to Moderate	Strong	Yes	Yes	Yes	No (Negative FCF)
5. FIRST MAJESTIC SILVER CORP	SilverCrest Mines Inc	20150727	Silver Mining	174.55%	Yes	Yes	Low	Moderate	No	No	Yes	No (Negative FCF)
6. MANOR CARE INC	In Home Health Inc	20000711	Healthcare	173.94%	No	Yes	Moderate	Strong	Yes	Yes	No	Moderate
7. COREL CORP	InterVideo Inc	20060828	Software	144.21%	Yes	Yes	Very Low	Moderate	Yes	No	Yes	Low
8. SABRE HOLDINGS CORP	Getthere.Com Inc	20000825	Travel Services and Online Corporate Travel	120.80%	No	Yes	Moderate	Limited	Yes	Yes	No	Moderate
9. REUTERS GROUP PLC	Multex.com Inc	20030218	Global & Online Financial Information	111.66%	Yes	Yes	Moderate	Strong	Yes	Yes	Yes	High
10. HOVNANIAN ENTERPRISES INC	Washington Homes Inc	20000828	Home Construction	109.42%	Yes	Yes	High	Limited	Yes	Yes	Yes	No (Negative FCF)
11. MAXLINEAR INC	Entropic Communications Inc	20150203	Semiconductor Solutions	103.53%	Yes	Yes	Very Low	Limited	Yes	Yes	Yes	Low
12. SCANSOFT INC	Nuance Communications Inc	20050509	Software	103.16%	No	Yes	Very Low	Strong	No	Yes	No	Low
13. LENNAR CORP	US Home Corp	20000217	Home Construction	97.70%	Yes	Yes	Moderate	Strong	Yes	Yes	Yes	Low
14. INTERNATIONAL FLAVORS & FRAG IN	Bush Boake Allen(Union Camp)	20000925	Speciality Chemicals	94.47%	Yes	Yes	Low	Limited	Yes	Yes	Yes	Moderate
15. MAY DEPARTMENT STORES CO	David's Bridal Inc	20000703	Speciality Retail and Retailing	91.02%	Yes	Yes	Moderate	Strong	Yes	No	Yes	High
16. ODYSSEY HEALTHCARE INC	VistaCare Inc	20080115	Healthcare	85.77%	Yes	Yes	Very Low	Limited	Yes	Yes	Yes	Low
17. CEPHALON INC	Salmedix Inc	20050512	Biotechnology, Biop harmaceutical	81.93%	Yes	Yes	Very Low	Strong	Yes	Yes	Yes	Moderate
18. LILLY ELI & CO	Armo Biosciences Inc	20180510	Pharmaceutical	48.64%	Yes	Yes	Moderate	Very Strong	Yes	Yes	Yes	High
19. R F MICRO DEVICES INC	TriQuint Semiconductor Inc	20140224	Semiconductor	76.64%	Yes	Yes	Low	Strong	Yes	Yes	Yes	Low
20. BRISTOL MYERS SQUIBB CO	Kosan Biosciences Inc	20080528	Pharmaceuticals	53.28%	Yes	Yes	Moderate	Strong	Yes	Yes	Yes	High
21. SHIRE PLC	ViroPharma Inc	20131111	Pharmaceuticals	50.71%	Yes	Yes	Low	Very Strong	Yes	Yes	Yes	High
22. COMPUTER SCIEN(	UXC Ltd	20151006	Information Technology Services	50.24%	Yes	Yes	Moderate	Very Strong	Yes	Yes	No	High
23. O REILLY AUTOM(	CSK Auto Inc	20080201	Retail Auto Parts	49.09%	Yes	Yes	Very Low	Moderate	Yes	Yes	Yes	Low
24. FLIR SYSTEMS INC	Lorex Technology Inc	20121025	Imaging Technology	48.99%	Yes	Yes	Low	Strong	Yes	Yes	Yes	Moderate
25. MALLINCKRODT PLC	Ocera Therapeutics Inc	20171102	Pharmaceuticals & Therapeutics	90.40%	Yes	Yes	Moderate	Very Strong	No	Yes	Yes	Moderate
	Sucampo Pharmaceuticals Inc	20171226		121.90%								
Overall				**116.11%**	**22**	**25**	**24**	**19**	**22**	**23**	**21**	**12**

Table 21: The Top 25 Acquisitions (Negative Traits)

Acquisitions						Negative Traits					
Acquiror	Target	Date	Industries	CAR (+31, +211)	Sig. Level	Ethical Concerns	High Debt Level	Major Changes in Management or Structure	Lack of Control	Diversification	Inadequate Target Evaluation
1. IVILLAGE INC	Women.com Networks	20010205	Women Solutions	314.65%	3	Yes	No	Yes	No	No	No
2. BOOKHAM INC	Avanex Corp	20090127	Optical components and subsystems	231.70%	3	No	No	No	No	No	No
3. MEDICINOVA INC	Avigen Inc	20081223	Biopharmaceutical	206.27%	3	No	No	No	No	No	No
4. ALAMOS GOLD INC	Carlisle Goldfields Ltd	20151015	Gold Mining	184.07%	4	No	No	Yes	No	No	No
5. FIRST MAJESTIC SILVER CORP	SilverCrest Mines Inc	20150727	Silver Mining	174.55%	4	No	No	No	Yes	No	No
6. MANOR CARE INC	In Home Health Inc	20000711	Healthcare	173.94%	3	No	No	Yes	Yes	No	No
7. COREL CORP	InterVideo Inc	20060828	Software	144.21%	4	No	No	Yes	No	No	No
8. SABRE HOLDINGS CORP	Getthere.Com Inc	20000825	Travel Services and Online Corporate Travek	120.80%	3	No	No	Yes	No	No	Yes
9. REUTERS GROUP PLC	Multex.com Inc	20030218	Global Financial Information & Online Financial Information Provider	111.66%	3	No	No	Yes	No	No	No
10. HOVNANIAN ENTERPRISES INC	Washington Homes Inc	20000828	Home Construction	109.42%	3	No	No	No	No	No	No
11. MAXLINEAR INC	Entropic Communications Inc	20150203	emiconducter Solutior	103.53%	3	No	No	No	No	No	No
12. SCANSOFT INC	Nuance Communications Inc	20050509	Software	103.16%	3	No	No	No	Yes	No	Yes
13. LENNAR CORP	US Home Corp	20000217	Home Construction	97.70%	3	No	No	No	No	No	No
14. INTERNATIONAL FLAVORS & FRAG IN	Bush Boake Allen(Union Camp)	20000925	Speciality Chemicals	94.47%	4	No	No	Yes	No	No	No
15. MAY DEPARTMENT STORES CO	David's Bridal Inc	20000703	Speciality Retail and Retailing	91.02%	3	No	No	No	No	No	No
16. ODYSSEY HEALTHCARE INC	VistaCare Inc	20080115	Healthcare	85.77%	4	No	No	No	No	No	No
17. CEPHALON INC	Salmedix Inc	20050512	Biotechnology, Biopharmaceutical	81.93%	4	Yes	No	No	No	No	No
18. LILLY ELI & CO	Armo Biosciences Inc	20180510	Pharmaceutical	48.64%	4	Yes	No	Yes	No	No	No
19. R F MICRO DEVICES INC	TriQuint Semiconductor Inc	20140224	Semiconductor	76.64%	3	No	No	Yes	No	No	No
20. BRISTOL MYERS SQUIBB CO	Kosan Biosciences Inc	20080528	Pharmaceuticals	53.28%	3	Yes	No	Yes	Yes	No	No
21. SHIRE PLC	ViroPharma Inc	20131111	Pharmaceuticals	50.71%	3	Yes	No	Yes	Yes	No	No
22. COMPUTER SCIENCES	UXC Ltd	20151006	Information Technology Services	50.24%	3	Yes	No	Yes	Yes	No	Yes
23. O REILLY AUTOMOTIV	CSK Auto Inc	20080201	Retail Auto Parts	49.09%	3	No	No	No	No	No	No
24. FLIR SYSTEMS INC	Lorex Technology Inc	20121025	Imaging Technology	48.99%	3	No	No	Yes	Yes	No	No
25. MALLINCKRODT PLC	Sucampo Pharmaceuticals Inc	20171226	Pharmaceuticals & Therapeutics	121.90%	4	Yes	No	No	Yes	No	No
	Ocera Therapeutics Inc	20171102		90.40%	3						
Overall				116.11%		7	0	13	7	0	3

Table 22: The Bottom 25 Acquisitions (Negative Traits)

Bottom 25 Acquisitions (Long-Term Window)										
Acquisitions					Negative Attributes					
Acquiror	Target	Date	Industries	CAR (+31, +211)	Ethical Concerns	High Debt Level	Major Changes in Management or Structure	Lack of Control	Diversification	Inadequate Target Evaluation
AKAMAI TECHNOLOGIES INC	InterVU Inc	20000207	Internet & Cloud Computing and Streaming Media	-674.20%	No	No	Yes	Yes	No	Yes
INTERNET CAPITAL GROUP INC	Harbour Ring Intl Hldg Ltd	20000309	Internet and Business-to-business	-672.21%	Yes	No	Yes	Yes	Yes	Yes
TERRA NETWORKS S A	Lycos Inc	20000516	Internet Access and Search Engine	-335.26%	Yes	No	Yes	Yes	No	Yes
LION BIOSCIENCE AKTIENGESELLSCH	Trega Biosciences Inc	20001227	Software & Pharmaceuticals	-323.23%	No	No	Yes	No	Yes	Yes
PHOTOMEDEX INC	LCA-Vision Inc	20140213	Skin Health & Laser Vision Correction	-235.40%	Yes	No	Yes	Yes	Yes	Yes
STONE ENERGY CORP	Bois d'Arc Energy Inc	20080430	Oil and Gas Exploration	-215.45%	No	No	Yes	No	No	Yes
J D S UNIPHASE CORP	SDL Inc	20000710	Optical products and broadband communications	-211.26%	Yes	No	Yes	Yes	No	Yes
VALEANT PHARMACEUTICALS INTL IN	Synergetics USA Inc	20150902	Pharmaceuticals & Drug Delivery System	-191.21%	Yes	Yes	Yes	Yes	No	Yes
NORTEL NETWORKS CORP NEW	Alteon Websystems Inc	20000728	Telecommunications & content networking	-163.81%	Yes	No	Yes	Yes	No	Yes
I S P A T INTERNATIONAL N V A	International Steel Group Inc	20041025	Steel Production	-156.87%	Yes	Yes	No	Yes	No	Yes
ENERGY XXI LTD	EPL Oil & Gas Inc	20140312	Oil and natural gas exploration and production	-145.20%	Yes	Yes	Yes	No	No	Yes
TYCO INTERNATIONAL LTD	Sensormatic Electronics Corp	20010803	Security	-144.07%	Yes	Yes	Yes	Yes	Yes	Yes
NORTEL NETWORKS CORP	Architel Systems Corp	20000419	Telecommunications & Software Systems	-142.44%	Yes	No	Yes	Yes	Yes	Yes
PRECISION DRILLING TRUST	Grey Wolf Inc	20080610	Oil Well Services	-129.31%	Yes	Yes	Yes	No	No	Yes
BREITBURN ENERGY PARTNERS L P	QR Energy LP	20140724	oil and gas exploration	-121.66%	No	Yes	No	Yes	No	Yes
TECK COMINCO LTD	Global Copper Corp	20080414	Metals and Mining	-111.86%	Yes	Yes	No	Yes	No	Yes
CISCO SYSTEMS INC	ArrowPoint Communications Inc	20000505	Networking Hardware & Software	-110.20%	Yes	No	Yes	Yes	No	Yes
UNITED NATURAL FOODS INC	SuperValu Inc	20180726	Food Wholesale/ Distribution & Retailing	-103.88%	No	Yes	No	Yes	No	Yes
SEARS ROEBUCK & CO	Lands' End Inc	20020513	clothing and home decor retail	-99.95%	Yes	Yes	No	Yes	No	Yes
ENCANA CORP	Athlon Energy Inc	20140929	Petroleum	-95.57%	Yes	Yes	Yes	Yes	No	Yes
APPLE INC	AuthenTec Inc	20120727	Hardware and Software (Technology)	-82.89%	Yes	No	Yes	Yes	No	Yes
INVERNESS MED INNOVATIONS INC	BBI Holdings PLC	20071211	health care diagnostics	-73.73%	No	Yes	Yes	Yes	Yes	Yes
DASEKE INC	Aveda Transportation & Energy	20180416	Transportation	-72.75%	No	Yes	Yes	Yes	No	Yes
ENERGIZER HOLDINGS INC	Playtex Products Inc	20070712	Consumer Goods & Personal Care	-72.07%	Yes	Yes	No	Yes	Yes	Yes
KROGER COMPANY	Roundy's Inc	20151111	Grocery Retail and Supermarkets	-57.92%	Yes	Yes	Yes	No	No	Yes
Overall				**-189.70%**	**18**	**14**	**19**	**20**	**7**	**25**

Table 23: The Bottom 25 Acquisitions (Positive Traits)

Acquisitions					Positive Traits							
Acquiror	Target	Date	Industries	CAR (+31, +211)	Complimentary Assets	Friendly Acquisition	Low to Moderate Debt Level	Experience in Change	Emphasis on innovation	Focus on core business	Careful selection of target	Financial Slack
AKAMAI TECHNOLOGIES INC	InterVU Inc	20000207	Internet & Cloud Computing and Streaming Media	-674.20%	Yes	Yes	Low	No	Yes	No	No	Negative
INTERNET CAPITAL GROUP INC	Harbour Ring Intl Hldg Ltd	20000309	Internet and Business-to-business	-672.21%	No	Yes	Low	No	No	No	No	Negative
TERRA NETWORKS S A	Lycos Inc	20000516	Internet Access and Search Engine	-335.26%	Yes	Yes	Low	Very Limited	No	No	No	Negative
LION BIOSCIENCE AKTIENGESELLSCH	Trega Biosciences Inc	20001227	Software & Pharmaceuticals	-323.23%	Yes	Yes	Moderate	No	Yes	No	No	Negative
PHOTOMEDEX INC	LCA-Vision Inc	20140213	Skin Health & Laser Vision Correction	-235.40%	No	Yes	Low	Moderate	No	No	No	Low
STONE ENERGY CORP	Bois d'Arc Energy Inc	20080430	Oil and Gas Exploration	-215.45%	No	No (Neutral)	Moderate	Limited	No	Yes	No	Moderate
J D S UNIPHASE CORP	SDL Inc	20000710	Optical products and broadband communications	-211.26%	Yes	Yes	Low	Strong	No	Yes	No	Negative
VALEANT PHARMACEUTICALS INTL IN	Synergetics USA Inc	20150902	Pharmaceuticals & Drug Delivery System	-191.21%	No	Yes	Extreme	Strong	No	No	Np	High
NORTEL NETWORKS CORP NEW	Alteon Websystems Inc	20000728	Telecommunications & content networking	-163.81%	No	Yes	Low	Strong	No	No	No	Moderate
I S P A T INTERNATIONAL N V A	International Steel Group Inc	20041025	Steel Production	-156.87%	No	Yes	High	Strong	No	Yes	No	High
ENERGY XXI LTD	EPL Oil & Gas Inc	20140312	Oil and natural gas exploration and production	-145.20%	No	Yes	Very High	Strong	No	Yes	No	Negative
TYCO INTERNATIONAL LTD	Sensormatic Electronics Corp	20010803	Security	-144.07%	No	Yes	Very High	Strong	No	No	No	Negative
NORTEL NETWORKS CORP	Architel Systems Corp	20000419	Telecommunications & Software Systems	-142.44%	No	Yes	Moderate	Strong	No	No	No	Moderate
PRECISION DRILLING TRUST	Grey Wolf Inc	20080610	Oil Well Services	-129.31%	No	No	High	Limited to Moderate	Yes	Yes	No	Moderate
BREITBURN ENERGY PARTNERS L P	QR Energy LP	20140724	oil and gas exploration	-121.66%	No	Yes	High	Moderate	No	Yes	No	Negative
TECK COMINCO LTD	Global Copper Corp	20080414	Metals and Mining	-111.86%	No	Yes	High	Strong	No	Yes	No	High
CISCO SYSTEMS INC	ArrowPoint Communications Inc	20000505	Networking Hardware & Software	-110.20%	Yes	Yes	Low	Strong	No	Yes	No	Very High
UNITED NATURAL FOODS INC	SuperValu Inc	20180726	Food Wholesale/ Distribution & Retailing	-103.88%	No	Yes	High	Limited to Moderate	No	No	No	Low
SEARS ROEBUCK & CO	Lands' End Inc	20020513	clothing and home decor retail	-99.95%	No	Yes	Extreme	Limited	No	Yes	No	High
ENCANA CORP	Athlon Energy Inc	20140929	Petroleum	-95.57%	No	Yes	High	Strong	No	No	No	High
APPLE INC	AuthenTec Inc	20120727	Hardware and Software (Technology)	-82.89%	Yes	Yes	Low	Limited to Moderate	Yes	Yes	No	Extreme
INVERNESS MED INNOVATIONS INC	BBI Holdings PLC	20071211	health care diagnostics	-73.73%	Yes	Yes	High	Strong	No	Yes	No	Low
DASEKE INC	Aveda Transportation & Energy	20180416	Transportation	-72.75%	No	Yes	High	Moderate	No	No	No	Low
ENERGIZER HOLDINGS INC	Playtex Products Inc	20070712	Consumer Goods & Personal Care	-72.07%	No	Yes	Extreme	Moderate	No	No	No	Moderate
KROGER COMPANY	Roundy's Inc	20151111	Grocery Retail and Supermarkets	-57.92%	No	Yes	Extreme	Strong	No	Yes	No	High
Overall				**-189.70%**	**7**	**23**	**11**	**16**	**4**	**12**	**0**	**13**

Table 24: The Largest Merger Failure

The Biggest Failure in Merger History											
Negative Traits											
Acquirer	**Target**	**Date**	**CAR (-1, +1)**	**CAR (0, 0)**	**CAR (+31, +211)**	**Ethical Concerns**	**High Debt Level**	**Major Changes in Management**	**Lack of Control**	**Diversification**	**Inadequate Target Evaluation**
America Online Inc	Time Warner	20000110	-17.45%	-6.50%	-70.64%	Yes	Yes	Yes	Yes	No	Yes
Positive Traits											
Complimentary Assets	**Friendly Acquisition**	**Debt Level**	**Experience in Change**	**Emphasis on innovation**	**Focus on core business**	**Careful selection of target**	**Financial Slack**	**Early Positioning**			
Yes	Yes	Extreme	Strong	No	No	No	High	Yes			
Other											
Defense Mechanism	**Hostile Acquisition**	**Empire Building**	**Financing Method**	**CBMA**	**Reason for Acquisition**	**Retention of Key Employees**	**Distance**				
No	No	Yes	Mixed (70% Cash)	No	Combination of Core Strengths	Yes	Low				
Premium (4WK)	**Premium (1WK)**	**Premium (1DAY)**	**External Financing**	**Resale**	**Target ROA**	**Target ROE**	**Target Employee Productivity**	**Target Current Ratio**	**Target FCF**	**Increase in debt equity ratio**	**Transaction Value**
70.19	55.81	70.85	Yes	Split	Positive	Positive	NA	Moderate	1722M	4606.63%	164,747M

Table 25: Event Study – Stats and Groups Comparison

Negative Traits	Ethical Concerns	High Debt Level	Major Changes in Management or Structure	Lack of Control	Diversification	Inadequate Target Evaluation
Successful Mergers	7	1	13	7	0	3
Unsuccessful Mergers	18	14	19	20	7	25

Positive Traits	Complimentary Assets	Friendly Acquisition	Low to Moderate Debt Level	Experience in Change	Emphasis on innovation	Focus on core business	Careful selection of target	Financial Slack
Successful Mergers	22	25	24	19	22	23	21	12
Unsuccessful Mergers	7	23	12	16	4	12	0	13

Other Traits	All-Cash Offers	CBMA	Premium (4WK)	Premium (1WK)	Premium (1DAY)	Resale	Increase in debt equity ratio	Transaction Value	Early Positioning
Successful Mergers	13	6	66.81	58.44	50.78	1	4	525.2M	11
Unsuccessful Mergers	8	13	38.61	37.32	29.36	6	9	3554.1M	11

Table 26: The Top 25 Acquisitions (Other Traits)

Part 1

Top 25 Acquisitions											
Acquisitions		Other Traits									
Acquiror	**Target**	**Early Positioning**	**Financing Method**	**CBMA**	**Reason for Acquisition**	**Retention of Key Employees**	**Distance**	**Premium (4WK)**	**Premium (1WK)**	**Premium (1DAY)**
1. IVILLAGE INC	Women.com Networks	Yes	All-Stock (98.7% Stock)	No (DMA)	Increased Market Share	Yes	Modeate [High for DMA]	24.20	-3.37	-20.93
2. BOOKHAM INC	Avanex Corp	Yes	All-Stock	No (DMA)	Increased Market Share & Cost Savings	Yes	None	126.04	73.6	65.65
3. MEDICINOVA INC	Avigen Inc	No	All-Cash	No (DMA)	Combining Companies' strengths	No mention	Small (DMA)	87.88	129.63	90.77
4. ALAMOS GOLD INC	Carlisle Goldfields Ltd	No	All-Stock	No (DMA)	Exploitation of Future Potential	Yes	None	277.5	162.61	108.28
5. FIRST MAJESTIC SILVER CORP	SilverCrest Mines Inc	No	All-Stock (99.99%)	No (DMA)	Operational & production synergies and cost cutting potential	Yes	None	2.86	28.32	35
6. MANOR CARE INC	In Home Health Inc	Yes	All-Cash	No (DMA)	Expand Reach and Cost Cutting	No mention	Small (DMA)	23.33	28.7	23.33
7. COREL CORP	InterVideo Inc	Yes	All-Cash	Yes	Combining Strengths, Expanding Reach in Markets & Cost Cutting	Yes	Moderate [Small for CBMA]	32.25	34.44	35.42
8. SABRE HOLDINGS CORP	Getthere.Com Inc	Yes	All-Cash	No (DMA)	Rival Buyout + Cost Cutting	Yes	Moderate (DMA)	63.22	97.22	66.07
9. REUTERS GROUP PLC	Multex.com Inc	Yes	All-Cash	Yes	Penetrate high growth Market	Yes	Moderate [Small for CBMA]	57.73	61.18	60.48
10. HOVNANIAN ENTERPRISES INC	Washington Homes Inc	Yes	Mixed (62% Cash)	No (DMA)	Combining Companies' assets and markets	Yes	Small (DMA)	55.08	39.03	41.47
11. MAXLINEAR INC	Entropic Communications Inc	No	Mixed (40% Cash)	No (DMA)	Cost Savings & Operating Synergies	Yes	Small (DMA)	31.57	16.33	13.27
12. SCANSOFT INC	Nuance Communications Inc	Yes	Mixed (36.5% Cash)	No (DMA)	Market Power + Cost Savings	Yes	Small (DMA)	114.07	97.54	84.59
13. LENNAR CORP	US Home Corp	No	Mixed (40% Cash)	No (DMA)	Combining Companies' strengths and markets	Yes	Moderate (DMA)	33.02	42.57	44.72
14. INTERNATIONAL FLAVORS & FRAG IN	Bush Boake Allen(Union Camp)	No	All-Stock	No (DMA)	Cost Savings & Market Power	Yes	Small (DMA)	13.45	11.82	11.33
15. MAY DEPARTMENT STORES CO	David's Bridal Inc	No	All-Cash	No (DMA)	Segment Expansion + Synergies	Yes	Small to Moderate (DMA)	66.67	58.42	72.97
16. ODYSSEY HEALTHCARE INC	VistaCare Inc	No	Mixed	No (DMA)	Cost Savings + Market Power	Yes	Moderate (DMA)	17.97	17.65	20.11
17. CEPHALON INC	Salmedix Inc	No	All-Cash	No (DMA)	Product Acquisition	No mention	Moderate (Largge for DMA)	NA	NA	NA
18. LILLY ELI & CO	Armo Biosciences Inc	Yes	All-Cash	No (DMA)	Product Acquisition	No mention	Large (for DMA)	72.77	81.03	67.67
19. R F MICRO DEVICES INC	TriQuint Semiconductor Inc	No	All-Stock	No (DMA)	Market Power + Cost Synergies	Yes	High (for DMA)	15.02	5.89	5.43
20. BRISTOL MYERS SQUIBB CO	Kosan Biosciences Inc	Yes	All-Cash	No (DMA)	Product Acquisition	No mention	High (for DMA)	231.33	243.75	229.34
21. SHIRE PLC	ViroPharma Inc	No	All-Cash	Yes	Product Acquisition + Revenue Synergies	Yes	Moderate [Small for CBMA]	29.8	28.2	26.97
22. COMPUTER SCIENCES CORP	UXC Ltd	No	All-Cash	Yes	Combining Companies' strengths	Yes	Very High	3.83	-4.31	-8.27
23. O REILLY AUTOMOTIVE INC	CSK Auto Inc	No	Mainly Stock (96% Stock)	No (DMA)	Expand Market Reach & Cost Syngergies	Yes	Moderate	156.41	120.99	101.68
24. FLIR SYSTEMS INC	Lorex Technology Inc	No	All-Cash	Yes	Combining Companies' strengths and markets	Yes	Moderate	32.35	34.63	36.28
25. MALLINCKRODT PLC	Ocera Therapeutics Inc	Yes	All-Cash	Yes	Product Acquisition	Yes	Very High	44.76	47.57	52
	Sucampo Pharmaceuticals Inc						High	57.21	7.46	5.88
		11	13	6		20		66.81	58.44	50.78

Part 2

Acquiror	Target	Debt Financing	Resale	Target ROA	Target ROE	Target Employee Productivity	Target Current Ratio	Target FCF	Increase in debt equity ratio	Transaction Value
1. IVILLAGE INC	Women.com Networks	No	No	Negative (High)	Negative (High)	Low	High	-52M	0%	26M
2. BOOKHAM INC	Avanex Corp	No	No	Negative	Negative	Moderate	High	-13.6M	0%	34M
3. MEDICINOVA INC	Avigen Inc	Yes	No	Negative	Negative	Moderate	High	-16,5M	Decrease	37M
4. ALAMOS GOLD INC	Carlisle Goldfields Ltd	No	No	Positive	Positive	NA	High	-3.5M	Decrease	20.5M
5. FIRST MAJESTIC SILVER CORP	SilverCrest Mines Inc	No	No	Positive	Positive	NA	High	-10M	-2.85%	118M
6. MANOR CARE INC	In Home Health Inc	No	No	Positive	Positive (High)	Low	Moderate	-11.5M	Decrease	34M
7. COREL CORP	InterVideo Inc	No	No	Positive	Posive	Low	High	20.9M	NA	199M
8. SABRE HOLDINGS CORP	Getthere.Com Inc	No	No	Negative	Negative	Low	High	-38M	-11.76%	757M
9. REUTERS GROUP PLC	Multex.com Inc	No	No	Negative	Negative	Low	High	3M	Decrease	243M
10. HOVNANIAN ENTERPRISES INC	Washington Homes Inc	No	No	Positive	Positive	High	High	25M	-19.45%	136M
11. MAXLINEAR INC	Entropic Communications Inc	No	No	Negative (High)	Negative (High)	High	High	-37M	NA	287M
12. SCANSOFT INC	Nuance Communications Inc	Yes	No	Negative	Negative (High)	Low	High	-15.8M	NA	220M
13. LENNAR CORP	US Home Corp	No	No	Positive	Positive	High	High	-83M	17.39%	478M
14. INTERNATIONAL FLAVORS & FRAG IN	Bush Boake Allen(Union Camp)	No	No	Positive	Positive	Low	High	20.3M	-26%	970M
15. MAY DEPARTMENT STORES CO	David's Bridal Inc	No	No	Positive	Positive	Low	High	-2.4M	-1.38%	436M
16. ODYSSEY HEALTHCARE INC	VistaCare Inc	Yes	No	Negative	Negative	Low	Moderate to High	-9.98M	NA	147M
17. CEPHALON INC	Salmedix Inc	No	No	Negative	Negative	NA	Very High	-12.6M	-0.56%	160M
18. LILLY ELI & CO	Armo Biosciences Inc	No	No	Negative	Negative	NA	Very High	-52.4M	Increase	1600M
19. R F MICRO DEVICES INC	TriQuint Semiconductor Inc	No	No	Negative	Negative	Low	High	-40.3M	Decrease	1560M
20. BRISTOL MYERS SQUIBB CO	Kosan Biosciences Inc	No	No	Negative (High)	Negative (High)	Low	High	26.5M	-0.47%	234M
21. SHIRE PLC	ViroPharma Inc	Yes	No	Negative	Negative	Very High	High	-15M	-14.54%	42000M
22. COMPUTER SCIENCES CORP	UXC Ltd	No	No	Positive	Positive	NA	Moderate	21.7M	-4.92%	308M
23. O REILLY AUTOMOTIVE INC	CSK Auto Inc	Yes	No	Negative	Negative	Low	Moderate	19.3M	461.25%	1000M
24. FLIR SYSTEMS INC	Lorex Technology Inc	No	Yes	Positive	Positive	NA	High	7.2M	-0.97%	60M
25. MALLINCKRODT PLC	Ocera Therapeutics Inc	Yes	No	Negative (High)	Negative (High)	Low	Moderate	-21.4M	0%	108.7M
	Sucampo Pharmaceuticals Inc		No	Negative	Negative (High)	High	High	28.6M	4.20%	882.2M
			1							**525.2M**

Table 27: The Bottom 25 Acquisitions (Other Traits)

Part 1

Bottom 25 Acquisitions									
Acquisitions		Other Traits							
Acquiror	Target	Early Positioning	Hostile Acquisition	Defense Mechanism	Financing Method	CBMA	Reason for Acquisition	Retention of Key Employees	Distance
AKAMAI TECHNOLOGIES INC	InterVU Inc	Yes	No	Yes	Mixed (53% Cash)	No	Market Power	Indication (no direct mention)	High [for DMA]
INTERNET CAPITAL GROUP INC	Harbour Ring Intl Hldg Ltd	Yes	No	No	Unknown	Yes	Penetration of Chinese Market	Yes	Very High
TERRA NETWORKS S A	Lycos Inc	No	No	No	Mixed (32% Cash)	Yes	Penetartion of American Market	Yes	High
LION BIOSCIENCE AKTIENGESELLSCH	Trega Biosciences Inc	Yes	No	No	All-Stock	Yes	Combining Firms' core businesses	Yes	Very High
PHOTOMEDEX INC	LCA-Vision Inc	No	No	No	All-Cash	No	Revenue Synergies	Yes	Low
STONE ENERGY CORP	Bois d'Arc Energy Inc	No	No	No	Mixed (56% Cash)	No	Significant FCF	No Mention	Small
J D S UNIPHASE CORP	SDL Inc	Yes	No	No	All-Stock	Yes	Economie of scale	Yes	Small
VALEANT PHARMACEUTICALS INTL IN	Synergetics USA Inc	Yes	No	No	All-Cash	Yes	Strengthen division	No Mention	Moderate
NORTEL NETWORKS CORP NEW	Alteon Websystems Inc	Yes	No	No	Mixed (44% Cash)	Yes	Market Power	Yes	High
I S P A T INTERNATIONAL N V A	International Steel Group Inc	No	No	No	Mixed (47%)	Yes	Market Power	Yes	Very High
ENERGY XXI LTD	EPL Oil & Gas Inc	No	No	No	Mixed (44%)	Yes	Market Power	No	High
TYCO INTERNATIONAL LTD	Sensormatic Electronics Corp	No	No	No	All-Stock	Yes	Diversification & Cost Savings	Yes	Moderate
NORTEL NETWORKS CORP	Architel Systems Corp	Yes	No	Yes	All-Stock	No	Synergies	No Mention	Small
PRECISION DRILLING TRUST	Grey Wolf Inc	No	Yes	No	Mixed (56% cash)	Yes	Market Expansion & Cost Synergies	Yes	Large
BREITBURN ENERGY PARTNERS L P	QR Energy LP	No	No	No	All-Stock	No	Market Power & Cost Savings	Yes	Moderate
TECK COMINCO LTD	Global Copper Corp	No	No	No	Mixed (42% Cash)	No	Asset Acquisition	No Mention	None
CISCO SYSTEMS INC	ArrowPoint Communications Inc	Yes	No	No	All-Stock	No	Technology Acquisition	Yes	High
UNITED NATURAL FOODS INC	SuperValu Inc	No	No	No	All-Cash	No	Vertical Integration & Cash Savings	Yes	Moderate
SEARS ROEBUCK & CO	Lands' End Inc	Yes	No	No	All-Cash	No	Market Penetration & Sales Enhancements	Yes	Low
ENCANA CORP	Athlon Energy Inc	No	No	No	All-Cash	Yes	Asset Acquisition	No Mention	Moderate
APPLE INC	AuthenTec Inc	Yes	No	Yes	All-Cash	No	Technology Acquisition	No Mention	High
INVERNESS MED INNOVATIONS INC	BBI Holdings PLC	No	No	No	All-Stock	Yes	Part of Diversification Plan + Know-how acquisition	No Mention	High
DASEKE INC	Aveda Transportation & Energy	No	No	No	Mixed (67%)	Yes	Benefits of Scale	Yes	Moderate
ENERGIZER HOLDINGS INC	Playtex Products Inc	No	No	No	All-Cash	No	Diversification	No Mention	Moderate
KROGER COMPANY	Roundy's Inc	Yes	No	No	All-Cash	No	Reentry of State Market	No	Small
		11			8	13			

Part 2

Acquiror	Target	Premium (4WK)	Premium (1WK)	Premium (1DAY)	External Financing	Resale	Target ROA	Target ROE	Target Employee Productivity	Target Current Ratio	Target FCF	Increase in debt equity ratio	Transaction Value
AKAMAI TECHNOLOGIES INC	InterVU Inc	53.20	51.34	19.65	No	No	Negative (High)	Negative (High)	Low	Very High	-37.81M	-15.52%	2395M
INTERNET CAPITAL GROUP INC	Harbour Ring Intl Hldg Ltd	-60	-51.61	-75.61	No	Yes	Positive	Positive	Very Low	High	7.7M	127.69%	116M
TERRA NETWORKS S A	Lycos Inc	31.58	1.14	-17.53	No	Yes	Very High	Very High	NA	High	49.6M	17.13%	6188M
LION BIOSCIENCE AKTIENGESELLSCH	Trega Biosciences Inc	-48.23	-21.25	-10.61	No	No	Very Negative	Very Negative	Low	Moderate	-14.9M	-0.67%	15M
PHOTOMEDEX INC	LCA-Vision Inc	23.73	29.09	34.25	Yes	Yes	Negative	Negative	Low	High	-5M	4.56%	103M
STONE ENERGY CORP	Bois d'Arc Energy Inc	8.64	-4.99	-4.37	Yes	No	Positive	Positive	High	Moderate	33.2M	-26.12%	1708M
J D S UNIPHASE CORP	SDL Inc	23.74	26.03	20.82	No	No (became worthless)	Positive	Positive	Low	Very High	-0.5M	NA	41144M
VALEANT PHARMACEUTICALS INTL IN	Synergetics USA Inc	63.76	78.15	70.84	Yes	No	Low	Low	Low	High	8.6M	-1%	196M
NORTEL NETWORKS CORP NEW	Alteon Websystems Inc	43.68	.01	.54	No	Yes	Negative	Negative	Moderate	High	-17.6M	-1.84%	7057M
I S P A T INTERNATIONAL N V A	International Steel Group Inc	17.03	22.87	22.74	No	No	Low	Low	Moderate	Moderate	441.8M	-37.5%	3796M
ENERGY XXI LTD	EPL Oil & Gas Inc	NA	NA	NA	Yes	Yes	Low	Low	High	Low	-70.2M	-8.73%	2333M
TYCO INTERNATIONAL LTD	Sensormatic Electronics Corp	43.68	59.9	53.59	No	No	Low	Low	Low	Moderate	74.5M	-2.25%	2203.5M
NORTEL NETWORKS CORP	Architel Systems Corp	NA	NA	NA	No	Yes	Highly Negative	Highly Negative	NA	High	-7M	NA	408.9M
PRECISION DRILLING TRUST	Grey Wolf Inc	17.33	15.67	8.68	Yes	No	Low	Low	Low to Moderate	High	74.5M	137%	1637.9M
BREITBURN ENERGY PARTNERS L P	QR Energy LP	21.46	21.39	19.14	No	No	Negative	Highly bad (negative for both ROE and SE)	High	Low to Moderate	65.7M	27.76%	1458.6M
TECK COMINCO LTD	Global Copper Corp	42.37	29.47	11.67	No	No	Low & negative	Low & negative	NA	Very High	-14.8M	-0.63%	417.5M
CISCO SYSTEMS INC	ArrowPoint Communications Inc	-.09	37.76	.14	No	No	Negative	Negative	Very Low	Very High	-13M	0%	5658.1M
UNITED NATURAL FOODS INC	SuperValu Inc	113.96	113.39	94.03	Yes	No	Low	Low	Moderate	Moderate	-177M	240%	1255.3M
SEARS ROEBUCK & CO	Lands' End Inc	110.53	81.5	78.93	Yes	Spinoff	Low	Low	NA	High	117.5M	-5.06%	1933.2M
ENCANA CORP	Athlon Energy Inc	25.7	32.08	25.19	No	No	Low	Low	Very High	Moderate to High	-1218.8M	-0.40%	6843.2M
APPLE INC	AuthenTec Inc	84.76	59.68	57.79	No	No	Negative (Low)	Negative (Low)	Low to Moderate	Moderate	5.6M	0%	392.8M
INVERNESS MED INNOVATIONS INC	BBI Holdings PLC	26.82	24.39	25.19	No	No	Low	Low	Low	Moderate	1M	-0.44%	149.9M
DASEKE INC	Aveda Transportation & Energy	175.51	170	154.72	No	No	Low	Low	NA	Moderate	-8.5M	NA (but increase)	56.2M
ENERGIZER HOLDINGS INC	Playtex Products Inc	23.07	22.41	20.32	Yes	Spinoff	Low	Low	Moderate	Moderate to High	44.4M	2.39%	1208.4M
KROGER COMPANY	Roundy's Inc	45.75	60.0	65.14	Yes	No	Negative	Low	Low	Moderate	-7.5M	7.33%	177.8M
		38.61	**37.32**	**29.36**		**6 (+3)**							**3554.1M**

New Determinants Study

Table 28: New Determinants – Descriptive Statistics

New Determinants - Statistics

Determinant	Statistic	Value	Determinant	Statistic	Value
Advisors	Average	2.23	Common Stock Issue	N	35
	% of Sample	95.4%		% of Sample	1.6%
Multiple Bidders	Average	1.06	Debt Issue	N	71
	% of Sample	5.3%		% of Sample	3.3%
Due Diligence	N	377	Divestiture	N	65
	% of Sample	17.4%		% of Sample	3.0%
Target Termination Fee	Average Value	43.16M	Definitive Agreement	N	1951
	Average Count	70.3%		% of Sample	89.8%
Mismatch of Consideration	N	2004	Collar	N	92
	% of Sample	92.3%		% of Sample	4.2%
Portfolio Company Activity	N	220	Target Bankrupt	N	25
	% of Sample	10.1%		% of Sample	1.2%
Fairness Opinion	N	1294	Target Total Fee	Average Value	12.51
	% of Sample	59.6%		Median Value	6.17
Acquiror Total Fee	Average Value	10.97	Increase in Offer price	Average	1%
	Median Value	5.20			

Table 29: New Determinants – Table of Significance

Panel A: Short-Term Window Panel B: Event Date Window Panel C: Long-Term Window

Panel A: Short-Term Window

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	2172
Number of Observations Used	2172

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	14	0.60401	0.04314	6.01	< .0001
Error	2157	15.49017	0.00718		
Corrected Total	2171	16.09417			

Root MSE	0.08474	R-Square	0.0375
Dependent Mean	-0.01242	Adj R-Sq	0.0313
Coeff Var	-682.44451		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.01739	0.01209	-1.44	0.1504
CompBid	1	-0.00364	0.00720	-0.51	0.6131
AdvAcq	1	-0.00197	0.00221	-0.89	0.3721
AdvTar	1	-0.00130	0.00289	-0.45	0.6526
DueDil	1	-0.03331	0.00494	-6.74	< .0001
TermFee	1	-0.00003023	0.00001239	-2.44	0.0148
Mismatch	1	0.02090	0.00685	2.92	0.0036
Activity	1	0.00082970	0.00611	0.14	0.8919
Fair	1	0.00533	0.00397	1.34	0.1797
Stock	1	-0.01215	0.01464	-0.83	0.4067
Debt	1	0.02029	0.01041	1.95	0.0515
Divest	1	-0.00852	0.01078	-0.79	0.4294
DefAgr	1	-0.00334	0.00642	-0.52	0.6034
Collar	1	0.00133	0.00917	0.15	0.8845
Bnkrpt	1	0.04519	0.01730	2.61	0.0090

Intercept	1	0.00599	0.00238	2.52	0.0119
PartMatch	1	-0.04248	0.00362	-11.75	< .0001

Intercept	1	-0.03488	0.01004	-3.47	0.0006
TarFee	1	0.00013465	0.00024341	0.55	0.5808

Intercept	1	-0.03943	0.00893	-4.41	< .0001
AcqFee	1	0.00049941	0.00048670	1.03	0.3057

Intercept	1	-0.01443	0.00191	-7.57	< .0001
IncPrice	1	0.02507	0.02028	1.24	0.2148

Panel B: Event Date Window

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	2172
Number of Observations Used	2172

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	14	0.25076	0.01791	4.85	< .0001
Error	2157	7.97136	0.00370		
Corrected Total	2171	8.22212			

Root MSE	0.06079	R-Square	0.0305
Dependent Mean	-0.00943	Adj R-Sq	0.0242
Coeff Var	-644.37381		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.01373	0.00867	-1.58	0.1134
CompBid	1	0.00106	0.00516	0.21	0.8366
AdvAcq	1	-0.00150	0.00159	-0.94	0.3456
AdvTar	1	-0.00162	0.00207	-0.78	0.4342
DueDil	1	-0.01669	0.00355	-4.71	< .0001
TermFee	1	-0.00002122	0.00000889	-2.39	0.0171
Mismatch	1	0.01075	0.00491	2.19	0.0286
Activity	1	0.00294	0.00438	0.67	0.5023
Fair	1	0.00301	0.00285	1.06	0.2909
Stock	1	-0.00002117	0.01050	-0.00	0.9984
Debt	1	0.00732	0.00747	0.98	0.3272
Divest	1	0.00123	0.00773	0.16	0.8738
DefAgr	1	-0.00293	0.00460	-0.64	0.5250
Collar	1	0.00419	0.00658	0.64	0.5240
Bnkrpt	1	0.05591	0.01241	4.51	< .0001

Intercept	1	0.00241	0.00171	1.41	0.1588
PartMatch	1	-0.02734	0.00260	[illegible]	< .0001

Intercept	1	-0.01128	0.00135	-8.37	< .0001
IncPrice	1	0.02440	0.01429	1.71	0.0880

Intercept	1	-0.00933	0.00237	-3.94	< .0001
TarFee	1	0.00006321	0.00011744	0.54	0.5905

Intercept	1	-0.09775	0.04930	-1.98	0.0483
AcqFee	1	-0.00092466	0.00269	-0.34	0.7310

Panel C: Long-Term Window

The REG Procedure
Model: MODEL1
Dependent Variable: CAR

Number of Observations Read	2172
Number of Observations Used	2172

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	14	9.51120	0.67937	1.75	0.0410
Error	2157	838.50757	0.38874		
Corrected Total	2171	848.01877			

Root MSE	0.62349	R-Square	0.0112
Dependent Mean	-0.10841	Adj R-Sq	0.0048
Coeff Var	-575.13844		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-0.13249	0.08894	-1.49	0.1365
CompBid	1	0.09671	0.05295	1.83	0.0679
AdvAcq	1	-0.00834	0.01627	-0.51	0.6080
AdvTar	1	-0.03001	0.02125	-1.41	0.1581
DueDil	1	-0.00565	0.03637	-0.16	0.8766
TermFee	1	-0.00007648	0.00009117	-0.84	0.4016
Mismatch	1	0.02498	0.05037	0.50	0.6200
Activity	1	-0.01688	0.04492	-0.38	0.7072
Fair	1	0.06096	0.02920	2.09	0.0370
Stock	1	-0.08794	0.10772	-0.82	0.4144
Debt	1	-0.02381	0.07662	-0.31	0.7560
Divest	1	-0.02229	0.07930	-0.28	0.7787
DefAgr	1	-0.08366	0.04723	-1.77	0.0767
Collar	1	-0.20451	0.06746	-3.03	0.0025
Bnkrpt	1	-0.00864	0.12725	-0.07	0.9459

Intercept	1	-0.05739	0.01774	-3.23	0.0012
PartMatch	1	-0.11776	0.02695	-4.37	< .0001

Intercept	1	-0.10815	0.01378	-7.85	< .0001
IncPrice	1	0.15067	0.14613	1.03	0.3026

Intercept	1	-0.08125	0.02041	-3.98	< .0001
TarFee	1	0.00005517	0.00101	0.05	0.9565

Intercept	1	-0.09775	0.04930	-1.98	0.0483
AcqFee	1	-0.00092466	0.00269	-0.34	0.7310

Appendix B: Additional Information

The Type of Merger (Related & Unrelated M&A)

Vertical Mergers

A vertical merger is classified as related. It results when two or more companies within the same type of industry but operating at different levels along the supply chain merge together, usually involving the acquisition of a supplier or a distributor. This is conducted to increase the potential synergies, specifically to improve operation efficiencies and to reduce costs rather than to increase revenue to ultimately generate a competitive advantage over its direct rivals. It is done when the firms believe that operating as one unit would be more efficient than as separate businesses. When a company buys out its distributors and suppliers it becomes vertically integrated. A vertically integrated company gains better control of its supply chain, as well as stronger flow of information, allowing for quicker time-to-market, and greater quality control.

Kedia et al. (2011) report that vertical mergers generated positive abnormal returns up until the late 1990s and, from that point on, started to produce negative abnormal returns, suggesting recent ones have been poor strategic fits. Fan and Goyal (2006) that the activity of vertical mergers has increased over time, and that they generate positive shareholder wealth effects that are comparable to those of horizontal mergers. In addition, they document that vertically related mergers significantly outperformed vertically unrelated mergers.

Horizontal Merger

Also considered related, a horizontal merger, on the other hand, results when two companies within the same industry combine. Such firms operate in the same market, offering the same good or service. As a result, they are often competitors. It is an effective method of eliminating competition, increasing market share and market power, while reducing costs by combining similar or redundant operations. Subsequently, the potential synergies and gains may be greater. A potential explanation for the large abnormal returns of horizontal mergers is the collusion hypothesis. Essentially, the returns tend to be high due to anti-competitive effects arising from a merger between two rivals. However, Eckbo (1981) finds no evidence that would suggest that horizontal mergers have collusive, anticompetitive effects. Interesting enough, horizontal mergers can coexist and even benefit from vertical mergers. Beladi et al. (2013) show that not only does vertical integration increase the incentives for firms to diversify in production, but so does it significantly improve the gains from horizontal mergers involved in cross-border M&A.

Conglomerate Merger

Generally considered the most controversial in motive, conglomerate mergers come to fruition when two or more firms operating in completely unrelated business activities combine. Conglomerates are classified under two different types. Pure conglomerates mergers are simply the combination of two firms that have nothing in common whereas mixed conglomerates mergers are motivated by a common goal, often for product extension or market extension. The potential for synergies tends to be the lowest. The chances of destroying firm value are greater and are at their highest relative to both horizontal and vertical mergers. Pertschuk and Davidson (1979) document that conglomerates barely generate any benefits for its shareholders. They do however offer growth in firm size. In addition, Levy and Sarnat (1970) state that most of the potential synergies found in vertical and horizontal mergers do not apply to conglomerate mergers. Herger

and McCorriston (2014) document that a significant portion of cross-border acquisitions can be considered as conglomerate mergers.

In-Depth Literature Review

The Theories

The most prevalent theories of acquisitions are the resource-based view, the acquisition process, and the acquisition outcomes approach. The resource-based view (Barney (1991)) asserts that the abundance of resources motivates and even directs M&A growth of a firm. A firm will tend to partake in M&A when it has specific types of resources at hand. For instance, instead of holding on to excessive free cash flows, a firm may prefer to invest them by acquiring other companies to generate greater growth and thus larger returns in the hopes they increase shareholder value faster than organic alternatives. Further, a firm will conduct mergers when it believes it can apply its core competencies to the new business allowing it to gain a deeper level of economies of scope (Peteraf (1993)) and when it needs to protect its core competencies or make them less imitable (Harrison, Hitt, Hoskisson and Ireland (1991)).

The acquisition process theoretical approach, based largely on the case studies by Haspeslagh and Jemison (1991a, 1991b), suggests that to best ensure that value is created from a merger, the management group must first certify the strategic fit between the two companies, establish a careful selection process to identify the right target, effectively integrate the two companies, including their respective culture, into one unit, and, lastly, facilitate and foster learning from the acquisition. Finally, the acquisition outcomes approach, for its part, attempts to explain the performance of acquisitions. This rationale advocates that mergers and acquisitions will generate positive value when the combined entity seizes greater market power, gains economies of scale and scope, and enjoys lower costs of capital (Weston, Chung and Hoag (1990); Dranove and Shanley (1995)).

In addition to these major theories, there are several others that instead explain the lack of value-enhancing effects from M&A. Barney (1988) argues that, for any mergers to succeed, private synergy as well as uniquely available synergy must be exploited by the acquirer. Otherwise, the bid for the target exceeds, or equates, that of the potential value of the merger. As a result, negative to zero value is generated by such a merger. Roll (1986) posits that managerial hubris leads to excessively large bids. The chances of a successful merger deteriorate in relation to the size of a bid (Datta et al. (1992)). Consequently, larger bids lead to many mergers destroying firm value.

Scholarly Research

In their study on Indian firms, Sinha and Kaushik (2010) report that in the long-term, firms conducting M&A generated positive value-creation sources, such as higher cash flows, cost cutting and greater market power, from the deals they closed. However, such activity led to increases in their debt level, specifically the debt-to-equity ratio. Moreover, despite the improved financial situation of these firms, changes in the return on net worth, liquidity position and profit before tax do not have a significant impact on the total income of these companies' post-merger gains. However, Kitching (1967) document that the relative size of the bidder to that of the target has a significant impact on the post-merger performance of the combined entity. In addition, large acquisitions offer a greater combination potential.

Sharma (2013) conducted a study on the Indian metal industry and found little evidence that the combined entity enjoys improvements in their liquidity and leverage. Instead, the combined entity suffered decreases of profits on a significant scale. As such, these results suggest that only with due diligence, careful planning of the available resources, accurately valuating the target, and outlining future prospective mergers can a merger generate synergy gains in the long run. Consequently, the success of a merger depends heavily on the post integration success, timely action, and constantly updating and monitoring the costs of the integration process.

Changqi and Ningling (2010), in their research on Chinese firms conducting cross-border acquisitions, document that the proportion of state shares and the pre-acquisition performance has a significant positive impact on the post-merger performance. They contend that the outcome of the merger depends on two factors, the external environment, including economic growth and the degree of competition at the home country, and the internal strength, or more specifically the resources and capability of the acquiring company. On the other hand, they find no evidence that corporate age and free cash flow have an impact on post-merger performance. Finally, they find some evidence on organizational learning. Firms conducting cross-border M&A tend to learn and improve, develop new technologies, and expand their knowledge. As a result, the more changes a firm experiences the more adaptable it is to reforms enacted from organizational learning. Yet, to gain from this learning, firms must be able to learn from previous experience. They will maximize the learning when the experience is similar to the current acquisition.

Hitt et al. identified a few major determinants of a successful acquisition that work in tandem. First off, in their sample of 12 mergers, all the acquired firms had complementary assets or resources to a certain extent to the acquiring firms and were friendly acquisitions. Other attributes include the ability of the combined entity to maintain a low-to-moderate debt position after the merger, the knowledge and rich experience in implementing change prior to the merger for both the target and bidder firm, the heavy emphasis on research and development (R&D) and innovation, the careful and thorough analysis and selection of target candidates, and, finally, the benefit of financial slack.

Lastly, the authors also identified a few key determinants of unsuccessful mergers. They find that unsuccessful mergers displayed unusual amounts of large or extraordinary debt, performed inadequate target evaluation, had ethical concerns related, in some way, to the merger, underwent major changes in the top management team and/or in the structure of the firm, were involved in multiple potential acquisitions at the same time, thus, not allowing it to focus its efforts on the crucial and necessary evaluation, negotiation and integration of the merger process, and, lastly, attempted to diversify its business or businesses, thus, acquiring unrelated businesses, which allowed for little relatedness between the core competencies of the merging companies.

Swistun (2018) asserts that cross-border M&A will succeed if the company 1) has a clear growth strategy that outlines how the acquisition will contribute in the long-term and defines the target along with its geographic and functional market segments, 2) conducts market research to quantify, qualify and rank the potential targets relative to the company's overall strategy, 3) uses professional advisors to enlarge and broaden the number of merger candidates and allow senior management to focus on running the business, 4) focuses and understands the culture of the potential target as well as the integration process, and, lastly, 5) understands the correct value proposition the target may bring.

Kumar and Peiro (1994) claim that the immediate short-term performance a firm may enjoy is only temporary and should have no impact on the overall success of a merger. However, in the long-term, the sustained performance is critical. They believe it depends on several factors, specifically the pre-merger negotiation, the price paid, the strategic fit, and, lastly, the effectiveness of the integration process. Importantly, the integration process depends on the tasks undertaken by the managerial group. Lastly, they propose a model to better capture and understand the key determinants of post-merger performance. Essentially, to achieve a successful merger, due diligence on top of careful planning and negotiating must be conducted first. Once done, management is responsible for several critical tasks. They must select the top management team and delegate authority when appropriate. Finally, among several other responsibilities, they must be able to correctly relocate the responsibilities of executives, manage difficult times of crisis, and ease out corporate communication.

Using meta-analytic techniques, King et al. (2003) report that the most popular metrics of post-merger performance have no impact on the success of the merger. As a result, they conclude that additional research is needed to identify the still unknown variables. This research is important as implications can be drawn. Firstly, employing stock market event studies fails in measuring the post-merger performance simply due to its short-term nature. Secondly, when studying the key determinants, building on existing models may provide a deeper understanding than trying to create new ones. Thirdly, data relevance should not be sacrificed in favor of data availability. Finally, as most researchers have focused on financial motives for the key determinants and have failed in formulating a reliable framework, it is possible that these mergers are motivated by nonfinancial reasons.

Megginson et al. (2002) document corporate focus as a key variable of post-merger performance. They report that as the focus decreases mergers suffer significant losses in shareholder wealth, operating performance, and firm value over the subsequent three years after the completion of the merger. Likewise, firms that increase focus enjoy marginal improvements in their long-term performance. Moreover, according to the authors, the next strongest determinant is the form of payment considering that the most successful mergers are closed by cash-financed and focus increasing mergers and that the least successful ones are conducted by stock-financed and focus decreasing mergers.

Darkow et al. (2008) report that those firms that focus their transactions within the same product market enjoy stronger success than those that conduct deals to further diversify their company. In addition, cross-borders acquisitions fare better than national acquisitions within the same regional market. Lastly, they find that transactions done in large volume are more successful than those done in small volume. Louis (2002) finds evidence of long-term underperformance in both failed and successful bids. Importantly enough, he finds no evidence that the long-term abnormal returns explain the success of a bid.

Gupta et al. (2012) claim that mergers and acquisitions tend to succeed or fail based on not one or two factors but several factors, the same conclusion reached by Hitt et al. They suggest that instead of looking at factors on an individual basis, studies should broaden their scope of research by looking at multiple factors that may impact the post-merger performance at the various stages of the merger. The authors believe that mergers will be successful if managers take this account and

install in place a performance management system that accurately assesses the progression of a merger through integration, operational, cultural, and financial measures (Wolf (2003)).

The Studied Determinants of Post-Merger Performance

Based on the past literature, several potential key determinants of post-merger performance have been identified. In this section, these determinants will be briefly discussed to better understand them

I. Economies of Scale and Scope

Boot (2003) identified four main sources of scale and scope, comprising of information technology related economies, reputation, including marketing and brand name, related economies, financial innovation related economies, and benefits of diversification. In theory, scale and scope economies extracted from a merger should help the combined firm in creating a competitive advantage over its rivals by allowing the entity to produce different and more goods or services at an average lower cost per unit of output. Subsequently, economies have been cited as a main motivation driver behind the waves of M&A.

However, the reports on the impact of economies on firm performance have been mixed. On the one hand, scholars such as Baumol et al. (1983) and Scherer (1980) find that economies is a significant attribute of post-merger performance. Notably, Dijkstra (2013) finds that both economies of scale and of scope were positive and significant for the banks within the European banking sector between 2002 and 2011, including the financial crisis period. Yet, on the other hand, Berger, Demsetz, and Strahan (1999) conclude that the existing literature, could not identify any economies of scale or scope. Goldberg et al. (1991), Berger and Humphrey (1994) document that economies of scope and scale are inconsequential in the securities, banking, and health maintenance industries. They find that these economies only apply to the smallest firms suggesting that the established firms have already exhausted their economies. Thus, conducting mergers for additional economies will yield no results. Farrell and Shapiro (2000) suggests that economies, which are small in principle for mergers, can be realized without the need of a merger.

II. Market Power & Market Share

Market power is defined as the ability of a firm or a group of firms to raise and maintain the price level of a good or service above the equilibrium level. As a result, a firm would be able to charge its customers excessively, or pay less to its suppliers, and produce larger gains due to the decrease in competition. Therefore, in theory, increases in market power should increase the market share and, subsequently, the post-merger performance of the combined entity. Yet, that is not always the case. Goldberg (1973) documents that mergers lead to no significant changes in the market share. Other studies have documented that M&A leads to significant decreases in market share (Mueller (1985; 1986) and Baldwin and Gorecki (1990)). Alternatively, Haynes and Thompson (2005) find significant increases in market share following a merger. Yet, that does not necessarily correlate to stronger firm performance. In fact, although, Entezarkheir and Sen (2016) report that mergers lead to significant increases in the combined market share, the profitability remains inconclusive.

Moreover, to decrease the potential unfair advantage from mergers, several regulatory regulations have been enforced to limit the gain in market power. As a result, the gains are less obvious. In fact, Fee and Thomas (2004) and Shahrur (2005) were unable to find evidence that mergers lead

to market power. Devos et al. (2009) report that increases in market power of the combined entity do not yield any gains. In addition, Sharma and Thistle (1996) document that mergers were not motivated by potential increases in market power. Conversely, Stigler (1968), Edwards (1955), and Lorie and Halpern (1970) conclude that market power is a significant determinant of post-merger performance. Therefore, although market power should increase the post-merger performance of a firm, the gains are not well documented.

III. Coinsurance Effect

The coinsurance effect acts as a cushion against negative shocks. As such, when two firms merge, the probability of default is reduced. If a shock hits one unit, the other unit can salvage the situation by transferring sums of cash and save it from defaulting. Therefore, in theory, according to Sarkar (2014), through reduced deadweight costs of financial distress and increased tax benefits of debt, the coinsurance effect should increase the firm value after a merger. However, not much is known of the true impact of coinsurance on a firm's post-merger performance, especially for non-diversifying mergers. The coinsurance effect has mainly been observed in conglomerate mergers. Yet, Sarkar finds that, although positive, the benefits of coinsurance are small for both related and diversifying mergers and concludes that mergers are not pursued for its benefits.

IV. Operating Improvements (Resource Allocation)

Another motivation of mergers cited by scholars is the desire to increase operating performance. Improvements in operations can lead to increases in cash flow and the productivity of its assets. Martynova et al. (2007) report that the profitability of the combined firm, after a merger, decreases significantly. However, after controlling for industry, size, and pre-merger performance, the decrease is found to be inconsequential. Using a control group of firms matched on sized and pre-merger performance, Ghosh (2001) fails to find any evidence that would suggest mergers lead to operating improvements Mantravadi et al. (2007) also find similar results in their study on Indian firms. They conclude that mergers have no impact on the operating performance of a firm. In addition, they find that mergers between the same group of companies suffer a reduction in performance and return on investment. On the other hand, Healy et al. (1990) document that the combined firm enjoys significant operating performance following a merger. Firms experience improvements in asset productivity leading to higher post-merger operating cash flow returns. Moreover, Healy et al. (1992) and Heron and Lie (2002) also show that the operating performance improves after a merger.

V. Cost Cutting

The concept of cost savings is simply that mergers may reduce the expenses of the combined firm. However, the reports of cost cutting are inconclusive. Studies by Srinivasan and Wall (1992) and Srinivasan (1992) have found no evidence that mergers lower expenses. Harrison (2011), in her study on hospital mergers, finds that hospitals gain cost savings immediately following a merger. However, over time, these cost savings decrease.

VI. Relative Size

Scholars report that the relative size of the bidder to that of the target is an important determinant of post-merger performance. In theory, the returns as well as the risks of a merger are significantly greater the larger the potential target is. A company will more easily be able to endure a failed

merger of a small company, relative to its size. Though, it will likely enjoy only small returns. However, such a company will be severely hindered by the failure of a large acquisition but may extract much larger gains if successful. In other words, for a merger to have a large enough impact on the acquirer, the target must be large enough (King et al. 2008). This would suggest that firm size has a less obvious relationship with the post-merger performance.

Kitching (1967) finds evidence that, for Indian firms, the relative size of the target does have a significant impact of the performance of a firm following the merger. Consistent to the theory, larger acquisitions offer a greater potential of total returns. Martynova et al. (2006) report find that when the target is relatively large, the combined firm's profitability significantly improves following the merger but, in contrast, when the target is relatively small, the profitability level declines. Though, Ramaswamy and Waegelein (2003) document an inverse relationship between the post-merger performance and the relative size of the target. Mantravadi and Reddy (2007) find only minor differences of the impact of relative size on post-merger performance. They document inconsequential variations when the target and the bidder are of different relative sizes.

VII. Pre-acquisition Performance

In general, a company should not expect its performance to become healthy directly due to a merger. If a company is struggling, conducting a merger will not necessarily salvage the situation. In other words, much of the post-merger performance may depend on the pre-merger performance. As such, one would expect that a merger conducted by a strong company would face better odds of succeeding than when conducted by a weak company. The pre-merger performance can thus be said to be an important determinant of post-merger performance. Yet, prior literature has provided limited understanding on this aspect of mergers. Changqi and Ningling (2007) find that the pre-acquisition performance, including external and internal factors, can explain the post-merger performance of a firm. In addition, using Tobin's Q as an indicator of a company's pre-merger performance, Lang et al. (1989) find that the pre-merger performance of the bidder is positively related to the interests of its shareholders. Further, Servaes (1991) reports similar findings. He finds that the post-merger gains display a positive and significant relationship with the pre-merger performance of the acquirer.

VIII. Related and Unrelated Acquisitions

Related acquisitions tend to outperform unrelated acquisitions, suggesting a strategy that promotes mergers that fits its market strategy improves firm performance following the merger. Mergers that match the company's core ideas, resources, and competencies generate larger value than those that do not. Unrelated mergers tend to be motivated by managerialism or hubris reasons. Yet, many scholars still find that relatedness does not matter for the post-merger performance. For instance, Martynova et al (2006) report that the industry-relatedness fails to explain the post-acquisition operating performance of a firm.

IX. Cross-Border and Domestic Acquisitions

Cross-border acquisitions can take advantage of numerous sources of value-enhancing facets from the nature of the merger. They can benefit from increased exposure to the local geographic markets as well as from internalization. In addition, Bertrand and Zitouna (2008) assert that, though there is no evidence of an increase in market power, European CBMAs benefit more from efficiency gains than do domestic acquisitions. On the other hand, scholars have well-documented that

CBMAs suffer more than their domestic counterparts in the integration process possibly due to national cultural differences. As a result, as Bertrand and Zitouna explains, foreign takeovers are more frequently discriminated for fear of their negative impact on the firm's performance. Empirically, while some find that CBMA have a worse impact on the firm's performance than do DMA, many others report no difference or even a stronger impact. Consequently, cross-border mergers may not necessarily underperform relative to domestic mergers.

X. Method of Payment

The method of payment acts as an indirect determinant of post-merger performance. Cash offers signal stronger confidence from the bidder whereas stock exchanges signal the opposite (Rappaport and Sirower, 1999). In addition, cash offers are likelier to be done when the bidder believes the target is undervalued. Conversely, stock exchange offers are done when the target is believed to be overvalued. As a result, cash offers outperform other methods of payment (Ghosh, (2001) and Moeller and Schlingemann, (2004)). Martynova et al. (2006) in her review on the empirical literature summarizes two different alternatives that would explain why cash offers show stronger improvements than any other form of payment. First, it is possible that cash deals lead to a higher probability of the replacement of underperforming target management (Denis and Denis, 1995; Parrino and Harris, 1999). Second, since cash deals tend to be financed with debt (Ghosh and Jain, 2000; Martynova and Renneboog, 2006), such type of offer limits the cash at hand of the managers which diminishes issues with free cash flow (Jensen and Meckling, 1976) and in turn increases the discipline of the management team.

Megginson et al. (2002) conclude that the form of payment is the second strongest determinant of post-merger performance as all-cash offers are found to significantly outperform all-stock offers. Further, Wansley et al. (1983) report that the shareholders of the target firm in cash acquisitions earn close to twice the amount to that in stock-financed acquisitions. As such, they conclude that the payment method is significant to the abnormal returns generated in a merger. Inversely, Sharma and Ho (2002) find that the means of payment has no explanatory power on the post-merger performance of a firm. Heron and Lie (2002) also find that the method of payment cannot predict the operating performance of the acquirer following the merger. On the other hand,

XI. Corporate Age (Organizational Learning)

Companies can learn from their history and experiences, most especially, when they were difficult ones, if and only if they have the capacity to do so. In fact, firms that possess similar technological knowledge or expertise, but not too similar (Hitt et al. 1996), may enjoy quicker assimilation of the knowledge and be more apt in exploiting the gained synergies (Lane and Lubatkin 1998). When the acquired technology is too similar, the opportunities of learning are reduced (Hitt et al. 1996). Therefore, firms should learn from past acquisitions and transfer the improved knowledge to the next merger (Cyert and March (2001)). Past experiences, in theory, should help the acquirer in selecting the right target and perform better during the negotiation process. In addition, firms with prior experiences tend to become more flexible in management, and thus more open to change (Hitt et al. (1998) and generate valuable synergies for the next merger (Changqi and Ningling, 2007).

Han (2002) finds that firms with strong prior experience are associated with higher post-merger performance than those with more limited experience. Fowler and Schmidt (1989) document that

corporate age is a positive and significant determinant of the abnormal returns of a firm following a merger. Alternatively, Changqi and Ningling (2007) find no evidence that corporate age is a factor on the post-merger performance among cross-border M&A. Lahey and Conn (1990) also fail to find any evidence of a significant correlation between organizational learning and post-merger performance. Other scholars, such as Kusewitt (1985) and Haleblian & Finkelstein (1999), document an inverse relationship between learning and performance. They report that as the acquisition activity increases, their performances decline. Pawaskar (2001) also found evidence that profits decrease as the age of the corporation increases.

XII. Capacity to Learn

Organizations can learn from past mergers mainly if they allow for enough time between the acquisitions and have the capacity to gain and retain the knowledge. Otherwise, an entity cannot apply its experience to its following merger. In fact, according to Hitt et al. (2012), without adequate absorptive capacity, the learning from early acquisitions is not applicable to subsequent mergers. In other words, as Hitt et al. explain, it is not necessarily the amount or number of experiences an acquirer may have but instead the ability and capacity to learn from past acquisitions. They define the absorptive capacity to learn as the process from learning from similar mergers that involved targets within the same type of industry or business, effectively meaning that an acquirer may be unable to learn from a past acquisition if it is too dissimilar than its previous one. Indeed, according to Finkelstein and Haleblian (1999), the effectiveness of organizational learning is maximized when the more similar are an acquirer's previous targets to its acquisition targets. In short, they conclude that relatively inexperienced acquirers tend to generalize experience too easily to their following acquisition even when they are different and non-applicable, whereas experienced acquirers can differentiate between their past experiences and appropriately apply the acquired knowledge to their subsequent mergers. Therefore, in short, the quality and relatedness of the experience to its following merger is more critical than the sheer amount of experience a firm may hold.

XIII. Tax Benefits

Tax benefits may play an important role for mergers. Devos et al. (2009) point out that a merger may be motivated by tax advantages. According to Jensen and Ruback (1983), firms may desire to take full advantage of tax shields, increases in leverage, and other benefits a merger may offer. Hayn (1989) finds evidence that tax benefits may motivate acquisitions and improve their post-merger performance. She finds that the tax attributes of the target firm, such as net operating loss carryforwards, unused tax credits, and higher depreciation due to the step-up in the basis of the acquired assets, positively impact the announcement period abnormal returns. However, Devos et al. (2009) fail to find any evidence that the reduction of tax payments increases the post-merger performance of the acquirer.

XIV. Proximity of Firms

The proximity of firms may play a key part on the post-merger performance. In theory, the closer the firms are the more similar the firms will be in terms of the culture shared. As such, I expect firms that are closer to one another to display lower levels of integration difficulty and thus enjoy stronger odds of post-merger success. Ensign et al. (2014) studied the various dimensions of proximity, including geographic, cognitive, and organizational, and found that the proximity of

the companies played a key role in the transfer of knowledge and the development of innovation. They document that the close physical proximity greatly enhanced the integration of a merger by facilitating personal interactions, which therefore improved the knowledge transfer between the two companies. Alternatively, firms distant from one another required considerably more adjustments to integrate and transfer knowledge. They affirm that the closer proximity improves the post-merger performance of a firm. In addition, Kengelbach et al. (2010) as well as Bick et al. (2017) find evidence that acquirers pay less the greater the proximity of the firms is. Essentially, the proximity reduces the transaction value of the target firms and thus make it easier to extract positive value for the merger. On the other hand, many scholars find contradicting evidence. They report that domestic M&A underperform their cross-border counterparts.

XV. Internalization

Internalization is the concept that firms can greatly benefit from cross-border acquisitions by exploiting tangible and intangible firm-specific assets (Markides and Oyon (2005)). These benefits can create value for the firm despite the drawbacks of international acquisitions. Francoeur (2007) finds evidence supporting the internalization theory. Namely, he finds that cross-border mergers help create value by gaining access to the target's expertise and knowledge on international markets only if the acquirer invests and possesses a strong level of research and development (R&D) combined with valuable intangibles. Seth et al. (2002) and Eun et al. (1996) also find similar findings supporting the benefits of internalization as a value-creating tool. The acquirer tends to benefit greatly from the acquired firm's R&D capabilities.

Value Destruction Tools for Quantitative Research

I. High Premiums

High premiums are paid to incite the target shareholders to sell their shares to ensure the merger passes through. Further, when the bidder anticipates large synergies, it is more willing to pay a larger premium. However, when the premium is too high, and the realized synergies do not match those that were anticipated, it may hamper the long-term performance of the combined entity (Sirower, 1997; Hitt, Harrison, and Ireland, 2001) and, in certain cases, even lead to bankruptcy (Haunschild (1994)). Empirically, Nnadi and Aghanya (2018) find that the premium paid has a negative effect on the short-term post-merger performance. In addition, they find evidence suggesting that the market considers acquisitions that are paid with high premiums as value destroying. However, they find that high premiums have a positive impact in the long-term. Further, intriguing enough, they find that acquirers paying low premiums suffer slight losses and underperform relative to those acquirers that pay larger premiums.

Antoniou et al. (2006) find no evidence of relationship between high premiums and long-term post-merger underperformance. Instead, they find that the short-term cumulative abnormal returns are positively associated with the magnitude of the premium paid. Moreover, Antoniou and Zhao (2004) report that firms offering premiums that range between 0 and 30% earn significant abnormal returns in the three years following the takeover. Conversely, Krishnan et al. (2007) report that the performance is adversely related to the premium paid, with the workforce reduction acting as the mediator. They contend that higher premium lead to larger increases in workforce reduction, which directly destroys firm value following the merger. In addition, Rau and Vermaelen (1998) find evidence that glamour firms, otherwise known as companies with low

book-to-market ratios, conduct mergers that are associated with higher premiums and perform more poorly relative to mergers executed by value bidders.

II. Risk Reduction

Risk reduction through the diversification effect is often cited as a main managerial motive for conglomerate mergers. However, the reduced risk does not benefit the shareholders of the combined entity as they can diversify at a lower cost. Amihud and Lev (1981) believe that managers undertake such activities to reduce "employment risks," the risk of losing their job and hurting their professional reputation due to performing inadequately. As a result, to preserve their jobs, managers may act against the interests of the shareholders and attempt to improve performance through inorganic growth. Consequently, substantial agency costs may arise and harm the post-merger performance. Amihud and Lev tested this theory and found supporting evidence. Further, managers may be motivated to conduct diversifying acquisitions to reduce the risks of their personal wealth portfolios. However, Lewellen et al. (1989) find no evidence that the risk preferences of the managers do affect their motivation for mergers. More importantly, they document that risk reduction does not deteriorate the wealth of the shareholders. Finally, Morck and Yeung (1998) report that risk reducing mergers will only increase the post-merger performance of the combined entity when significant internalization benefits, notably R&D or advertising, are realized. Otherwise, such activities significantly destroy firm value.

III. Hostile or Unfriendly Takeovers

Hostile takeovers are costly and time-consuming. They also create discord and a lack of trust between the two parties. They involve anti-takeover defenses in the form of numerous poison pills which destroy firm value in the event of a merger. As such, in theory, hostile takeovers should destroy firm value and harm the post-merger performance. However, in their review of the literature, Martynova et al. formulate that hostility may lead to superior long-term post-merger performance because hostile bids are more expensive and thus only those that have high synergy potential will be attempted (Burkart and Panunzi, 2006). Nevertheless, contrary to the theory, they document the opposite. They find that the performance suffers in relation to the hostility of a takeover. They also suggest that the acquisition method, namely if the merger involves a tender offer or a negotiated deal, may be an important attribute of the performance. Contrary to the findings of Rau and Vermaelen (1998), who find that bidders in tender offers over-perform during the first three years following the acquisition, Martynova et al. find that the post-merger performance suffers following tender offers. Finally, in their case study, Hitt et al. conclude that for all the mergers that were considered successful, they were all friendly takeovers.

IV. The Entrenchment of Defensive Mechanisms

Theoretically, the use of defensive techniques to thwart off a takeover, or improve the terms offered, damages the firm's appeal, often worsening the deal for the acquirer. Takeover defenses are usually enacted against hostile attempts. However, they may also be done in a friendly merger to improve the terms of the deal for its shareholders at the expense of the existing shareholders of the acquiring firm. In addition, they may also be undertaken to passively defend itself from potential buyers before any merger is intended. There are numerous forms of defense, which include stock repurchase, poison pills, staggered board, shark repellants, greenmail, and golden parachutes, just to name a few.

V. Free Cash Flow

Free cash flow can cause issues to a firm when it is not properly managed. These agency costs can be significant in destroying firm value and mainly arise when the managers do not have their interests aligned with those of the shareholders. Jensen & Meckling (1976) believe that these costs are unavoidable among publicly listed corporations. When a corporation has high levels of excess cash, managers, instead of distributing the cash into dividends, are tempted into making personal investments and acquisitions, which they often overpay for. As a result, such decisions often fail. On the other hand, free cash flow can be a productive tool when it is properly used. Essentially, it can be held in reserve to take advantage of undervalued investments and be used as protection against monetary shocks as well as during times of economic downturn, among other benefits.

Empirically though, Changqi and Ningling as well as Clark and Ofek (1994) find no evidence that free cash flow has an impact on the post-merger performance. Yet, other scholars find a significant impact. In line with Jensen's free cash flow theory, Harford (1999) and Moeller and Schlingemann (2004) document that bidders with excessive amounts of free cash are likelier to execute poorly performing acquisitions than those with limited cash holdings and hence tend to destroy firm value. Martynova et al. finds that, although the acquirer's leverage has no impact, the cash holdings adversely impact the post-merger performance. Conversely, Gregory and Wang (2013) report that, when properly monitored, free cash flow can benefit acquirers. They find that UK acquirers with high levels of free cash flow perform significantly better than otherwise.

VI. Debt Level

Acquirers often take on additional debt to finance acquisitions, even when their current level is already high. Therefore, the debt level of acquirers can reach dangerous levels that would risk violating debt covenants. In fact, Ghosh and Jain (2000) find that, following the merger, the financial leverage of the combined entity is significantly increased. According to the two, this outcome may be explained by the increase in debt capacity, though they find no evidence that it is due to past unused debt capacity. Pawaskar (2001) also finds evidence that the acquirer's debt level increases significantly following a merger.

In terms of the post-merger performance, theoretically, it would be expected for debt to be negatively associated. In other words, the higher the debt level is for an acquirer, the harder it is for the acquirer to extract positive value. In the literature, scholars report supporting evidence of this view on debt. In addition to Hitt et al, who outline the importance of proper governance of the company's debt level prior and following the merger, Cardoso (2020) reports that high leverage acquirers perform worse than otherwise regardless of the nature of leverage of the target firm. Further, Han Kim and McConnell (1977) document that bondholders do not suffer windfall losses thanks to the co-insurance effect. However, in its absence, they would expect bondholders to suffer significant value post-merger as acquirers tend to increase the financial leverage of the firm.

VII. Hubris

Theoretically, mergers motivated by hubris reasons should perform worse than mergers not plagued by hubris as they tend to overpay. However, academically, the results on hubris are mixed. Raj and Forsyth (2003) document that acquirers with hubris management teams lose significant value on the announcement date of the merger. They assert that the over-estimation of synergies and the high premiums associated with hubris acquirers result in an adverse and significant market

reaction. In their sample of Japanese bidders, Lin et al. (2008), report that overconfident managers destroy value when executing mergers.

However, on the other hand, several studies report no correlation. Daniël van de Waal (2013) reports conflicting evidence against hubris. He finds that overconfident CEOs are associated with positive gains in the announcement period of the merger. Moreover, Aktas et al. (2007) state that the negative gains associated with mergers are not due to hubris managers.

Other Determinants

Some additional determinants studied by other scholars include the following:

I. Retention of Key Employees

One of the most successful acquisitions was the merger between Google and Android. A key factor of its high success was the retention of several key employees following the merger. Rubin, Miner, and White all joined Google and were instrumental in the successful integration of the combined entity. Cannella and Hambrick (1993) studied the relationship between the retention of key employees and the post-merger performance of the firm. They conclude that the retention is vital to the success of a merger and claim that the departures of important employees are damaging to the post-merger stage. Very et al. (1997) assert that the fate of the acquired company's managers is tied to the overall results of the merger. Finally, Weber and Tarba (2010) report that the integration process of a merger, in combination with the transfer of key employees, can be greatly facilitated by developing and improving human resources practices, such as training and communication, to expand the knowledge of the firm.

II. Early Positioning

Early positioning during a merger wave may help the acquirer avoid the large premiums paid at the peak of the wave. Carow, Heron and Saxton (2004) investigate this relationship and believe that to be the case. They state that those companies that acted first during the early stages of a merger wave enjoyed significant benefits over their rivals when exploiting the information asymmetry advantages held. These early entrants were able to buy their targets at a lower price and thus enjoyed larger synergies from the merger.

III. Governmental Participation

Uhlenbruck and De Castro (2000) report that the integration process significantly changes when the government is involved in the transaction. In the case of privatization, the government sells off its capital. However, unlike those transactions that do not involve any governmental participation, the seller, which in this case is the government, is motivated by more than just profits and is, thus, still able to retain control and impose certain political and social considerations well after the completion of the merger. As a result, the integration process is altered.

IV. The Integration Process (The Cultural Factor)

A merger may not be successful if it struggles in its integration process. Many firms have failed due to cultural clashes that lead to poor integration. Yet, the chances of a successful merger increase with the successful integration of the target firm into the acquirer firm. Integration has been shown by several scholars to be a critical aspect of any merger. Cultural factors play a large

part in the integration process and as such it is vital to effectively manage. In short, as Child, Faulkner and Pitkethly (2002) point out, the acquiring firm should adopt an adaptive approach to the culture of the target company rather than a universal approach. In addition, according to Calori, Lubatkin and Very (1994), it is crucial to reduce the layers of formal control and expand the informal control and coordination at the operational decision-making levels of the firm.

V. Empire Building

Empire building is generally seen as detrimental to a company. Managers are more concerned with their own power within the firm than they are for the wealth of their shareholders. In that sense, such managers may undertake mergers to expand their control over a greater resource outreach. Therefore, when a merger is motivated by managerialism reasons, the odds it will underperform are greater.

VI. Presence of Rumors

Rumors can be an issue in the financial world. They can have an impact on the volatility of the stock of the rumored company. As a result, to prevent unfortunate events based on the leak of information, authoritative bodies have set strict procedures as to how companies should manage them. Academically, though, scholars report conflicting evidence. In their sample of Chinese firms, Yang & Chen (2021) report that rumors have a positive impact on the announcement date for state-owned firms only. Laouiti et al. (2016) document evidence of a price run-up that reaches its peak on around the 50th day since the day of the rumor. As a result, they assert that investors can profit significantly from rumors. Likewise, Ma & Zhang (2016) report positive abnormal returns of +4.78% in the short-term but negative abnormal returns of -4.48% over the following three months. Interesting enough, after observing the market reactions, Yang & Shen assert that investors can differentiate between true and false rumors.

VII. High Tech Industry

Mergers in the high-tech industries tend to struggle due to the unique nature of the businesses. In fact, according to Rossi et al. (2012), M&As in the tech-driven industries perform poorly in large part due to the complexity of their operations. The high level of technology growth and high uncertainty compound the issues faced by the merging parties. Further, since acquires tend to lack the necessary internal knowledge and resources, they assert that the M&A activity is pushed by the need to remain innovative by acquiring new skills and technological (Rossi et al. (2013)). Conversely, Kohers & Kohers (2000) report contrasting findings and document that, regardless of the structure of the consideration offer, mergers in the high-tech industries tend to gain significant positive value at the time of the announcement period.

VII. Transactional Value

Empirically, the larger the value of a transaction, the more difficult it becomes in successfully executing and integrating the merger into the acquirer's operations. As a result, larger acquisitions tend to destroy value more often. For instance, Bayazitova et al. (2009) summarize that only megamergers, or the top 1% of mergers in terms of transaction value, suffer negative gains beyond the announcement period due to managerial motives and poor corporate governance.

New Determinants

I. The Number of Advisors

The number of advisors, and the amount spend of advisory fees, should improve the performance of the firm. In addition, target firms may also make use of advisors to gain better advice on the acquirer and the complexity of the deal.

II. Competing Bids

The presence of competing offers, as well as the number of bidders, may have contrasting implications. For one, the increased competition may improve the quality of target selection. As competition heats up and the offering price is increased, the acquiring management team may rethink their acquisition strategy and only proceed if the target would truly add value to the acquirer's operations. However, motivated by hubris, the management team may be more insistent to complete the acquisition, which may lead into larger overpayments.

III. Termination Fee

The termination fee, required by either the acquirer or the target firm in the case of the break-up of negotiations, may lock-in the parties into a deal they may no longer seek. Specifically, in the case of one party stepping out of the deal, that party would have to pay a large fee, up to billions of dollars, to terminate its strategy of acquiring or being acquired. This is meant to compensate the other party of spending resources and time on the process of the deal. As a result, this fee may trap acquirers into bad deals simply to avoid the large penalty.

IV. The Mismatch of Consideration

The target firm does not always receive what it had initially sought in the consideration offer from the acquirer to close out the deal. However, after negotiations, the target firm often attain a partial match. The complete mismatch in the final offer may indicate disharmony in the negotiation stage of the two firms. On the other hand, the complete match may instead signal the quick negotiation of the deal.

V. Portfolio Company Activity

A company does not need to diversify its operations or business by acquiring a company in an unrelated field or industry. Instead, it can diversify its assets and holdings through the activity of its portfolio to reduce its total risk and reliance on a successful merger. Theoretically, the more diversified a company is, the more attractive is the firm to investors.

VI. Fairness Opinion

Fairness opinions may be requested to gain a better understanding on the fairness of the deal offered and the complexity of the deal itself. The fairness opinion is provided by a third-party. Fundamentally, the unbiased opinion may help reduce the chances of an over- or under-payment. As a result, both parties could benefit from the extension of a fairness opinion.

VII. Total Fees

The total amount of fees is the total amount spent on completing the merger, which may include fees such as advisory fees, legal feels, and any other fee spent on the process of the merger. The more a company spends to complete the merger, the more confident it may be in its combination

with the other party. At the same time, the costlier the merger, the more difficult it becomes to extract net value.

VIII. Divestiture

The process of a company selling a proportion of its entity, or a subsidiary, is known as a divestiture. This is usually done when the unit in question no longer fits the overall business. Divestitures are also done when the company starts to struggle or even as a condition, from legal bodies such as the government, to complete a separate merger. Further, due to the large failure rate of M&As, large pieces of the acquired business are later divested (Hit et al. (2012), Bergh (1997), Kaplan and Weisbach (1992)) to help refocus the company on its core business.

IX. Definitive Agreement

A definitive agreement defines the final terms of the deal between the acquirer and the target firm and stipulates what each party must and cannot do once the merger is complete. For example, a definitive agreement might enforce that the acquiring company does not take excessive amounts of debt once the merger is conducted. If its debt is high, a clause may force the company to reduce its level. Essentially, it acts as the legal contract between the two parties and cannot be breached.

X. Collars

Collars may be used to limit the variation of the final offering price due to market fluctuations in the daily price stock movements. As a result, they effectively reduce the risk and uncertainty for stock-financed deals by setting ceilings, the maximum possible value of the deal, and floors, the minimum value. The different types of collars also provide a better idea to the acquirer of the eventual stock dilution of its existing shareholders (a fixed collar) and to the target of the final value of the deal (a floating collar). A combination of the two uses both caps and collars.

XI. Target Bankruptcy

Targets facing financial distress may sell off its divisions, subsidiaries or even the entire entity at discounts to avoid declaring bankruptcy. These discounts in price attract potential acquirers in attempting to take advantage. Therefore, on one hand, the acquirer takes advantage of the low price. However, on the other hand, it is acquiring a company that struggled in the past and thus may be purchasing a company that is no longer worth anything. In other words, there is no guarantee that the target under new ownership and leadership can revert from its past struggles.

XII. The Increase in the Offering Price

The increase in the offering price may signal increased confidence from the acquirer’s side. Acquirers should only increase the offer price if it is confident that the deal would produce positive value or if it is unsure its original offer would be enough to lock in the deal. Conversely, decreasing the offering price may indicate that the acquirer has spotted weaknesses in the targeted and has thus adjusted its offer accordingly. Therefore, the change in the offering price may send different signals to the market.

REGRESSION MODELS

Fitting the determinants, I formulate the full model as well as the necessary reduced models.

The Full Multiple Linear Regression Model

For the full model, I include all the determinants except for those I study only on the American domestic M&A sample. I do so to extract a more accurate analysis as these variables also act as control variables. I define my full models below:

$$CAR\ (t_1, t_2) = \beta_0 + \beta_1 Syn + \beta_2 MP + \beta_3 OP + \beta_4 CC + \beta_5 TPP + \beta_6 Learn + \beta_7 TaxB + \beta_8 HC + \beta_9 Intern + \beta_{10} Invest + \beta_{11} Neg + \beta_{12} Rel + \beta_{13} Cons + \beta_{14} Wave + \beta_{15} Prem + \beta_{16} Host + \beta_{17} Def + \beta_{18} RR + \beta_{19} FCF + \beta_{20} Debt + \beta_{21} Rumor + \beta_{22} Emp + \beta_{23} CBMA + \beta_{24} RS + \beta_{25} Gov + \beta_{26} Hubris + \beta_{26} TV + \beta_{27} HighTech + \varepsilon,$$

where CAR(t_1, t_2) represents the event windows of (-1, +1), the short-term event window, (0, 0), the announcement date, and (+31, +211), the long-term post-event window. Additionally, β_0 represents the y-intercept, or rather the constant term, β_1 to β_{27} are the slope coefficients for each explanatory variable, and ε is the error term. The only variables that are excluded are the proximity and cultural differences determinants.

The CBMA Multiple Linear Regression Model

For the CBMA model, I investigate the determinants on the cross-border sample. I include only the appropriate variables. The model is expressed below:

$$CAR\ (t_1, t_2) = \beta_0 + \beta_1 Syn + \beta_2 MP + \beta_3 OP + \beta_4 CC + \beta_5 TPP + \beta_6 Learn + \beta_7 TaxB + \beta_8 HC + \beta_9 Intern + \beta_{10} Invest + \beta_{11} Neg + \beta_{12} Rel + \beta_{13} Cons + \beta_{14} Wave + \beta_{15} Prem + \beta_{16} Host + \beta_{17} Def + \beta_{18} RR + \beta_{19} RR + \beta_{20} FCF + \beta_{21} Debt + \beta_{22} Rumor + \beta_{23} Emp + \beta_{24} CBMA + \beta_{25} RS + \beta_{26} Gov + \beta_{27} Hubris + \beta_{28} TV + \beta_{29} HighTech + \varepsilon$$

The DMA Multiple Linear Regression Model

In this model I exclude the CBMA-only variable, internalization, and include the domestic-only variable, the proximity. However, the proximity determinant is only studied for the USA DMA sample. The DMA model is shown below:

$$CAR\ (t_1, t_2) = \beta_0 + \beta_1 Syn + \beta_2 MP + \beta_3 OP + \beta_4 CC + \beta_5 TPP + \beta_6 Learn + \beta_7 TaxB + \beta_8 HC + \beta_9 Intern + \beta_{10} Invest + \beta_{11} Neg + \beta_{12} Rel + \beta_{13} Cons + \beta_{14} Wave + \beta_{15} Prem + \beta_{16} Host + \beta_{17} Def + \beta_{18} RR + \beta_{19} FCF + \beta_{20} Debt + \beta_{21} Rumor + \beta_{22} Emp + \beta_{23} CBMA + \beta_{24} RS + \beta_{25} Gov + \beta_{26} Hubris + \beta_{26} TV + \beta_{27} HighTech + \varepsilon$$

The Extended USA DMA Multiple Linear Regression Model

For the American subset, I add in the proximity determinant. The model is formulated below:

$$CAR\ (t_1, t_2) = \beta_0 + \beta_1 Syn + \beta_2 MP + \beta_3 OP + \beta_4 CC + \beta_5 TPP + \beta_6 Learn + \beta_7 TaxB + \beta_8 Prox + \beta_9 HC + \beta_{10} Intern + \beta_{11} Invest + \beta_{12} Neg + \beta_{13} Rel + \beta_{14} Cons + \beta_{15} Wave + \beta_{16} Prem + \beta_{17} Host + \beta_{18} Def + \beta_{19} RR + \beta_{20} RR + \beta_{21} FCF + \beta_{22} Debt + \beta_{23} Rumor + \beta_{24} Emp + \beta_{25} CBMA + \beta_{26} RS + \beta_{27} Gov + \beta_{28} Hubris + \beta_{29} TV + \beta_{30} HighTech + \varepsilon$$

EVENT STUDY DESCRIPTIVE STATISTICS

The top performing mergers were associated with significantly higher gains, on average in the short-term windows, relative to the worst performing mergers. In fact, the top mergers were even able to post, on average, a positive CAR in the (-1, +1) window. The top mergers were also characterized with more all-cash deals, and a higher percentage of cash, than the bottom ones. The number of all-stock offers were however equal in frequency.

Next, an interesting statistic is the larger occurrence of cross-border and unrelated mergers among the struggling mergers relative to the successful ones. In fact, the number of cross-border acquisitions associated with the worst 25 mergers was more than twice that of the number displayed by the top mergers, suggesting that CBMA may be more difficult to execute. Likewise, the number of unrelated mergers were more associated with the failed mergers than with the top mergers. Six of the 25 poorly performing mergers were completed as conglomerates whereas none of the 25 top mergers were executed as such, also indicating the higher complexity of non-related deals. One additional merger of the worst performing ones was conducted as part of a larger strategy to diversify its core business.

Finally, an intriguing statistic is the difference in premium size among the two groups. Contrary to expectations, the bottom mergers were associated with smaller levels of premiums than the most successful mergers. Lasty, there is a large disparity in the transactional value between the two groups. Whereas the top performers averaged a value of around $525.2M, the worst performers recorded an average of $3,554.1M.

Appendix C: Case by Case Report of Event Study

The Top 25 Acquisitions (Long-Term Window)

1. iVillage Inc & Women.com Networks

Coming off a quarter of losses, iVillage announced in 2001 that it would acquire Women.com Networks in an offer containing both cash and, primarily, stock valued at around $26 million. With the deal, iVillage bought out its rival and thus strengthened its hold on the market. Both companies shared very similar and complementary assets to successfully integrate and better exploit the potential streams of revenue in the future. In fact, Women.com specialized in magazines that were popular among women whereas iVillage specialized in digital subscription services, a seemingly perfect match that both focus on women's issues. In addition, this move allowed the acquirer to further focus on its core business as it has placed a heavy emphasis of doing so in the past. A year prior to the merger, the company sold off its baby retailing business to strengthen its core competencies. Further, iVillage had continuously sought ways to expand and innovate its service offering. At the time of the acquisition, the company had organized its services and solutions into 18 different content channels. It had also been recognized "as an industry leader in developing innovative sponsorship and commerce relationships that match the desire of marketers to reach women […]." (Hearst, 2001) Even though the deal was announced in the first quarter of 2001 and expected to close in the following quarter, the acquirer had made sure that the combination of two largest players in the industry had little overlap among advertisers and user base. Further, the firm's largest rival was also targeted for being its last remaining rival. iVillage had enough experience in implementing change – with past acquisitions including that of Lamaze, iBaby, and, notably, FamilyPoint, in 1999, for $26M. However, since its initial public offering, the firm had suffered heavily to maintain its share price. Its struggles resulted in change in its management team who then completed the merger. On the other hand, Candice Carpenter, the CEO of the firm, was quick to realize and understand the massive potential of the ever-growing popularity of the internet. Her early positioning as a company with no tangible assets was paramount in the ultimate success of its IPO which, at its close, valued the company at more than two billion dollars.

On the flip side, prior to the merger, with the crash of the dot-com bubble, the firm had gone through major change as most of its original management team had left the company. Further, the company was the subject of accounting scandals as its stock crashed to under $1 a unit and was never profitable. However, under new change in management and a clearer vision, the company was turned around and enjoyed significant success until it was ultimately acquired for $600 million by NBCUniversal in 2006.

2. Bookham Inc & Avanex Corp

Following a difficult quarter in early 2009, Bookham announced it would be merging with Avanex to form a new entity called Oclaro in an all-stock offer under a friendly merger worth about $34 million. The acquisition was motivated by the belief that the merger would create one of the largest suppliers in their located industry of optical components, modules, and subsystems for telecommunications. Bookham, founded in the UK, was the first company to produce optical components that can be integrated into a silicon integrated circuit. The company had also expanded inorganically prior to the merger with a string of small and big mergers. Notably, in 2003, it acquired Cierra Photonics and New Focus for £118 million. Bookham became a US-domiciled

company after acquiring Onetta, Inc a year later in 2004. Its last acquisition prior to that of Avanex was completed in 2006, more than 3 years prior, when the company agreed to buy Avalon Photonics. The merging companies had very low debt levels, and strong complementary product portfolios. Bookham's strength in its components expertise was a strong match with Avanex's modules and subsystems expertise. Combining their strengths not only allowed the company to focus on its core competencies but had also placed the combined firm in a prime position to exploit the opportunities it had generated for itself.

3. MediciNova Inc & Avigen Inc

In an all-cash consideration, MediciNova acquired Avigen in late August 2009 after announcing in December 2018 in a friendly merger valued at $37 million. Both companies were operating in the pharmaceutical industry. More importantly though, they focused on distinctively but complementary niches of the market, thus allowing the combined firm to broaden its strengths and reach while, at the same time, focus on its core business. MediciNova focused on "acquiring and developing novel, small-molecule therapeutics for the treatment of diseases with unmet need with a specific focus on the U.S. market." (Myers, 2009) On the other hand, Avigen focused on "identifying and developing differentiated products to treat patients with serious neurological and other disorders." (Myers, 2009) Further, the companies, already situated in a highly innovative industry, placed heavy emphasis on further innovation and development. As a relatively new company prior to the merger – the firm went public on the Nasdaq market just 2 years before the merger – MediciNova had no relevant experience. Despite that, its merger proved very successful in no small part to the careful selection and understanding of the target and its strengths.

4. Alamos Gold Inc & Carlisle Goldfields Ltd

In another friendly merger, Alamos Gold completed its acquisition of Carlisle Goldfields in an all-stock offer valued at $20.5 million. In fact, according to the press release, 98.21% of the target's shareholders approved the merger in 2015. Alamos Gold had extensive prior experience in conducting change and notably facilitating acquisitions. Most notably. earlier in 2015, among others, Alamos Gold merged with AuRico Gold in a deal valued at $1.5 billion. Although a risky move, the deal offered big potential for Alamos Gold. Combining its strengths and diversified portfolios with the strong exploration potential of the Lynn Lake gold project, the major asset of Carlisle Goldfields, Alamos Gold's shareholders stood to gain tremendously. In addition, a definitive feasibility study evaluation located in past-producing gold camp, and recently at the time was positively assessed by the PEA (preliminary economic assessment), strengthening its prospective future to the market. In all, not only did this move further diversify the firm's development pipeline but so did it allow it to apply its core strengths in a mining field rich in potential. This move was primarily possible due to the meticulous planning from both parties involved. In fact, target selection started long before the merger negotiation process. Prior to the merger, the two companies formed a strategic partnership with Alamos, then known as AuRico, owning close to 20% total outstanding shares of Carlisle. Working together, the companies thrived together and finally merged after a careful planning phase. All in all, the merger was very consistent with their strategic focus. However, it's worth noting that just one day after the merger the then CEO, Scott Perry, had resigned from the company and was appointed the CEO of another intermediate gold producer. In good faith, Perry had made sure the merger would go through before his departure from the firm.

5. First Majestic Silver Corp & SilverCrest Mines Inc

In yet another friendly merger, First Majestic Silver paid a 35% premium to close out the acquisition of SilverCrest Mines paying a total amount of $118 million. A key part of the merger was the retention of key employees from the target's management team. Despite not having the most successful record in past acquisitions, the company learnt invaluable experience in implementing change when it acquired Silvermex Resources Inc in 2014 for close to $137 million. In addition, it also completed a minor transaction when it acquired Desmin in 2006 and Normabec Mining Resources ltd in 2009. First Majestic had been a silver-mining company that focused on silver production. Likewise, SilverCrest was a precious metals producer that focused on silver production. However, it also comprised of a large gold deposit. First Majestic's growth objective had long been the development of its existing mining property assets and equally important, the pursuit of additional mining assets, such as gold and other precious metals. As a result, this merger did a great job in complementing the acquirer's strengths with those of the target. However, on the other hand, this merger widened its focus away from its core business to a more diversified portfolio of metal producing mines. With the acquisition, First Majestic, at the time, had six silver mines in Mexico. Lastly, the negotiation process was somewhat short, taking in total close to four months, but involved strong due diligence from both sides.

6. Manor Care Inc & In Home Health Inc

Manor Care acquired In Home Health Inc for an estimated $34 million in the third quarter of 2000. The primary goal of the merger was to expand the company's reach in the country by acquiring more offices across more states. In conjunction, the firm expected to generate larger revenue at a lower cost. Prior to this merger, the acquirer had ample experience in implementing change through acquisitions, mergers, spin offs and other similar events. Notably, in 1998, 2 years prior to this merger, the company merged with Health Care and Retirement Corporation in a stock swap transaction valued at around $2.45 billion. Therefore, the firm had good experience and the management team was more confident. Further, the merger involved firms within the same industry. As such, the merger was related. With a larger access to the US market across more states, the acquirer benefited greatly from complementary sources of market presence. The merger had essentially augmented the acquirer's ability to operate in the healthcare industry. Further, the merger allowed the company to focus more on its core business as well as its main strengths. Moreover, the firm placed an emphasis on innovation by continuously investing millions to develop their skilled nursing facilities, rehabilitation therapy businesses and home health businesses. It is worth noting that unlike the rest of the successful mergers, this merger displayed some striking and contrasting characteristics. Unlike the others, the acquirer had a higher level of debt, although not too high, as well as more financial slack, which increased after acquiring the target's high level of financial slack prior to the merger. Finally, just four months prior to the merger, the company was involved in some internal turmoil when Bainum Jr., along with a part of the management group, attempted to buy the company on separate offers. Such a turmoil event so close to the merger may indicate that the firm may not have committed enough time and due diligence in the selection of the target. However, due to the lack of information on negotiation and target selection, it is a difficult conclusion to reach. Regardless, following his failed attempt, then chairman and CEO left the board in 2002 after his tenure as chairman ended in 2001.

7. Corel Corp & InterVideo Inc

Corel Corp, an early entrant in the software industry and a Canadian company that once had ambitions of competing with Microsoft, in a cross-border deal, acquired InterVideo Inc, a provider of integrated multimedia software, in 2006 for approximately $199 million in cash. The merger was characterized as a friendly merger, with the acquirer associated with a low debt level and low financial slack. The merger was executed under the management leadership of Dave Dobson, who replaced Michael Cowpland as the CEO of the firm and realigned the firm's focus as a low-cost alternative for smaller businesses and consumers. With the new strategic leadership in place, the merger was heavily motivated by the complementary potential of the target firm. Corel's presence in the digital media software market stood to gain substantially with InterVideo core assets including its partnerships with PC OEM partners and, notably, its strong market presence in international markets that Corel had yet to enter but had long aimed to, such as China, Taiwan, and Japan. In addition, InterVideo's rich product line matched with Corel's core strengths in its digital imaging and video segment. Further, Corel did have experience, albeit limited, in implementing change when it was acquired by Vector Capital, a private equity firm, in 2003 and when it returned to the public market with its IPO on Nasdaq, around three years later. Lastly, as a primarily software programming company, Corel Corp diverted from its core business and, instead, developed some of its other segments. Its only other notable acquisition was completed in 1996 when the firm had purchased WordPerfect for $115M, thus, having at least some experience in past acquisitions and in similar scale.

8. Sabre Holdings Corp & Getthere.Com Inc

Paying a premium of 46%, in an all-cash offer, Sabre, a travel marketing and distribution company, after being spun off by AMR Corporation, acquired GetThere, an online corporate travel company, in 2000 in a deal valued at $757 million. As part of the cost cutting efforts, Sabre cut 11 percent of its workforce. Conversely, key management was retained. Gadi Maier, the chairman, president and CEO of GetThere, was selected to become the president of the combined entity. Interesting enough, both companies were early entrants in the industry. The very first airline reservation was booked in 1995 on GetThere, then operating as Internet Travel Network (ITN), through its ITN server. Likewise, Sabre developed the Sabre concept, based on SAGE, a system developed by IBM that used interactive real-time computing, in 1953. Making use of two IBM mainframe computers, the system processed 84,000 calls per day starting from its inception in 1960. The company since its founding in 1960 had been focused primarily on organic growth, system innovation and development. As a result, the company did not execute many acquisitions and thus had a more limited amount of experience in implementing change, having conducted only two prior acquisitions that were both at a much smaller scale. However, those past acquisitions certainly provided some experience.

Combining the two companies into one, Sabre became the largest business-to-business travel reservation company in the industry. GetThere was Sabre's largest rival and was targeted for that reason despite the skeptic perception from its clients. A big reason to the skepticism was the perceived lack of complementary assets, which in this case, was a mismatch of software despite both companies operated and competed in the same market. In addition, negotiations lasted a mere three weeks and were accelerated after officials feared a possible leak to the market. The deal was however friendly and unanimously approved by the target's board of directors. In addition, GetThere had strong ties with major airliners, including United, All Nippon Airways and Trans World Airlines, thus, opening access to markets Sabre could not reach. The deal, especially with

GetThere's expertise and assets, thus opened the door for the acquirer to continue focusing on its core business, further develop its software offering in the travel reservation industry and maintain its position in the market.

9. Reuters Group PLC & Multex.com Inc

To reverse its deteriorating performance, British company Reuters targeted and completed its acquisition of Multex in 2003, after holding a 6% stake in the target, paying a net amount of $243 million representing a 60% premium. The company initially struggled during and around the announcement date, suffering significant and negative cumulative abnormal returns, which can be attributed to its poor performance. However, with the strong matching of the companies, Reuters enjoyed massive returns over the following few months, proving the merger to be a big success. Despite being an early entrant in the industry, the company was late in realizing and understanding the latest trends of the rising popularity of the internet in the early 2000s. Whereas the acquirer was known and had strong expertise in providing reliable and trusted financial information, it lagged behind the competition and saw its performance decline. In fact, Reuters' web site struggled to keep up with the heavy competition. Multex, on the other hand, was a leading online site for financial content and had survived the dot-com bubble of 1999. Although it survived, Multex saw its stock decline heavily and was thus vulnerable to a merger. Seeing its chance, Reuters jumped in and bought the company. With the acquisition, the firm planned to invest and build its database of research on corporations. In addition, as part of the acquisition, Multex's chairman and CEO, Isaak Karaev, was retained and became the president of Reuters' investment banking and brokerage segment. Reuters' well calculated merger had exemplified the recurring theme of successful mergers. Its careful selection of the target had made sure that not only would the merging companies have complementary assets in place to both synergize from but would also ensure the continuing focus on the acquirer's core business. In other words, the merger allowed it to better innovate and develop its core business into the trending platform of the internet with one of the leading companies in that aspect. Finally, prior to the merger, Reuters did have ample experience in implementing change having conducted a few mergers in the past, such as the acquisitions of AVT Technologies, Bridge Information Systems, Factiva, Instinet, and TIBCO Software. In addition, a few months after the merger, on June 20, 2003, major changes in the management team, a key trait of unsuccessful mergers, were implemented. Mainly, among other restructuring moves, Philip Green, the then COO and executive director, chose to leave the firm and his position was eliminated to simplify the senior management structure.

10. Hovnanian Enterprises Inc & Washington Homes Inc

Two of the largest home builders in the United States merged in 2000 when Hovnanian Enterprises bought out Washington Homes in a friendly merger in a mixed consideration offer that amounted to a 41% premium and valued at $136 million. Combining the two companies, Hovnanian vaulted itself in the top 10 builders in the States, including the top builder in the states of New Jersey and North Carolina and number 2 in the all-important Washington market while gaining a strong presence in several other states. Hovnanian had enjoyed rapid growth since its founding in 1959 by identifying a niche market in the housing industry. Instead of offering amenities to attract buyers, the norm for the already established companies, the founder, Kevork Hovnanian, and his brothers sold condos and townhouses at a lower cost to first time young homeowners and families

who did not necessarily have the time for socialization. By positioning his company early in that market, his company exploited the massive potential before others could.

As part of the transaction, key employees, such as the chairman and president of Washington Homes, DeCesaris Jr. and of the senior managers, were retained. In addition, the companies' core strengths and assets fitted each other extremely well. Analysts were quick in saying so. The firms had a rich line of diversified product offerings, with little overlap, that when combined together expanded operations impeccably. Following the merger, the combined entity could now sell more homes in more niche markets, giving the firm a much larger reach in the construction industry and innovating their service offering. In addition, it also made the firm a much larger company, thus, granting it more power in the land purchase business, which was crucial in the industry. Overall, the target was selected to allow them to expand its reach and continue doing what it does best: selling homes. Their goal was to become a major player in select number of markets, and they did just that with this acquisition. One issue to consider in this merger was the continuous use of debt burrowing to finance the acquisition due to the firm's negative financial slack. Regardless, despite the increases in their debt level and the more limited amount of experience in implementing major changes, the firm still enjoyed significant success from this merger thanks to the impressive execution of the key traits of successful mergers.

11. MaxLinear Inc & Entropic Communications Inc

In a deal motivated by operating synergies and strategic fit, MaxLinear, an American hardware company, acquired Entropic, a semiconductor solutions company, in 2015 for approximately $287 million, taking advantage of the target's recent difficult times. In doing so, MaxLinear acquired the only pure-play company in the connected home market. As such, this move allowed it to innovate its product offering and strengthen its intellectual property by gaining access to the 1,500 issued and pending patents from Entropic, presenting the firm with many opportunities of growth and innovation. The merger had synthesized strongly for both firms as they benefitted massively from one another. Further, as part of the merger, the management teams of both companies were retained and worked together as one team. In addition to the complementary teams, the strategic rationale behind the merger was certainly important in the success of this merger. The merger added and expanded MaxLinear's presence in its existing markets, having allowed it to further focus on its core strengths and business while also adding longer-term sustainability by growing in the satellite Pay-TV market. Lastly, interesting enough, having gone public in early 2010, just five years prior to this merger, the acquirer was a relatively young company and was, thus, very inexperienced in implementing change. In fact, Entropic was its first acquisition since its IPO. The company had instead focused on organic growth to expand.

12. Scansoft Inc & Nuance Communications Inc.

In a stock and cash deal, Scansoft acquired Nuance Communications, two giants in the speech-recognition software market, in 2005 for approximately $220 million, agreeing to retain the Nuance name for the combined entity. By combining the two companies, Scansoft expected to gain between $20 and $25 million annually in cost savings from reductions in redundancies. With the merger, Scansoft bought out its main competition further consolidating the market and thus controlling a significant portion, or around 77% of the market. Key employees of the target firm, including the president and CEO, Chuck Berger, were retained in the combined entity. Having been initially sold to Xerox and then purchased by Visioneer, Scansoft had ample experience in

significant change. In addition, the firm had also made a series of acquisitions prior to this one, none though as large as the Nuance merger. Although Nuance, the target, in the past, grew heavily off organic growth, Scansoft grew mainly through acquisitions and continued to do so well after the merger including its acquisition of Dictaphone Corporation for $359 million on March 31, 2006. Despite being an early entrant in software recognition industry, the acquirer was never big on innovation. Further, despite the two companies operating in the same market, the merger lacked the perfect matching of complementary assets. In fact, the merger led to cuts in employees, reductions in office sites and operating expenses. This could have been due to the singular focus of acquiring market power by buying out its largest rival when selecting the target. On the other hand, the acquisition granted the firm a larger access to the market and allowed it to continue focusing on its core business and strengths while facing limited competition. In addition, Scansoft had little debt prior to the acquisition, a common theme for successful mergers.

13. Lennar Corp & US Home Corp

Lennar Corp became the largest homebuilding company when it acquired U.S. Home Corp in 2000 in a stock and cash deal valued at around $478 million. The deal was praised heavily by analysts and rightfully so. Not only were there no employee layoffs or reductions in offices, the two firms combined each other strengths and geographic market reach to a very large extent. Whereas Lennar focused heavily on the states of Florida, Texas, Arizona, and Nevada, essentially the southern states, U.S. Homes served in the northern states of Minnesota, Ohio, New Jersey, and Maryland as well as Colorado. In addition, the acquisition also broadened its market reach and expertise. U.S. Home offered a semi-custom concept to its customers. Lennar offered an "everything included" system that allowed the firm to build homes at low prices. Further, Lennar gained massively from the target's expertise and success in retirement communities. Subsequently, it was clear that the firm had carefully and deliberately selected the target to complement not only its assets, resources, and strengths but to fit its core strategy and business. It even managed to acquire the target, also one of the largest in the homebuilding market, at a 20% discount, avoiding paying any premium.

Moreover, the acquirer had strong experience in the past implementing change having gone through several acquisitions and mergers. Subsequently, it accumulated large amounts of debt. However, despite the high levels, the acquirer, had well managed its debt in the past and enacted plans to lower it. The company also had plans to further innovate its service offerings by expanding its cable and security operations, and, more importantly, forming an e-commerce business allowing its clientele to purchase furniture and order home remodeling, among other services, online. Essentially, the company had strong plans to stay ahead of its competition by staying up to course with the latest buying behavior trends in the industry, which allowed it to this day to become one of the most successful companies in its industries.

14. International Flavors & Frag Inc and Boake Allen (Union Camp)

Despite having little to no experience in past acquisitions, – its only prior experience was the acquisition of Laboratoire Monique Rémy for an undisclosed sum – IFF pulled off a very successful merger when it acquired its rival Boake Allen in 2000 for $970 million, representing a premium of 11%, in an all-stock deal. A major reason for the success was the very strong match in, particularly, complementary products and presence in key markets, with little overlap, as well as in technologies. The merger allowed it to become the biggest player in the industry in the world

and operate in several more international markets. Whereas IFF operated in 35 countries, Boake Allen operated in 38 countries, notably in the States and India, two crucial markets IFF had tried to expand its reach on. In addition, the merger also saw the retention of several key management talent who helped facilitate the integration process. Further, unlike the other mergers that involved buying out rival firms, this merger was well calculated ensuring the fit existed and selected as the best available investment. Moreover, the merger pushed IFF as the top company in flavors and strengthened its hold as the number one in fragrances, thus, allowing it to continue to focus on its core business and primary strengths. Lastly, the firm placed heavy emphasis on its innovation to develop new products and improve its existing product offerings. In fact, it established the Monell Chemical Senses Center dedicated to the research of taste and smell, its two main market segments, in 1968 and continued to invest heavily.

15. May Department Stores Co & David's Bridal Co

The merger between a department store holding company and a bridal-store chain is the sixth vertical merger, so far, to feature in the most successful mergers over the longer-term. In 2000, under the former leadership of former Chairman Jerome Loeb replaced by Eugene Khan as the new CEO ten months into the merger, May Department Stores acquired David's Bridal, the largest retailer of wedding gowns in an all-cash offer for around $436 million. Analysts were confident a strong match of complementary assets existed. In addition, many believed the acquisition of David's Bridal fitted its overall business strategy and opened the door for massive growth in the $5 billion wedding apparel market. In fact, May had often expressed interest in penetrating the specialty retail business. With the merger, the company planned to integrate the strengths of David's Bridal, its wedding registries, with those of May's, it's numerous department stores statewide. By doing so, significant synergies were expected by attracting the young-adult customers into their stores. Further, May also expected the merger to synergize with its new and soon-to-be released internet wedding registry business, WeddingNetwork.com. Despite the more difficult nature in integrating two unrelated companies, May was adept in making change. In fact, in the past, it had effectively managed several mergers, with its most recent one, at the time, completed, a year prior, in 1999. Further, the acquirer also employed the help from some of the key employees from the target firm, namely, Bob Huth, the chief executive of David's. What also made the merger a success was its emphasis on innovating its selling platform in light of the rising popularity of the internet. As mentioned, to better exploit and maximize the synergies of the merger, even before the merger, it planned to launch its own site to offer its services in wedding registries. It also selected the appropriate target. David's was the largest player in the market with few competitors and a huge market reach. However, on the other hand, certain retail analysts were skeptical of the acquisition as the merger clearly represented a shift from their core business, which recently up to the merger, had struggled in generating sales. Finally, it is worth noting that despite having a very high level of debt, the firm also had high amounts of cash in hand, thus, mitigating the issue of large debt.

16. Odyssey Healthcare Inc & VistaCare Inc

In 2008, two of the largest providers of hospice services, Odyssey Healthcare and VistaCare merged under a definitive agreement with a deal value of approximately $147.1 million in a mixed offer consideration. Odyssey had no relevant or prior experience in implementing on a large scale. In fact, it went public eight years prior to the merger and struggled heavily in 2004 while under

investigation under the False Claims Act, which lead to a 47% decline in share price. It did however expand its market reach in store openings across the States, thus, giving it some form of experience. Despite the lack of experience, the market reaction to the merger was very favorable, specifically, in the long-term post-event window. Its success can once again be attributed to the common traits of a successful merger. In addition to the complementary set of services offered by both firms, Odyssey stood to gain massively from the target's expertise and skilled workforce in the same core business Odyssey focused on. The friendly nature of the merger negotiations led to close ties between management groups and a stronger selection of target identification, resulting to a small premium required to close out the deal at just around 18%, a common correlation between premiums and careful target selection. The acquirer also benefited from its zero-debt balance.

Further, it massively expanded its geographical reach in the statewide markets. In fact, after the completion, it operated 110 medicare-certified hospice care locations in 31 states with a daily average of 12,000 patients. Subsequently, it became one of the two largest players in the hospice care market with one of the highest research and development commitment. In conjunction with the fit in teams and business strategy, the increased market penetration allowed Odyssey to excel following the completion of the merger by narrowing down on its business strategy.

17. Cephalon Inc & Salmedix Inc

In one of the most successful mergers of the past 18 years, Cephalon, in 2005, made its due diligence and successfully selected the right target when it acquired Salmedix for around $160 million in cash. Its acquisition was fully motivated to acquire the rights of the lymphoma treatment drug, Treanda, and enhance its research and development. In fact, the target firm was a drug development company and solely dedicated to the research and development of pharmaceutical drugs. As a biopharmaceutical company focused heavily on the research of drugs, the acquisition matched well with the overall core business. In addition, the firm's expertise in combination with the massive potential of the drug it had acquired allowed the firm to truly excel following the merger. In fact, by 2011, Treanda surpassed $1 billion in sales. On top of all that, Cephalon acquired Salmedix at a cheap price before its pending IPO. Essentially, the target was full of potential and growth but small in present valuation. Further, the company also had strong experience in implementing change as it had previously acquired Anesta Corp in 2000 for about $453 million and CIMA Labs Inc in 2003 for $511 million, two acquisitions that were significantly larger than the one with Salmedix. Finally, it is worth noting that the acquisition performed really well despite the ongoing legal issues the firm was facing from before the merger. In addition to lawsuits claiming the firm had overstated the potential of a drug, which was settled in 1999 for $17 million and made illegal deals to delay competition, Cephalon faced lawsuits and criminal charges from four whistleblowers who accused the firm of illegal marketing practices in which certain drugs such as Actiq, Gabitril and Provigil were marketed without official approvals, thus, endangering the health of its patients which prompted numerous investigations into the matter, beginning in January 2003. Investigations finally concluded in 2008 with a $425 million settlement, including a $50 million fee with Cephalon pleading guilty. Yet, despite their unethical doings, the firm was still able to focus their efforts on the merger and successfully exploit its synergies.

18. Lilly Eli & CO and Armo Biosciences Inc

In a massive all-cash deal involving highly innovative pharmaceutical companies, Lilly acquired Armo in 2018 for $1.6 billion to overtake Merck and Bristol-Myers Squibb as the largest player in the industry. The move was conducted under the new management team erected at the start of the year after the company's prior struggles at developing drugs, notably its experimental Alzheimer's drug solanezumab, and motivated to shift its focus from cash cow hits to newer medicines. Despite paying a large premium of 68%, the market reacted favorably to the acquisition. Contrary to expectations and the norm for bidder firms, Eli enjoyed a small increase of 1.5% in its share price following the announcement of the merger. Lilly, founded in 1876 as one of the first drug makers in the States and a company of many firsts, including the first company to mass-produce polio vaccine and insulin, had very strong experience in implementing change prior to this merger. Since its founding, it completed 19 acquisitions, with its then most recent one conducted one year prior, in 2017, for around $960 million. In addition, its division, Elanco Products Company, established in 1954, executed seven acquisitions.

Much like the previously mentioned acquisition, the merger between Cephalon Inc and Salmedix Inc, the acquisition was motivated to acquire a rising commodity and its high potential drug, pegilodecakin, which was currently in a Phase III clinical trial in pancreatic cancer and fitted perfectly with its new strategic focus. In addition, the target also had other immuno-oncology product candidates in different stages of development. Prior to the merger, Lilly had long desired to enter the cancer immunotherapy space after being quite late in that regard relative to its main competitors. After much planning, it selected Armo to better compete in that market. Further, the acquisition allowed the acquirer to expand its portfolio on its pharmaceutical drugs and narrow down on its core business of developing, testing, and bringing high value drugs to the market.

On the other hand, even though the merger was successful, the merger had been the subject of numerous medical and unethical controversies including, in 2005, the continual sale of a drug found to increase the risk of suicide even though Eli Lilly knew of its side effects even before it was FDA-approved. In 2009, it was also charged of illegal marketing practices of off-label sale of Zyprexa, which resulted in a massive penalty of $1.415 billion including an $800 million civil settlement and the largest criminal fine of $515 million ever imposed in the healthcare industry and on any individual corporation in an US criminal prosecution. Finally, in 2019, it was accused of excessive pricing of insulin, which, during a four-year period between 2012 and 2016, rose by 97% from $2,900 to $5,700. Inversely, though, the firm had received numerous accolades over the years including, in 2018, the year of the merger, the recognition as one of the world's most ethical companies for a second straight time, indicating, at least to the market, that the firm, under new management had changed.

19. RF Micro Devices Inc & TriQuint Semiconductor Inc

After lengthy and deliberate negotiations and planning, RF Micro Devices (RFMD) and TriQuint merged as equals in January 2015, after announcing the deal in February 2014, creating a new entity called Qorvo in an all-stock transaction valued at around $1.56 billion, representing a meager premium of just 5.4%. As part of the deal, each company's shareholders owned a 50% stake in the combined entity. In addition, all key employees were retained. The deal placed Qorvo as one of the world's largest two suppliers of microchips to some of the biggest technology giants including Apple and Samsung. In addition, analysts were quick to approve the deal stating the strong match with few product overlaps. In fact, the combined entity gained a broader range of

chip products that supplied a significant portion of the total parts that make up the popular mobile products, the smartphones. Further, the deal was centered on the core businesses of both firms and structured around allowing both firms to continue working under their core identity. Moreover, importantly enough, both firms had ample experience in implementing change throughout their company's life cycle. Although none as large, their past experiences were still very significant. In 2007, RFMD acquired Sirenza Microdevices Inc for around $906 million whereas TriQuint acquired Sawtek Inc in 2001 for $1.3 billion and WJ Communications Inc in 2008 for $69 million, among other smaller acquisitions. Finally, the merger also enhanced the innovation of the combined entity. Already heavily invested in R&D, RFMD gained heavily from TriQuint's expertise and position as a leader in technology innovator for communications, defense, and aerospace companies, markets in which RFMD had strong presence.

20. Bristol Myers Squibb Co & Kosan Biosciences Inc

In 2008, Bristol Myers Squibb (BMS) made its third major acquisition since the merging of Bristol Myers and Squibb Corporation when they announced its intent to merge with Kosan Biosciences, a pharmaceutical company that focused on the development of anticancer agents, centered on a deal valued at around $234 million, or, rather, $190 million after Kosan's projected net cash balance. The merger was done under the relatively new management team that replaced the former team, including the former CEO, Peter Dolan, that was investigated and even had their corporate offices raided by the FBI in July 2006 for charges of collusion in which the firm, together with French multinational pharmaceutical company, Sanofi-Aventis SA, had struck a deal with Canadian pharmaceutical company, Apotex Inc, to delay the launch of its best-selling drug, Plavix. With the subsequent departure of the CEO and all involved executives, the investigation, which was made public in July 2006, ceased in June 2007, close to a year prior to the Kosan merger. In addition, the company was also involved in a major accounting scandal in 2002 which also led to significant management shakeup. The move was directly in line with its new business strategy, formulated in 2007, to refocus the firm on its core business and biological products. Although the major restructuring only began in 2009, such deals were made to facilitate the transition. Similar deals were done prior, such as the Adnexus Therapeutics acquisition, in September 2007, for $430 million in cash, excluding an additional payment of $75 in scheduled millstones, and its ConvaTec unit, earlier in May 2008, despite being quite profitable, for $4.1 billion, and after the Kosan merger, such as, namely, the Medarex acquisition, in July 2009, for $2.1 billion.

Regardless, the merger, like many of the other ones located in the pharmaceutical industry, was motivated primarily by the acquisition of certain patents under development. The fit between the companies was immediately apparent. As its main goal of extending and enhancing human life, BMS ensured its strategy would not divert its focus by acquiring a company that is heavily invested and focused on combating cancer. In fact, by acquiring Kosan, BMS gained the rights to two vital classes of anticancer agents, epothilones and Hsp90 inhibitors, that both offered great potential in future sales. At the time, it was a great risk to take, but one certainly worthy and one that fit its strategic focus and the expertise BMS had in place to fully capitalize on their potential. The risk was further aggravated by the hefty premium it paid to complete the merger. Its all-cash offer of $5.50 per share represented a massive premium of 233% over its one-day prior closing price. Yet, despite that, the market reacted favorably to the acquisition. On the other hand, some analysts were skeptical of the deal, claiming the acquirer was desperate to reclaim its position as the leading provider of cancer treatments and could have found a better deal. Regardless, the deal bolstered its

pipeline while allowing it to continue its focus on innovation and excel in its core strengths. In addition, BMS clearly planned ahead and took advantage of a company in turmoil and difficult times. Kosan had just named a new CEO in the same month of the acquisition and announced a 37% reduction in workforce because of its financial struggles. Despite the heavy premium, Kosan's shares had previously traded at $6.49, and jumped to $5.43 following the news of the merger, per unit.

21. Shire PLC & ViroPharma Inc

Irish-based pharmaceutical company, Shire, under new management and a new strategic focus made its largest acquisition in late 2013, its busiest year in acquisition activity in which it also acquired SARcode Bioscience Inc for $160 million and Lotus Tissue Repair. It acquired ViroPharma, an American company operating in the healthcare, biotechnology, and pharmaceutical industries, in an all-cash $4.2 billion deal that included a 27% premium, or rather, a heftier 64% premium on the target's share price before rumors leaked to the market two months prior to the announcement. The acquirer also made a series of other large mergers back in 2001, when it acquired Canadian company, BioChem Pharma Inc, for $4 billion, in 2005, when it acquired American company, Transkaryotic Therapies Inc, for $1.6 billion, and in 2007, when it acquired New River Pharmaceuticals Inc for $2.6 billion, among several other albeit smaller acquisitions in the 2010s, giving it ample experience in implementing change not only in terms of domestic mergers but also in terms of cross-border mergers, which was vital for the success of the ViroPharma cross-border acquisition. Ultimately, the deal was motivated to acquire the target's leading product, Cinryze, as well as for cost synergies of around $150 million by 2015. Once again, this merger exemplified many of the key traits of a successful merger: negotiations were friendly, key employees of the target firm were retained, careful and thorough planning and selection from a long list of options, which helped prevent overpaying for the merger, was conducted, a focus on core business was prioritized, and the presence of a strategic fit was ensured before committing to the merger. Indeed, analysts were quick to praise the merger and its strategic fit, helping shape the market reaction in the more immediate short-term. In addition to becoming the second largest company in the global pharmaceutical rankings, the move was stated to be a driving force to a six-year long-term growth plan. Further, the addition of the high potential drug, Cinryze, significantly broadened the firm's portfolio, specifically, in its rare disease portfolio.

In addition, as the acquirer stated, the drug, used in the prophylactic treatment of Hereditary Angioedema (HAE), complemented tremendously with its drug, icatibant, or rather, FIRAZYR, which is a symptomatic treatment of acute attacks of hereditary angioedema. Finally, although the firm had been heavily invested in research and development, it had plans in store to steer away from that direction and move towards more inorganic growth. In addition to the elimination of several research positions and operations, the firm had also acquired two additional companies in mid-2014, Fibrotech for $75M and Lumena for $260M, as well as four other companies in 2015 with the largest being Dyax for $6.5B. It's also worth noting that Shire was involved in a lawsuit, which was settled in 2014, accusing the firm of misleading and tricking consumers, between 2004 and 2007, into a buying a drug that had none of the advertised effects of improved academic performance.

22. Computer Sciences Corp & UXC Ltd

Having an already strong presence in the Australian and New Zealand markets, American IT company, CSC, completed one of its most important and successful mergers when it acquired UXC in 2015 for about $308 million in an all-cash offer, forming the largest IT services company in the region. It had very strong experience in implementing change having executed several major acquisitions, including one cross-border. In addition to becoming the largest IT player in the Oceanic region, it purchased the target on discount. In fact, the one day and the one-week prior premium was negative, at -8.27% and -4.31%. The four-week prior premium was, however, positive at 3.83%, still representing a small premium. The merger also greatly benefitted the target firm. With increasing demand for their services, UXC, the target, had it difficult to satisfy the scale and, thus, needed a larger player to meet that increasing demand. As one of the largest players worldwide, CSC achieved just that. Subsequently, the increasing demand complemented well with the strengths the acquirer possessed. In addition, plans were erected to increase the innovation of the combined entity by opening an innovation center after winning the bid for a major contract with an NSW public entity. Further, CSC greatly benefitted from UXC's mid-market leadership in several enterprise application capabilities, including Microsoft Dynamics, SAP, Oracle, and ServiceNow. The acquirer also stood to gain from the target's expertise in several other services such as consulting, applications management, professional services, connect infrastructure and health services, synergizing tremendously with CSC's global strategy to become a pure-play leader in digital transformation and enhancing its capabilities in application platforms.

Inversely, CSC has been the subject of numerous criticisms, lawsuits, and scandals. Among several others, in 2011, the company was investigated by the SEC for fraud accounting practices in its businesses abroad in Denmark and, namely, Australia, which lead to significant turnover in its management structure as then Chairman and CEO, Mike Laphen, resigned in 2012. However, despite the bleak times, the firm managed to turn its misfortunes around and excel in the 2010s under the new and more efficient management leadership. Further, despite its strong experience, the firm had conducted a series of acquisitions in quick order in 2015, before the merger, as well as in in 2016, after the merger, which may have caused the firm to lose control over the planning and post-integration process. In 2015 alone, it had acquired Fruition Partners for $148M, Fixnetix for $112M, and Autonomic Resources for $14M. In May 2016, just a few months after the merger, the firm announced yet another merger when it was set to acquire Xchanging for $721M. However, the merger was still successful and benefited its shareholders.

23. O'Reilly Automotive Inc & CSK Auto Inc

O'Reilly made its largest acquisition in its history when it acquired its rival CSK in 2008 in a mostly stock offer valued at $1 billion, propelling the acquirer as the third largest auto parts dealer in the United States. Despite never having executed a deal as large as this one, it still had experience in conducting change with prior acquisitions, adding numerous stores and distribution centers. In this acquisition though, it had added 1,273 stores in 12 states after never adding more than 182 stores in any single acquisition. In addition to becoming a top three player, significant complementary synergies were expected from the combination of both firms' strengths and market presence. The move not only enhanced CSK's existing operations but so did it strengthen and diversify O'Reilly's position in the market. In fact, by combining O'Reilly's strong presence in the Midwestern and Southeastern regions of the States with that of CSK's presence in the Western region, the acquirer augmented its dual-market strategy and granted it a national platform, allowing it to expand to other regions in the States. In addition, combining both firms' expertise and know-

how improved each other's competitiveness in their respective markets. These terrific complementary synergies had analysts praising the deal. Gary Balter, a Credit Suisse analyst, even called it a game changer for O'Reilly. The acquirer also timed its acquisition by waiting for the right moment and buying a weakened and struggling target. In fact, to ensure the integration would be as smooth as possible, O'Reilly began planning months before the completion of the merger. In addition, the target's management team was retained and invited to participate in numerous planning meetings to assist the post-integration conversion of the design of each group of distribution centers located in different markets.

24. FLIR Systems Inc & Lorex Technology Inc

FLIR acquired Lorex in 2012 in an all-cash offer for an aggregate price of $60 million, paying a 35% premium. Despite its low transaction value, the acquisition was important for several reasons. Namely, by acquiring Lorex, based in Ontario, Canada, FLIR had expanded into the Canadian market after having no presence. With an already strong presence in the American market, FLIR had expanded their reach on the North American continent. In addition, Lorex's numerous products and services complemented very well with those of FLIR as well as opening the door for entry into new types of markets within the same industry of imaging technology, allowing the continual focus on its strengths. Whereas FLIR was a world leader in mainly the security markets of sensor systems, used in numerous counter-crime activities, Lorex had substantial expertise in home security surveillance systems. Further, it also enhanced the acquirer's distribution capabilities in its existing security markets. Overall, the strong combination of markets and company strengths offered massive potential for future growth following the completion of the merger. Moreover, despite never having completed a cross-border acquisition, FLIR still had strong experience in implementing major change. Just two years prior, in 2010, it acquired bankrupt Raymarine for $180 million, triple the size of this merger. Finally, it's worth noting that, like many of the successful mergers, the target and acquiring firm found themselves in a highly innovative industry. Further, once again, several top management employees of the target firm were retained and given different roles in the combined entity. For instance, Eric Miller, the Chief Financial Officer of Lorex, became the Vice President of Operations and was responsible for worldwide operations of the security segment of FLIR. However, the firm did lose some control over the Lorex merger as just two days later it would acquire Traficon International NV for $46M. Following the change in the management team, in which former CEO Earl Lewis stepped down in 2013 and replaced by Andrew Teich, the Lorex unit was eventually sold in 2018 for $29 million.

25. Mallinckrodt PLC & Sucampo Pharmaceuticals Inc and Ocera Therapeutics Inc

Just a few months after its last major merger in which the acquired acquired InfaCare, a privately held company, for its then late-stage lead drug, stannsoporfin, in a deal valued at around $425 million, Mallinckrodt announced, as part of its overall strategy of expanding and diversifying its pediatric pipeline, two additional acquisitions in late 2017. After announcing its intent to acquire Ocera in November for around $110 million, it would announce yet another acquisition, in late December, for Sucampo in a deal amounting to $1.2 billion, including the assumption of debt. With its main product, Acthar, accounting for 42% of its overall revenue, under heavy scrutiny for its excessive pricing and struggling in sales, Mallinckrodt felt the need to diversify itself by rendering its revenue streamline less dependent on its main drug. Its acquisitions of a couple of high potential drugs certainly aided in that regard. In the Sucampo merger, Mallinckrodt acquired

two approved drugs, Amitiza and Rescula, and two other drugs in the late stages of clinical trials for rare diseases, VTS-270 and CPP-1X. Further, from the Ocera Therapeutics, it increased its pipeline in treatments for orphan and other live and kidney diseases with the acquisition of Ocera's Phase II drug, hepatic encephalopathy candidate OCR-002, or rather, ornithine phenylacetate. In all, Mallinckrodt significantly strengthened its pipeline of marketed and prospective drugs.

The acquirer was also very well equipped to reap the potential of its acquisitions by having the personnel, equipment, and expertise that neither of the targets, on their own, possessed. As such, both targets stood to gain massively by the combination of the companies' complementariness in knowledge and capabilities. Ocera, prior to the merger, had struggled immensely with the development of its main drug under testing, which sent its stock price in a freefall as a direct result of the ensuing selloff. However, Ocera admitted its mistakes and acknowledged that Mallinckrodt would help solve its struggles following the merger. Overall, through the careful planning to realign the firm in light of external factors it had no control over and continual focus on its core business and strengths, the well-experienced acquirer. Mallinckrodt was able to effectively avoid internal crisis and excel because of its decisions.

On the other hand, Mallinckrodt had previously placed no emphasis on innovation and its R&D, heavily preferring the growth through acquisitions. In fact, historically, the firm had spent less than 10% of its revenue on R&D. It had also, prior to both mergers, withdrawn from the Pharmaceutical Research and Manufacturers Association in response to the revised and increased requirements of the significant investment into the development of new drugs. However, with the two acquisitions and their developmental drugs, the company started to place a stronger emphasis on R&D. Regardless, despite its historical lack of commitment on innovation, the merger was well calculated and successful.

Exception

iTurf & Delia's

Both companies operated in the same market that targets teenagers. iTurf was essentially a teen internet portal whereas Delia's was a teen retailer selling a large variety of products through retail outlets, web sites, and direct-mail catalogs. Prior to the merger, Delia's gained heavily from early positioning after identifying a market with strong buying potential with very few retailers targeting solely the age group. Interesting enough, Delia's created iTurf and prior to the merger spun-off the business to focus on its core competencies. In addition, Delia's had, in the past, expanded heavily through inorganic growth by acquiring related companies and assets in the late 1990s. As a result, the companies had experience in implementing change. With the merger, the companies officially agreed to get back together under a very friendly acquisition in an all-stock offer. The companies planned to increase its focus on its two core businesses, which were multichannel retailing and online content. Although stating to place an emphasis on innovation, they had not done so in the past and instead focused heavily on inorganic growth to generate revenue. In addition, the target selection was premeditated without any alternative options. As such, little to no careful selection of the target was conducted. Finally, although management remained intact for the most parts, Jim Cooper, the CFO of Delia's, resigned. Strangely enough, just two weeks after the merger, Delia shut down iTurf stating disproportionately high cost of running the target that heavily hindered the company's ability to operate effectively. Therefore, even though the long-term CAR was significantly positive, the fact that iTurf.com was shut down meant that its success was not based

on the merger. Subsequently, this case was considered an exception as usually, following mergers in which they provide poor or negative value on a significant scale, the acquiring firm starts to struggle heavily in their post-merger performance. In this case, the transaction value was more manageable to endure failure at just $86 million.

The Worst 25 Acquisitions (Long-Term Window)

1. Akamai Technologies Inc & InterVU Inc

Akamai made, by far, its largest acquisition despite having little, if any prior experience, when it acquired InterVU for $2.8 billion in April 2000, just two months after acquiring Network24, in February, for $203.6 million, in a mixed consideration offer. Not only was that too short of a period to fully integrate two firms together, thus not gaining any experience, but so did it interfere with the subsequent merger. In addition, Akamai also made another acquisition, albeit much smaller, just three months after its most important merger when it acquired CallTheShots Inc in July for $3.7 million. Too many acquisitions in close order usually result in a lack of control and a diversion of effort and focus, which oftentimes lead to a struggling merger. In addition, the merger was solely motivated to keep up with the competition and hold its position as the top player in the industry. As a result, not only was the acquisition rushed but so was the planning and evaluation of the target. Although the apparent fit existed between the two companies, the merger was quickly executed in a desperate reactionary move to counter its rivals. Subsequently, the immediate market reaction was negative. Upon news of the merger, Akamai's share price fell 6%, from $235 to $220, a sharp decline of $15 the unit. The move was also an effort to quickly penetrate the streaming media market, which, unfortunately, diverted its focus away from its core business. Further, the acquirer had just gone through some major changes in its management team, specifically in the highest-ranking position of the firm. In fact, George Conrades had joined the firm as the CEO, just one year prior to the merger. A sudden change in strategic leadership so close to a major acquisition can upset and divert the strategic focus of the firm. Moreover, the co-founder, Daniel Lewin, died one year after the merger during the September 11 attacks, further clouding the leadership of the firm. Finally, although the merger was friendly, the target had enacted defenses to gain more leverage during negotiations and, thus, a more favorable outcome.

2. Internet Capital Group Inc & Harbour Ring Intl Hldg Ltd

In early 2000, ICG made its first major acquisition when it acquired Hong Kong-based conglomerate company Harbour Ring in an unrelated cross-border deal for around $116 million despite owning zero experience and having experienced significant change among its management team in recent years. Just two years prior, in 1998, the company aggressively recruited talent from many of the top companies at the time, such as Microsoft, to serve on its management team. Moreover, since its tremendous success following its initial public offering in 1999, the firm's operations were split into two locations and managed independently by the two founders of the company, Ken Fox and Walter Buckley, who was nominated as the CEO of the firm, stretching the strategic leadership of the firm. In addition, the company had invested $1.6 billion in 61 start-up firms before the acquisition of Harbour Ring, diverting their focus even more from the merger and its post-merger integration. As a conglomerate company offering several services and products, mainly toy-making and product-development, Harbour Ring had little in common, if at all, with the acquirer. What they did have is what pushed ICG to follow through with the merger. Harbour Ring had a very strong presence in the Chinese and was thus selected as the firm to

penetrate the Chinese market as a B2B player. It was evident that the acquirer did not put much effort in selecting the ideal target and may even have been motivated solely by the price they paid, which represented a heavy discount for a company that was struggling. The confusion was also reflected in the market. On the announcement date, ICG's share price fell by 5.72%. Overall, the merger was a true disaster from the get-go. In fact, just one year later, ICG sold off the target for just $100 million, representing an overall loss of $50 million on its original investment. Another contributing factor, though not directly related to the merger, to the failures of the acquiring firm was the heavy insider selloff. Before the burst of the dot-com bubble, some hundreds of insiders, 680 to be exact, sold more than $1 billion worth of stock, accelerating the steep decline of the once multi-trillion internet market.

3. Terra Networks SA & Lycos Inc

Fresh off its founding in 1999, as well as several domestic acquisitions of local startups, Spanish internet multinational company, Terra Networks, in 2000, made its largest acquisition in its history when it acquired American search engine, Lycos, for a massive $12.5 billion in a mixed consideration offer. The move was meant to bolster its worldwide traffic, specifically, in the US. The fit between the two companies existed. As a giant in providing internet access, Terra would be acquiring its own search engine. As a result, the move was well perceived by analysts, but not by the market, and was expected to launch Terra as a major player in the internet market, capable of competing with the giants at the time. Yet, despite that, the merger failed miserably. Following the official announcement of the merger, Terra's US shares had dropped by 65%. Lycos had also seen its share price fall but by a smaller percentage of around 33%. In 2004, just four years after the massive acquisition, Terra sold Lycos for a meager $105 million to re-focus the company on its core business and strengths. Finally, in 2005, the company was taken over by its parent company, Telefónica, in 2005.

Although the merger was well received on news of the merger by analysts, the acquisition had major shortcomings. For one, the company had just been founded, thus meaning significant activity in the formation of the management team, and had just conducted a series of aggressive acquisitions of local startups, not allowing the firm to focus on its own strategy and business. In addition, since the management team was relatively new to the company, it is possible that they did not fully understand the strategic direction of the company. Further, the company was also involved in an operation they called "Operation Verónica," in which the parent company would buy out shareholders in its Latin American subsidiaries as well as reorganizing the company. Finally, the parent company had acquired Dutch entertainment company, Endemol, for €5.5 billion, leading to a lack of control and focus over its first major merger. Second, the firm's CEO was implicated in some major controversy when rumors of insider trading persisted. The rumors brought forth by the one of the largest daily newspaper in Spain, El Mundo, resulted in his resignation. Third, its parent company, in addition to having executed another major acquisition following the Lycos merger, Telefónica, had also recently fought off a merger attempt from KPN Telecom of the Netherlands in a deal valued at around $58 billion. Evidently, with so much going around, the company had little control and focus on the post-merger integration of the target firm. With its hands tied, the company failed to adequately evaluate the target and understand the fit between the two companies. Notably, Terra failed to realize the red flag that was the decline in popularity of the search engine as Web visitors discovered better and more user-friendly alternatives.

4. Lion Bioscience Aktiengesellsch & Trega Biosciences Inc

Lion Bioscience, a German integrated software solutions company, made its first American acquisition, Trega Biosciences, a general pharmaceuticals company, in an all-stock offer valued at around $35 million in December 2000. The acquisition was completed just two months after announcing the acquirer had started targeting potential candidates and entered talks, suggesting little time was put into the analysis and evaluation of the target firm. In fact, possibly due to hubris or, worse, incompetence, the target was still selected despite displaying some alarming financial metrics prior to the merger. In fact, the firm was struggling to return any form of value to its shareholders. Both its ROA and ROE, during the last twelve months (LTM) prior to the merger, were significantly large and negative. In addition, its employee productivity was considerably low. Moreover, having gone public via an IPO just five months prior to the merger, Lion had no experience in implementing change. Following the acquisition, the acquirer had restructured its operations in San Diego, diverting its focus and effort into the proper integration of the firm. Finally, even though it was an effort to facilitate the post-merger integration process, Trega's CEO would serve as the CEO of the Lion's combined US subsidiaries, which may have confused or interrupted the leadership core and direction of that of its parent company in unison. To make matters worse, the company's Chief Financial Officer was reported missing after the Twin Tower attacks within one year of the merger. Therefore, even though, in theory, the firms held complementary technologies in unrelated markets, it was not hard to see why the merger failed to produce the expected synergies.

5. PhotoMedex Inc & LCA-Vision Inc

Three years after its second major acquisition, PhotoMedex completed its third acquisition, its largest, in 2014 when it acquired LCA-Vision, an unrelated merger, in an all-cash deal valued at $106 million. Although the acquirer stated the target complemented its existing business model, it had enacted certain modifications to the target firm to fit the two firms together, indicating a lack of proper evaluation of the target firm. Strangely enough, even with the deal at hand, the target still intended to exercise their 30-day "go shop" period option, allowing it to seek better offers. Such a decision would suggest the target firm was not confident in the fit of the companies. After all, PhotoMedex was diverting its focus away from its core businesses by expanding into the laser vision correction services, in which they had little knowledge or expertise. This lack of fit would eventually lead to the resale of the target just one year after the fact. In 2015, PhotoMedex sold off the LCA-Vision unit for just $40 million, a write-off of $66 million, representing a 62% loss on its initial investment. Intriguing enough, the company stated the resale was motivated to refocus its efforts on its core businesses and to pay off its outstanding revolving line of credit and term loan.

Further of note, consistent with the past unsuccessful mergers, the acquiring firm had just gone through major change in its management team when one of its Board of Directors members, Nahum Melumad, died at the start of the year, not only upsetting the ambiance of the firm but also the core strategic leadership. Yet, the merger was still undertaken just one month after his tragic passing, which normally would take a much longer time to adapt to such news. Further, the acquirer's main product was the subject of several class action lawsuits, including infractions of violating securities laws and claims of false, or misleading, advertising, a few months after the merger and just one month prior to the resale of the target, interfering with the necessary effort

and time required for the successful post-merger integration. The firm also defaulted on its financial obligations as the company had started to struggle tremendously following the LCA-Vision merger. Finally, in 2016, PhotoMedex liquidated most of its assets to ICTV for $9.5 million cementing the end for the once industry-leading company.

6. Stone Energy Corp & Bois d'Arc Energy Inc

Three months after its founder died, Stone Energy purchased fellow oil and gas exploration company, Bois d'Arc, in a cash and stock deal worth $1.8 billion in 2008. The target firm had also gone through significant changes in its management team. Coincidentally, during the same month of the passing of the acquirer's founder, Bois d'Arc reported the major changes at the executive level, naming a new Vice President of Land as well as the company's new controller, after its CEO retired in late 2007. Interesting enough, the target was open for sale for close to one year prior to the merger and saw no takers, indicating serious issues with the target firm. Stone Energy finally bought the firm with a 4% discount based on the day prior closing price. Despite the discount, Stone Energy's shares still tumbled a significant 11% following the announcement of the merger. The discount may have helped push Stone Energy into making the bad decision, but its primary motivation for the merger was troublesome. Despite already having a high level of financial slack, the acquirer cited significant free cash flows as the major reason for the deal to strengthen its balance sheet. Yet, the acquisition would significantly lower Stone's current ratio, among other financial metrics, as well as its ROA and ROE. Further, although the combination of complementary assets was also cited, in reality, there was no such fit. Essentially, Stone acquired more of the same of what it already had in the same location of the Gulf of Mexico. Following the merger, the acquirer held more producing wells and more acreage, including developed reserves and undeveloped, or prospective, reserves, of which Stone already had ample of prior to the merger. No new geographic reach was penetrated. Subsequently, Stone failed to understand how the target would complement its existing operations and create value for the firm.

7. JDS Uniphase Corp & SDL Inc

Fresh off their largest merger in early 1999, JDSU made a series of major multi-billion mergers in very short order. After acquiring Optical Coating Laboratory Inc (OCLI) for $6.2 billion in late 1999 and E-TEK Dynamics for $15 billion in early 2000, JDSU pulled off its largest merger in history when it acquired California-based SDL in the following July of the same year for an industry-wide record of $45 billion in an all-stock offer, surprising the market. In just under a year, JDSU spent over $66 billion, which it would go on to lose almost all of it, primarily, from the failed merger in question. Following the announcement of the deal, many analysts were quick to praise the deal and the match that existed between the two companies. Essentially, whereas JDSU designed, developed, manufactured, and distributed a large range of products for the fiber optics communications market, SDL's product offerings powered the transmission of data, voice, and internet information over fiber optic networks. So why then did the merger fail so badly and so quickly? In short, there was no single contributing factors but a combination of them that caused the merger to collapse rather quickly.

For one, as mentioned above, the acquirer was involved in multiple acquisitions prior, as well as subsequent, to the merger in question. In fact, instead of focusing on a single merger, the firm had purchased 11 companies over a 20-month period, losing all control, including the required time and effort, over their largest merger in its history. Second, the acquirer had undergone significant

change in its management core. Two months prior to the SDL merger, in May 2000, Jozef Straus replaced Kevin Kalkhoven as the CEO of the firm after the later had retired and was also named the president a year later. Then, following the retention of several key management employees from the several mergers it had undergone, Gregory Dougherty, among several other changes, was named executive vice president and chief operating officer following the retirement of Charles J. Abbe, who was formerly the CEO of OCLI prior to its merger with JDSU, and served as president and COO of JDSU prior to the merger with SDL. Despite the constant shift in leadership core, the company still maintained its acquisition-hungry policy.

Third, the company was under heavy scrutiny for unethical, and potentially, illegal behavior. Following the crash of the telecommunications industry, the state of Connecticut filed a lawsuit against the company and four executives, claiming that, in addition to insider trading, and despite their fiduciary duties, they had not acted in the best interest of their shareholders by misleading and hiding key information, including advance knowledge, of the company's imminent collapse and, instead cashed out, selling their stake in the company. Although, JDSU was cleared of all charges in 2007, the lasting lawsuit that was never dismissed or settled before the trial had at, the very least, an indirect negative impact on the post-merger performance of the firm. In addition, JDSU's series of acquisitions faced numerous antitrust concerns from regulators and were forced to sell off certain units to accommodate the approvals. In particular, JDSU sold off its Zurich subsidiary to Nortel Networks for $2.5 billion after the Department of Justice refused to approve the deal without any subsequent selloffs in fear the deal would monopolize the market.

Fourth, for a multi-billion merger to succeed, an incredible amount of time and planning needs to be done not months but potentially years before the announcement. In addition, tactical negotiations are also vital for the success of the combined entity. However, despite the magnitude of the deal, discussions with SDL, according to JDSU's CEO, began on almost the same day the E-TEK merger was completed on June 30, twenty days before the announcement of the SDL merger. With little time, it was clear that the merger was poorly planned and executed. Moreover, even though the acquirer was in an innovative industry, the firm had not placed a heavy emphasis on innovation as it continued to accelerate its growth through acquisitions and partnerships, foregoing its own research and development. Finally, just one year after the merger, the company collapsed and reduced 83% of its workforce and closed 29 offices and plants after firing 16,000 employees. Its struggles were obvious, and its acquisition was almost worthless.

8. Valeant Pharmaceuticals International Inc & Synergetics USA Inc

In a move to strengthen its non-core eye health company Bausch & Lomb, Valeant announced they were planning to acquire Synergetics in September 2015 in an all-cash offer for approximately $195 million. The deal was announced just one month after its previous major acquisition of Sprout Pharmaceuticals Inc for $1 billion. Valeant had also completed a string of major acquisitions before and right after the Synergetics merger, putting little care in the post-merger integration of the target firm. In fact, immediately following the merger, it acquired another firm, Doctor's Allergy Formula, for an undisclosed sum in October. Overall, in 2015 alone, it completed six acquisitions with Salix Pharmaceuticals being its largest at $14.5 billion in April. In addition, one year prior to the Synergetics merger, in 2014, Valeant made a bid for fellow pharmaceutical giant, Allergan, but lost out to Actavis in a $66 billion transaction. To make matters worse, Valeant was accused of insider trading and the case was only settled in 2017. Moreover, despite operating in a

highly innovative industry, the firm placed no emphasis on its R&D. Whereas, according to Pollack and Tavernise of The New York Times, big drug companies spend, on average, between 15 to 20% of total sales on R&D, Valeant invested a meager 3% of its sales.

Further, the acquirer found itself in several controversies and unethical activities. In October 2015, the firm was accused of reporting false sales and aggressive billing practices towards customers of Philidor, a pharmacy firm that offered its services to Valeant. Notably, Philidor accused Valeant of directing its customers into purchasing the more expensive drugs produced by Valeant. In addition, the firm drew heavy criticism, and a subsequent investigation, on its growth strategy and, particularly its pricing strategy. The firm was under heavy scrutiny for firing most of the target's scientists directly following the acquisition. More importantly though, Valeant faced heavy backlash for their sharp and exponential price increase on life-saving drugs it had acquired the rights to specifically two heart medications, Nitropress and Isuprel, saw their price increase by Valeant by 212% and 525%, respectively. Further, flucytosine was sold 10,000% higher in the States than in Europe. In general, Valeant raised the prices on its drugs by 66% in 2015, which was five times more than its closest industry peer. The company also faced concerns from the United States Senate Special Committee on Ageing about the health issues and repercussions its patients faced from the firm's business model. In addition, it was also under investigation by the Federal Trade Commission for its possible monopoly on the production of rigid gas permeable contact lenses. In 2016, Valeant agreed to sell off Paragon Holdings and Pelican Products to avoid charges that its acquisition activity reduced competition.

Finally, another contributing factor to the unsuccessful merger, Valeant experienced significant change in its management team, effectively hampering the strategic leadership as well as the direction of the firm. In March 2016, along with the addition of a new director, it was announced that the presiding CEO would be replaced as soon as the firm would find a suitable replacement, which materialized a few months later in April when Joseph Papa was named as the permanent replacement. Papa would go on to significantly alter the strategic model of the firm shying away from acquisitions and instead focusing heavily on debt reduction and organic growth. In fact, by 2018, it had sold off 13 of its non-core businesses and reduced its excessive debt to $25 billion from $31 billion at the time of the merger. Interesting enough, under the new regime, the firm had not yet completed a single acquisition to this date.

9. Nortel Networks Corp & Alteon Websystems Inc

The numerous acquisitions undertaken by Nortel during a four-year period between 1997 and 2001 failed to generate much value while significantly diluting the firm. Many of the acquisitions were subsequently sold off at huge losses as the firm faced bankruptcy. A prime example was the unsuccessful merger of Alteon Websystems, a computer networking company, purchased in 2000 for $7.8 billion in stock and subsequently sold off in 2009 for a fraction of its original cost at just $17.65 million, representing a 99.77% write down. The failure was so disastrous that it contributed, in part, to the collapse and eventual bankruptcy of the firm. In hindsight, it was clear why the merger failed so disastrously. The firm had poorly monitored and administrated the post-merger integration of the target firm into the acquirer's complex business structure. Yet, even at the time, it was no surprise the merger would end up failing. In a move primarily motivated to distance itself from its main rivals, the acquirer omitted many of the key traits of a successful merger and were mired by many of those that cause mergers to fail.

As a telecommunications company, Nortel was expanding into the internet business by acquiring a content networking company, thus, diverting away from its core business and into an industry it had no sophisticated knowledge or expertise within. In fact, Nortel made a similar attempt in its Bay Networks acquisition of around $9.1 billion. In that acquisition, it attempted to penetrate the IP market but would end up failing horribly, selling Bay Networks at another massive loss on its initial investment. Yet, despite the failure, Nortel would try again and fail once more. Although citing complementary business models in its press release, Nortel had a huge mismatch in corporate cultures with many of its targets. In addition, there was little to no synergies between the assets of both firms. The fierce competition among the big three players at the time, Cisco, Lucent and Nortel, may have contributed to the inadequate evaluation of the target, its culture, and its eventual integration. Further, despite having ample experience in implementing change, it had little in successful merger outcomes.

Furthermore, the firm was involved in a massive accounting scandal that contributed massively to its downfall. After millions were paid as bonuses during Dunn's regime to several of its top managers in 2001 despite its ongoing stock collapse in which the company saw its market capitalization fall from C$398 billion in 2000 to C$5 billion in 2002, an internal investigated was launched and discovered that C$3 billion in revenue were improperly reported during the years of 1998, 1999, and 2000, the year of the Alteon merger. C$900 million of liabilities also had to be restated and carried forward, which resulted in a reduction in previously reported net losses for the years of 2000, 2001, and 2002 as well as an increase in shareholders' equity and net assets. Overall, not only did Nortel spend US$400 million on outside auditors and management consultants to retrain staff to avoid similar situations, but so did the accounting scandal effectively shatter Nortel's reputation and finances. Combined with its growing accumulation of debt, the company was eventually forced to liquidate all its assets in 2009.

Another contributing factor to the merger's failure was the change in management during the period of its integration process. After the stock crash in 2000, which resulted in the layoffs of 60,000 employees, the presiding CEO, at the time, John Roth, retired in 2001. The man who was supposed to replace him, the chief operating officer (COO), Clarence Chandran, refused to do so and decided to quit. Chandran was still on sick leave because of his stabbing in Singapore in 1997. As a result, the CFO, Frank Dunn, was chosen as Roth's permanent replacement. Dunn would go on to be accused of the bookkeeping irregularities by both the U.S. Securities and Exchange Commission and the Ontario Securities Commission and eventually fired in 2004. Therefore, in times where the continuation of strategic leadership is essential for the success of a merger, there was no harmony within the firm.

10. Ispat International NVA & International Steel Group Inc

In a three-way merger, Ispat Steel, in which Lakshmi Mittal held a 77% holding, merged with ISG for $4.5 billion in a mixed offer consideration as well as with private company, LNM Group, held by Mittal's family, for $13.3 billion in shares towards the end of 2004. Following the merger, the Mittal family owned 88% of the new entity that would be called Mittal Steel. Overall, the combined entity had a world leading capitalization of $21 billion, in the Steel Production industry, effectively becoming the largest player after surpassing the former leader Arcelor, which Mittal eventually acquired in 2006. Despite classified as a horizontal merger, the combing firms had no true synergistic complementary resources. In fact, the two companies had very similar business models

and operated in the same markets. Both companies placed an emphasis on inorganic growth by growing off struggling companies that had entered bankruptcy protection by buying off their assets. Further, LNM was the leader in the US, but so did the acquiring firm have a very strong presence in the US market. As such, Mittal simply could not benefit from the overlap in operations and national markets and struggled heavily to integrate the firms' contrasting cultures.

In addition, a common theme for many unsuccessful mergers, the company had little control in the post-merger integration of the target by being heavily distracted in other acquisitions, including the notorious hostile takeover of its then largest rival, Arcelor, which drew heavy backlash from France. Its numerous acquisitions, done in quick succession. also drew constant criticisms for their opportunistic nature. Mittal had a habit of taking advantage of the host country's struggling economy and laying off thousands of local employees. Further, Mittal was implicated in several controversial "cash for favors" incidents. In one instance, he donated large sums of cash to support the re-election of the Labour party in England to land a deal with the Romanian Prime Minister and failed to properly report it. In a separate case, among several other favors requested, he demanded details of a money laundering case implicating a certain number of his associates.

11. Energy XXI LTD & EPL Oil & Gas Inc

To become the largest oil and gas producer in the US Gulf of Mexico, Energy bought out its smaller rival EPL for approximately $2.3 billion in 2014. Both companies had their operations focused exclusively on the same region, thus, presenting little synergies in complementary markets. The deal was completed just a few months after announcing it was the highest bidder in ten shallow-water blocks in the Central Gulf of Mexico Lease Sale. The deal was also executed amid some illegal activities undertaken and hidden by the CEO of the firm. In the most notable offense, the CEO at the time and the founder, John Schiller accepted a $3 million loan from a portfolio manager, Norman Louie, at Mount Kellett Capital Management LP, the acquirer's largest shareholder. Louie, within just two months of the undisclosed loan, was appointed to the board of directors and subsequently charged for his role. Mount Kellet was also charged for having failed to disclose its plans to place Louie on the acquirer's board. As for Schiller, he was target of an internal investigation, which resulted in significant changes in the company's management structure. To ensure history would not repeat itself and enhance communication within the board, the board decided to split the chairman and CEO roles, which were both held by Schiller. Schiller thus lost his title as chairman but continued as the CEO of the firm for less than two years before being let go. He would then be investigated by the Securities and Exchange Commission (SEC) and charged for his actions. As a result, the strategic leadership of the firm was effectively in shambles throughout the merger's lifecycle including the pre-merger planning and the post-merger integration process. The firm had huge amounts of debt and would go on to struggle heavily following their largest merger in history. Its struggles would result in their eventual Chapter 11 bankruptcy just two years after the EPL merger and, months later, its selloff to affiliates of Cox Oil LLC for $322 million.

12. Tyco International LTD & Sensormatic Electronics Corp

Serial conglomerate acquirer, Tyco, committed itself to another mega merger in 2001 when it purchased Sensormatic, an electronic security company, for $2.3 billion in stock with a 61% premium attached to the deal. The firm had ample experience in implementing change. Yet, despite that, it had little control of the merger primarily due to the numerous acquisitions that were done

within a short period of time and that had to be handled simultaneously, which presented a daunting task for the acquirer to succeed. In fact, the firm had made more than $55 billion in acquisitions over the last four years, including four in 2002, accumulating huge amounts of debt and depleting its free cash reserves and incurring extensive losses. Despite the losses and worrying trend in its debt and cash position, the acquisition was still undertaken, signifying a total lack of control in managing its financial picture. The timing was also very peculiar. Incredibly, both firms were involved in corporate scandals. Prior to the merger, Sensormatic, the target firm, was charged with fraudulent reporting of its revenue and some of its vice presidents were tied with insider trading. Likewise, the acquiring firm, Tyco, was involved in a massive corporate scandal that occurred shortly after the merger in 2002. In it, former chairman and chief executive, Dennis Kozlowski, and senior management team, including former CEO, Mark Swartz, faced charges of embezzlement of $600 million from their employer.

As a result of the scandal, the firm was forced to undergo massive change in its management team and structure. The two accused of theft resigned and the firm named John Fort as an interim CEO until a permanent replacement would be named. Then, later that year, in 2002, Edward Breen was appointed president, CEO, and chairman of the firm. Following his ascension, Breen effectively gutted the existing board of directors and leadership team that allowed the corruptness of their former superior replacing them with managers who had no ties with Kozlowski. The management change, albeit well-calculated, essentially destroyed the leadership direction in which the Sensormatic merger was conducted. Lastly, of note, the deal was done in two different industries of security that offered no complementary synergies and caused several offices and operations from both companies to become redundant and thus to be shut down, which happened to be the primary source of expected synergies cited by the acquiring firm. Its botched acquisitions and massive corporate scandal led to its near collapse before recovering following significant divestitures and restructuring.

13. Nortel Networks Corp & Architel Systems Corp

In another detrimental merger, Nortel acquired Architel Systems, a software systems company, three months prior to their most destructive merger in its history, in 2000, for $395 million in al-stock offer. The price tag was quite high considering the target's heavy struggles in generating profits from their small sales volume and value for its shareholders. It even lost $1.9 million in sales of $44 million. The hopes were high for the potential of the firm, which ended up never materializing, due in large part to the poor integration of the target firm into the acquiring firm. Although the goal was to create the next-generation and high-performance internet, the deal was plagued by several of the same reasons that cause its later and most destructive merger, the Alteon Websystems merger, to fail. The deal was yet another attempt at expanding its hold on the internet industry, in which it had little knowledge and experience, from several different markets of the internet. Its numerous acquisitions within short periods of time caused the firm to lose focus of its core business and swiftly enter the attractive but risky evolving market. With too much to handle, the firm struggled to adapt to its new environment and highly competitive markets. Essentially, it went from one market in which it dominated, the telecommunications industry, to one in which it had no strong presence or understanding. In addition, just like the Alteon merger, the firm was involved in highly unethical controversies, and went through heavy changes in its management core. Ultimately, the merger heavily backfired on the acquirer and was sold off for less than one

tenth of its original investment value in less than two years after the event. In early 2002, Nortel sold off Architel products to MetaSolv for $35 million in cash.

14. Precision Drilling Trust & Grey Wolf Inc

After trying three hostile takeover attempts that were all rejected in favor of a competing bid, Precision Drilling, a Canadian Oil Well Services company, finally succeeded in acquiring American Oil Well Services company, Grey Wolf, in 2008 for almost $2 billion in cash and equity after the target's shareholders voted against the planned merger with Basic Energy Services. Interesting enough, with the elimination of the competing offer, Precision managed to pay a lower price tag of $1.20 per share of Grey Wolf than its previous offers as well as that of the competing offer and conclude a 'friendly' merger on the fourth attempt. However, they did have to pay a higher cash percentage for a target that had started and was expected to struggle a lot more due to the falling prices of natural gas, suggesting Precision failed to plan ahead and instead based its evaluation on the past financial performance of the target firm. The target did have a high current ratio and high free cash flow. Yet, its ROA and ROE were low. On the other hand, the combination of the businesses complemented each other's presence in markets they did not independently serve in. Precision gained a stronger foothold on the American and Mexican contract drilling business markets after having abandoned it in 2005 becoming an income trust. Likewise, Grey Wolf would benefit from Precision's leading position in the Canadian markets.

However, despite the seemingly nice fit of company markets, the market reacted negatively to the acquisition for both the target, which is atypical, and the acquirer. Share prices were down 9¢ and 3¢ for the target firm and the acquiring firm, respectively. There were large concerns over the true matching of the companies. Many, including the target's board of directors, were concerned over the uncertainty in the long-term value of Precision's trust units. The market also reacted negatively to the low forecast for the main Canadian markets in which the combined entity would operate in. In addition, the target firm also had strong doubts that Precision would be a good combination partly over its disagreement over the acquirer's future investment strategies for the combined firm. Precision had also gone through major management change one year earlier to the merger when it named a new CEO, appointing Kevin Neveu to replace the founder and former CEO and executive chairman, Hank Swartout. Prior to that, though, the firm had instead intended a controversial succession strategy in which it waived its code of ethics and business conduct policy, thereby eliminating potential conflicts of interest, to allow Gene Stahl, the founder's son in law, to continue serving as the firm's president and COO and eventually succeed Swartout as the CEO of the firm. The plan was thwarted when Stahl announced he would not seek the CEO position, which, in turn, prompted a search for a suitable CEO and resulted in the eventual hiring of Neveu. Following the merger, three directors of Grey Wolf were appointed to the board of the acquirer. The Executive VP and COO of Grey Wolf, David Crowley, would also become the president of American operations.

In addition, Precision had also undergone a series of diversification acquisitions to accelerate its growth. After the merger, Precision would go on to struggle severely just a few months after the fact. A big contributing factor was its huge increase in debt level following its acquisition of Grey Wolf. By assuming the target's debt, its debt-to-equity ratio increased by 137%. It also raised additional liabilities with four different banks to fund the cash portion. In early 2009, at the height of its struggles, it was bailed out by AIMCo, an Albertan Investment Management Corporation, in

the form of an investment in which AIMCo would be acquiring about 20% of Precision's total shares at a 39% discount, becoming Precision's largest shareholder. The investment infusion effectively solved Precision's short-term debt position. Before the aid, it was at risk of breaching its debt covenants. As part of the deal, Precision would have to hire two directors as well as a financial expertise. Finally, of note, AIMCo stated that Precision had overpaid for Grey Wolf.

15. Breitburn Energy Partners LP & QR Energy LP

In an all-stock deal, Breitburn, an oil and gas exploration company, acquired fellow company QR, its biggest acquisition, in July 2014 for around $1.46 billion, paying a 19% premium to close the deal. The deal was primary motivated by Breitburn to become one of the largest oil producers in the United States. The deal however lacked any complementary resources, assets, or even market presences. In fact, both companies operated in the same markets and thus Breitburn acquired just more of the same of what they already had, adding overlapping assets in the Permian Basin and Michigan. It added minor exposure to newer markets. Further, despite the low premium, the target firm had troubling aspects to its financial picture that should have warned off Breitburn. QR had significant debt on its balance and held a very large and negative level of free cash flow. The firm was essentially cashless and a had major debt balance, causing it to struggle immensely in returning value to its shareholders and attracting investors to invest in the firm. It had an alarming debt-to-equity ratio of 2.88, more than twice the size of that of the acquirer. Its ROA was negative whereas its ROE was only positive because of its negative net income and shareholder equity. As a result, already extremely deep in its debt position, Breitburn would be assuming more debt and saw its gearing ratio increase by a significant 28%. Its large accumulation of debt played a key role in its eventual collapse, four years later, in 2018 when it filed for Chapter 11 Bankruptcy and reemerged as Maverick Natural Resources, LLC. Its poor control in managing costs and debt were quite problematic. Furthermore, possibly due to hubris or incompetence, the merger was conducted right before the price collapse of oil commodities. Instead of hedging all of its oil production, the firm relied on its experience in weathering the financial crisis of 2008 and proceeded with the merger. Ultimately, just one month after the merger, the firm's stock crashed by 65% over a two-month period.

Finally, of note, the acquirer had some experience in implementing change. Its last major acquisitions dated back to 2013 when it acquired Whiting oilfield stake for $860 million, in June, as well as additional Permian Basin interests and properties for $282 Million in December, giving the firm just seven months between mergers to integrate the companies it had acquired. These acquisitions were all undertaken under the then new management team of Gregory Brown, who was named Exec VP, CAO and General Counsel in January 2013, and Mark Pease, who was appointed president and COO, in December 2012, signifying a new change in strategic direction.

16. Teck Cominco Ltd & Global Copper Corp

Teck Cominco, a Canadian metals and mining company, acquired Global Copper in 2008 for around $415 million in a deal motivated to secure the target's rich Chile deposit which would increase Teck's copper resources by 25%. News of the deal caused the target's stock to climb by 21%, a C$2.34 increase in share price, and the acquirer's stock to fall by 2.4%, a C$1.12 reduction in share price. As a result of the fluctuation, the offer price, including the 29% premium based on the 20-day volume weighted average, was below the share price of the target firm. Competing offers were thus expected to surface but none were extended.

Overall, the deal exemplified several of the key traits that cause mergers to struggle well after the event date. For one, the deal lacked any type of complementary resources or assets. The acquirer also had accumulated and would continue to accumulate significant amounts of debt with subsequent mergers. In fact, the company, knowing full well of its increasing level of debt, implemented key changes to decrease its debt position a few years after the merger. Further, the firm was also heavily criticized and involved in several lawsuits over its poor environmental record. For example, among others, a lingering lawsuit, filed in 2004, by an aboriginal group accused the firm of having disposed hazardous and toxic substances were dumped in the Columbia River, BC, which bordered the group's reservation. It was only resolved in 2016 ordering Teck to pay $8.25 million in damages and costs. Teck was also fined for offenses under the federal Fisheries Act and the provincial legislation for illegal discharges of heavy metals and pollutants. Finally, the firm, although did have experience in implementing change through several past mergers, had just completed a merger prior to the Global Copper merger and would make another acquisition just three months later when it would acquire Fording Canadian Coal Trust for approximately $14 billion, which caused the firm to place all of its efforts to ensure a smooth and successful integration of the megamerger but at the same time lose focus on its smaller but still major acquisition. Whereas the Fording merger was a success in terms of creating positive CAR, the Global Copper was a long-term failure causing the firm to suffer excessive abnormal returns.

17. Cisco Systems Inc & ArrowPoint Communications Inc

Cisco made its then second largest acquisition in its history in 2000, oddly enough, during the gradual burst of the dot-com bubble, when it merged with start-up LAN switching company, ArrowPoint, for around $5.7 billion in stock, suggesting the acquirer failed to consider vital external factors when evaluating its decision. In 2000 alone, Cisco completed 23 deals, hindering at the effective control and planning of the post-merger integration of, specifically, the target in question. Impressively, over an eight-year period, according to Thomson Financial Securities Data, Cisco pulled off 94 acquisitions accumulating to an M&A activity of $36 billion. However, these deals, and notably the ArrowPoint merger, caused the firm to struggle massively not only in integrating all the targets together but also in its financial picture as the acquirer incurred a 28% loss in its stock price. Its struggles also dissuaded Cisco from completing any similar massive mergers until, five years later, when it had acquired Scientific-Atlanta for $6.9B and, finally, pushed it to focus on organic growth, which it had almost completely ignored preferring the inorganic road, albeit temporarily until the recovery of the down markets. Its sudden change in strategic leadership caused it to miss out on a critical product cycle, losing market share in its core router business to its rivals Juniper and Avici, and risked missing on more important product cycles. Its struggles also led to the departure of two critical and key world-renowned router and optical networking experts to rival companies, AT&T and Juniper and risked losing many more. Finally, the acquisition also suffered from unethical and illegal behavior. In 2001, the firm was sued and accused of misleading investors through statements and of insider trading, which was ultimately settled in 2006, despite denying all allegations, with the payments of $91.75M.

It is worth noting that there was a strategic fit in resources, assets, and technologies. ArrowPoint provided the higher-end technology in a market that was expected to grow sustainably in the future whereas Cisco provided the assets and expertise in the networking hardware and software industry to exploit the potential of the combination. However, the deal was essentially forced on by the acquiring firm to compete with its rivals, that had made similar deals, and snatch up a start-up

company before its rivals could. Cisco could have, instead of paying a hefty price, developed the technology in-house or partner with companies. It chose the more expensive route which backfired on them as, in addition to the key sources of failure mentioned above, it failed to realize that the then current down market was the bursting of the dot-com bubble, and a recovery was never in the cards.

18. United Natural Foods Inc & SuperValu Inc

United Natural Foods made its largest acquisition to date in 2018 when it merged with SuperValu for $2.9 billion in stock in a move designed to reduce its dependency on its main supplier Whole Foods. Its relationship with Whole Foods had weakened ever since its acquisition by Amazon. With the uncertainty as to whether Amazon would renew the contract that is set to expire in 2025, UNFI felt compelled to complete the acquisition to avoid having its main business significantly hit. After all, Whole Foods accounted for around 33% of its business. With the acquisition, UNFI acquired 3,323 wholesale stores and, according to the company in its press release, greatly increased its customer base. The market did however react harshly to the news of the merger. Its shares fell by 16% on the announcement date. The bad news did not stop there. UNFI would struggle immensely to integrate the target into its operations. In fact, just months after the merger announcement, the company admitted that SuperValu was experiencing "issues in the realignment and integration of its distribution centers with UNFI's distribution system," (Sharma, 2019) which led to failures of shelf restocking and out-of-stock issues. Consequently, following the merger, the combined entity immediately started to underperform. It was also forced to record a goodwill impairment charge of $370.9M on its failed merger. Alarmingly, the combined firm saw its profit margin fall by 2.19% despite increases in net sales. Its struggles would continue as it would miss out on earnings for its fiscal fourth quarter of 2019 and see its stock fall even more following a 25% crash. The merger, badly perceived by the market, essentially decimated the acquirer's income statement and provided no benefits or competitive advantages.

Overall, despite its attempt to strategize ahead, it selected the wrong target with a poor fit of resources, assets, capabilities, and market presences. In fact, with the acquisition, it immediately announced it would divest the target's retail business, among several other assets. The move was more of a panic and reactionary move to its changing market environment than a strategic and well-calculated one aimed to render the firm stronger. The merger was also undertaken despite having low free cash flow and very high levels of debt which was only worsened significantly with the acquisition. By assuming all of the target's debt, UNFI increased its debt-to-equity ratio by a whopping 240%. Its high accumulation of debt forced the firm to change its strategic focus and start paying it off, distracting it from the efficient post-merger integration process. UNFI was also forced to pay a hefty four-week-prior premium of 113.96% to close out the deal as it competed with the largest American wholesale grocery-supply company, C&S Grocers. The firm also struggled with its suppliers to meet its demand for natural and organic products and expected those struggles to be just short-term. However, that would end up not being the case. As a result, it experienced several out-of-stock issues, suggesting a failure in understanding costs.

19. Sears Roebuck & Co and Lands' End Inc

In a bid to penetrate the direct-to-consumer catalog market, Sears, a retailer, made its largest acquisition in 2002 when it acquired Lands' End for $1.9 billion in cash, paying an excessive four-week-prior premium of 111%. The premium was questionable – and disastrously handled by

Sears' former CEO who believed that he was engaged in a bidding war when, in reality, the only other bidder had long dropped out – but the merger even more so. Immediately following the announcement of the merger, there were strong concerns that the companies were a poor fit. Analysts were citing the two companies' main product offerings would clash with one another. Others felt that the target did not have the national acceptance that would help increase the acquirer's apparel sales. In fact, a big motivation to acquire Lands' End was to enhance its sales by reverting to a market in which it had, ironically enough, pioneered its marketing technique. However, following the merger, its sales fell short of expectations as Sears struggled heavily to properly integrate and manage the target. Further, according to former Sears executive, Mark Cohen in his Forbes article, Sears had no knowledge of the target's submarket and how to handle catalog selling in conjunction with its physical stores: "But the real crime Lacy & Co. committed wasn't overpaying for Lands' End, it was acquiring a business that they had no earthly idea what to do with." (Cohen, 2016) In addition, many were also concerned over the possible brand dilution it would face following its merger with Sears. According to Cohen, Sears had no idea how to protect the target's core business from that brand dilution. Sears was also in talks to sell off its credit card business to Citigroup for $3B. The deal was only announced one year after the Lands' End merger, which may have, thus, interfered and been the cause of Lands' End negligence. According to Mark Cohen, the target was continuously neglected and poorly managed by its different owners, including Sears.

Yet, despite all these concerns, which should have been properly identified and addressed well before the event announcement by the acquirer, Sears still proceeded with its acquisition that would eventually expose it to a takeover. Sears was subsequently acquired by Kmart two years later in 2004 in a move that ended up as a long-term disaster, resulting in the bankruptcy of the combined Sears Kmart entity. Before its merger with Kmart, in which it would retain its name despite being the acquired firm, Sears, according to reports, including Women's Wear Daily's, had put Lands' End for sale with a price tag of $1.2B, which had the sale materialized would have represented a net loss of 37% on its original investment, suggesting the company was not satisfied by the Lands' End merger. However, no sale for Lands' End went through and was finally spun-off in 2014. Many believed and still believe that Lands' End would have been a successful company were it not for its horrible management by its numerous parent companies and owners.

20. Encana Corp & Athlon Energy Inc

Ovintiv, then known as Encana, made a big pitch to penetrate Texas' oil-rich Midland Basin when it acquired Athlon for a total transaction value of $7.1 billion, including $1.15 billion of senior debt in 2014. Because of the lowering prices for natural gas, the newly appointed CEO, Doug Suttles, changed its firm's business strategy from natural gas to liquid oils, and subsequently made a series of moves in 2014 and 2015. In fact, the Athlon deal came just two days after Encana sold its remaining stake in PrairieSky Royalty for $2.6 billion which drew heavy criticisms from analysts. Encana had also sold its Bighorn assets in Alberta for $1.8B as part of the larger plan enacted by the new change in management. Further, following the merger in question, Encana, once again, sold assets, this time, its Jonah Field operations in Wyoming and proceeded to purchase assets in the Eagle Ford Group for $3.1 billion in May and June, respectively. Although part of a larger plan, the company lost focus and control over its crucial Athlon merger including its pre-merger planning and evaluation. Despite already having excessive debt, the acquirer would assume even more debt for a firm that struggled in generating value for its shareholders in terms of its

ROA and ROE. The target also had a significant and negative level of free cash flow at more than $1.2B. Encana had also, in the past, been subject of numerous controversies. Through numerous auctions with Chesapeake Energy, one of the largest natural gas producers in the States, Encana was able to pay significantly less, or around 88% less than the average price paid two years prior, per acre unit for oil and gas rights. After both Encana and Chesepeake were accused of bid rigging, Justice Department and Michigan authorities, as well as the Internal Revenue Service and U.S. Securities and Exchange Commission, launched investigations on whether state or federal laws were breached. In addition, Encana was also accused of potential harm due to proximity from its drilling operations and of excessive water use from lakes and rivers.

Overall, instead of weathering the storm of falling prices for natural gas, a market in which it was one of the largest players in the world and had ample knowledge and expertise, Encana panicked and decided to completely refocus its business strategy to a submarket in which it had little knowledge. Its decision was certainly confusing as falling prices were common in the industry. However, the new CEO, having little experience, rushed his decision to capitalize on the price cycle. In addition to the other compounding sources of failure, his decision contributed heavily to the firm's post-merger struggles. Its share price plummeted and reached a 13-year low in 2015. To counter its struggles, specifically with its large debt, the firm sold off numerous assets, including Haynesville assets for $850 million and DJ Basin properties for $900 million. Its efforts were in vain, though, as its stock continued to free fall, reaching a then all-time low in 2016. Tragically, from an approximate share price of $106 per unit before news of the event, the share price has free fallen continuously to what it is, at the time of writing, a meagre $2.90 per unit. In a deal about acquiring potential, it received the opposite, essentially, its death sentence.

21. Apple Inc & AuthenTec Inc

Apple, one of the biggest tech companies in the world, made one of its largest acquisitions in its history in 2012 when it purchased AthenTec for $356 million in cash to acquire its fingerprint technology to complement its market-leading devices. Apple, prior to the merger, did not have much experience in implementing change through acquisitions as the company, under the former regime of Jobs, placed a heavy emphasis on organic growth resisting acquisitions. In fact, former CEO, Steve Jobs, who died less than one year before the AuthenTec merger, strongly believed that going the inorganic route indicated a sense of defeat and surrender. The only major acquisitions undertaken during the 13-year regime of Jobs was the purchase of PA Semi for $278 million in 2008, Siri for an undisclosed sum but believed to be around $200 million according to multiple reports and Quattro for $275 million in 2010.

However, with the sudden passing of Steve Jobs in October 2011 and subsequent shift in the strategic leadership of the firm, Apple would focus more heavily on acquiring companies to innovate and improve its technology. As such, the sudden change in growth strategy took the market by surprise and was badly perceived. The firm did however make a similar and larger acquisition when it purchased Israeli tech company, Anobit, for $390 million in a cross-border deal just six months prior in January 2012. It also acquired Chomp, a search engine, for an undisclosed sum believed to be, according to Bloomberg, $50 million in February 2012 and C3 technologies, a 3D mapping firm, for approximately $273 million on October 20, 2011, right after the change in management. Effectively, the two largest mergers were completed after the end of the Jobs regime. The market also reacted adversely to the news of the market since it failed to

understand the fit of the companies and the reason of the acquisition. Many were skeptical stating that the technology was not new and relevant enough to shift from its organic strategy. Others pointed out to the company's lack of quarterly revenues, growth and negative returns on assets and equity.

Overall, even though the market did not agree, Apple saw a fit and proceeded with the transaction. With the acquisition, Apple would finally be able to securely enter and offer the mobile payment option to its smartphones users after previously being hesitant to do so by adding a layer of security through the recognition of fingerprint. The acquisition was also motivated to snatch up a company it feared would be purchased by its main rival Samsung, which formed a partnership with AuthenTec less than two weeks prior to the acquisition and were in talks about a potential acquisition. Talks between Apple and the target initiated in late 2011 to acquire the rights of the technology and ceased abruptly in May 2012 when Apple instead extended an offer for the company after not being satisfied with the progress of the negotiations centered around a commercial agreement. Desperate to speed up the process and acquire the technology to embed it in its soon-to-be released next-generation iPhone 6, Apple offered $7 the share, representing a 115% premium based on the target's day previous closing price on May 1. Talks terminated after Apple, strangely enough, performed due diligence after AuthenTec countered its bid asking more. It's unclear why Apple only decided to ensure due diligence, or stated to, months after talks initiated when they should have been done even before they started. Regardless, talks resumed, and a deal was finally agreed upon on July 26 and announced a day later, on the 27.

Apple faced constant criticism and controversies in the past for unethical business activities including anti-competitive behavior, shady tax practices, and, among several others, stealing original designs and claiming them as its own. In 2013, it was accused by a US senate report of not having paid corporate taxes over the past five years by using a Double Irish Arrangement. More importantly though, it was involved in one of the largest lingering litigation battles in history with its chief rival, Samsung, in several major countries, including the US and South Korea, the two major markets of each company, over the design of smartphones and tablets. By July 2012, the month of the merger, Apple was fighting in more than 50 lawsuits with billions of dollars in damages at risk.

22. Inverness Med Innovations Inc & BBI Holdings PLC

Inverness, a health care diagnostic campy, made its final acquisition of 2007, in December, when it acquired British company BBI in an all-stock deal valued about $170 million. The goal of the merger was to complement its existing business, including its R&D in the cardiac area, with the strengths of BBI in developing "proprietary protein markers and robust cardiovascular platform." (SEC (press release), 2007) However, when mergers are done in quick succession, it becomes significantly harder to ensure a full target evaluation as well as a post-merger plan on its integration, especially when involved in numerous unrelated mergers. Although the BBI merger was not an unrelated merger, it was part of a larger plan to substantially diversify the firm. In 2007 alone, the firm had committed itself to four other acquisitions with valuations of at least $10 million including its largest merger of Biosite in April for around $1.6B. It purchased Cholestech Corp for $350M in June, as well as HemoSense Inc and Matritech Inc for $180M and $38M, respectively, in August. Interesting enough, all of these acquisitions came after it had formed a 50/50 joint venture with Procter & Gamble for the development, manufacturing, marketing, and

sales of its consumer diagnostics products, marking a change in the firm's structure and may have shifted Inverness's strategic focus towards mergers and acquisitions. Other than its late 2006 acquisition of Panbio Ltd for $36M, its last and only acquisition since the start of the century was the purchase of Ostex International Inc for just $24M. Further, almost immediately following the BBI merger, Inverness announced yet another merger in early 2008 when it would acquire Matria Healthcare Inc for approximately $1.57B. Although the mergers were all concentrated in the same overarching industry that focused on the health, only one, the Matria acquisition, was a related merger. The rest were all moves that essentially diversified the firm in the numerous industries on the health. Further, its sudden increase in M&A activity caused the firm to accumulate huge levels of debt and very low levels of free cash flow, causing to firm to collapse under pressure and struggle in the post-merger integration process.

23. Daseke Inc and Aveda Transportation & Energy

Daseke, an American transportation company, continued its aggressive growth through acquisitions in April 2018 when it acquired two companies, including its largest merger with Aveda, a Canadian transportation company specialized in the secured movement of petroleum resources, for approximately $56 million in cash and stock. The second acquisition was announced just two weeks after the Aveda merger in May 2018. Further, the acquirer had gone public via an IPO in early 2017 and, to consolidate the transportation industry, acquired several but smaller companies, diversifying its services in the industry. In addition to its numerous acquisitions completed within a short period of time, the firm had also made significant changes to its management team, naming former CFO, Scott Wheeler, as the president in early 2018 and filling his prior position with Bharat Mahajan, the former CFO of Aveda in mid-2018. The wide gap between the promotion and the eventual replacement effectively meant that the Aveda merger was completed with no CFO in position. Then, a few months after the Aveda merger, in early 2019, appointed Chris Easter as the COO.

By penetrating the specialized transportation market, Daseke had essentially moved away from its core business and core strengths that made up the company and entered a niche market in which it lacked experience and knowledge. The combination of services offered no complementary synergies to the acquirer. Daseke had an already strong presence in the American market and, so, by acquiring Aveda, a poorly performing firm that had just suffered two difficult years and whose operations were almost entirely concentrated in the US market, the acquiring firm gained no true increased reach to its market presence. Further, its main intended source of synergies, which was to exploit the potential that the target had before the merger but could not do on its own, was simply not sufficient. Prior to the merger, Aveda would outsource 35% of its long-distance rig movers to other carriers as it lacked the necessary equipment and scale to do it itself. Consequently, by taking advantage of its equipment, Daseke could instead contract the runs and enjoy a larger source of revenue from the merger. However, with the rather large 176% four-week-prior premium paid to close out the deal, the added source of revenue would prove inadequate to salvage the value of the acquisition following the merger as the company would go on to struggle heavily in the long-term. Its stock price, which was valued at $9.17 the unit one day prior to the merger, would reach an all-time low a year and a few months later, on August 23, 2019, at a closing price of $1.55 the share.

24. Energizer Holdings Inc & Playtex Products Inc

In 2007, Energizer, an American consumers good company and one of the world's largest manufacturers of batteries, made its then largest acquisition with the merger of American personal care company, Playtex, which just recently purchased a sunscreen brand, Hawaiian Tropic, a few months prior, for $1.9 billion in cash. The merger was part of its larger plan of diversifying the company away from its core business to reduce its reliance on the battery market, which had experienced sluggish growth and was expected to decline heavily due to better substitutes and compete with consumer-products giant Procter & Gamble. Together with its earlier acquisition of Schick-Wilkinson Sword in 2003 for $930M, Energizer heavily weakened its financial picture and raised its debt to dangerous levels risking violating debt covenants. Prior to the merger, it had a gearing ratio of 3.43 and had more than $1.7B in debt. Following the merger, by assuming the target's debt, the acquirer had accumulated an additional $664M of debt and raised its gearing ratio by 2.39% to 3.51. In response, the firm was forced to increase its liquidity by issuing close to 11 million shares which, of the $510 million raised, only $235 million was used to pay down debt. The rest was used to finance the purchase of Edge and Skintimate. As a result, its buyback strategy to help improve its earnings was effectively hindered.

Its lack of research and innovation combined with its strategy to diversify the firm contributed to the firm's rather weak market presence in the rising popularity of the rechargeable lithium-ion batteries. These more advanced batteries were simply much superior substitutes and caused the significant decline of the alkaline battery market, the acquirer's core business. Further, following the merger, in early 2008, Playtex was forced to remove a certain chemical from its baby bottles after Canada was considering banning it due to a lawsuit filed by a mother accusing the company of failing to adequately disclose that its products contained bisphenol A, a dangerous chemical that may cause serious health issues. Similar concerns about the use of the potentially harmful ingredient, even at low levels, caused a significant number of parents to turn from the plastic bottles to glass bottles, which strained sales of the target firm right after the lucrative and ill-timed merger. Playtex was eventually spun-off with the other personal care divisions into a new publicly traded entity called Edgewell Personal Care.

25. Kroger Company & Roundy's Inc

Two years after its last megamerger, in which it had acquired Harris Teeter for $2.5 billion, that failed outright in less than two years, Kroger announced its next big merger when it had acquired Roundy's in a deal valued at $800 million, including more than $646 million of debt, in November 2015. By increasing its debt position by more than 7%, the acquirer had worsened its debt issues, which was only aggravated with subsequent mergers and investments. Just a few months later, Kroger formed a strategic partnership with Lucky's Market, an organic foods supermarket company, and committed a significant investment in its new partner. Its excessive debt led to its subsequent sale of 762 convenience stores to EG Group for $2.15 billion in February 2018 in a consolidated effort to reduce it. The merger was also adversely impacted by significant change in its management team and controversies regarding its complete tolerance of the open carry of firearms in its stores despite the publication of a study that identified numerous shootings in its physical locations. Further, even though its main goal with the merger was to reenter the Milwaukee market which it had previously abandoned in 1972, it acquired Roundy's that was primarily based in Wisconsin along with its other businesses including Mariano's, which only had a presence in Chicago, two states in which the acquirer already had a very strong presence. Therefore, offering little synergies and complementary assets. It had mainly increased its stores

count in states it already had a high number of stores. Further, instead of taking on more debt and paying a heavy premium of 46%, based on the four-week prior closing price, the acquirer could have simply opened its own stores in the state it desired to reenter. Finally, the key management team of the target were either all given other roles, excluding them from the management team of the combined firm, or retired, thus losing their expertise and knowledge of what made Roundy's successful.

The Biggest Failure in Merger History

The AOL Time Warner Merger

In perhaps the biggest failure and, certainly, largest merger in history, America Online, an American web portal and online service provider, merged with American mass media and entertainment conglomerate, Time Warner, in 2000, in a deal valued at a gigantic record-breaking $164.7 billion. stunning the financial world. in the hopes that the combination of each firms' strengths would dominate its rivals and launch the combined entity as the leader in the numerous internet industries and platforms, including its traffic rankings, which was held by Yahoo.com. The merger however failed enormously as the management core of the combined entity struggled heavily to integrate the two companies facing strong resistance from the employees and cultural clashes between the two workforces even though both were located in the same country.

The merger was a prime example as to why the planning and evaluation process is crucial for the successful execution of a merger, especially those of large scale. In fact, in 2005, AOL's founder and former CEO, Steve Case, declared the merger an outright failure and stated, in 2018, that "vision without execution is hallucination." (Feloni, 2018) Instead of effectively monitoring the ongoing and complex integration process, the management team of both companies, AOL and Time Warner, fought over control of the combined entity. Following the merger, Time Warner head, Jerry Levin, became the CEO of the combined entity whereas Case assumed the position of chairman. Yet, despite that, Time Warner executives were suspicious and believed that Case held most of the power. As a result, the trust between the two management teams broke down and turf wars erupted, ripping apart the unity and vision the merger badly needed to succeed. Subsequently, the intended goals from the merger that "Time Warner's music, movies and magazines along with its cable systems would speed up AOL's transition from phone dial-up to broadband, and that AOL's Internet mentality would accelerate growth at Time Warner," (Case, 2005) completely failed to materialize. Its management turnover issues only got worse as the company suffered through significant change as Levin was replaced by the company's president, Richard Persons, which upset many and created more chaos as we as a toxic environment in the management core.

The merger also demonstrated that external factors must also be understood and planned for prior to the merger process and negotiations. In fact, just two months after the merger, the dot-com bubble burst and sent the valuation of the combined entity in a freefall. Although impossible to accurately predict, the bubble was becoming more and more apparent as investors invested heavily simply because others would. Further, even though, the acquirer, AOL, acquired $1,722 million in free cash flow, it increased its debt position by a staggering 4,606.63%, accumulating an additional $18.1 billion of total debt. AOL also struggled heavily in innovation as it continued to provide an outdated technology in dial-up services that was rendered obsolete by the emerging broadband technology. AOL also struggled from a lack of control from its numerous previous mergers

including its acquisitions of Netscape, closed in March 1999, for $4.2 billion and MapQuest for $1.1 billion in December 1999.

In a way, both companies were being held up against one another and performed adversely because of each other's presence. Two years after the merger, AOL Time Warner reported the largest quarterly loss ever for an American company at a staggering $54 billion. Worse yet, just nine months later, the combined entity reported an overwhelming annual loss of $98 billion, which lead to even more significant management turnover as, among others, Case was forced to resign. Therefore, to no surprise, as early as 2005, the disastrous merger was called by many, including Case, who played an integral role in the orchestration of the deal, and Carl Ihcan, who had purchased a large stake, to split off into numerous offshoots. Finally, despite resistance from the board, its huge struggles resulted in the official split just nine years after its announcement in 2009 when both, AOL and Time Warner, became two separate companies. One of the most important lessons, in addition to the ones mentioned above, that one can extract is that even despite the apparent fit, a merger will almost always benefit more when the acquiring firm sticks to its core business and strengths. By merging with TW, AOL was distancing itself away from its roots of what made the company ever so successful. In 2015, AOL was sold to Verizon for a mere $4.4 billion after enjoying a valuation of $226 billion in 2000 before the crash of the dot-com bubble.