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An Investigation into Withdrawing From M&A Deals: Evidence from US

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An Investigation into Withdrawing From M&A Deals: Evidence from the United States

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DECLARATION

I hereby declare that this thesis is entirely my own work and that it has not been submitted as an exercise for a degree at any other University.

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ABSTRACT

Purpose: This study investigates whether managers withdraw from a M&A deal once they observe a negative cumulative abnormal return. Moreover, it assesses whether their decision changes with respect to factors such as the listing status of the firm, its macro industry, and target size.

Design/methodology/approach: Using a sample of 767 M&A US deals over the period 2005-2014 and applying an Event Study methodology, Cumulative Abnormal Returns (CAR) are calculated and introduced in a Logit model to assess the above mentioned matter.

Findings: Results show that managers do listen to the market when observing a negative CAR during the acquisition announcement period; hence, they withdraw from the takeover deal. Moreover, managers of firms who are acquiring a private target firm and/or a diversifying target firm ignore the market reaction, and the likelihood of deal cancellation does not change. However, whenever the target firm is a public firm and from the same industry, the likelihood of deal cancellation increases. Furthermore, there is simply no effect of CAR on the likelihood of deal cancellations in large acquisitions.

Research limitations/Implications: A theoretical implication for this study lies in examining the implications of the Agency Theory on manager's decisions. However, like any other research, this study faces some limitations, in particular, having more firm specific data, defining the characteristics of a private and public target, and defining the structure of acquirer firm.

Practical implications: A practical implication for this study lies in informing decision makers of the different variables affecting the likelihood of withdrawal or success of M&A deals.

Originality/value: Despite the academic attention paid to the subject of M&A, there is a research gap in studying whether managers listen to the market. Hence, this study attempts to fill this gap by constructing a comprehensive model that assesses the effect of identified variables on the decision to withdraw or stay.

Keywords: Mergers and Acquisitions, Cumulative Abnormal Return, Agency Theory, Efficient Market Hypothesis.

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Chapter One: Introduction

1.1 Introduction

This chapter aims at introducing the topic of this research study, its originality and contributions. Section two provides a general background about the topics of interest, mainly that of mergers and acquisitions (M&A). Later in section three, the purpose of this research study is introduced. In the following section, the originality of this research is highlighted. Section five summarizes the main findings of this research, and section six discusses how this research contributes to the findings of previous researches. Finally, section seven presents the structure of the study.

1.2 General Background

Mergers and Acquisitions have long been persisting as a popular form of corporate development for various reasons, including but not limited to, expanding the geographic reach of the firm, expanding its customer base, entering a new line of business, searching for more profitable operations, and better competing in the market. According to the Institute for Mergers, Acquisitions, and Alliances (IMAA) more than 300,000 M&A transactions have been announced since 1985, with a value of approximately USD 33,200 billion. Moreover, according to IMAA, the value of M&As grew by 6.51% annually from 1985 to 2015. Previous studies show that target firm enjoys significantly positive returns of 20-40% during the announcement period (Song and Walkling, 1993; Bauguess, Moeller, Schlingemann and Zutter, 2009). As to the acquirer firm, previous studies show that acquirers realize negative to zero abnormal returns during the M&A announcement period (Andrade, Mitchell and Stafford, 2001). This complex phenomenon of M&As has received the attention of different management disciplines including financial, behavioral, and strategic aspects of this activity. Different financial and market studies have been dominating the M&A literature in the past years, most of which concentrate on USA and UK M&As (Cartwright, 2005).

Numerous theories exist in the literature of M&A explaining the motives behind such an activity. The most common are the synergy theories, the agency theory, the hubris theory, and the efficient market hypothesis theory. The synergy theory suggests that

synergy occurs when there is an improvement in efficiency and an increase in market power, hence, when two firms are combined, the newly-formed firm produces a higher return than the two stand-alone firms (Jensen and Ruback, 1983; Bradley, Desai and Kim, 1988). The agency theory suggest that agency problems arise when the appointed agents act for their own welfare rather than the firm's welfare. Related to this theory, the hubris hypothesis explains how managers commit mistakes and engage in M&A deals that do not lead to synergies. One of the main reasons for the hubris hypothesis is that managers aim at building their own empire, and make use of the firm's earnings and assets for their self-interest and self-comfort. Moreover, studies that examine the market performance of firms rely on the efficient market hypothesis theory with its three forms: weak market efficiency, semi-strong market efficiency, and strong market efficiency. Each of the types of market efficiency is tested using a different methodology, and based on the type of the market, decision makers make use of accessible information in the market to make investment decisions.

1.3 Purpose of the Study

Mergers and acquisitions nowadays have become a common practice used for companies willing to compete in a fast-pace global economy and are one of the most important corporate strategies. The topic of this research investigates whether managers listen to the market when taking M&A decisions, that is, whether they withdraw from the M&A deal once they observe a negative cumulative abnormal return during the announcement period. Moreover, this research attempts to study the factor that could affect manager's decision. These include, but are not limited to, the public status of the firm, the relative size of the target firm, the macro industry of the acquirer and target firms, acquirer CAR, the deal value, the market value of the acquirer and target firms, the payment method, target firm' total assets, and the standard deviation of the acquirer. This paper tests the significance of each of these variables and accordingly measures its effect on manager's decision of withdrawing from the M&A deal. Hence, this research attempts to answer the following four questions:

- Do managers withdraw from a takeover deal once they observe a negative cumulative abnormal return?

- Whenever a negative cumulative abnormal return is observed, are private targets less likely to be cancelled than public targets?
- Whenever a negative cumulative abnormal return is observed, are diversifying deals less likely to be cancelled than non-diversifying deals?
- Whenever a negative cumulative abnormal return is observed, are targets that are relatively large to the acquirer more likely to be cancelled than small targets?

1.4 Originality of the Study

A broad range of research studies exist about the topic of M&As. Several researchers have examined the CAR during the announcement period (Song and Walkling, 1993; Bauguess, Moeller, Schlingemann and Zutter, 2009, Andrade, Mitchell and Stafford, 2001). Others have studied the factors that could influence M&A deals (Chang, 1998, Myers and Majluf, 1984, Morck, Shleifer and Vishny, 1990, Fuller, Netter and Stegemoller, 2002). Despite the academic attention paid for the subject of M&A, there is a research gap in studying the manager's decision of withdrawing from an M&A deal when observing a negative CAR. Hence, the originality of this research lies in filling this research gap by using different variables and an original model to inform decision makers about the effect of each of the studied variables and help them make better business decisions related to M&A deals.

1.5 Major Findings of the Study

This research finds evidence that managers withdraw from a takeover deal once they observe a negative cumulative abnormal return during the acquisition announcement period. Moreover, whenever a negative cumulative abnormal return is observed, public targets are more likely to be cancelled than private ones. However, a private target acquirer ignores the market reaction, and the likelihood of deal cancellation does not change. In addition, empirical results show that non-diversifying deals are more likely to be cancelled than non-diversifying ones. However, the acquirer of a diversifying firm ignores the market reaction and the likelihood of deal cancellation does not change. Lastly, this paper provides evidence on cumulative abnormal return simply having no effect on the likelihood of deal cancellation in large acquisitions.

1.6 Implications and Contributions to the Literature

The results of this study present important theoretical and practical implications. On the theoretical level, the originality of the model being used and the use of the different variables in the model open an avenue for future research to further explore the causal relationship between each of the variables and the manager's decision of withdrawing from an M&A deal. Moreover, a theoretical implication for this study lies in examining the implications of the Agency theory on manager's decisions. Furthermore, a practical implication for this study lies in informing decision makers about different variables affecting on the likelihood of withdrawal or success of M&A deals.

From a different angle, this research paper has various contributions to the literature. First, it examines the CAR of the acquirer firm during the acquisition announcement period. It then measures the effect of this CAR on the success/failure of the takeover deal. Moreover, the results of this research support those of previous research that found negative cumulative abnormal returns around the announcement day. In addition to that, this research also contributes to the finance literature since it measures the acquirer CAR during the announcement period using various methods. Also, it is worth mentioning that this research contributes to the strategy literature which studies the advantages and disadvantages of corporate strategies such as M&As. Moreover, this research contributes to filling a certain gap in the literature as it informs decision makers of the effect of each variable on the likelihood of withdrawing from a deal once observing a negative cumulative abnormal return.

1.7 Structure of the Study

The rest of the thesis is structured as follows:

Chapter two presents the relevant literature review. Section two in this chapter discusses the different perspectives to M&As. Section three discusses the theoretical underpinnings of this research and further explore the factors involved in M&A deals. Moreover, this section explains different theories of M&As. Section four concludes.

Chapter three explains the methodology used in this research. Section one discusses the philosophical paradigms of this research. Section three discusses the research orientation of this study. Research strategy and design are discussed in section four. Section five provides the hypotheses development. Section six explains the event study methodology. Section seven discusses operationalization and the logistic regression model used in this research. Section eight concludes.

Chapter four reports and analyzes the results of the study. Section two discusses a brief introduction to the analysis framework followed by providing the descriptive statistics in section three. Section four reports the empirical results and compares them to the findings of previous studies. Section five concludes.

Chapter five provides conclusion for this study and opens a research window for future research. Section two summarized the results of this study. The validity of the results are discussed in section three. Section four discusses the limitations of this research. Section five highlights the theoretical and practical implications of this study. Section six provides suggestions for future research.

Chapter Two: Literature Review

2.1 Introduction

The literature chapter identifies and reviews previously published works of other scholars which provide the reader with a theory base and analysis of those works. It interprets major issues surrounding the topic of the thesis. Moreover, writing a chapter on literature familiarizes the reader with the information that are relevant and similar to the study being presented.

The topic of this research investigates whether managers take into consideration the market's reaction when taking Mergers and Acquisitions (M&A) decisions, that is, whether they withdraw from the M&A deal once they observe a negative Cumulative Abnormal Return (CAR). Mergers and acquisitions nowadays have become a common practice used for companies willing to compete in a fast-pace global economy. A merger can be defined as independently owned firms that are about to join under the same ownership, whereas acquisition is an ownership of another firm's assets, without a change in legal name or structure (Shy, 1995). Sherman and Hart (2006) explain that this distinction may not matter, since the end result will be two firms that had separate ownership operating as one firm after the takeover deal takes place. Many companies in the U.S. have used this strategy aiming to achieve growth, competitive advantage, financial gain, and entry to new markets. Mergers and acquisitions have been a popular element of corporate strategy, mainly to pursue goals and objectives related to strategic growth (Gaughan, 2005). A comprehensive literature review on M&As helps in extracting the main factors that affect manager's decisions which are discussed in the following chapters.

The remainder of this chapter is organized as follows. Section 2 discusses Mergers and Acquisitions in the literature. Section 3 discusses the theoretical underpinning along with the theories of M&A. Finally, Section 4 concludes the chapter.

2.2 Mergers and Acquisitions in the Literature

Mergers and Acquisitions in the literature have received extensive research attention from several disciplines, in particular, economics, finance and accounting, marketing, and sociocultural. Each discipline looks at M&A from a different angle, mainly discussing and identifying the causes and characteristics of M&As, as well as the gains and losses resulting from the takeover deals. The following paragraphs discuss the main M&A perspectives found in the literature.

2.2.1 Marketing perspective to Mergers and Acquisitions

Marketing issues in M&A are important for the merging firm's performance. For instance, Bekier and Shelton (2002) report that there may be risk of losing clients when engaging in M&A activities. When two companies are in the merging phase, more focus is given on managerial energy and this might lead managers to disregard customer related tasks (Hitt, Hoskisson, and Ireland, 1990). This, in turn, could lead to uncertainties about future customer relationship with the merging firms. In this line, it is important to evaluate the performance of the firm after the M&A takes place.

Firm performance can be measured by two dimensions which are efficiency and effectiveness (Neely, Gregory, and Platts, 1995). These two dimensions can be used to measure as well marketing performance, where marketing effectiveness means the extent to which the firm's marketing goals are met, and marketing efficiency defines the relationship between outputs and the inputs needed to achieve them (Sheth and Sisodia, 2002). Hence, greater efficiency means using less resources to achieve desired goals, and therefore lowering costs and achieving better financial returns. For instance, lowering the cost of selling and advertising relative to sales provides the firm with higher profits.

Stewart (2009) argues that marketing discipline will fail if the firm could not link the marketing activities to its financial performance. There are several financial measures included in the literature, such as sales revenue, sales growth, marketing productivity…, etc.

2.2.2 Finance and Accounting perspective to Mergers and Acquisitions

The finance and accounting perspective to M&As identifies several factors when assessing a takeover deal's successfulness, such as synergy, which has impact on both revenues and cost efficiency. In this line, M&As should aim at maximizing shareholder's wealth, meaning the future value of the combined firm needs to be greater than the sum of the future values of the two firms separate. However, considerable research evidence exists to indicate that M&As have a poor record of success simply because the hoped synergies are rarely realized (Ficery, Herd, and Pursche, 2007; Homberg, Rost, and Osterloh, 2009).

From a different angle, accounting research evaluates the operating performance of the merged firm, which includes profitability and efficiency changes in the combined firm following the merger. These types of research examine operating margins and return on assets over different years to measure the success of the takeover deal. In general, results of this research stream have not provided a clear result of improved performance. For instance, a study conducted by Dickerson, Gibson and Tsakalotos (1997) shows that in a sample of 2941 M&A deals in the US, non-acquiring firms outperform acquirers by almost 2.4% per annum. Moreover, Lu (2004) after examining 592 US M&A deals for a period of 60 months before and after the M&A, reports a negative industry adjusted ROA. King et al. (2004) measure the performance of the acquiring firms by return on equity (ROE), return on assets (ROA), and Return on Sales (ROS) over different event windows. The results show that after the announcement of the merger, all abnormal returns for the acquiring firms are either insignificant or negative and thus conclude that performance outcomes are not realized by acquiring firms. In contrast to these studies, some studies such as Healy, Palepu and Ruback (1992), Manson, Stark and Thomas (1994) report that M&A may improve a firm's performance. For example, Healy, Palepu and Ruback (1992) after studying the post-acquisition performance of 50 large US firms from the period 1979 till 1984, find that the firm's performance has been significantly improved and thus leading to higher operating cash flow returns for the acquirer firm for the following 5 years.

2.2.3 Macro-environment perspective to Mergers and Acquisitions

The macro-environment characteristics of both the target and acquirer firms affect the performance of the merged firm. These include the level of market activity, regulations, and cultural differences, which have significant impact on the returns of both firms. For instance, previous studies such as Rhodes-Kropf et al. (2005) and Bouwman et al. (2009), show that the M&A market is more active when stock markets are booming comparing to times when the market is depressed. According to Bouwman et al. (2009), acquirers who engage in takeover deals during high-valuation markets end up having higher announcement period returns, however, they have lower long-run abnormal stock and operating performance. Moreover, evidence from research suggests that a variation in rules and regulations affects the firm's value (La Porta et al., 1999, 2002, 2008).

2.2.4 Sociocultural perspective to Mergers and Acquisitions

Recent studies on the topic of M&As have increased the importance of examining the role of sociocultural factors in such activities (Weber and Fried, 2011; Stahl et al., 2013). There are several important topics in sociocultural M&A studies which include interfirm linkages (Birkinshaw, Bresman, and Håkanson, 2000; Björkman, Stahl, and Vaara, 2007), Culture (Teerikangas and Very, 2006; Stahl and Voigt, 2008), and Human Resources (HR) (Schuler and Jackson, 2001; Aguilera and Dencker, 2004).

Interfirm linkages could be an important source of competitive advantage for firms. These include resource endowments, knowledge-sharing routines, and relation-specific assets (Dyer and Singh, 1998). Complementary team skills are an important source of complementary endowments, cooperative teaching is an important source of sharing knowledge, and cultural integration characterizes the effective side of M&A governance. Successful transfer of knowledge between the acquiring firm and the target firm will constitute competitive advantage, and hence contribute to the performance of the M&A.

Developing these kinds of sociocultural linkages is pretty challenging, yet they are crucial for building a strategic and operational link between the M&A firms. The sociocultural literature on M&A in the area of Human Resources (HR) focuses on understanding and examining employees' psychological and behavioral reactions to acquisitions. M&As may increase destructive reactions from employees such as

ambiguity (Risberg, 2001; Vaara, 2003), anxiety (Ivancevich, Schweiger, and Power, 1987), and lack of commitment to the organization they work for (Cartwright and Cooper, 1996). These reactions may be due to material and identity threats. The sociocultural M&A literature also argues that HR practices should be vertically aligned with the acquisition strategy (Aguilera and Dencker, 2004), and the stage of the acquisition process (Ivancevich et al., 1987; Schuler and Jackson, 2001). Moreover, HR practices should as well be horizontally aligned to reinforce each other and hence avoid conflict in different roles of the HR function.

Finally, organizational cultural differences have also gained an importance in the sociocultural M&A literature. Researchers argue that cultural differences in the organizations, such as shared assumptions, values, and norms between the employees of both target and acquirer firms tend to prevent M&A value creation (Cartwright and Cooper, 1993; Stahl and Voigt, 2008).

2.3 Theoretical Underpinnings

The number of M&As has been increasing significantly over the years, and the reason why firms have been engaging in M&As is because they expect to create value by merging with another firm, thereby having better efficiency, reducing costs through economies of scale, having larger product offerings and other types of synergies which are discussed in Section 2.3.1. However, with all the benefits that M&As have to offer, firms willing to engage in such activities need to consider the actual effects, costs, and probability of success before taking a final decision.

In determining the likelihood of success of the M&A deal, managers tend to examine the cumulative abnormal returns of the firm during the announcement period. Empirical evidence shows that the target firm enjoys significantly positive returns of 20-40% during the announcement period (Song and Walkling, 1993; Bauguess, Moeller, Schlingemann and Zutter, 2009). On the other hand, acquirers realize negative to zero abnormal returns during the M&A announcement period (Andrade, Mitchell and Stafford, 2001). However, recent evidence shows that acquirer firms do gain from the M&A deal as they pay lower premiums (Bradley, Desai and Kim, 1988; Mulherin and

Boone, 2000; Bhagat, Dong, Hirshleifer and Noah, 2005; Alexandridis, Petmezas and Travlos, 2010).

Returns of the target and the bidder are influenced by several factors that include the public status of the firm (Chang, 1998), method of payment (Myers and Majluf, 1984), industry relatedness (Morck, Shleifer and Vishny, 1990), and relative size of the target (Fuller, Netter and Stegemoller, 2002).

Target size is an important factor that influences the returns of the target and bidder firm. It is usually measured by the value of the company's assets, the firm's revenue and the number of employees, and accordingly firms are classified as small, medium, or large enterprises. Previous studies have found contradicting results for the impact of company's size on M&A success. For instance, Ahuja and Katila (2001) have found that the success of a takeover is higher when the target and acquirer are similar in size. Others, such as Bruton et al. (1994) and Fuller et al. (2002) have found that that success of a takeover is higher when the target company is smaller than the acquirer. In general, the cost of acquiring a smaller firm tends to be relatively low, and the integration process of the two firms is much simple. Thompson (1997) and Focarelli et al. (2002), after conducting a research around this topic, found that size relates inversely to the probability of being acquired, and that larger premiums are paid for smaller firms. Therefore, the greatest cost reductions derived from economies of scale include the merger and acquisition of smaller firms. As for mergers between large firms, their motives should extend beyond economies of scale and include other motives such as achieving a superior competitive position and reducing inefficiencies.

Moreover, the public status of the firm also influences the returns of bidder and target firm. According to Isa (2011), the abnormal returns are much higher when acquiring a public firm rather than a private firm. On the other hand, Hansen and Lott (1996) and Fuller et al. (2002) have found that private targets yield a higher abnormal return for the bidder firm than public targets. Hansen and Lott (1996) offer an explanation for why private targets yield higher returns than public targets. They state that whenever a public bidder acquires a private target, because of diversification, the goal of the manager will not only be to maximize shareholder value, but also to maximize the value of the

shareholder's portfolio. This way, the bidder firm's shareholders will capture part of the gains of the acquisition assuming the bid will eventually create value.

Further, another factor that influences target and bidder returns is the method of payment. For instance, some researchers such as Martynova and Renneboog (2008), and Ismail (2008), have found that cash acquisitions generate higher returns than stock acquisitions. An explanation for this could be that when the method of payment is cash, the value of the bid to target shareholder is known, hence, shareholders will have more information to figure if the acquirer's shares are underpriced or overpriced and will make their decision to accept or reject the bid. Therefore, whenever managers believe the shares are underpriced, they will want to pay for stocks in cash because they believe the shares will be worth more after the synergies are realized from the M&A. On the other hand, Travlos (1987), Wansley, Lane and Yang (1987) have shown contradicting results, where the acquirer firms earn negative abnormal returns when the method of payment is cash. Martin (1996) finds that whenever there is uncertainty about the bidder firm, stock offers are more likely to be used. Therefore, whenever acquirers are less confident about the firm valuation, they will be willing to pay in stock rather than cash in order to share some of the risk of the M&A with the target firm.

Furthermore, the industry relatedness of the firms affects the returns of target and bidder firm. The existing literature provides several theories as to why diversifying mergers and acquisitions occur, such as the market power theories (Bernheim and Whinston, 1990; Villalonga, 2000), the internal capital market theory (Williamson, 1970), and the agency theories (Amihud and Lev, 1981) which are discussed in the following paragraphs explaining how they affect manager's decision of withdrawal from the M&A deal. Previous studies have shown contradicting results regarding industry relatedness affecting the returns of both target and bidder firms. It is believed that related mergers often outperform unrelated mergers. This is mainly because managers of unrelated mergers are assumed to have been achieving their own goals at the expense of the shareholders (Morck, Shleifer & Vishny, 1990) and derive other private benefits such a power, prestige, and privileges of running a more diversified firm and improve their career prospects (Jensen, 1986; and Stulz, 1990).

From a different perspective, Kau et al. (2008) have conducted a research to see whether or not manager listen to the market, that is, managers can observe how the market reacts to their decisions and therefore this will help them in taking takeover decisions. In their research, they have found that managers do in fact listen to the market when making major decisions, and deals that the market had predicted to have higher returns were completed comparing to those that the market had predicted to have lower returns. Jennings and Mazzeo (1991) suggest that managers do not consider information provided by the market in M&A decisions, while Luo (2005) suggests that firms extract information from the market reaction to Mergers and Acquisitions announcement and later consider it in taking a final decision, hence, managers do "listen" to the market when taking decisions.

2.3.1 Theories

Over the past two or three decades, experts and intellectuals have attempted to present reasonable arguments explaining the motives behind M&As. Among the numerous theories existing in the literature of M&As, the most common are those of synergy, agency, hubris, and efficiency theories.

2.3.1.1 Synergy Theory

Synergy occurs when there is an improvement in efficiency and an increase in market power, hence the return of the combined two firms is higher than that of the two individual firms (Jensen and Ruback, 1983; Bradley, Desai and Kim, 1988). A major type of synergy is operating synergy relating to economies of scale and economies of scope, whereby the combined firm has a wider range of products to offer to the market. In addition, financial synergy is source of synergy where the merged firm has attained higher profits and larger growth opportunities by combining the capital of both firms.

Harford (2005) states that managers, when involved in M&As, have to react according to economic and technological changes in order to improve the performance of the combined firm. For instance, assuming a new technology is introduced in the market, and a firm not having access to this new technology might merge with another firm which has this technological expertise and therefore create positive synergy.

According to Brown (2005), the sources of synergy resulting from M&As are Operating economies, market power, financial gains, and others. Operating economies include economies of scale. For instance, a conglomerate merger can benefit by offering diversified products to the market, reducing marketing costs, financial costs, and hence increase profits for the firm. Market power enables firms to obtain a degree of monopoly power which could in turn increase the firm's profitability. Merged companies could coordinate together and gain a competitive advantage. Financial gains could be achieved by for instance sharing the same building, having more office supplies, equipment, and a stronger research and development team, thereby reducing costs and improving performance. Other types of synergies include incorporating the efforts of both management teams and therefore adding value to the company. Therefore, the synergy factor prevails in the M&A when the merged firm produces a higher return than the two stand-alone firms.

2.3.1.2 Agency Theory

According to Jensen and Meckling (1976), agency relationship is an agreement under which a certain party (the principal) appoints another party (the agent) to perform a certain job on their behalf, thereby delegating a decision-making authority to the agent. Agency problems arise when these appointed agents act for their own welfare rather than acting on the welfare of the firm and aiming at maximizing shareholder's wealth. Jensen and Meckling (1976) argue that this principal-agent problem can be reduced by increasing managerial incentives, hence, managers will be willing to take value maximizing decisions for the firm. They have proposed a moral-hazard explanation for agency conflicts explaining that as the manager's ownership stake in the company decreases, his incentive to build his own empire increases rather than investing in positive NPV projects. Moreover, moral hazard problems are related to lack of managerial effort. When managers have a minor equity stake in the company, their incentive to work may decrease.

Another explanation for agency conflicts is the earnings retention agency conflicts. Jensen (1986) argues that managers prefer to retain earnings comparing to shareholders who prefer higher levels of cash distributions. By retaining earnings, managers benefit

from greater power, prestige, and higher remuneration (Jensen, 1986). Evidence on this strategy suggests that it is harmful to shareholder's wealth.

Moreover, time horizon explains the agency conflict by stating that what may concern managers is the firm's cash flows for the period of their employment only, whereas that of shareholders may be all the future cash flows of the firm. This conflict is greatest as top executives approach their retirement, or have made plans of leaving the company. For instance, Dechow and Sloan (1991) have found that research and development expenditures tend to decrease as top executives approach retirement. In addition to that, Weisbach (1988) has found that accounting earnings are higher priorto top executives leaving their position, hence, the problem of earnings manipulation arises.

A final explanation of agency conflict is managerial risk aversion, which explains that conflicts may occur because of portfolio diversification constraints with regard to managerial income. According to Denis (2000), the majority of a firm's manager's human capital is tied to the organization they work for, hence, their incomes depends on the performance of their company, and the company's directors will be seeking to minimize the risk of their company's stock and therefore avoiding investment decisions which would result in negative returns. In certain cases, bad investment decisions may lead the company to go bankrupt, and hence this will severely damage the manager's reputation.

2.3.1.3 Hubris (Managerial Overconfidence) Theory

The Hubris hypothesis was first introduced by Roll in 1986. It assumes the market to be efficient, and suggests that managers engage in M&A deals due to overconfidence regarding their ability to create value. Empirical evidence shows that managers affected by hubris, in fact, are more likely to destroy value rather than creating one (Malmendier and Tate, 2008). An example of overconfidence is takeover premium. Managers tend to be overconfident as they pay high premiums, which could result in negative returns for the bidder firm thereby benefiting the shareholders of the target firm (Hayward and Hambrick, 1997). In addition, Doukas and Petmezas (2007) suggest that managers who engage in multiple acquisitions (5 or more) during a short period of time (3 years) tend to be overconfident, since they wouldn't be able to evaluate the potential synergies and

to negotiate efficiently, leading to destruction in shareholder value. A reasonable assumption of overconfident managers is that once they have made a strategic choice, managers will stop searching for other options and/or ignore any new information (Erixon, 2006). Moreover, managers who have made their decision, even if they did not ignore new information, will interpret this new information in a way that confirms their initial choice (Rabin, Rabin and Schrag, 1998, 1999).

2.3.1.4 Efficient Market Hypothesis Theory

Firms engage in M&A deals for several motives such as growth and expansion. Studies conducted on M&A investigating the market performance of the firms rely on the theory of Efficient Market Hypothesis (EMH). Fama first introduced the EMH theory in his PhD dissertation in 1960 (Gandhi et al., 2013), where he suggested that stock prices compound all existing information (Fama, 1991).

A market is said to be efficient when investors cannot outperform their competitors by generating abnormal risk-adjusted returns in a consistent manner. In order to maximize their wealth, investors make use of the accessible information for trading purposes. These are called the technicians. The most basic tools available for investors in the market are the historical price patterns and the volume data of the assets. Other types of information available to investors are public announcement made by the companies about their performance. Technicians outperform the market whenever the price of the asset follows a certain trend, i.e. opposite to a “random walk”. Random walk was defined by Fama in 1970 as price changes being independent over time. Kendall (1953) analyzed the time-series behavior of 22 economic series from 1883 to 1934 and concluded that stock prices are unpredictable and that correlation between the series are weak. Fama (1965, 1970 and 1991) review the random walk of asset prices and introduces three different forms of market efficiency under the EMH.

1. Weak market efficiency: where the market price fully reflects all publicly and historically available information.
2. Semi-strong market efficiency: where the market price reflects all publicly available information, such as, corporate earnings, stock splits, etc.

3. Strong market efficiency: where not only does the market price reflect all information, but also insider information is reflected in the stock price.

Therefore, technical analysts who review price charts and volume data when making investment decisions cannot earn positive returns in a consistent manner when the market is weak-form efficient. On the other hand, analysts who study company performances and macroeconomic forces cannot outperform a market which is semi-strong form efficient.

Each of these three forms of market efficiency has a testing methodology. For example, testing for weak market efficiency, as proposed by Howden (2009), includes testing for price volatilities and seasonal effects on returns, testing the forecasting power of previous returns such as interest rates and dividend yields. Semi-strong market efficiency is tested using the event study methodology. Strong market efficiency is tested by studying the presence of private information.

2.3.1.5 Other Theories

Market Power Theory

The market power theory argues that two firms situated in different markets can work together to attain market power (Bernheim and Whinston, 1990). This way, both firms could engage in different pricing tactics, thereby controlling prices and quantity of products available in the market (Seth, 1990). In addition, firms could increase their market power by acquiring other firms with the same product and market, or by acquiring firms with different product lines and different markets (Singh and Montgomeri, 1987).

Internal Capital Market Theory

Internal capital market theory argues that firms who have limited funds available for investment simply because external funds cost more than internal ones, could allocate their funds with those of other firms and maximize shareholder wealth (Williamson, 1997). This theory enables diversified firms to fund profitable projects because of

information asymmetries and agency costs. Several studies have showed that diversifying M&As decrease shareholder wealth (Morck, Shleifer, and Vishny, 1990; Berger and Ofek, 1995). On the other hand, Lamont (1997) shows that the success of a firm's division depends on the success of its other diversified divisions. In his study, he found that investment in non-oil divisions of petroleum companies fell when the cash flow of its oil division decreased because of the large drop in oil prices.

2.4 Conclusion

To conclude, the need for constant change in today's dynamic business environment drives firms to look for expansion by acquiring or merging with other firms aiming at creating value at a lower cost. However, this value creation process is somehow difficult, and this difficulty is attributed to differences in the firm's culture, operations and management ideology.

There are different perspectives that need to be taken into consideration when firms are willing to engage in M&As, which are the marketing perspective, Finance and Accounting perspective, Macro-Environment perspective, and Sociocultural perspective. Moreover, returns of the target and the bidder are influenced by several factors such as the relative size of the target, the method of payment, the public status of the firm, and industry relatedness. As for the target size, it is believed that size relates inversely to the probability of being acquired, and often larger premiums are paid for acquiring smaller firms. Moreover, economies of scale is a major motive for acquiring smaller firms, however, for larger firms, the motive should extend beyond this and include other motives such as enhancing competition and reducing inefficiencies. As for the public status of the firm, private targets are believed to yield higher returns than public targets mainly because the manager's goal will now be to maximize the entire shareholder's portfolio. Moving on to method of payment, it is assumed that cash offers yield higher returns than stock offers, because whenever managers believe the shares are underpriced, their will pay in cash and benefit from the rise in stock price achieved through synergy. Lastly, several theories explain the motives behind engaging in diversifying deals such as the market power theory, the agency theory, and the internal capital market theory.

There are also different theories in M&A literature. M&As should create synergy, meaning the combined firm will have higher profits, lower costs, a wider range of products to offer to the market, and hence the merger would create value to both firms, however, it is essential to be aware of agency problems, whereby managers act in their own interest instead of focusing on the company's' shareholder's welfare, and where managers do not take the market's reaction to their decisions into consideration. Moreover, the efficient market hypothesis theory assumes investors to be rational decision makers along with assuming that prices reflect all available information. The EMH exists in three different forms which are the weak form market efficiency, semi-strong form market efficiency, and strong form market efficiency.

Chapter Three: Methodology

3.1 Introduction

Chapter three explains the methodology applied in satisfying the objective of the study, which is to assess whether managers withdraw from a takeover deal once they observe a negative cumulative abnormal return during the announcement period. Section two highlights the philosophical paradigms of this study. Section three discusses the research orientation of this thesis. Research strategy and design along with sampling size and procedures are discussed in section four. The development of the research hypotheses are introduced in Section five. Section six discusses the operationalization process. Section seven discusses the event study methodology. Section eight concludes.

3.2 Philosophical Paradigms

A paradigm refers to "a system of ideas used by researchers to generate knowledge" (Fossey, Harvey, McDermott, and Davidson, 2002, p. 718). Researchers are ought to choose a research paradigm that is similar to their beliefs about the nature of reality in order to ensure a strong research design (Mills, Bonner, and Francis, 2006).

3.2.1 Ontology and Epistemology

The two most important research paradigms used by researchers are ontology and epistemology. Ontology is concerned with the nature of reality, and the eternal ontological debate is whether things exist independently of our mind, or whether the world is something constructed from our thoughts (Burrell and Morgan, 1979). One extremity of ontological debate is concerned with objective realism. It assumes that there exists an objective reality independent of human beliefs and that we can understand this reality through the laws by which it is governed. On the other extreme, a subjective ontological position, solipsism, assumes that reality does not exist, and argues that human's world is fully shaped by human's mind (Holden and Lynch, 2004).The aim of this research is to study whether or not managers listen to the market when taking major takeover deal decisions, and the market's reaction to the acquisitions announcements will be measured by cumulative abnormal returns, and hence can be perceived as an external reality that will be studied using measurable proxies.

Epistemology is concerned with the nature of knowledge and possible ways to acquire knowledge; it is “a way of understanding and explaining how I know what I know” (Crotty, 1998, p. 3). Two major research philosophies under epistemology are positivism and interpretivism (Bryman and Bell, 2011).

3.2.1.1 Positivism and Interpretivism

Positivists believe that reality is stable and that it can be observed from an objective viewpoint (Levin, 1988). They argue that the goal of knowledge is simply to describe the phenomenon that we experience, by sticking to what we can observe and measure (Trochim, 2000).On the other hand, interpretivists would not put great importance on generalization of the findings. Moreover, interpritivists aim to understand the subjective rather than the objective reality of the subject being studied, though at the same time understanding the motives, actions, and interpretations of the research participants (Saunders et al, 2011). This study uses the positivist approach. A key characteristic of positivism is placing empirical knowledge over other forms of knowledge (Ritchie, 2013). This study aims at investigating whether managers listen to the market, whether or not they withdraw from a takeover deal once they observe a negative cumulative abnormal return, and if there is a positive cumulative abnormal return once they withdraw. Therefore, the cumulative abnormal returns of all US companies that engaged in M&A s from the period 2005 till 2015 will be observed. Hence, this study relies on empirical observations which are a key characteristic of positivism.

3.3 Research Orientation

Research approach is defined as the way a researcher involves a certain theory in his/her research. The two basic approaches of reasoning in research are deductive and inductive approaches of reasoning. Deductive reasoning moves from more general to a more specific statement. It begins with stating a theory, narrowing it down to into more specific hypotheses, then it collects the observations needed to test the hypotheses and finally accepts or rejects the hypotheses (Trochim, 2000). On the other hand, inductive reasoning works in the opposite way, moving from more specific observations to more general theories. This type of reasoning starts with collecting observations, detects

patterns, formulates hypotheses and finally ends up with some general conclusions and theories (Trochim, 2000). This study follows a deductive approach of reasoning. It starts with developing the hypotheses based on existing theories, and then designs a research strategy to test the hypotheses. After statistically testing the verifiability or falsifiability of each hypothesis along with analyzing the results, the objective of the paper will be met and the research questions will be answered by ending up with a general conclusion. Moreover, a key element of deductive reasoning is generalization. Therefore, a large sample is required to be able to generalize the results. This research is conducted on a considerable sample of US M&As deals that took place during 2005-2014, making it possible to generalize the results as the sample is representative of the US population.

3.4 Research Strategy and Design

A research strategy is a plan set by the researcher to answer the research questions. The researcher must decide whether he/she wants to do primary research or confine with the existing literature. This study uses the archival strategy since it is based on secondary data collected on 767 observations of M&A deals in the US covering the period 2005-2014.

3.4.1 Sample size and Sampling Procedures

This research attempts to investigate whether managers listen to the market, i.e. whether managers withdraw from a takeover deal once they observe a negative cumulative abnormal return. The sample includes all M&A s that took place in the US between 2005 and 2014. The data are obtained from Securities Data Corporation (SDC) Thomson ONE database and Datastream. Target and acquirer firms are categorized into different industries: Industrials, Healthcare, Consumer Staples, Materials, Media and Entertainment, Retail, Consumer Products, High-Technology, Energy and Power, Telecommunications, Financials and Real Estate. The conditions for a deal to remain in the sample used are: (a) the acquirer is a US firm listed in the NYSE/NASDAQ stock exchange and has a market value of at least $1 million four weeks prior to the announcement of the deal; (b) the target is a US or a non-US firm; (c) the transaction value should be at least $1 million, excluding fees; and (d) the acquirer should aim to control 100% of the target firm's assets after the transaction. Furthermore, to avoid the

inseparable effects of multiple deals on acquirer gains, deals that announced by same acquirer within 5 days (i.e., the event window analyzed) are excluded from the sample. All these conditions reduce the sample to 767 observations of M&A deals in US from 2005-2014.

3.5 Hypotheses Development

A hypothesis is a formal statement that explores the relationship between a dependent and an independent variable (Creswell, 1994). By formulating hypotheses, the research objectives are defined more specifically, and each hypothesis is tested for its verifiability or falsifiability. The purpose of this study is to investigate whether managers listen to the market, and therefore a different set of hypotheses are developed below which will be tested later in the following chapter.

3.5.1 Effect of Negative CAR

In order for managers to gain a better understanding of whether the market views the takeover deal as a value-enhancing or value-reducing, they can observe how the market reacts to their decisions. Therefore, we would expect managers to use this information generated from the market to make certain decisions.

According to Jennings and Mazzeo (1991), managers do not take information provided by the market into consideration when making M&A decisions. On the other hand, Luo (2005) suggests that managers do take the information provided by the market into consideration when making M&A decisions. Kau et al. (2008) add to the literature by examining whether managers listen to the market by exploring the effect of agency costs on manager's decisions on mergers and acquisitions. They find that deals that have been predicted to have higher returns by the market are more likely to be completed comparing to those with lower market returns.

Luo (2005) describes a "probability feedback" effect explaining how the deal completion probabilities differ across events causing a false correlation between the announcement period return and deal completion. Moreover, he states the "common information" effects where higher quality deals may have higher market reactions and

therefore higher completion probabilities. Accordingly, the first hypothesis (H1) is stated as follows:

H1: Managers withdraw from a takeover deal once they observe a negative Cumulative Abnormal Return.

3.5.2 The relationship between the public status of the target firm and acquirer's CAR

Fuller et al. (2002) find that private targets yield a higher abnormal return for the bidder firm than public targets. Chang (1998), and Draper and Paudyal (2006) propose an explanation for the above statement. They believe private acquisitions generate more return than public acquisitions because investors consider acquiring a private target firm as a positive Net Present Value (NPV) project. Whereas acquiring a public target will not be in the benefit of the shareholders, hence they generate lower abnormal returns.

A major difference between private and public target is the quantity and quality of information available on these firms in the market. Because private firms have lack of information available in the market, this increases the opportunities for acquirers to benefit from the private information and gain higher returns from buying such private targets (Makadok and Barney, 2001).

Another reason why private targets would be favored over public targets is because of 'the private firm discount'. This term states that the bidder firm can buy the private target firm at a discount, whereas, it would not be the same for acquiring a public firm. Fuller et al. (2002) explain that private firms are sold at a discount because they suffer from a lack of market liquidity. Public firms have the choice of selling out their shares in the market rather than selling them to an acquirer, whereas because private firms suffer from liquidity issues, it would be difficult for it to sell its shares in the market and hence may be sold at a discount.

Bidders usually face fewer competition when acquiring a private firm due to the transparency. Hence, private firms are usually acquired through negotiations and voluntary exchange (Koeplin et al., 2000), whereas public firms are acquired through auctions since they face more competition. It is believed that auctions attract more entrants when we have more information about the target (Milgrom, 1987), mainly

because there's no transparency and all information is publicly available, making it difficult for managers to manipulate the information and reveal only information they find would benefit their firm. Accordingly, the second hypothesis (H2) is stated as follows:

H2: Private targets are less likely to be cancelled than public target deals when a negative Cumulative Abnormal Return (CAR) is observed.

3.5.3 The effect of diversifying deals on acquirer CAR

The existing literature provides several theories as to why diversifying mergers and acquisitions occur. One of the theories is that of market power theories (explained in section 2.3) which argue that diversifying firms can work together with other firms in different markets for market power (Bernheim and Whinston, 1990). Moreover, it argues that diversifying firms can engage in different pricing tactics on one market using profits from the other market and be more competitive in the market (Villalonga, 2000). According to Fluck and Lynch (1999), diversifying deals occur in order for the firm to be marginally profitable in short-horizon project by obtaining financing and surviving distress.

Another theory is the internal capital market theory (explained in section 2.3), which argues that firms diversify to overcome imperfections in external capital markets (Williamson 1970). According to Brown (2005), diversifying deals create synergies from new acquisitions, thereby strengthening the company's current business enhancing either its capabilities or its value proposition. Moreover, it is well known that CEOs of larger firms get paid much higher than those of smaller firms, and since diversified firms are larger firms, they attract higher quality CEOs because of the higher pay. Hence, diversified firms may have better educated and experienced smart CEOs who make better decisions.

Moving to agency theories, this theory argues that managers benefit personally from diversification, meaning that managers engage in diversifying deals to decrease their undiversifiable employment risk (Amihud and Lev, 1981). Managers may also derive

other private benefits such a power, prestige, and privileges of running a more diversified firm and improve their career prospects (Jensen, 1986; and Stulz, 1990). Accordingly, the third hypothesis (H3) is developed as follows:
H3: Diversifying deals are less likely to be cancelled than non-diversifying deals when a negative Cumulative Abnormal Return is observed.

3.5.4 The relationship between target size and acquirer CAR

Alexandridis et al (2010), after having conducted a study to determine the relation between target size and the premium paid, state that the announcement return for both the bidder and the target is inversely related to their size. One explanation could be that investors treat acquisition of a large firm more risky, and are afraid of uncertainty.

Acquirer and target size is an important factor that affect takeover success, and it is usually measured by the value of the company's assets, the firm's revenue and the number of employees, and accordingly firms are classified as small, medium, or large enterprises.

Studies conducted on the topic of mergers and acquisitions have found contradicting results for the impact of company's size on mergers and acquisitions success. Some have found that the success of a takeover is higher when the target and acquirer are similar in size (Ahuja, Katila, 2001). Offenberg (2009) reports that larger firms are more likely to become takeover targets than smaller firms as the market for corporate control and boards of directors discipline the managers of larger firms better than those of smaller ones. Others believe that success of a takeover is higher when the target company is smaller than the acquirer (Bruton et al., 1994; Fuller et al., 2002).

According to Asquith et al. (1983), the impact of the bidder's size on return can be captured by the ratio of market capitalization of the target firm to the market capitalization of the bidder firm. As the ratio increases, the return for the small acquirers increases. This means that acquirer's size and return are positively related.

Fuller et al. (2002) define the size of the firm as the target market value divided by the bidder firm's market capitalization. The higher the target deal size the higher the return

(Benou and Madura, 2005). Kohers (2000) believes that larger targets mean create higher synergies comparing to smaller ones.

In general, the existing evidence suggests that acquiring smaller firms or merger between smaller firms has the greatest cost reduction derived from economies of scale. Moreover, acquiring a smaller firm costs less and the process of integrating with the acquirer firm is simple. Studies have found that the search for economies of scale means size is inversely related to the probability of being acquired, and that large premium are paid to acquire smaller firms (Thompson, 1997; Focarelli et al. 2002). Accordingly, the fourth hypothesis (H4) is stated as follows:

H4: Targets that are relatively large to the acquirer are more likely to be cancelled than small targets following a negative CAR.

3.6 Event Study Methodology

This study uses the event study methodology to investigate the market's reaction to an acquisition announcement and how it affects the cumulative abnormal returns of the acquirer firm. According to MacKinlay (1997), an early event study was conducted by Dolley (1993) where he examined the stock price reaction to stock splits. Since then, there have been many advances in event study methodology. Ball and Brown (1968) and Fama et al. (1969) have used this methodology in their researches. Fama et al. (1969), studied common stock price adjustments to the information contained in stock split announcements. This methodology is now used as a standard approach adopted for measuring the market reaction to certain events and announcements.

"The term 'event study methodology' has come to refer generally to procedures of estimating abnormal returns and testing their significance, though the application of these procedures is not limited to true event studies" (Armitage, 1995, p.26). Event study methodology used in this study identifies the event of interest, in this case M&A, and evaluate the impact of this event on the acquirer firm. This impact is proxied by abnormal returns. According to Mackinaly (1997), a model of normal returns is required in order to calculate the abnormal returns, in this case, the cumulative abnormal returns of the acquiring firm. The two time spans used in the event study methodology are:

estimation period and Event Window. The estimation period represents the period used to estimate the parameters of the market model, which at a later stage will be used to estimate the normal returns during the event window. The event window characterizes the period that includes the event date and the days surrounding it.

3.6.1 Model for Calculating CAR

Abnormal return is the difference between the market return and the return on a certain stock. Abnormal return is the result of certain events, such as mergers and acquisitions, company earnings announcement, dividend distribution, etc., during which a certain firm can make a positive (or negative) return over and above the market return.

CAR is usually calculated over a short period of time, mainly several days, because compounding daily abnormal returns can actually create biases in the results obtained (Brown and Warner, 1985).

Brown and Warner (1985) use three different methods for calculating returns.

1. Mean adjusted returns

$$AR_{i,t} = R_{i,t} - \overline{R}_{i,t} \qquad (1)$$

where $AR_{i,t}$ is the abnormal return for security *i* on day *t*, $R_{i,t}$ is the daily security returns for security *i* on day *t* , and $\overline{R}_{i,t}$ is the average of daily security returns at time *t*.

2. Market adjusted returns

$$AR_{i,t} = R_{i,t} - R_{m,t} \qquad (2)$$

Where $R_{m,t}$ is the value-weighted market index return at time *t*

3. OLS market model

$$AR_{i,t} = R_{i,t} - \hat{\alpha}_i - \hat{\beta}_i R_{m,t} \qquad (3)$$

Where $\hat{\alpha}_i$ and $\hat{\beta}_i$ are OLS values for security *i*.

Following this, the average abnormal returns (AARs) for each day could be calculated by using the following formula:

$$AAR_i = \frac{1}{N}\sum_{i=1}^{N} AR_{i.t} \quad (4)$$

Then, the cumulative average abnormal return (CAAR) could be calculated by summing the average abnormal returns.

$$CAAR_T = \sum_{t=1}^{T} AAR_t \quad (5)$$

Lastly, in order to conclude the total shareholder wealth effect the daily abnormal returns and their cumulative analogs need to be converted into dollar amounts using the firm's market capitalization during the event window given as K. Then, the cumulative abnormal wealth created is computed by simply multiplying the CAR with the firm's market capitalization K on time T3

$$W_i(T_1,T_2) = CAR_i(T_1,T_2)\ .\ K_{iT_3-1} \quad (6)$$

After classifying the different factors: public status of the target, target industry, acquirer and target size, the different CARs could be calculated and analysis of the results could be conducted among the different factors. All of these variables are estimated using a univariate comparison.

Another alternative is to perform multivariate tests to present results of regressing the bidder's CAR on factors that may impact CAR (Fuller et al., 2002). The regression will explain the return to acquiring firms. The explanatory variables will be set accordingly

in order to run the regressions (Ordinary Least Squares Regression Analysis, Descriptive Statistics, Logistic Regression Analysis).

Researchers use the event study methodology by relying mostly on parametric test statistics to measure the stock price reactions to an event such as takeover announcement. Patell (1976) and Boehmer, Musumeci, and Poulsen (1991) have presented standardized parametric event study tests which have been more popular than conventional non-standardized tests, because of their better power properties.

A disadvantage of parametric test statistics could be that they represent detailed assumptions about the probability distribution of returns, whereas non-parametric statistics do not require such assumptions for return distributions (Cowan, 1992).The parametric tests can be applied to test the cumulative abnormal returns (CARs) over several day windows.

3.6.2 The Choice of the Event Window

It is essential to decide on the most appropriate length to be used for an event window when using the event study methodology. According to Mackinlay (1997), an event window should be large enough to be able to capture the effect of the event being studied, and at the same time, it should be small enough to avoid the existence of confounding events. It is first needed to identify the observation period-the period in which the market reaction to a certain event is observed- in order to determine an event window. In this paper, the observation period is taken to be -2 to +2 days with respect to the event day zero. Then, the average abnormal returns for each day in the observation are estimated and tested for their statistical significance. Thus, cumulating these average abnormal returns over the event window will yield the cumulative average abnormal returns.

3.7 Operationalization

Operationalization is “the process of defining variables” (Senese, 1997, p. 381). It is the development of measurable representations of the variables which will be used in theory verification or refutation. The operationalization of each variable used in this study, where each variable is transferred into a measurable proxy, is listed in Table 1 below.

Table 3.1: Variable Definitions

Variable	Description	Source
Dependent Variable		
Failed Deal	Dummy=1 if the deal failed, 0 otherwise (Succeed)	
Independent Variables		
Acquirer market value	Acquirer's market value of equity 43 days prior to bid announcement, in millions of dollars.	Datastream
Acquirer market-to-book value	The market value of the acquirer 43 days before the acquisition, divided by its book value of equity from the most recent accounting statement prior to the bid announcement.	Datastream
Acquirer standard deviation	The standard deviation of the acquirer's daily returns for the 240 to 43 days that precede the bid announcement	SDC
Acquirer CAR	The acquirer's 5-day (-2, +2) announcement periods cumulative abnormal returns. The abnormal return in each day is the difference between the firm's returns and the value-weighted returns of NYSE	Datastream

	firms.	
Acquirer public status	Dummy=1 if the acquirer is a private firm, 0 otherwise (Public Target)	SDC
Acquisition multiple	The deal's value divided by the target firm's EBITDA.	SDC + Datastream
Target market value	Target's market value of equity 43 days prior to bid announcement, in millions of dollars.	Datastream
Target total assets	Target's book value of assets in the year preceding the acquisition, in millions of dollars.	Datasteram
Target EBITDA	The target firm's Earnings before Interest, Taxes and Depreciation (EBITDA) in the year preceding the acquisition.	Datastream + SDC
Target public status	Dummy=1 if the target is a private firm, 0 otherwise (Public Target)	SDC
Cash	Dummy=1 if the consideration is 100% financed with cash and 0 otherwise	SDC
Stock	Dummy = 1 when a part of the deal consideration is financed with stocks, and 0 otherwise.	SDC
Diversifying deal	Dummy=1 if the acquirer and the target have different two-digit SIC codes, and 0 otherwise (Focused Deal).	SDC
Deal value	The value of the deal, in millions of dollars.	SDC
Acquirer Macro Industry	The acquirer firm's primary business activity.	SDC
Target Macro Industry	The target firm's primary business activity.	SDC

Logistic Regression Model

Logistic regression was developed by David Cox in 1958. The binary logistic regression model is used to estimate the probability of a binary outcome based on one or more

independent variables. It measures how much the presence of a risk factor increases the probability of a given outcome by a specific percentage.

Data for the empirical analysis were collected from Thomson Reuters SDC Platinum Datastream for a sample of 767 US firms that engaged in M&A deals covering the period 2005 till 2014. The dependent variable is failed deal, which is a binary variable defining whether the deal was a success (given a value of 0) or a failure (given a value of 1). Independent variables considered in the model are acquirer CAR, acquirer market value, method of payment, target total assets, industry relatedness (given a value of 1 if diversifying deal, 0 otherwise), acquirer market-to-book value, acquirer standard deviation, deal value, private target. Hence, the logistic regression is given as:

$$ln\left(\frac{P(Fail)}{1-P(Fail)}\right) =$$

$$\alpha + \beta_1 \text{Acquirer CAR} + \beta_2 \text{Log}(\text{Acquirer Market Value}) + \beta_3 \text{Private} +$$

$$\beta_4 \text{Stock} + \beta_5 \text{Log}(\text{Target Total Assets}) + \beta_6 \text{Diversifying Deal} +$$

$$\beta_7 \text{Acquirer Market} - \text{to} - \text{book} - \text{value} +$$

$$\beta_8 \text{Acquirer Standard Deviation} + \beta_9 \text{Deal Value} + \beta_{10} \text{Acquirer CAR} *$$

$$\text{Diversifying deal} + \beta_{11} \text{Acquirer CAR} * \text{Private} + \beta_{12} \text{Acquirer CAR} *$$

$$\text{Target size} + \varepsilon_{i,t} \qquad (7)$$

In this study, two Logit models are estimated:

1. The dependent variable is Fail=1, 0 otherwise. The independent variables are acquirer size, target size, stock/cash, diversifying deal, deal value, acquirer market value, and acquirer CAR. The results show whether CAR is significant and what effect it has on the model.

   Moreover, a dummy variable is added, private-referring to private target deals, and the model will be used to interpret the sign of CAR by itself in addition to the sign of CAR x Private.

To determine how the market reacts to the mergers and acquisitions, ACQUIRER CAR and the product (ACQUIRER CAR*PRIVATE TARGET) is added to the model. Based on this, the coefficient related to ACQUIRER CAR represents the market's reaction to M&A in public target deals. The sum of the coefficients associated with ACQUIRER CAR and (ACQUIRER CAR*PRIVATE TARGET) represents the market's reaction to M&A in private target deals. The coefficient associated with ACQUIRER CAR is expected to be negative and the coefficient associated with (ACQUIRER CAR*PRIVATE TARGET) is expected to be positive, with an absolute value equal to that of the coefficient of ACQUIRER CAR.

Furthermore, a second dummy variable is added, diversifying deals-referring to the industry of the target firm, and the model will be used to interpret the sign of CAR by itself in addition to the sign of CAR x Diversifying deal.

To determine how the market reacts to the mergers and acquisitions, ACQUIRER CAR and the product (ACQUIRER CAR*DIVERSIFYING DEAL) is added to the model. Based on this, the coefficient related to ACQUIRER CAR represents the market's reaction to M&A in non-diversifying deals. The sum of the coefficients associated with ACQUIRER CAR and (ACQUIRER CAR*DIVERSIFYING DEAL) represents the market's reaction to M&A in diversifying deals. The coefficient associated with ACQUIRER CAR is expected to be negative and the coefficient associated with (ACQUIRER CAR* DIVERSIFYING DEAL) is expected to be positive, with an absolute value equal to that of the coefficient of ACQUIRER CAR.

2. The dependent variable is Fail=1, 0 otherwise. The independent variables are acquirer size, target size, stock/cash, diversifying deal, deal value, acquirer market value, and acquirer CAR. A dummy variable is added, target size-referring to the size of the target firm. A value of 1 is given when the ratio of deal value to acquirer value is above the median in the sample, 0 otherwise. The model will be used to interpret the sign of CAR by itself in addition to the sign of CAR x target size.

In both models, the coefficient of CAR is the likelihood of deal cancellation. For instance, by adding the dummy variables private, the coefficient of CAR is the likelihood of deal cancellation in public target deals. Moreover, this effect in private target deals is

the sum of both coefficient of Acquirer CAR and the coefficient of Acquirer CAR x Private Target. Similarly, by adding the dummy variable diversifying deal, the coefficient of CAR is the likelihood of deal cancellation in non-diversifying deals. Moreover, this effect in diversifying deals is the sum of both coefficient of Acquirer CAR and the coefficient of Acquirer CAR*Diversifying Deal.

3.8 Conclusion

To sum up, this research adopts the positivist approach and the deductive method of reasoning in meeting its objectives. It starts with a general theory and narrows down to the hypotheses and testing of these hypotheses. Since the aim of the study is whether managers listen to the market, i.e. if managers withdraw from a takeover deal once they observe a negative cumulative abnormal return, agency theory will be used to study the behavior of the managers. Event study methodology will then be used to assess the CAR of the acquirer firm after the announcement of the takeover deal. The data used is a sample of 767 US firms that engaged in M&A deals from 2005 till 2014 are used that are obtained from Thomson Reuters SDC Platinum and Datastream.

Chapter Four: Results and Analysis

4.1 Introduction

In this chapter, the empirical results of this research are introduced. The following sections are organized as follows. In section two, a brief introduction to the analysis framework is presented. In section three, the descriptive statistics are provided along with testing the hypotheses and testing the significance of the variables. Section four reports the results and compares them with previous research findings. Finally, section five concludes.

4.2 A Brief Introduction to the Analysis Framework

Before proceeding with the testing of the hypotheses, an important step consists of describing the sample in terms of the number of observations related to each of the independent variables used as well as the mean and median of these variables.

Following descriptive statistics, the logistic model is used, aiming at testing the four developed hypotheses.

4.3 Descriptive Statistics

Table 4.1 (Panel A) records the annual distribution of the sample according to the deal's payment method. It also records the annual distribution of the sampled deals in which: the takeover deal was completed (COMPLETED) or failed (FAILED), and whether the target firm is a private firm (PRIVATE) or a public firm (PUBLIC). In this sample, acquisitions financed in cash (CASH) are the most frequent financing method with a percentage of 67%. Moreover, 93% of the sample of M&As are completed deals, with a failure rate of 7%. Moreover, 81% of the targeted firms are public whereas only 19% of the targeted firms are private.

Table 4.1 (Panel B) reports the annual distribution of the sampled deals according to the targeted firm's industry classification. The three sectors with the highest acquisition activity are High Technology (HTECH), Financials (FIN), and Healthcare (HEALTH) with a percentage of 28%, 19%, and 17% respectively. All other sectors have a percentage of acquisition activity ranging from 2% to 5%.

Table 4.1: Annual Distribution of Sampled Deals

Panel A							
Year	**ALL**	**CASH**	**STOCK**	**COMPL**	**FAIL**	**PUBLIC**	**PRIVATE**
2005	80	50	30	74	6	67	13
2006	121	92	29	115	6	89	32
2007	115	80	35	106	9	91	24
2008	82	51	31	76	6	64	18
2009	59	31	28	50	9	50	9
2010	71	52	19	65	6	58	13
2011	51	32	19	45	6	35	16
2012	67	47	20	65	2	56	11
2013	59	43	16	57	2	52	7
2014	57	29	28	55	2	56	1
N	**762**	**507**	**255**	**708**	**54**	**618**	**144**
%	**100%**	**67%**	**33%**	**93%**	**7%**	**81%**	**19%**

Panel B												
Year	**TLC**	**CST**	**RE**	**EGP**	**CPS**	**IND**	**RET**	**MED**	**HEA**	**MTL**	**FIN**	**HTECH**
2005	3	2	2	2	4	6	3	4	16	1	6	31
2006	5	5	3	6	5	6	3	5	16	5	25	37
2007	4	5	1	2	7	6	4	5	19	5	21	29
2008	4	0	0	3	6	6	2	0	16	0	15	25
2009	2	3	0	5	3	5	0	2	10	1	10	22
2010	4	0	0	5	2	5	1	1	12	2	12	26
2011	7	0	3	4	1	5	0	0	8	4	9	10
2012	4	1	0	4	3	5	3	2	13	2	14	16
2013	2	2	3	1	5	5	2	0	9	1	17	12
2014	3	4	2	6	2	5	2	4	8	4	13	8

N	**38**	**22**	**14**	**38**	**38**	**5**	**20**	**23**	**127**	**25**	**142**	**216**
%	**5%**	**3%**	**2%**	**5%**	**5%**	**5%**	**3%**	**3%**	**17%**	**3%**	**19%**	**28%**

Note: Panel A represents the annual distribution of target M&A bids announced by US public acquirers between January 4th, 2005 and December 31st, 2014. The distribution of the sample is presented according to the total number of transactions (ALL), method of payment (settled in cash (CASH) or stock (STOCK)), whether the acquistion was completed (COMPL) or failed (FAIL), and whether the target company is a private (PRIVATE) or a public (PUBLIC) firm. Panel B represents the yearly distribution of M&A bids with respect to the target's sector. The sectors, as reported by SDC, are: Telecommunications (TLC), Consumer Staples (CST), Real Estate (RE), Energy and Power(EGP), Consumer Products (CPS), Industrials (IND), Retail (RET), Media and Entertainment (MED), Healthcare (HEA), Materials (MTL), Financials (FIN), and High Technology (HTECH).

Table 4.2 reports the mean and median of the Deal Value (DV), the acquirer's market value (ACQ_MV), and other key variables included in the analysis. From the sample statistics reported in Table 4.2, it appears that the mean and median of Acquirer CAR for deals with payment method cash (0.91 & 0.43) are much higher and positive comparing to those of stock (-0.69 & -0.9). In addition, the mean and median of Acquirer CAR of private targets (1.60 & 1.88) are much higher than that of public targets (0.08 & -0.2). As for the Deal value, the mean and median of Deal Value of public deals (1288.46 & 309.56) are much higher than that of private deals (222.52 & 2.25). Moreover, failed deals have a higher deal value mean than completed deals. Furthermore, it appears that the mean and median of Acquirer Market Value for public deals (21597.67 & 2394.34) are much higher compared to those of private deals (2783.18 & 417.53). In addition, the mean and median of Acquirer Market Value for completed deals (19152.05 & 1652.8) are much higher compared to those of failed deals (3490.47 & 514.2).

Table 4.2: Summary Statistics

Summary Statistics								
	ACQUIRER_CAR				**ACQ_MTBV**			
	Mean	**Median**	**Kurtosis**	**Skewness**	**Mean**	**Median**	**Kurtosis**	**Skewness**
ALL	0.37	0.03	4.44	-0.14	3.44	2.17	307.70	15.42
CASH	0.91	0.43	5.32	-0.60	3.65	2.52	69.79	7.63
STOCK	-0.69	-0.90	2.75	0.30	3.01	1.42	219.27	14.34
COMPLETED	0.50	0.07	4.96	-0.22	3.43	2.21	328.05	16.15
FAILED	-1.30	-1.39	1.62	0.49	3.47	1.62	37.39	5.89
PUBLIC	0.08	-0.21	5.26	0.16	3.41	2.14	312.25	15.91
PRIVATE	1.60	1.88	2.94	-0.95	3.54	2.25	68.25	7.50
	TRG_TA				**STOCK_PERC (%)**			
	Mean	**Median**	**Kurtosis**	**Skewness**	**Mean**	**Median**	**Kurtosis**	**Skewness**
ALL	3701.41	202.60	371.45	18.96	33.46	0.00	-	-
CASH	670.75	164.04	212.34	12.91	0.00	0.00	-	-
STOCK	9727.07	555.90	123.29	10.96	100.00	100.00	-	-
COMPLETED	3847.22	205.01	346.05	18.31	32.20	0.00	-	-
FAILED	1789.67	167.17	42.89	6.32	50.00	50.00	-	-
PUBLIC	4507.33	332.00	300.99	17.07	37.22	0.00	-	-
PRIVATE	242.65	27.80	117.62	10.50	17.36	0.00	-	-
	DV				**TRG_EBITDA**			
	Mean	**Median**	**Kurtosis**	**Skewness**	**Mean**	**Median**	**Kurtosis**	**Skewness**
ALL	1087.03	235.35	124.74	9.63	178.78	15.72	367.89	18.74
CASH	910.25	300.00	29.30	4.71	68.10	16.30	99.07	8.71
STOCK	1438.49	155.91	64.17	7.41	398.85	14.77	123.56	10.92
COMPLETED	1070.45	242.05	127.62	9.15	176.81	16.09	361.69	18.74
FAILED	1304.38	115.48	51.85	7.14	204.66	9.08	52.43	7.20
PUBLIC	1288.46	309.56	103.40	8.80	214.02	19.59	298.30	16.88
PRIVATE	222.52	2.25	68.25	7.50	27.55	6.70	26.99	4.97
	ACQ_STDEV				**ACQ_MV**			
	Mean	**Median**	**Kurtosis**	**Skewness**	**Mean**	**Median**	**Kurtosis**	**Skewness**
ALL	2.72	2.08	33.74	4.82	18042.18	1531.65	34.92	4.64
CASH	2.25	1.89	111.15	8.31	24047.36	3090.51	27.40	4.09
STOCK	3.64	2.73	11.50	2.99	6102.46	546.81	36.26	5.71
COMPLETED	2.63	2.02	38.76	5.19	19152.05	1652.80	32.97	4.51

FAILED	3.85	3.25	8.07	2.52	3490.47	514.20	51.05	7.06
PUBLIC	2.45	1.91	29.80	4.39	21597.67	2394.34	29.42	4.24
PRIVATE	3.86	2.64	17.83	3.79	2783.18	417.53	75.04	8.34

Note: This table represents the mean and median values of a set of continuous covariates in the sample. The covariates are the acquirer's market value (MV), the acquirer's market-to-book value (ACQ_MTBV), and the transaction value (DV).The table also includes the means and medians of the portion of the transaction financed with stocks (STOCK_PERC), the target's Earnings before interest and tax (TRG_EBITDA), target's total assets (TRG_TA), and acquirer standard deviation (ACQ_STDEV). These measures are reported for the sample covering all the transactions (ALL), the transactions fully financed with cash (CASH), with stock (STOCK), transactions covering private (PRIVATE) and public (PUBLIC) targets, and the deals that have been completed (COMPLETED) or failed (FAILED).

Moreover, most of the variables are positiviely skewed, and the Kurtosis coefficient for most of the variables is greater than three denoting that the variables are not normally distributed. However, normal distribution is not a requirement of the statistical test being used in this study (Binomial Regression). Nevertheless, to deal with the skewness and to reduce the variability of the data, the variables Acquirer market value and Target total assets are log-transformed.

4.3.1 Testing the Hypotheses

This section presents the logistic regression model along with checking the individual significance of the variables. Moreover, based on the significance of the variables, each of the four hypotheses is tested and accordingly it is accepted or rejected.

The "significance level" of a test is the probability that the test will produce a Type I error which occurs when we reject the null hypothesis while it is actually true. A variable is considered to be significant when its p-value is less than the significance levels of 1%, 5%, and 10%. From the model above, we can deduce the significant and insignificant variables by comparing their p-values to the significance levels of 1%, 5%, and 10%.

Therefore, testing the individual significance of the coefficients, we test:

- H_0: Coefficient = 0
- H_1: Coefficient $\neq 0$

If the p-value is less than the significance level, we reject H_0, and therefore the coefficient is said to be significant. On the other hand, if the p-value is greater than the significance level, we do not reject H_0, and the coefficient is said to be insignificant.

Table 4.3 below reports the logistic regression model. The dependent variable takes the value of 1 if the takeover deal is failed and 0 if it is completed. The key explanatory variable is the CAR during the announcement period. Independent variables considered in the model are acquirer CAR, acquirer market value, method of payment, target total assets, industry relatedness (given a value of 1 if diversifying deal, 0 otherwise), acquirer market-to-book value, acquirer standard deviation, deal value, private target.

Table 4.3: Binomial Logit Regression Model

Model : Logit Regression		
Dependent variable	Failed Deal	
Explanatory variables	Model 1 Coefficient	Model 2 Coefficient
Intercept	-0.156407 (0.735784)	-0.147028 (0.734951)
ACQUIRER_CAR	**-0.055497**** (0.026996)	-0.044152 (0.063758)
LOG(ACQUIRER_MARKET_VALUE)	**-0.437503***** (0.091393)	**-0.436871***** (0.091567)
PRIVATE_TARGET	**-3.5821515***** (1.182010)	**-3.582910***** (1.181967)
STOCK	-0.468623 (0.365719)	-0.470102 (0.364550)
LOG(TARGET_TOTAL_ASSETS)	0.1346306 (0.108772)	0.134575 (0.110131)
DIVERSIFYING_DEAL	0.315302 (0.365719)	0.312587 (0.362103)

ACQUIRER_MARKET_TO_BOOK_VALUE	0.005256 (0.008754)	0.005123 (0.008779)
ACQUIRER_STANDARD_DEVIATION	0.038574 (0.056096)	0.038377 (0.056283)
DEAL_VALUE	0.000062 (0.000043)	0.000062 (0.000043)
ACQUIRER_CAR*DIVERSIFYING_DEAL	**0.064875*** (0.034240)	**0.066259*** (0.036039)
ACQUIRER_CAR*PRIVATE_TARGET	**0.060133**** (0.024821)	**0.059065**** (0.026121)
ACQUIRER_CAR*TARGET_SIZE	-	-0.013062 (0.068802)
McFadden R-squared	0.165077	0.165225
LR statistic	65.31701	65.37565
Prob(LR statistic)	0.0000	0.0000

Note: This table represents the Binomial Logistic Regression model. The dependent variable is Failed deal which is given a value of 1 if the deal has failed, 0 otherwise. Some of the variables not included in this table were found not having a significant effect. Refer to Table 4.1 for a description of the variables. The standard errors are reported in parentheses and significant results are marked in bold. ***, **, * denote two-tailed significance at 1%, 5%, and 10% level respectively.

Table 4.3 shows a high value for LR statistic and Prob(LR statistic) equals to 0, which means that the null hypothesis is rejected, hence, an indication of having valid coefficients. In addition to that, McFadden R-squared is high, which is also an indication of having a good model and several independent variables explain the variation on the dependent variable.

The first hypothesis predicts that the lower the CAR during the announcement period, the more likely the deal will be cancelled. The results support this hypothesis. Thus, testing the significance coefficient of Acquirer CAR, it is deduced from Table 4.3 that the p-value equals to 0.0398 which is less than 5% and 10%, hence, we reject H_0. Furthermore, based on the model above, the binomial logit estimates for a one unit decrease in Acquirer CAR relative to a deal failing is negative. In other terms, if Acquirer CAR decreases by one point, the binomial log-odds for a deal failing would be expected to increase by 0.055 unit while holding all other variables in the model constant. Moreover, as already discussed above, the sum of the coefficients associated with ACQUIRER CAR and (ACQUIRER CAR*PRIVATE TARGET) represents the market's reaction to M&A in private target deals. Hence, based on the model above, and as already expected, the coefficient associated with ACQUIRER CAR is negative and

the coefficient associated with (ACQUIRER CAR*PRIVATE TARGET) is positive, with an absolute value equal to that of the coefficient of ACQUIRER CAR. This supports the second hypothesis, whereby a public target acquirer is more likely to cancel the deal. However, a private target acquirer ignores the market reaction and the likelihood of deal cancellation does not change.

Similarly, for the third hypothesis, the sum of the coefficients associated with ACQUIRER CAR and (ACQUIRER CAR*DIVERSIFYING DEAL) represents the market's reaction to M&A in diversifying deals. Based on the model above, the coefficient associated with ACQUIRER CAR is negative and the coefficient associated with (ACQUIRER CAR* DIVERSIFYING DEAL) is positive, with an absolute value equal to that of the coefficient of ACQUIRER CAR. This supports the third hypothesis. Hence, non-diversifying deals are more likely to be cancelled. However, the acquirer of a diversifying firm ignores the market reaction and the likelihood of deal cancellation does not change.

As for the fourth hypothesis, the coefficient of Acquirer CAR in the second model is insignificant at all significance levels. Moreover, the coefficient of ACQUIRER CAR*TARGET SIZE is also insignificant. Hence, it can be deduced that the market's response is muted. That is, there is simply no effect of CAR on the likelihood of deal cancellation in large acquisitions.

From Table 4.3 above, it is deduced that Acquirer CAR, Acquirer Market Value, Private Target, Acquirer CAR*Private target, and Acquirer CAR*Diversifying deal are all significant variables, whereas stock, target total assets, diversifying deal, acquirer market to book value, acquirer standard deviation, and deal value are all insignificant variables.

The coefficient of Acquirer CAR is significant and negative. Hence, it can be deduced that a lower CAR increases the likelihood of deal cancellation. This is consistent with the results of the study conducted by Kau et al. (2008), where they found that managers do listen to the market when making takeover decisions and deals that had been predicted to have higher returns were the ones completed compared to those with lower returns. Managers who are willing to engage in M&A deals have the intention of

growing the firm, expanding its business activities, and aiming at maximizing profits, hence, a reason why a lower CAR could increase the likelihood of deal cancellation.
Moreover, the coefficient of private target is significant and its effect is negative. This is consistent with the findings of Kau et al. (2008) where it is shown that public targets are more likely to be cancelled than private targets.
In addition, the coefficient of Acquirer CAR* Private Target is significant and its effect is positive. Likewise, the coefficient of Acquirer CAR*Diversifying deal is significant and its effect is positive. Hence, the effect of a low CAR increasing the likelihood of deal cancellation is not present for both private and diversifying deals. This could indicate that the initial market reaction affects the cancellation in public and same industry deals and not in private and diversifying deals.
Lastly, the coefficient of acquirer market value is significant and its effect is negative. This could indicate that a low acquirer market value increases the likelihood of deal cancellation.

4.4 Discussion of the Results

This section discusses the results previously reported in section three, and relates them to the hypotheses, relevant theories, and to the findings of previous studies.

From the binomial logistic regression model estimated in section 4.3, it can be shown that acquirer cumulative abnormal return affects negatively on the likelihood of deal cancellation. In other terms, if Acquirer CAR decreases by one point, the binomial log-odds for a deal failing would be expected to increase by 0.055 unit while holding all other variables in the model constant. This supports the first hypothesis and is consistent with the findings of previous studies. For instance, Kau et al. (2008) found that higher returns by the market have more likelihood of being completed than those with lower market returns. The high returns during the announcement period could be due to the market adjusting to the news of the firm expanding through M&A.

As for the second hypothesis, the results show that the coefficient of private target is significant and negative, and the coefficient of CAR with private deals is almost equal in magnitude but opposite in sign to the coefficient of CAR. This supports the second

hypothesis and is consistent with results of previous studies. Makadok and Barney (2001) explain this by stating that private targets have lack of information available in the market, which would increase the opportunities for acquirers to benefit from these private information and gain higher returns by buying such firms. Moreover, Fuller et al. (2002) state that since private targets suffer from market liquidity, they are sold at a discount, unlike public targets who have the choice of selling out their shares in the market.

Moving on to the hypothesis related to diversifying deals, the literature provides different theories of M&A such as the market power theory, internal capital market theory, and the agency theory. However, the results of this study show that the effect of a low CAR increasing the likelihood of deal cancellation is not present for diversifying deals.

As for the fourth hypothesis of relative target size, the coefficients of Acquirer CAR and Acquirer CAR*Target size are negative and insignificant. Previous studies in the literature have found contradicting results on this matter. For instance, Alexandridis et al (2010) state that the announcement return for both the bidder and the target is inversely related to their size. On the other hand, Ahuja and Katila (2001) found that the success of a takeover is higher when the target and acquirer are similar in size. However, the results of this study show that the market's response is muted, and therefore, cumulative abnormal return has simply no effect on the likelihood of deal cancellation in large acquisitions.

4.5 Conclusion

This chapter has reported, explained, and discussed the empirical findings of the research. Both descriptive and inferential statistics were provided in this chapter. The descriptive statistics report mainly the values for the mean, median, kurtosis, and skewness values for the entire sample. Moreover, the event study methodology was introduced, and the event window was chosen to cover 2 days before the M&A announcement day and 2 days after the M&A announcement day (-2,+2).

The reported results show support for all four hypotheses. For the first hypothesis, the results show that Acquirer Cumulative Abnormal Return has an effect on manager's decision to withdraw from an M&A deal. More specifically, managers withdraw from a takeover deal once they observe a negative cumulative abnormal return. Moreover, the coefficient of Acquirer CAR*Private which represents the likelihood of deal cancellation in private targets is positive and significant. Therefore the effect of a low cumulative abnormal return increasing the likelihood of deal cancellation is not present for private deals. This result supports the second hypothesis that private targets are less likely to be cancelled than public target deals when a negative cumulative abnormal return is observed. Similarly, the coefficient of Acquirer CAR*Diversifying deal is positive and significant, meaning the effect of a low CAR increasing the likelihood of deal cancellation is not present for diversifying deals. This also supports the third hypothesis. Thus, diversifying deals are less likely to be cancelled than non-diversifying deals when a negative cumulative abnormal return is observed. Lastly, regarding the fourth hypothesis of relative target size, the coefficients of Acquirer CAR and Acquirer CAR*Target size are negative and insignificant. Hence, the market's response is muted, and therefore, cumulative abnormal return has simply no effect on the likelihood of deal cancellation in large acquisitions.

Chapter Five: Conclusion

5.1 Introduction

This thesis aims at studying the manager's decision of withdrawing from a takeover deal once observing a negative cumulative abnormal return. Section two provides a summary of the findings of this study and compares them with those of previous studies. Section three discusses the validity of the results. Section four presents the limitations of this study. Section five explains the theoretical and practical implications. Section six provides suggestions for future research.

5.2 Summary of the Findings

This research provides empirical evidence on a sample of 767 M&A deals that took place in US during the period 2005-2014. Results show that 93% of the M&A deals that took place in the US during this period were completed, whereas only 7% were failed. Moreover, empirical results show that the effect of a negative CAR increases the likelihood of deal cancellation, hence, managers withdraw from a takeover deal once they observe a negative CAR. This is consistent with the findings of many researchers such as Fuller (2002), Kau et al (2008), and Alexandridis *et al (*2008). Moreover, results show that whenever a negative cumulative abnormal return is observed, public targets are more likely to be cancelled than private ones. This is consistent with the findings of previous studies such as Fuller et al (2002), who explain that private firms are sold at a discount because they suffer from market liquidity, hence, a reason why they would be favored over public targets. Another reason could be the lack of information for private targets in the market, thereby increasing the opportunities for the acquirer firm to benefit from the private information and gain higher returns (Makadok and Barney, 2001).

Furthermore, empirical results show that non-diversifying deals are more likely to be cancelled than diversifying deals whenever a negative CAR is observed during the announcement period. As already explained in Section 2.3, there are several theories that could justify this result. One of the theories is the market power theory which states that diversifying firms can work together to gain more market power (Bernheim and Whinston, 1990). Moreover, internal capital market theory states that diversifying firms

can overcome imperfections in external markets (Williamson, 1970). In addition to that, as stated by Brown (2005), diversifying deals create synergy from new acquisitions, hence, strengthening the firm's current business.

Lastly, this study found evidence on cumulative abnormal return simply having no effect on the likelihood of deal cancellation in large acquisitions. Previous studies conducted on the impact of company's size on M&A success have found contradictory results. While some found that the success of a takeover is higher when the target and acquirer firms are similar in size (Ahuja, Katila, 2001), others such as Bruton et al. (1994) and Fuller et al. (2002) found that whenever the target firm is smaller than the acquirer firm, the success of a takeover is higher.

5.3 Validity

The validity of the results is important in assessing the quality of any research. Trochim (2000) states various forms of validity which include: internal validity, external validity, construct validity, and conclusion validity. This section discusses the forms of validity that are relevant for this research which are: external validity, construct validity, and conclusion validity.

5.3.1 External Validity

The objective of any positivist-oriented research is the ability to generalize the findings of the study (Remenyi *et al.*, 1998). Hence, external validity refers to the degree to which the conclusions of the study can be generalized to other people in other places and at other time settings (Trochim, 2000). In the case of this research, the sample includes all US M&A deals that took place during 2005-2014, and therefore the sample is representative of the population providing with the ability to generalize the findings of this research.

5.3.2 Conclusion Validity

Conclusion validity refers to the degree to which the conclusions reached about the relationships of different variables in the data from the study are reasonable. The consistency in the results of this study with those of previous studies is considered as an evidence on the validity of the conclusions reached by this study. For instance, this study

found that managers do listen to the market when making M&A decisions, which is consistent with the findings of Kau et al. (2008) where they state that deals that the market predicts to have higher returns have a higher chance of being completed than those with lower returns. In addition, this study found that private targets are less likely to be cancelled than public targets which is consistent with the results of Fuller et al. (2002) who states that private targets yield a higher abnormal return for the bidder firm than public targets. Lastly, this study found that diversifying deals are less likely to be cancelled than non-diversifying deals which is consistent with the findings of Brown (2005) where it is stated that diversifying deals create synergies from new acquisitions, thereby strengthening the company's current business enhancing either its capabilities or its value proposition.

5.3.3 Construct Validity

With respect to the construct validity, it refers to the degree to which the operationalized measures reflect the theories and concepts of the study (Trochim, 2000). It is worth mentioning that the independent variables introduced by the two Logit models were extracted from the literature based on different theories such as the agency theory, the efficient market hypothesis theory, the synergy theory, and other theories mentioned in the literature chapter. Hence, there exists a close relationship between these operationalized variables and the decision of whether to withdraw or not to withdraw from an M&A deal. The variables are also used in various previous studies such as Chang (1998), Koeplin et al. (2000), Fuller et al. (2002), Brown (2005), and Kau et al. (2008). Hence there are indications of a robust construct validity.

5.4 Limitations of the Research

Although this research has reached its aims, and despite the efforts put forth to obtain a robust study, like any other research, this study has faced some limitations. This study classified each of the M&A deals according to the firm’s public status, the firm’s macro industry, payment method, target and acquirer market value, along with many other variables. However, one limitation could be to have more firm specific data, for instance, defining the characteristics of a private and public target.

Moreover, another limitation could be to define the structure of acquirer firm. For instance, Kau et al (2008) state that managers of firms that have larger holdings by outside monitors are more likely to listen to the market. For instance, Wu (2004) states that large shareholders of a firm exert greater effort in monitoring its management.

Also, it is also important to note that the results of this study are dependent on the validity of the models used in estimating the cumulative abnormal returns.

5.5 Theoretical and Practical Implications

The results of this study present important theoretical and practical implications. On the theoretical level, the originality of the model being used and the use of the different variables in the model open an avenue for future research to further explore the causal relationship between each of the variables and the manager's decision of withdrawing from an M&A deal. Moreover, a theoretical implication for this study lies in examining the implications of the Agency theory on manager's decisions. Moreover, it would be useful to extend the findings of this research to other decisions. There are various ways in which decision makers can use the results of this study to improve performance. For instance, managers can perform similar analyses to this research to determine whether the market views their investment decisions favorably.

On another level, the results of this study also have important practical implications. For instance, the results of this study can be used to inform decision makers of the different variables affecting on the likelihood of withdrawal or success of M&A deals. Moreover, decision makers could make use of the variables and results of this research to study the CAR around the acquisition announcement period, and accordingly maker better M&A related decisions.

5.6 Suggestions for Future Research

Along with the theoretical and practical implications of the empirical results, this research extends the possibility for future research to elaborate on this idea. For instance, additional suggestions for future research could be to collect a longer time series to evaluate the manager's decision of withdrawing from the M&A deal. This would be of a great value for constructing robust models, where not only the significance of the results

would increase, but it would also allow to extensively test the effects of the variables. Another suggestion would be to investigate cross-border M&A deals, hostile and non-hostile deals, broadening the market, etc. Furthermore, there are many other types of variables that could affect the success or failure of M&As, which could be on the human, strategic, psychological, behavioral, and operational aspects of M&A. Lastly, the method used in this research was more of a quantitative one, but future research may additionally use a qualitative approach to better understand the state of the art of M&A research.

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