

TOP MANAGEMENT TEAM DIVERSITY  
AND ACQUISITION QUALITY

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Abstract: This research study investigates the impact of top management team diversity (TMT) on the quality of acquisition decisions as reflected in announcement returns to acquirer shareholders. Firms pursue acquisitions with the strategic rationale of increasing shareholder value, improving market share, and achieving economies of scale. Despite these compelling motivations, acquisitions have not always yielded the desired results in terms of increasing shareholder value. This is generally attributed to poor decision making on the part of the TMT. Upper Echelons Theory suggests that TMT decision quality is enhanced when team members come from diverse backgrounds as they bring diversity of opinions and resource knowledge which allow for a more robust sharing of ideas and viable alternatives. Therefore, this study focuses on TMT diversity traits the dimensions of gender diversity, age diversity, job diversity, cultural diversity, tenure diversity, and political affiliation diversity and how these diversity traits impact the decision making process as reflected in the announcement returns of acquirer. I use announcement period returns to acquirer shareholders as my measure of acquisition decision quality due to its extensive use in the finance literature to assess the efficacy corporate policies including investment decisions (Guiso et al., 2008; Bottazzi et al., 2010), cash holdings (Chen et al., 2015) and cost of capital (Gray et al., 2013).

I find that age diversity, political diversity, current tenure diversity, and cultural diversity have significant effect on acquisition quality. This means that the shareholders of acquiring firms overall can expect to earn higher abnormal returns when these aforementioned diversity characteristics are present at the TMT level of the firm. Additionally, I find that the impact of these diversity characteristics on acquirer returns are more profound when the deal value of the acquisition is at least 20% of the acquiring firm's size. Furthermore, I also find that TMT diversity characteristics such as gender diversity and total tenure diversity do not have significant effect on acquisition quality as reflected in the announcement returns of the acquirer. Thus, not all diversity characteristics appear to enhance acquisition decision quality. In conclusion, TMT diversity overall promotes better decision making.

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## CHAPTER I

### INTRODUCTION

In this paper, I examine the role of top management team (TMT) diversity on the quality of acquisition decisions as reflected in announcement returns to acquirer shareholders. Acquisitions are significant investments and are noticeable types of transactions and are deemed long term (Marks and Mirvis 2001). Existing literatures support the premise that firms pursue and undertake acquisitions with the strategic rationale of increasing shareholder value, improving market share, gaining competitive advantage, achieving economies of scale, and acquiring additional resources and capabilities that the acquiror lacks. Despite these strong and compelling motivations for a firm to pursue and invest in acquisitions, these acquisitions have not always yielded the desired results from the standpoint of increasing shareholder value (Moeller, Schlingemann et al., 2005; Jensen, 1986).



Mergers and acquisition (M&A) activity constitutes a significant portion of corporate investment initiatives and endeavors. In 2017, the aggregate deal value in the U.S. totaled 1.5 trillion and the first half of 2018 has totaled in excess of 900 billion in transactional value (Erel, I, 2018). The most striking observation in looking at the data is that, not all the acquisition deals resulted in value creation for the shareholder. This observation is supported by existing studies which posit that over 50 percent of acquisition deals end up performing below expectations (Koi-Akrofi 2016) and consequently, reducing shareholder value in the process. A case in point is the Hewlett-Packard acquisition of the U.K. based enterprise company Autonomy (Stanwick and Stanwick 2014). Hewlett-Packard paid over \$10 billion dollars for the acquisition and ended up taking \$9 billion write-off or impairment of the acquired assets resulting in a huge loss to the shareholders. Another example of a well-intended acquisition that ended up decreasing shareholder value was the case of Daimler-Chrysler. Prior to Chrysler becoming a private company, it was on the list of S&P's 500. In 1998, it was acquired by German automaker Daimler in a \$39 billion equity swap (Badrtalei and Bates 2007). This acquisition failed to yield the expected value creation in terms of competitive advantage, and increased cash flows. Instead, it resulted a class-action law suit that forced the eventual sale of Chrysler to a private equity firm Cerberus Capital Management in 2007 resulting in \$7 billion loss to the shareholders.

Also making the list is the gargantuan American Online (AOL) and Time Warner merger and acquisition. For this transaction, AOL acquired Timer Warner in a \$164 billion deal that closed in 2000. The immediate 18 months following the acquisition was the most turbulent for AOL mainly due to the infamous \$99 billion reported loss and the attempt to

reconstitute the merged company back into its original components thereby resulting in a huge decrease of shareholder value (Bodie 2005).

Consistent with the anecdotal evidence above, academic research studies have confirmed the failure rates associated with acquisitions (Haleblian, et al., 2009; KPMG, 1999, 2014; Rottig et al., 2013). The literature on acquisitions is replete with research studies that have evaluated the impact of acquisitions on the participating companies (Caiazza and Volpe 2015). These existing studies have focused on how acquisitions impact solvency from the standpoint of the acquiring firm, as well as how it impacts the risk profile and shareholder value. Moeller, Schlingemann et al., (2005), and Hayward and Hambrick (1997) conclude that the lackluster performance of many acquisitions are driven by poor acquisition strategies, poor decision making, and executive hubris. The agency-theoretical explanations supporting why acquisitions do not necessary lead to shareholder value creation is the hubris and agency hypothesis which posits that TMT executives have the tendency to overestimate their capabilities in terms of identifying, negotiating and executing successful acquisitions (Hayward and Hambrick 1997) deals that are in the interest of shareholders. Hayward and Hambrick (1997) in their study which focused on the conditions in the acquiring firm argued that the abysmal performance of acquisitions can be attributable to unrealistic expectations of TMT rooted in the TMT's power and penchant for aggrandizement.

The anecdotal evidence and the empirical literature suggest that an effectively constituted TMT should yield better acquisition decisions. This is especially so because of the strategic nature and the critical role that TMT members play in driving the overall strategy and direction (Dezsö and Ross 2012; Wang, Sui et al. 2014) of the firm. In this thesis, I examine whether the diversity of TMT has an impact on the quality of acquisition decision. According

to Hambrick, Cho et al. (1996), firms with diverse TMT in terms of functional backgrounds, education, and tenure demonstrate high tendency for action and these actions are usually very impactful in both magnitude and substance. The relevant argument in support of this position is that, TMT diversity at the firm level presents a better strategic decision making process due to readily available cognitive and knowledge-based resources among TMT members which are essential skills required for solving complicated problems (Hambrick, Cho et al. 1996).

The other argument of significant importance is that according to the Upper Echelons Theory in terms of making decisions (Hambrick and Mason 1984), heterogeneous teams are better at processing complex information in comparison to homogeneous teams thereby, creating a sort of think-tank scenario at the TMT level of the firm resulting in a significantly improved quality of decision. Given that the decision making process and capabilities of the TMT members are critical to the success and smooth execution of an acquisition deal that creates value (Saxton and Dollinger 2004), this research study seeks to investigate and evaluate the impact of TMT diversity on acquisition decision quality as reflected in the announcement returns of the acquiring firm. Specifically, I address the following research questions:

*1. Does TMT diversity affect the quality of acquisition decision as reflected in the announcement return?*

*2. Are all diversity characteristics important or only some of them, if so, which ones?*

The study focuses on TMT diversity traits along several dimensions including: gender, age, job diversity, cultural diversity, education, tenure, and political affiliation. I use announcement period returns to acquirer shareholders as my measure of acquisition decision quality. Announcement period returns are extensively used in the finance literature to assess the

efficacy corporate policies including investment decisions (Guiso et al., 2008; Bottazzi et al., 2010), cash holdings (Chen et al., 2015), capital structure (Chui et al., 2002), and cost of capital (Gray et al., 2013).

## CHAPTER II

### LITERATURE REVIEW

In this section, I cover some of the background literature relevant to my study. Specifically, I cover the following streams of literature: (1) announcement effects of mergers and acquisitions (2) effect of TMT diversity on effective decision making, and (3) effect of TMT diversity on firm performance.

#### **2.1. Announcement Period and Acquirer Returns**

Announcement returns have been used extensively in financial research to assess, among other things, the efficacy of various corporate policies/decisions. For example, announcement returns have been used to study the effects of dividends, repurchases, debt and equity issuances, board changes, and merger and acquisitions. In this section, I present an overview of the literature on announcement effects of mergers and acquisitions. This literature is important because I am assessing acquisition quality using announcement shareholder returns. This measure most directly captures shareholders' assessment of management's acquisition decision contemporaneously with when the decision is made public.

Table 1 and Table 2 below highlight and summarize these earlier research studies conducted over the past two decades on acquirer performance around the announcement period utilizing event (i.e. event window) study methodology and the authors provide evidence pointing to some acquirers showing positive returns while others show negative returns around announcement period. However, the studies are remarkable in that, regardless of whether the announcement period returns are positive or negative, they closely cluster around zero. Across all the studies in the two tables, the median announcement period return is only 1.45 percent (not adjusting for differences in the announcement windows examined). This contrasts with the sizeable returns experienced by target firms which average around 25.22 percent (Schwert, 2000; Kaplan and Weisbach, 1992; Servaes, 1991; Bradley et al., 1988; Jarrell and Poulsen, 1989).

The underwhelming acquirer announcement returns are often used to support the argument that acquisition decisions are on average ineffective. Despite the low absolute announcement returns to acquirer shareholders, many of these studies also find that cross-sectional variations in the returns are systematically related to number of firms, deal, and management related variables. This implies that shareholders are able to discriminate between what are perceived to be good and bad deals.

Firm and deal characteristics associated with significant acquirer returns include acquirer efficiencies (i.e. the acquirer's ability to plan their resource allocations to align with corporate strategy), relative size of the deal, cash vs. stock offers, Tobin's Q of acquirer, monopoly power or the redistributions from other stakeholders<sup>1</sup>.

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<sup>1</sup> Golubov et. al. (2015) took these earlier explanations in terms of the drivers behind acquirer returns around announcement day even further by positing that acquirer returns could be attributed to acquirer firm fixed effects. They suggest that firm fixed effects form a significant part (i.e. depending on size) of the variations in acquirer returns in contrast to the variables identified by the earlier studies. Thus, Golubov et. al (2015) asserted that firms have attributes that allow them to either specifically benefit from synergies with their acquisitions or, have extraordinary capabilities and abilities at valuing good and prospective targets.

**Table 1**

***Acquirer Returns: Evidence from Event Studies***  
***Panel A: Studies Reporting Positive Returns to Acquirer***

<b>Author(s)</b>	<b>Study Period</b>	<b>Sample size</b>	<b>Country</b>	<b>Event Window</b>	<b>Main findings</b>
Song and Walking (2004)	1985-2001	5726 mergers and acquisitions	US	-1 to 0 days	Acquirer earned 1% positive abnormal returns (i.e. acquirer bid activity dormant for more than a year), and insignificant return if acquirer bid activity is dormant for less than a year.
Walker (2000)	1980-1996	278 acquisitions, 230 mergers and 48 tender offers	US	-2 to +2 days	Significant negative abnormal returns of -0.84% (t=-1.91 which is significant at the 0.10 level)
Kohers and Kohers (2000)	1987-1996	961 cash deals 673 stock deals 1634 whole sample	US	0 and +1 days	positive cumulative abnormal returns: +1.37% cash deals +1.09% stock +1.26% whole sample
Jarrell, Poulsen (1989)	1963-1986	461 acquisitions	US	-5 to +5 days	+0.92% positive cumulative abnormal returns (t=2.36 which is significant at the 0.10 level)
Bradley, Desai, Kim (1988)	1963-1984	236 acquisitions	US	-5 to +5 days	+0.97% positive cumulative abnormal returns with a t-statistic of 1.69. This is not significantly different from zero at the 5% level.
Mulherin (2000)	1962-1997	161 acquisitions	US	-1 to 0 days	+0.85% positive cumulative abnormal returns
Leeth, Borg (2000)	1919-1930	466 acquisitions	US	-40 to 0 days	+3.12% positive cumulative abnormal returns
Bradley et al. (1983)	1962-1980	241 successful and 94 unsuccessful bidders	US	-20 to +20 days	-Unsuccessful bidders gain, on average, 2.32% over -20 to +1 day, but lose -2.96% as soon as the bid failure is revealed (+2 to +20 days). Both statistically significant. -Unsuccessful bidders exhibit insignificant gains of -0.64% over -20 to +20 day period.
Jarrell, Brickley, Netter (1988)	1962-1985	440 acquisitions	US	-10 to +5 days	+1.14% positive cumulative abnormal returns
Schwert (1996)	1975-1991	666 acquisitions	US	-42 to +126 days	+1.4% positive cumulative abnormal returns
Maquieira et al (1998)	1963-1996	55 non-conglomerate deals 47 conglomerate deals	US	-60 to +60	+6.14%** non-conglomerate -4.79% conglomerate deals
Smith, Kim (1994)	1980-1986	177 acquisitions	US	-5 to +5 days -1 to 0 days	+0.50% positive cumulative abnormal returns +0.23% positive cumulative abnormal returns
Asquith, Bruner, and Mullins (1983)	1963-1979	170 acquisitions	US	-20 to +1 days	+3.48% positive cumulative abnormal returns



**Table 2**

***Acquirer Returns: Evidence from Event Studies***  
***Panel B: Studies Reporting Negative Returns to Acquirer***

<b>Author(s)</b>	<b>Study Period</b>	<b>Sample size</b>	<b>Country</b>	<b>Event Window</b>	<b>Main findings</b>
Sudarsanam and Mahate (2003)	1983-1995	519 acquisitions	US	-1 to +1	acquirers earn abnormal returns of between -1.39% and -1.47% (significant) using variety of benchmarks.
Gupta and Misra (2004)	1980-1998	285 mergers and acquisitions	US	-10 to +10 days	Acquirer lose significant 1.57% over the -1 to 0 event window. The returns over -10 to -2 and +1 to +10 were insignificant.
DeLong (2001)	1988-1995	280 acquisitions	US	-10 to +1 days	-1.68% negative cumulative abnormal returns
Mulherin and Boone (2000)	1990-1999	281 acquisitions	US	-1 to +1 days	-0.37% negative cumulative abnormal returns
Sirrower (1994)	1979-1990	168 acquisitions	US	-1 to +1 days	-2.3% negative cumulative abnormal returns
Healy, Palepu, Ruback (1992)	1979-1984	50 acquisitions	US	-5 to +5 days	-2.2% negative cumulative abnormal returns
Lang et al. (1991)	1968-1986	87 targets and bidders from successful tender offers	US	-5 to +5	Negative abnormal returns ranging from -6% to -7% from single, opposed bids (significant). Insignificant abnormal returns to multiple, opposed bids.
Jennings, Mazzeo (1991)	1979-1985	352 acquisitions	US	-1 to 0 days	-0.8% positive cumulative abnormal returns
Franks, Harris, Titman (1991)	1975-1984	399 acquisitions	US	-5 to +5 days	-1.45% negative cumulative abnormal returns
Kaplan, Weisbach (1992)	1971-1982	271 acquisitions	US	-5 to +5 days	-1.49% negative cumulative abnormal returns
Mitchell and Lehn (1990)	1980-1988	228 hostile targets, 240 friendly targets, 232 bidders	US	-1 to +1 days	Abnormal returns of -1.66% to acquiring firms restructured following bid. 0.70% to acquiring firms that are not restructured post-bid period (significant).
Malatesta (1983)	1969-1974	256 acquiring firms	US	-60 to +12 months	0.043% average abnormal return from -60 months (significant). -0.054% average abnormal return (significant) from month 1 after the bid until 6.
Lang et al. (1989)	1968-1986	87 targets and bidders from successful tender offers	US	-5 to +5 days	Negative impact on bidder returns when the bid is made by a low Tobin's q firm. Acquirers earn 0.8% from unopposed bids and -0.14% from opposed bids (neither is significant).
Asquith (1983)	1962-1976	285 acquisitions	US	+1 to +240 days	Losses of -7.2% to successful bidders and -9.6% to unsuccessful bidders in the post-outcome period (both significant).

Of special interest to my study is the effect of management and board attributes on acquirer announcement returns. Jaffe et al. (2013) find that CEO identity plays a significant role in explaining and determining the underlying consistency in acquirer performance. That is, their study brought to light the fact that if an acquirer is successful in an acquisition and retains the same CEO for its next acquisition deal, the odds are that the average return to the acquirer is significantly greater than the return for a firm that had a bad acquisition and retained associated CEO. Thus, they did not find consistency in the announcement returns when the firm changes CEO. Based on this finding, they drew the conclusion that announcement returns of the acquirer are significantly more related to the CEO specific characteristics rather than firm specific characteristics.

Harford et al. (2012) looked into acquirer returns with the objective of explaining why entrenched managers enter into acquisition deals that destroy shareholder value. Thus, instead of looking into firms that have the special capabilities of identifying good acquisition targets, they are more interested in understanding managers who have the penchant for continuously making bad acquisition decisions. Their research suggests that shareholder value destroying acquisitions, as evident in lower than expected acquirer returns, is attributed to the attempt by managers' quest to maintain entrenched positions in their decision making process. They defined "entrenched" position as having 10 or more of the anti-takeover provisions in the GIM index (Gompers et al., 2003).

Other recent papers also researched the specifics of director characteristics and how these characteristics affect acquisition activity and its outcomes. For example, Levi et al. (2014) researched the effect that a director's gender could potentially have on acquisition returns. Their results posit that female directors are less inclined to overstate merger and

acquisition gains therefore, are predisposed to make comparatively fewer acquisitions and pay marginal and lower premiums for acquisition deals. Based on these findings, they presented the argument that suggests that board diversity impact acquisition decisions and corporate policies. In a similar study, Miletkov et al. (2017) looked at the impact to acquisition returns when firms add a foreign director to their board. The findings of their research suggest that firms do in fact benefit if the director hails from a country noted for higher governance structure thus, the acquirer realizes positive returns during acquisition announcement period.

Elnahas and Kim (2017) studied political contributions by establishing the political affiliations of CEOs of firms to see if such political affiliations have any impact on the outcome of acquisition decisions in terms of acquirer returns. Their research findings support the argument that CEOs that contribute to the Republican party are less likely to engage in mergers and acquisitions decisions. On the other hand, if they pursue an acquisition, the deal is usually consummated by the use cash payment. Thus, Republican CEOs seem to prefer acquisitions deals with less information asymmetry.

In summary, the announcement studies reveal that while acquisition decisions do not appear to gain overwhelming endorsement from their shareholders, the perception of acquisitions is significantly related to certain firm, deal, and management characteristics. One management characteristic that has not been examined is the quality of the top management team as revealed by the diversity of the executive team. Thus, my research contributes to the M&A literature and provides a new perspective on the important relationship between TMT diversity and acquirer announcement returns.

In the next sections I discuss some of the background literature on TMT diversity and its importance for firm performance and acquisition quality decision.

## **2.2. Upper Echelon Theory, TMT Diversity and (Effective) Decision Making**

In this section I discuss the Upper Echelon Theory as a basis for understanding the effect of TMT diversity on effective decision making. Strategic decisions by TMT ranks as one of the dominant and significant roles and responsibility of management and as posited by Carpenter et al. (2004), upper echelon theory focuses on TMT background as the primary indicator of TMT mindset, behavior and orientations such as corporate decisions and governance. Upper echelon theory lays the foundation for understanding the impact of TMT diversity on the overall decision-making process of the firm which in essence, translates into how the firm operates, competes and perform in the marketplace. The dominant coalition (Cyert and March, 1963) in a firm is its top managers and the effectiveness, strategies and the overall direction of the firm are viewed as a direct consequence of the values and cognitive bases of the dominant coalition – that is its top managers (Hambrick, 1984).

Building upon these assertions, Ferrier (2001) investigated the dynamics of TMT impact on firm competitive undertakings. Leveraging a composite measure of TMT heterogeneity, Ferrier (2001) find that TMT heterogeneity was positively correlated with firm competitive pursuits. In essence, Ferrier's study supports the position that heterogeneous TMTs are more inclined to pursue and initiate competitive actions that result in subsequent gains and value creation for shareholders. Additionally, his findings buttress the extensive literature on the benefits and of heterogeneity (Carpenter, 2002; Williams

and O'Reilly, 1998) – most importantly, the instances where the socio-cognitive benefits of TMT heterogeneity permit TMTs to better handle tasks of higher complexity whereas the socio-cognitive conflict also invariably undermines and slows down critical cooperative efforts required for effective strategy execution. Other scholars studied the linkage between TMT background and the implications on firm performance and find that tenure diversity affects and leads to the likelihood of a successful acquisition (Bergh, 2001; Cannella and Hambrick, 1993). Specifically, attracting and retaining long tenured TMT level members is positively correlated with firm performance due to the fact that long tenured TMT executives possess knowledge of the internal workings and the relationships required to ensure firm performance and success.

As the quest by scholars to link TMT and decision making grows, so does the curiosity surrounding what is inside the “black box” of the upper echelons. It is in this regard that studies such as the ones conducted by Denis, Lamothe, and Langley (2001) and Smith et al. (1994) drew considerable attention to the urgent need to refine our understanding around the processes and framework by which TMT member level characteristics impact firm performance in terms of decision processes. Papadakis and Barwise (2002) research the circumstances under which TMT characteristics impact strategic decision making process. Their study find that the CEOs and other key members of the TMT impact the strategic decision making process but with varying impacts. For example, they find that CEO tenure was correlated with a more decentralized decision making approach whereas TMT education diversity impacted the overall decision making process.

One of the comprehensive studies conducted using the upper echelon theory was by Peterson et al. (2003). Their study find that CEO characteristics and personality traits can impact the dynamics of the top management team thereby affecting the overall strategic decision making process and in turn, reflects in performance differences among firms. Their overarching basis as grounded in the upper echelon theory is that CEO individual differences such as agreeableness, extraversion, conscientiousness, openness and emotional stability have a significant impact on strategic decisions and TMT group processes and that these dynamics would invariably reflect in firm performance. In affirmation of this theory, they find positive impact on sales growth and return on assets mediated by TMT level dynamics.

Other existing body of literature reveal that diversity at the TMT level can be harnessed to align managerial objectives with those of shareholders (Hambrick and et al., 2005; Hayward and Hambrick, 1997; Hambrick and Cannella, 2004) and again, this position is derived from the work of Hambrick and Mason (1984) which posits that diversity among TMT members as reflected in their varying characteristics is expected to increase decision quality. This position is grounded in their conclusion to the effect that routine problem solving in most cases can be addressed by homogenous groups whereas, ill-defined, complex and novel problems are best addressed and resolved by a heterogeneous group where diversity of opinions, resource knowledge, experience and background allow for a more robust sharing of ideas and viable alternatives.

Within the framework of the upper echelon theoretical explanation, Watson, Kumar, and Michaelson (1993) posits that heterogeneous groups outperform homogeneous groups. They base their argument on the premise that strategic decision making is a process

that is characterized by significant complexity, uncertainty and non-routine tasks therefore, heterogeneous groups thus tend to improve the quality and comprehensiveness of the decision making process which then leads to improved firm performance. Finally, it is worth noting and affirming that within the perspective of the upper echelon theory, TMT diversity influence firm level decisions such as strategic direction (Yang and Wang, 2014), speed of strategic responses (Hambrick et al., 1996), acquisition success (Nadolska and Barkema, 2014) and these are based on the premise that TMT heterogeneity result in better overall strategic decisions and improved firm performance.

### **2.3. TMT Diversity and Firm Performance**

In this section, I present an overview of the empirical evidence on the effect of diversity on decision making and firm performance.<sup>2</sup> In the finance and management literature, there is extensive coverage on the topic of TMT diversity and these studies underscore the fact that diversity at the executive level of the firm and its impact on firm performance cannot be ignored in terms of decision making, communicative skills, risk aversions, and conservatism (Ittonen, Miettinen et al. 2010); Balakrishnan, Watts et al. 2016; Williamson 1988; Velte, 2017). Some earlier studies suggest that TMT diversity influences values, perceptions, cognition and decision processes at the firm level (Yang and Wang, 2014; Dezso and Ross, 2012; Dixon-Fowler et al., 2013). As a result of these findings, it has been established that diversity at the TMT level can have both positive and negative effects on the decision quality of the firm which invariably impact firm

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<sup>2</sup> I present more in depth coverage of the relevant literature on diversity when discussing my specific hypotheses on the effect on various diversity attributes on acquisition quality.

performance (Parola, Ellis et al., 2015; Kauer, Prinzessin zu Waldeck et al., 2007; Triana, Miller et al., 2013).

Farrell and Hersch (2005) and Frijns, Dodd et al. (2016) examined the impact of diversity in terms of gender, age, and experience on firm performance. The outcome of their research suggest that gender and cultural diversity are both positively correlated with firm performance and contributes positively to the increase of shareholder value through the consolidation of diversely rich viewpoints. The benefits of diversity is derived from the vital contributable information resources (Kauer, Prinzessin zu Waldeck et al. 2007), improved ability to assess strategic decisions (Hambrick and Mason 1984), and the benefit of being able to scan for vital information (Keck 1997). These benefits have the potential to significantly improve the quality of the decision making process during an acquisition endeavor.

In contrast, other earlier studies found negative impact of TMT diversity on the decision making process thereby underscoring the significant decline in effective communication among TMT members (Ring and Van de Ven 1994), rise in within conflicts due to differences in perspectives (Simons, Pelled et al. 1999) and the lack of consensus building (Knight, Pearce et al. 1999) due to varying positions on subjects of strategic importance as the main causes of the negative effect on firm performance. Undoubtedly, these conflicting findings, thus – the positive and negative effects of TMT diversity on firm performance would invariably impact acquisition quality.

The foregoing literature review identifies two research gaps that this study hopes to fill. First, the literature on acquisitions reveals that despite the potentially transformative



nature of such events, on average acquisitions are associated with announcement returns that are close to zero suggesting that investors do not ascribe significant wealth effects to such decisions. Given the human and financial resources that are expended on acquisitions, it is important to look at all the contributing factors that could potentially impact and influence acquirer performance. Surprisingly, the earlier studies that examined acquirer returns did not give any considerations to TMT diversity which I consider to be a key factor that cannot be ignored considering all the strategic decisions that precede any acquisition endeavor. Considering that specialized skills set are required during the decision-making process does not only call for, but also lends credence to the fact that a diverse background is required to ensure a value creating acquisition transaction. Second, the literature on TMT diversity and firm performance is mixed. In part this may be because according to UET, the value of diversity is greatest when confronting complex problems. Acquisitions fall into this class and are ideally suited to test the hypothesis that diversity is especially beneficial in a complex decision setting consistent with the UET. Thus, this study hopes to contribute to both the acquisitions and the diversity literatures by connecting the diversity literature and M&A literature to bring out the important relationship between TMT diversity and its effect on acquisition quality by empirically looking into how human-related characteristics (i.e. TMT diversity) potentially affect acquisition quality as reflected in the announcement returns.

## CHAPTER III

### HYPOTHESIS FORMULATION

#### **3.1. TMT and Acquisition Quality**

The level of uncertainty surrounding acquisitions and the complex nature of the process underscores the relevance of the role of TMT members (Haspeslagh and Jemison, 1991; Buono and Bowditch, 2003; Pablo, Sitkin et al., 1996; Gomes, Angwin et al., 2013; Nadolska and Barkema, 2014). The acquisition process revolves around a myriad of key decision milestones that must be achieved and executed right from the beginning of the acquisition process to the end (Gomes, Angwin et al. 2013). These decision milestones include the identification of the target, the negotiation and ironing out of deal terms, and the timing of executing the deal. These decisions require knowledge resources, cognition, experience and capabilities lumped into one functioning unit.

Mirc (2014) in his study on the human impact on acquisition performance alluded to the fact that the initial phase in an impending acquisition deal revolves around addressing several key strategic questions by the management team. His study deliberated on a few of these key decision questions including the decision of whether to acquire or not acquire, what price to pay for the transaction, what mode of payment is preferred, what time frame is desired, et cetera. The approach to these essential questions and mechanism by which they are addressed could directly and indirectly impact the outcome and quality of the acquisition.

Pablo, Sitkin et al. (1996) studied acquisition decision-making processes and their findings underscore management's risk propensities and risk perceptions as forming the foundation of whether to or not to acquire, as well as the selection and evaluation of the prospective acquisition candidates. They define risk propensity as the general inclination of an individual TMT to either avoid or take risk and the mechanism by which the team member evaluates and decides which level of risk is tolerable. They also defined risk perception as the individual team member's understanding and assessment of the inherent risk surrounding a given scenario and how they can control for the perceived risk. In their model, they concluded that the higher the decision maker's risk propensity, the stronger the pursued strategy which results in the ultimate decision to acquire, and the opposite effect is true thereby leading to the abrogation of the acquisition deal if the risk propensity of the decision maker is low.

Acquisitions are noticeable events and represent a significant growth strategy that requires several decision making processes and these decision making processes come with substantially measurable changes to the acquirer (Haspeslagh and Jemison 1991). One of

the most critical phases in the acquisition process is the phase where the firm makes a determination whether to go forward with the deal or to discontinue the process, and this critical decision takes place prior to the announcement of the deal (Buono and Bowditch 2003). Undoubtedly, acquisition endeavors present huge challenges and are regarded as very complex and often times, uncertain strategic events (Zollo 2009) and by their nature, provide an excellent platform for researchers and practitioners alike to analyze the heterogeneity among TMT members and empirically determine the impact of these diversity characteristics on the quality of the acquisition as reflected in the announcement return. As detailed out, TMT diversity characteristics have been posited to have a myriad of effects, both positive and negative on firm performance. This argument can be extended to acquisition quality from the standpoint that, an any decision taken require varying leadership abilities, cognition, and experiences.

Despite the extensive research studies on TMT diversity characteristics (Haleblian, Devers et al. 2009; Bergh 2001) and its impact on firm performance, there is no empirical study that I am aware of that looked into the critical issue of TMT diversity and its impact on acquisition decision quality as reflected in the announcement returns. While homogeneous top management teams are known for making expedited decisions, there are other prominent studies such as studies conducted by Ferrier (2001) and Nadolska & Barkema (2014) that suggest that heterogeneous TMTs are better at handling more complex problems. It is in line with this team heterogeneity effect that a sound understanding human's diversity characteristics and how it affects acquisition quality is worth studying.

To test the effect of TMT diversity on acquisition quality, one has to first identify relevant diversity attributes. Buyl, Boone et al. (2011), Finkelstein and Hambrick (1996) and Goll and Rasheed (2005) suggest that TMT members are made up of a unique group of individuals with diverse backgrounds and their diversities are grounded in different biases and prejudices and the behavior of these TMT members as individual contributors to the whole, are influenced by power affiliations and social constraints. In line with this view point, diversity when placed within the context of the organization can be defined to include the differences in race, gender, nationality, age, cultural background education and marital status resulting in potential behavioral differences among group members in relation to other groups (Acquavita, Pittman et al., 2009; Larkey, 1996). For my study, I consider the following diversity attributes: culture, gender, education, age, tenure and political affiliation. In the next few subsections I present my arguments as to why I chose these attributes and the hypothesized effect on acquisition quality.

### **3.2. Cultural Diversity and Acquisition Quality**

Culture is defined as the “collective programming of the mind that distinguishes members of a group or category from one another” (Hofstede 2001). It represents an implied framework compared to obvious institutions rules, regulations, or a political system. Ferreira (2010) defines cultural diversity as a group of diverse individuals who exhibit varying tendencies when it comes to prejudices and biases and whose behavior tend to be affected by social limitations. Academic researchers have in recent years been drawing attention to the role that cultural diversity play in organizational settings (Ahammad and Glaister, 2011; Faulkner, Teerikangas et al., 2012). National origin of individuals serves as the basis of their culture and it reflects the institutional environment

that shaped their formative years (Hambrick et al., 1998) and to a greater extent, how they cope with uncertainty, and how they decipher and make important decisions (Crossland and Hambrick, 2007).

Several studies find that culture affects corporate policies including investment decisions (Guiso et al., 2008; Bottazzi et al., 2010), cash holdings (Chen et al., 2015), capital structure (Chui et al., 2002), and cost of capital (Gray et al., 2013). To provide insight into the culture-based performance determinants of acquisitions and its associated methodological effects, Stein Kleppesto (1998) relied on the concept of social identity to investigate and study the role of culture in acquisitions. In his study, he posits that each firm consists of numerous individuals and these individuals have self-identities that are socially and contextually exhibited to help create meaning on both an individual and team level. He suggests that socio-cultural ramifications may not necessary yield a unified whole but instead create a framework where different identities and viewpoints manifest and coalesce thereby having positive impact on acquisition success.

Stahl and Voigt (2008), and Weber and Yedidia Tarba (2012) examined the impact of cultural diversity on acquisition as a way of reconciling studies that point to both positive and negative impacts and their study concluded that cultural diversity affects pre-merger acquisition performance in a very minimal way. So, considering that there are research studies that examined cultural diversity and reported positive impact on acquisition (e.g. Very, Lubatkin et al., 1997; Datta and Puia, 1995), there are other research studies that have also established a negative relation in terms of cultural diversity's impact on acquisition performance (Morosini, Shane et al., 1998).

The evidence above suggests that cultural differences are associated with varied viewpoints. Combining this with the Upper Echelons Theory suggests that TMTs with greater cultural diversity should be associated with better acquisition decisions. Thus, the following hypothesis:

*H1. TMT cultural diversity is positively related to acquisition decision quality as reflected in the announcement returns.*

### **3.3. Gender Diversity and Acquisition Quality**

Gender is an important characteristic of TMT diversity from the standpoint of its influence on TMT values, perceptions, cognition and overall decision choices (Dezsö and Ross 2012; Wang, Sui et al. 2014). Gender is defined as the psychosocial ramifications of biological sex, that is female or male (Unger 1979). Deaux and Major (1987) and Eagly (1987) defined gender from the view point of the manner in which men and women interact with one another and the social role they are supposed to play and enacted in society. In the psychology and management literatures, there is ample evidence that supports and acknowledges that gender diversity is quintessential when it comes to ethical behavior, conservatism, and risk aversion (Fehr-Duda, De Gennaro et al. 2006) in the decision making process.

The literature in economic psychology and finance is equally replete with studies that examined, for example, the impact of female managers on firm performance (Campbell and Mínguez-Vera, 2008; Farrell and Hersch, 2005) and concluded that gender diversity is positively related with a company's performance. Their reasoning was that that gender diversity results in wider pool of knowledge, which could translate into competitive

advantage in comparison to companies that are not diverse. Sila, Gonzalez et al. (2016) examined female presence on the executive team and the extent of their contributions in terms a firm's risk profile and position and their study concluded that females in such position tend to be more conservative and also, possess high ethical compass. Additionally, Al-Mamun, Yasser et al. (2013) argues that gender diversity has a positive effect on performance building on the resource based view of the firm, whereas, Ali, Kulik et al. (2011) established a negative relationship when it comes to gender diversity and performance based on the social identity theory whereas, Svyantek and Bott (2004) study on gender and performance produced relatively no effect.

The evidence above suggests that gender differences are associated with varied viewpoints. Combining this with the Upper Echelons Theory suggests that TMTs with greater gender diversity should be associated with better acquisition decisions. Thus, the following hypothesis:

*H2. TMT gender diversity is positively related to acquisition decision quality as reflected in the announcement returns.*

### **3.4. Tenure and Acquisition Quality**

Tenure diversity has been shown to have a positive effect on performance and improved decisions. This is because studies have shown that extended tenure and tenure diversity significantly impact the degree to which top managers leverage their experiences and networks to enhance their decision making process (Athanassiou and Nigh 1999). Human capital theory suggests that job tenure is positively correlated with enhanced and greater job performance because employees acquire more tacit skill set and knowledge



about how to make decisions and perform their job more effectively over time (Schmidt, Hunter, & Outerbridge, 1986). Additionally, there are studies that find longer and diverse job tenure lead to less creativity and decline in innovative behavior and they define creativity as the extent to which a team member of the firm contributes new and useful ideas (Shalley, Zhou, Oldham, 2004) and innovative behavior as the generation of novel ideas and the effective execution of those ideas within workplace team environment (Janssen, 2001). Ng and Feldman (2013) in their study find that long job tenure is positively related to increase measures of idea generation during decision making, and improved task execution and implementation. In essence, their study suggests that longer job tenure enhances the employee's ability to make decisions that facilitate the implementation of change more effectively.

Finally, in the motivation and job design literature, Hackman and Oldham (1980) conducted a study which suggests that longer job tenure leads to decreased intrinsic motivation and increased feeling of job dissatisfaction and boredom which culminates into poor performance and less creativity. Increase in tenure diversity comes with increase procedural knowledge. The study by Hunter and Thatcher (2007) posits that individuals with diversity in tenure and more years of service are likely to know more about how to handle a myriad of complex problems and roadblocks to task completion.

The evidence above suggests that tenure diversities are associated with varied viewpoints. Combining this with the Upper Echelons Theory suggests that TMTs with greater tenure diversity should be associated with better acquisition decisions. Thus, the following hypothesis:

*H3. TMT current tenure diversity is associated with acquisition decision quality as reflected in the announcement returns.*

*H4. TMT total tenure diversity is associated with acquisition decision quality as reflected in the announcement returns.*

### **3.5. Age and Acquisition Quality**

Age is an important demographic characteristic that have been studied in recent years by several researchers (Randøy, Thomsen et al. 2006; Moscu 2013). The diversity of years (i.e. age) is very relevant due to the fact that, depending on the cohort of the particular TMT group at a firm, it is possible to attract and sustain interest from certain group of investors, enrich TMT decision making process due to experience achieved through years, and customers. It is generally thought that without adults, even the young ones have little room to learn (Moscu 2013) which extends to the suggestion that age diversity has a positive effect on team heterogeneity in terms of performance. However, there are other extant research studies that have revealed that age is negatively related to performance and this was revealed in the study conducted by Randøy, Thomsen et al. (2006) as well as the research performed by Moscu (2013).

The evidence above suggests that age differences are associated with varied viewpoints. Combining this with the Upper Echelons Theory suggests that TMTs with greater age diversity should be associated with better acquisition decisions. Thus, the following hypothesis.

*H5. TMT age diversity is positively related to acquisition decision quality as reflected in the announcement returns.*

### **3.6. Political affiliation and Acquisition Quality**

A good measure of political affiliation is determined by tracing the monetary contributions of individuals or PACs to the various political campaign activities either at the local, state, or federal level (Hutton, Jiang et al. 2015). Individuals' political affiliation has been found to influence their overall decision making process. Individuals with conservative ideologies are more likely to adopt conservative policies, which in turn may result in less risky choices. Therefore, a firm's capital structure and investment policies may be affected (Mayer, Warr & Zhao, 2018). Additionally, Hutton, Jiang, and Kumar (2015) find that Republican managers are more likely to adopt conservative corporate policies, which is consistent with their conservative personal ideologies. In essence, their findings align with the perceived fact that the Republican party emphasizes a conservative philosophy which implies lower levels of leverage, lower capital and research and development (R&D) expenditures, less risky investments and higher profitability.

The evidence above suggests that political differences are associated with varied viewpoints. Combining this with the Upper Echelons Theory suggests that TMTs with greater political diversity should be associated with better acquisition decisions. Thus, the following hypothesis:

*H6. TMT political affiliation diversity is positively related to acquisition decision quality as reflected in the announcement returns.*

## CHAPTER IV

### EMPERICAL DESIGN

#### **4.1. Sample Selection and Data Sources**

For purposes of this study, TMT is defined to include the top five highest paid executives of the company. To investigate the relationships between TMT diversity and acquisition quality as reflected in the announcement return, my study is comprised of firms of the S&P 1500. My main sample of firms and financial information is obtained from the Center for Research in Security Prices (CRSP), Compustat, and ExecuComp databases for the periods 2010 through 2017. Additionally, I obtain acquisition announcement dates from Securities Data Company's (SDC) U.S. Mergers and Acquisitions database. I established the following criteria for pulling the acquisition specific data:

1. The acquisition is marked completed.
2. The transaction size must be at least 20% of the acquiring firm's size.
3. The acquirer must be publicly traded and domiciled in the U.S.
4. The acquirer must control 100% of the target.

5. The acquirer has annual financial data that is readily available in Compustat and stock return data (210 trading days prior to acquisition announcement).
6. There may be no more than 5 days of missing returns over the estimation

Finally, I obtain key demographic information such as culture, gender, age, tenure, job and job diversity from Boardex database. The above selection criteria were used to generate my primary sample. In addition, I also generated two other samples after relaxing the acquisition criteria to 5% and 10% (see item two in the selection criteria above).

## 4.2. Research Method and Model Specification

### Dependent Variable

To assess acquisition quality, I use the announcement returns since announcement of the transaction reflect the discounted value of the acquisition. For this study, the objective is to use event study methodology to compute the abnormal stock returns around the announcement using the market model. The market's reaction to the acquisition is measured using the daily stock return data to derive the abnormal stockholder returns and this is based on the assumption of market efficiency, in that share prices react in an unbiased and timely manner and the extent of the gain is a reflection of the firm in the coming periods (Malkiel and Fama, 1970; Roberts, 1967). In line with this, the estimation model for determining the daily abnormal return on the stock is:

$$AR_{it} = R_{it} - E(\check{R}_{it}) \text{ where} \quad (1)$$

t = day measured relative to the event (i.e. acquisition announcement date),

$AR_{it}$  = abnormal return on stock  $i$  for day  $t$ ,

$R_{it}$  = return on stock  $i$  for day  $t$ ,

$E(\check{R}_{it})$  = expected rate of return on stock  $i$  for day  $t$ .

$E(\check{R}_{it})$  which is the measurement benchmark and derived from the market model (Brown and Warner, 1985). The market model is estimated over the 210-day period preceding the announcement window (-255 to -46 days). The daily returns file retrieved from the Center for Research in Security Prices (CRSP) provides the observed returns for each stock  $R_{it}$  which is calculated as the change in the stock price, plus any dividends paid, divided by the closing price of the stock on the day preceding the announcement day. The abnormal return for each stock  $i$ ,  $AR_{it}$ , is then computed as the difference between the actual return on the stock and the return predicted by the market model.

The cumulative abnormal returns for each stock  $i$ ,  $CAR_{i,k,l}$  is computed by summing the abnormal returns over the event time as indicated below:

$$CAR_{i,k,l} = \sum_{t=k}^l AR_{i,t} \quad (2)$$

where  $CAR_{i,k,l}$  is for the period from  $t = k$  days until  $t = l$  day relative to the event date.

Finally, I regress TMT diversity on  $CAR_{i,k,l}$  to test my hypotheses on the impact of TMT diversity characteristics on acquisition quality as implied in announcement period returns. My regression estimation procedure for this is as follows:

$$CAR_{i,k,l} = \alpha + \sum_{j=1}^n \beta_j TMTDiversity_{i,j} + \sum_{q=1}^m \beta_q ControlVar_{i,q} + e_i$$

(3)

where  $CAR_{i,k,l}$  represents the cumulative abnormal announcement period returns. Additionally, TMTDiversity represents the key explanatory variables of interest which are age diversity, political affiliation diversity, gender diversity, total tenure diversity, current tenure diversity and cultural diversity of the S&P 1500 list of publicly traded companies. Also, ControlVar represents the control variables which include the natural logarithm of market capitalization, relative size of the acquisition deal, book leverage and free cash flow.

### **Independent variables**

The key independent variables are age diversity, political affiliation, gender diversity, total tenure diversity, current tenure diversity, total tenure diversity and cultural diversity. These diversity measures are for the year preceding the acquisition. To provide a reliable measure of within-group heterogeneity or diversity as a variety in these independent variables, I measure the categorical differences between the group members (Miner, Haunschild et al. 2003) using Blau's index which is also known as Teachman's index (Teachman 1980). Blau's index is defined as:

$$B = 1 - \sum_{i=1}^k P_i^2 \quad (4)$$

where  $P_i$  represents the proportion of TMT members in the  $i$ th category and  $k$  represents the number of TMT diversity attributes. In essence, the Blau's index is computed by adding the squared proportions of the TMT members categorically and summing them up, then subtracting from 1. The minimum value of Blau's index is zero and the maximum value always depends on the number of categories ( $i$ ) of a particular variable of interest and the maximum variable can be computed as  $(i - 1)/i$  where  $i$  represents the number of TMT

categories (Korff, Biemann et al. 2009). When TMT diversity increases, the value of Blau's index increases. Theoretically, this effectively means that the maximum value of Blau's index increases with higher qualitatively different categories. The number of theoretical maximum for each diversity variable has been derived in the table below:

**Table 3**

**Theoretical Maximum Values for Diversity Variables**

<b>Diversity Variable</b>	<b>Category (i)</b>	<b>Theoretical Maximum</b>
Age Diversity	3	0.67
Political Diversity	3	0.67
Gender Diversity	2	0.50
Total Tenure Diversity	3	0.67
Current Tenure Diversity	3	0.67
Cultural Diversity	2	0.50

Note: The theoretical maximum possible values of the diversity variables based on Blau's index.

As noted in Table 3,  $i$  represents the number of categories of the variable (Biemann & Kearney, 2009) and the theoretical maximum of Blau's index for gender is 0.5 whereas, the maximum value for cultural diversity is 0.67. These noted differences between the variables are only comparable when we remove and correct for these differences and this is achieved by standardizing Blau's index (B). The preferred statistical approach for this correction is detail in Agresti and Agresti (1978) Index of Qualitative Variation in which they multiplied Blau's index (B) by the maximum  $i/(i - 1)$  to get a standardized value that ranges from zero to 1.

### **Control variables**

For the control variables which have the potential to influence acquisition quality performance, I control for firm characteristics such as firm size which is measured as the



natural logarithm of market capitalization, free cash flow and leverage which are shown to influence acquisition performance and were drawn from the findings of Parola, Ellis et al. (2015), Bange and Mazzeo (2004) and Travlos (1987). I also control for relative deal size.

## CHAPTER V

### RESULTS AND DISCUSSION

In this section, I discuss sample descriptive statistics followed by the results of my hypothesis tests.

#### **5.1 Descriptive Statistics and Correlations**

I discuss my sample descriptive statistics for the primary sample first (i.e. 20%). This is followed by the discussion of the supplementary samples (i.e. 5% and 10% samples) as a means to test and ensure the robustness of the research hypotheses. My primary sample using a 20% cut-off for acquisition size has a total of 74 observations, the 10% cut-off sample has 96 observations and finally, the 5% cut-off sample has 121 observations. Table 4A shows the means, standard deviations, the minimum and maximum values of the primary sample and tables 4B and 4C show the descriptive statistics for the supplementary samples. The definitions of the variables are shown in Appendix A. Table 5 is structured similar to Table 4 but contains the correlation coefficients for all the variables in the study.

For the primary sample which reflects the 20% cut-off sample size, the highest degree of diversity as indicated by the respective means are exhibited by Age diversity and Total Tenure diversity. The mean values for these two diversity characteristics were 0.629 and 0.624. The next highest explanatory variable with comparatively high diversity is Political affiliation diversity with a TMT diversity mean value of 0.590 which is then followed by Current Tenure diversity with a TMT diversity mean value of 0.314. These are immediately followed by Gender diversity which shows a TMT diversity mean value of 0.230.

The mean cumulative abnormal return is 0.009 or 0.99%. The maximum cumulative abnormal return is a positive 0.282 return and the minimum is a negative 0.223 return. This spectrum of variation in cumulative abnormal returns is not particularly surprising in light of the fact that not all corporate acquisitions result in the increase of shareholder value. Table 4A also provides the statistics for the control variables which include the natural logarithm of market capitalization, the relative size of the acquisition transaction, the book leverage of the acquiring firm and the free cash flow the acquirer.

**Table 4A**  
**Descriptive Statistics for All Variables**

<b>Primary Sample (20%)</b>					
<b>Dependent Variable</b>	<i>Obs.</i>	<i>Mean</i>	<i>Std.</i>	<i>Min</i>	<i>Max</i>
CAR (-2, +2)	74	0.009	0.085	-0.223	0.282
<b>Independent Variables</b>					
Age Diversity	74	0.629	0.214	0.000	1.000
Political Diversity	74	0.590	0.354	0.000	1.000
Gender Diversity	74	0.230	0.329	0.000	1.000
Total Tenure Diversity	74	0.624	0.225	0.000	1.000
Current Tenure Diversity	74	0.314	0.340	0.000	1.000
Cultural Diversity	74	0.111	0.242	0.000	1.000
<b>Control Variables</b>					
Market Capitalization	74	7.693	1.264	3.495	10.224
Relative Size	74	0.736	0.487	0.210	2.670
Book Leverage	73	0.240	0.224	0.000	1.064
Free Cash Flow	73	0.115	0.120	-0.026	0.952

Note: The 20% cut-off sample represents the acquisition deals that are at least 20% of the acquiring firm's size.

These indicated control variables were measured at the end of the fiscal year immediately preceding the acquisition announcement date. The mean natural logarithm of market capitalization is 7.693 which is equivalent to \$2.1 billion. The corresponding minimum value and maximum value were 3.495 and 10.224 respectively which were equivalent to \$33 million and \$28 billion respectively, which is consistent with the study conducted by Levi et al. (2014). The relative size variable is commonly used to control for the difficulty in measuring acquisition returns due to the relatively larger size of the acquirer in comparison to the target. In this regard, the relative size is computed by taking the deal value divided by the market capitalization at the end of the fiscal year

prior to the announcement day and as reflected in Table 4A, the mean value is 0.736 with a minimum and maximum values of 0.210 and 2.670 respectively.

In line with the other control variables, leverage is also measured at the end of the immediate fiscal year preceding the acquisition announcement date. In table 4A which reflects the primary sample, the mean leverage value is 0.240. The minimum and maximum leverage ratios are on the spectrum of between 0 and 1 respectively. Free cash flow exhibits a similar pattern of behavior and directionally in line with the other aforementioned control variables. The mean value for free cash flow is 0.115 and the minimum and maximum values are negative 0.026 and positive 0.952 with a standard deviation of 0.120.

The descriptive statistics for the supplementary sample sizes as indicated in Table 4B (i.e. 10% cut-off) and 4C (i.e. 5% cut-off) show similar trends and were directionally consistent with the overall observations with respect to the primary sample.

**Table 4B****Descriptive Statistics for All Variables  
Supplementary Sample (10%)**

<b>Dependent Variable</b>	<b>Obs.</b>	<b>Mean</b>	<b>Std.</b>	<b>Min</b>	<b>Max</b>
CAR (-2, +2)	96	0.006	0.077	-0.223	0.282
<b>Independent Variables</b>					
Age Diversity	96	0.646	0.211	0.000	1.000
Political Affiliation Diversity	96	0.584	0.350	0.000	1.000
Gender Diversity	96	0.227	0.328	0.000	1.000
Total Tenure Diversity	96	0.654	0.227	0.000	1.000
Current Tenure Diversity	96	0.302	0.334	0.000	1.000
Cultural Diversity	96	0.110	0.239	0.000	1.000
<b>Control Variables</b>					
Market Capitalization	96	7.886	1.245	3.495	10.372
Relative Size	96	0.598	0.497	0.097	2.670
Book Leverage	95	0.251	0.223	0.000	1.064
Free Cash Flow	95	0.115	0.111	-0.026	0.952

Note: The 10% cut-off sample represents the acquisition deals that are at least 10% of the acquiring firm's size.

**Table 4C**  
**Descriptive Statistics for All Variables**  
**Supplementary Sample (5%)**

	<i>Obs.</i>	<i>Mean</i>	<i>Std.</i>	<i>Min</i>	<i>Max</i>
<b>Dependent Variable</b>					
CAR (-2, +2)	121	0.006	0.070	-0.223	0.282
<b>Independent Variables</b>					
Age Diversity	121	0.639	0.227	0.000	1.000
Political Affiliation Diversity	119	0.576	0.348	0.000	1.000
Gender Diversity	121	0.230	0.329	0.000	1.000
Total Tenure Diversity	121	0.643	0.237	0.000	1.000
Current Tenure Diversity	121	0.279	0.332	0.000	1.000
Cultural Diversity	121	0.112	0.241	0.000	1.000
<b>Control Variables</b>					
Market Capitalization	121	7.921	1.208	3.495	10.372
Relative Size	121	0.488	0.492	0.046	2.670
Book Leverage	120	0.240	0.223	0.000	1.064
Free Cash Flow	120	-0.110	0.106	-0.952	0.026

Note: The 5% cut-off sample represents the acquisition deals that are at least 5% of the acquiring firm's size.

Table 5 presents the correlation matrices between the dependent variables, independent variables and control variables. In this section, I will first discuss the correlations among the different diversity variables, followed by a discussion of the correlations between the abnormal returns and the various diversity variables. Finally, I will discuss the correlations between the control variables and the various diversity variables. The correlations that are significant at least at the minimum 10% level of significance are depicted with an asterisk (i.e. \*).

For the primary sample (Table 5A), the highest correlation with a positive correlation coefficient is between current tenure diversity and political affiliation diversity with a correlation coefficient of 0.322. Following Cohen's (1988) recommendation, the 0.322 correlation coefficient

is considered moderately strong based on a benchmark which suggests that correlation coefficients within the range of between 0.1 to 0.23 equates to weak, 0.24 to 0.36 equates to moderately strong, and  $\geq 0.37$  equates to strong. Also indicated in Table 5A is the correlation between cultural diversity and political affiliation diversity. The associated correlation coefficient is 0.199 and it is significant at least at the 10% level of significance. Also worth pointing out is the correlation between current tenure diversity and cultural diversity. The correlation coefficient between these two variables is 0.199 and it is both positive and significant at least at the 10% level. In addition, political affiliation diversity and total tenure diversity show negative but significant correlation and the associated correlation coefficient is 0.241. While there were moderate correlations between a few of the diversity variables, the correlations between most of the diversity variables were very low correlations as shown in the Table 5A. Overall, these diversity variables are capturing different dimensions of diversity. So, these diversity variables have very little multi-collinearity with each other.

The cumulative abnormal return is negative but highly correlated with current tenure diversity. The correlation coefficient between these two variables is minus 0.235 and significant at the minimum 10% level of significance. Also, the cumulative abnormal return is positively correlated with age diversity with a correlation coefficient of 0.199 which is significant at the 10% level of statistical significance. The other diversity variables do not appear to have any significance with cumulative abnormal returns as shown in Table 5A. Based on these observations, it appears that diversity variables overall do not have a significant effect on abnormal returns. The foregoing suggests that diversity variables may have limited impact on acquisition quality but to draw a more robust conclusion, I will have to conduct regression analysis which is presented and discussed in the next section.



With regards to the control variables, leverage is observed to correlate negatively with cultural diversity. The correlation coefficient is 0.216 and it is deemed significant at least at the 10% level of significance. Leverage also has a high correlation with relative size and the correlation coefficient is 0.3800 and it is both positive and significant at least at the 10% level of significance. Additionally, leverage is positively and significantly correlated with current tenure and the correlation coefficient is 0.205. Also worth noting is the fact that the correlation between free cash flow and political affiliation diversity is moderately strong with a correlation coefficient of 0.2617 but negative, and the associated correlation is significant at least at the 10% level of significance. Additionally, the correlation between the natural logarithm of market capitalization and political affiliation is very strong with a positive correlation coefficient of 0.327. The correlation coefficient is significant at least at the 10% level of significance. Other pairwise correlations with the controls are very low. Overall, there is very little indication that multicollinearity between control variables and diversity variables is an issue.

Table 5B and 5C present the correlations of the two supplementary samples (10% and 5%). The observations are directionally consistent with the primary sample.

**Table 5A**  
**Correlation Matrix for All Variables**  
**Primary Sample (20%)**

	Age Diversity	Political Diversity	Gender Diversity	Total Tenure Diversity	Current Tenure Diversity	Cultural Diversity	CAR (-2, +2)	Market Cap	Relative Size	Book Leverage	Free Cash Flow
Age Diversity	1.000										
Political Diversity	0.1056	1.000									
Gender Diversity	-0.0453	-0.1298	1.000								
Total Tenure Diversity	-0.1234	-0.2410*	0.126	1.000							
Current Tenure Diversity	-0.043	0.3221*	0.0894	0.0847	1.000						
Cultural Diversity	0.1169	0.1996*	-0.0166	-0.1696	0.1997*	1.000					
CAR (-2, +2)	0.1988*	0.0935	-0.1148	-0.0082	-0.2354*	0.1618	1.000				
Market Cap	-0.1301	-0.3265*	0.2672*	0.1369	-0.0887	-0.1163	0.0101	1.000			
Relative Size	-0.0353	0.0037	-0.0601	0.0092	-0.0689	-0.1155	-0.0828	-0.1908	1.000		
Book Leverage	-0.1713	-0.1639	0.1161	0.0272	-0.2052*	-0.2157*	0.136	0.2012*	0.3800*	1.000	
Free Cash Flow	-0.0732	-0.2617*	0.1413	0.0878	0.1063	-0.0481	0.1227	0.1896	-0.0745	0.0555	1.000

Note: The symbols \*, \*\*, and \*\*\* denote statistical significance at the 0.10, 0.05, and 0.01 levels. All variables are defined in Appendix A.

**Table 5B**

**Correlation Matrix for All Variables  
Supplementary Sample (10%)**

	Age Diversity	Political Diversity	Gender Diversity	Total Tenure Diversity	Current Tenure Diversity	Cultural Diversity	CAR (-2, +2)	Market Cap	Relative Size	Book Leverage	Free Cash Flow
Age Diversity	1.000										
Political Diversity	0.0238	1.000									
Gender Diversity	-0.0732	-0.0885	1.000								
Total Tenure Diversity	-0.0642	-0.1353	0.1097	1.000							
Current Tenure Diversity	-0.0294	0.2582*	0.1424	0.0025	1.000						
Cultural Diversity	0.1248	0.1673	-0.081	-0.0743	0.1146	1.000					
CAR (-2, +2)	0.1434	0.1042	-0.0937	0.009	-0.2230*	0.1740*	1.000				
Market Cap	-0.0533	-0.3166*	0.2492*	0.2292*	-0.1228	-0.1256	-0.0089	1.000			
Relative Size	-0.1003	0.0181	-0.0387	-0.1221	-0.0213	-0.0805	-0.0317	-0.2921*	1.000		
Book Leverage	-0.1619	-0.1453	0.0897	-0.0152	-0.1733*	-0.2027*	0.1098	0.1998*	0.2384*	1.000	
Free Cash Flow	-0.1261	-0.1623	0.1173	0.1293	0.0375	-0.0144	0.1509	0.1716*	-0.0611	0.0478	1.000

Note: The symbols \*, \*\*, and \*\*\* denote statistical significance at the 0.10, 0.05, and 0.01 levels. All variables are defined in Appendix A.

**Table 5C**

**Correlation Matrix for All Variables  
Supplementary Sample (5%)**

	Age Diversity	Political Diversity	Gender Diversity	Total Tenure Diversity	Current Tenure Diversity	Cultural Diversity	CAR (-2, +2)	Market Cap	Relative Size	Book Leverage	Free Cash Flow
Age Diversity	1.000										
Political Diversity	0.0427	1.000									
Gender Diversity	-0.0406	-0.0179	1.000								
Total Tenure Diversity	-0.0075	-0.0811	0.0451	1.000							
Current Tenure Diversity	-0.0906	0.2049*	0.0991	-0.0849	1.000						
Cultural Diversity	-0.0499	0.0972	-0.0187	-0.1147	0.1251	1.000					
CAR (-2, +2)	0.0933	0.0659	-0.0831	0.0127	-0.1988*	0.1574*	1.000				
Market Cap	-0.1084	-0.3378*	0.1774*	0.1711*	-0.1391	-0.0809	0.0099	1.000			
Relative Size	-0.051	0.0363	-0.0382	-0.0524	0.0454	-0.0697	-0.0375	-0.2659*	1.000		
Book Leverage	-0.1197	-0.1305	0.0364	-0.0791	-0.0125	-0.1659*	0.0764	0.1586*	0.2353*	1.000	
Free Cash Flow	0.1520*	0.1720*	-0.076	-0.0963	-0.0379	-0.0369	-0.1707*	-0.2107*	0.0112	-0.0061	1.000

Note: The symbols \*, \*\*, and \*\*\* denote statistical significance at the 0.10, 0.05, and 0.01 levels. All variables are defined in Appendix A.

## 5.2 Event Study Results - Stock Price Abnormal Returns

In this section, I present and discuss the abnormal returns surrounding the acquisition announcement date for the primary sample (20%). The discussion of the primary sample is then followed by the two supplementary samples (10% and 5%). Table 6A presents the primary sample and Tables 6B and 6C present the supplementary samples. Each table consists of two panels – Panel A presents the daily event window abnormal returns, and Panel B presents the 5-day (-2, +2) cumulative abnormal returns (CAR). My discussions are primarily focused on the cumulative abnormal returns in Panel B. The daily returns indicated in Panel A are for information purposes only hence, will only be briefly discussed.

Table 6A, Panel A shows the daily abnormal returns for day minus two (-2) to day plus two (+2) surrounding the announcement date. It is notable that the daily abnormal announcement returns for the five-day event period were all positive suggesting that acquisitions are generally viewed favorably by shareholders.

Table 6A, Panel B, the results show a positive mean cumulative abnormal return (CAR) value of 0.99% with a corresponding Patell-Z test statistic of 1.635 which is significant at least at the 10% level. Overall, this is an indication that the shareholders of acquiring firms on average earn an above normal rate of return (Bruner R., 2004). This result is consistent with the study conducted by Song and Walkling (2004) where they show that shareholders gain from acquisition on the announcement date.

**Table 6A**

**Panel A: Daily Event Window Abnormal Returns  
Equally Weighted Index  
Primary Sample (20%)**

Day	N	Mean Abnormal Return	Positive: Negative	Patell Z	Generalized Sign Z
-2	74	0.05%	35:39	0.597	-0.26
-1	74	0.32%	42:32)	1.278	1.368\$
0	74	0.20%	38:36	1.449\$	0.438
1	73	0.33%	41:32	0.123	1.258
2	73	0.08%	30:43(	0.339	-1.318\$

Note: The symbols \$, \*, \*\*, and \*\*\* denote statistical significance at the 0.10, 0.05, 0.01 and 0.001 levels, respectively, using a generic one-tail test. The symbols (< or >) etc. correspond to \$, \* and show the direction and significance of a generic one-tail generalized sign test.

**Panel B: 5-Day Cumulative Abnormal Returns  
Equally Weighted Index  
Primary Sample (20%)**

Day	N	Mean Cumulative Abnormal Return	Precision Weighted CAAR	Positive: Negative	Patell Z	Generalized Sign Z
(-2,+2)	74	0.99%	0.66%	43:31)	1.635\$	1.601\$

Note: The symbols \$, \*, \*\*, and \*\*\* denote statistical significance at the 0.10, 0.05, 0.01 and 0.001 levels, respectively, using a generic one-tail test. The symbols (< or >) etc. correspond to \$, \* and show the direction and significance of a generic one-tail generalized sign test.

Table 6B, Panel B for the 10%, the mean CAR is a positive 0.66% with a corresponding Patell-Z test statistic of 1.027 which is not significant at the 10% level. This mean return is smaller compared to the primary sample. This result is not surprising since at the 10% cut-off, I am including smaller acquisition deal sizes which do not impact the acquiring company that much.

**Table 6B**

**Panel A: Daily Event Window Abnormal Returns  
Equally Weighted Index  
Supplementary Sample (10%)**

Day	N	Mean Abnormal Return	Positive: Negative	Patell Z	Generalized Sign Z
-2	96	0.00%	44:52	0.285	-0.579
-1	96	0.19%	51:45	0.725	0.851
0	96	0.35%	51:45	2.512**	0.851
1	95	0.01%	47:48	-1.412\$	0.134
2	95	0.10%	41:54	0.285	-1.097

Note: The symbols \$, \*, \*\*, and \*\*\* denote statistical significance at the 0.10, 0.05, 0.01 and 0.001 levels, respectively, using a generic one-tail test. The symbols (< or >) etc. correspond to \$, \* and show the direction and significance of a generic one-tail generalized sign test.

**Panel B: 5-Day Cumulative Abnormal Returns  
Equally Weighted Index  
Supplementary Sample (10%)**

Day	N	Mean Cumulative Abnormal Return	Precision Weighted CAAR	Positive: Negative	Patell Z	Generalized Sign Z
(-2,+2)	96	0.66%	0.36%	50:46	1.027	0.646

Note: The symbols \$, \*, \*\*, and \*\*\* denote statistical significance at the 0.10, 0.05, 0.01 and 0.001 levels, respectively, using a generic one-tail test. The symbols (< or >) etc. correspond to \$, \* and show the direction and significance of a generic one-tail generalized sign test.

Table 6C, Panel B, the mean CAR is positive 0.43% with a corresponding Patell-Z test statistic of 1.058 which is significant at least at the 10% level. This means that the shareholders of acquiring firms earn above average positive returns on the announcement day regardless of the mode of acquisition (Jarrell and Poulsen, 1989; Kohers and Kohers, 2000; Mulherin, 2000).

**Table 6C**

**Panel A: Daily Event Window Abnormal Returns  
Equally Weighted Index  
Supplementary sample (5%)**

Day	N	Mean Abnormal Return	Positive: Negative	Patell Z	Generalized Sign Z
-2	121	0.00%	57:64	0.307	-0.396
-1	121	0.14%	61:60	0.408	0.331
0	121	0.27%	64:57	2.244*	0.877
1	120	0.22%	63:57	0.711	0.787
2	120	0.02%	49:71<	-0.314	-1.770*

Note: The symbols \$, \*, \*\*, and \*\*\* denote statistical significance at the 0.10, 0.05, 0.01 and 0.001 levels, respectively, using a generic one-tail test. The symbols (< or >) etc. correspond to \$, \* and show the direction and significance of a generic one-tail generalized sign test.

**Panel B: 5-Day Cumulative Abnormal Returns  
Equally Weighted Index  
Supplementary Sample (5%)**

Day	N	Mean Cumulative Abnormal Return	Precision Weighted CAAR	Positive: Negative	Patell Z	Generalized Sign Z
(-2,+2)	121	0.66%	0.43%	65:56	1.455\$	1.058

Note: The symbols \$, \*, \*\*, and \*\*\* denote statistical significance at the 0.10, 0.05, 0.01 and 0.001 levels, respectively, using a generic one-tail test. The symbols (< or >) etc. correspond to \$, \* and show the direction and significance of a generic one-tail generalized sign test.

### 5.3 Regression Results and Discussion

I utilized pooled ordinary least square regression (i.e. OLS) analysis to test all my hypotheses. Table 7 presents a nested format of the results of the OLS regression estimates using two-tail test for both the explanatory and control variables, and the CAR (-2, +2) denotes the five-day cumulative abnormal return of the acquirer measured using the market



model. The table shows my primary sample (i.e. 20% sample) and the two additional supplementary modes – that is the 10% and 5% samples which represent the samples of the acquisition data based on the value of the acquisition deal as a percentage of the size of the acquiring. These two additional supplementary samples were included to test the robustness of my primary sample.

### **Model Results**

**Hypothesis 1** tests the effect of TMT cultural diversity on acquisition quality as reflected in the announcement returns and predicts a positive relation between acquisition quality as reflected in the announcement returns and TMT cultural diversity. As observed in table 7 for my primary sample, the effect of TMT cultural diversity on acquisition quality as reflected in the announcement return is positive and significant. The regression coefficient is 0.0785 with a corresponding t-statistic of positive 1.920. This observed coefficient is significant at the 10% level of significance and the result fully supports my hypothesis and validates my prediction that TMT cultural diversity is positively related to acquisition quality as reflected in the announcement returns and aligns with similar theoretical rationale posited by Very, Lubatkin et al., (1997) and Datta and Puia, (1995).

**Table 7**  
**Pooled Ordinary Least Squares**  
**Regression Results**

	CAR 20% sample	CAR 10% sample	CAR 5% sample
<b>Independent Variables</b>			
Cultural Diversity	0.0785* (1.9200)	0.0588* (1.7700)	0.0564** (2.0900)
Gender Diversity	-0.0331 (-1.1100)	-0.0124 (-0.5100)	-0.0150 (-0.7700)
Current Tenure Diversity	-0.0846*** (-2.7200)	-0.0617** (-2.5200)	-0.0516** (-2.6000)
Total Tenure Diversity	0.0506 (1.1500)	0.0143 (0.4100)	0.0082 (0.2900)
Age Diversity	0.0780* (1.7400)	0.0568 (1.5300)	0.037 (1.3100)
Political Affiliation Diversity	0.0617* (1.9100)	0.0404 (1.6500)	0.0281 (1.4000)
<b>Control Variables</b>			
Market Capitalization	0.0008 (0.0900)	-0.0019 (-0.2500)	-0.0016 (-0.2600)
Relative Size	-0.0272 (-1.2100)	-0.0052 (-0.3000)	-0.0064 (-0.4500)
Book Leverage	0.0931* (1.8900)	0.0560 (1.4800)	0.0490 (1.6000)
Free Cash Flow	0.164* (1.9700)	0.145** (2.0400)	-0.147** (2.3700)
_cons	-0.11 (-1.2500)	-0.062 (-0.8500)	-0.0391 (-0.6500)
<i>N</i>	73	95	118
<i>F-value</i>	2.22	1.94	1.98
<i>Prob. &gt; F</i>	0.028	0.051	0.043
<i>R<sup>2</sup></i>	0.264	0.188	0.156
<i>Adj. R<sup>2</sup></i>	0.145	0.091	0.077

t statistics in parentheses

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

For robustness, the results are similar when I estimate the impact of cultural diversity on acquisition quality under both supplementary samples of 10% and the 5%. I find similar significance and positive coefficients. For instance, the 10% supplementary sample yielded a 0.059 coefficient of regression with a corresponding t-statistic of 1.77 statistically significant at the 10% level of significance. Also worth pointing out is the results of the 5% supplementary sample which also produced similar results – the coefficient of regression is 0.056 and a corresponding t-statistic of 2.09 which is statistically significant at least at the 10% level of significance.

**Hypothesis 2** predicts that TMT gender diversity is positively related to acquisition quality as reflected in the announcement returns. According to the results in table 7, the primary sample shows a regression coefficient of negative 0.033 with a corresponding t-statistic of 1.110 which is also directionally negative and statistically non-significant at least at the 10% level of significance. These results do not support the hypothesis and further suggests that TMT gender diversity has no significant effect on acquisition quality. This means that gender heterogeneity at the TMT level does not have a significant impact on the decision making process hence, does not significantly influence the generation of abnormal returns to the acquirer shareholders. These values and results align with the study conducted by Ali, Kulik et al. (2011) in which they established a negative relationship when it comes to gender diversity and firm performance based on the social identity theory. More important is the study conducted by Svyantek and Bott (2004) where they posited that there were no effects of gender diversity on firm performance. The same trend and outcome is observed in both supplementary samples (10% and 5% samples). Under the 10% supplementary sample, the coefficient of regression is negative 0.012 and the related

t-statistic is negative 0.510 and it is not significant at least at the 10% level of statistical significance. A similar outcome is observed with the 5% supplementary sample as well where the regression coefficient is negative 0.015 with a corresponding t-statistic of 0.770. Again, these values are not significant at least at the 10% level of significance.

**Hypothesis 3** predicts that TMT current tenure diversity is associated with acquisition decision quality as reflected in the announcement returns of the acquirer. As indicated in table 7, I find a significant relationship between current tenure and acquisition quality as reflected in the announcement returns however, the relationship is negative. The coefficient of regression is negative 0.085 and the corresponding t-statistic is equally a negative 2.720. These values are significant at the at least 10% level of significance. This result suggests that TMT current tenure diversity has a significant but negative effect on acquisition quality. This means that increased levels of TMT current tenure heterogeneity at the firm level culminates into negative abnormal returns to the acquirer shareholders. This is somewhat consistent with the study conducted by Hackman and Oldham (1980) in which they suggest that job tenure could potentially lead to decreased intrinsic motivation and increased feeling of job dissatisfaction and boredom which could culminate into poor performance and less creativity on the job. This significant but negative results as reflected by the primary sample is also observed in both supplementary samples (10% and 5% samples). Under the 10% sample, the coefficient of regression is negative 0.062 and the related t-statistic is negative 2.520. Both of these values are significant at the at least 10% level of statistical significance. A similar outcome is observed with the 5% sample which produced a regression coefficient of negative 0.052 with a corresponding t-statistic of 2.60. Again, these values are very significant at the least 10% level of significance.

**Hypothesis 4** which is an extension of hypothesis 3 predicts that TMT total tenure diversity is associated with acquisition decision quality as reflected in the announcement returns of the acquirer. The obtained results as reflected in table 7 for all three samples does not support the hypothesis that TMT total tenure diversity is associated with acquisition decision quality as reflected in the announcement returns of the acquirer. For the primary sample (20%), the coefficient of regression is 0.051 and the corresponding t-statistic is 1.150. Even though the regression coefficient is positive, both of these values are non-significant at least at the 10% level of significance. Shifting to the supplementary samples, I observed a similar trend with the 10% sample which shows a regression coefficient of 0.014 with an associated t-statistic of 0.410 which is not significant at least at the 10% level of significance. The same observed trend is seen with the 5% sample where the coefficient of regression is also 0.008 with a corresponding t-statistic of 0.290 which is also not significant at least at the 10% level of significance. These results suggest that TMT total tenure diversity has no effect on acquisition quality. This means that total tenure heterogeneity at the TMT level does not generate significant abnormal returns to the acquirer shareholders.

**Hypothesis 5** predicts that TMT age diversity is positively related to acquisition decision quality as reflected in the announcement returns. The results obtained for the primary sample (20%) is consistent with the prediction that TMT age diversity is positively related to acquisition quality as reflected in the announcement returns. This provides significant support for the underlying hypothesis. The coefficient of regression is 0.078 and the corresponding t-statistic is 1.740 and these values are significant at least at the 10% level of significance. This outcome is supported by the Moscu (2013) study which

predicted a positive relationship between age and firm performance. In line with this, it can be argued that TMT age diversity is important in terms of its level of significance and impact it has on acquisition quality as reflected in the announcement returns. This significant effect is equally positive and this means that TMT age diversity at the firm level generates positive and significant abnormal returns to the acquirer shareholders. With respect to the supplementary samples (10% and 5% samples), I find no significant relationship between TMT age diversity and acquisition quality on the basis that the regression coefficient in both scenarios are 0.057 and 0.037 with corresponding t-statistic of 1.530 and 1.310 both of which are not significant at least at the 10% level of significance. In line with this, it can be argued that the magnitude of the deal value is important in unravelling the significant effect that TMT age diversity has on acquisition quality.

**Hypothesis 6** tests the effect of TMT political affiliation diversity on acquisition quality as reflected in the announcement returns and predicts a positive relationship between acquisition quality as reflected in the announcement returns and political affiliation. The results obtained for the primary sample (20%) is consistent with the prediction and does support the hypothesis. The coefficient of regression is 0.062 and the corresponding t-statistic is 1.910 and it is significant at least at the 10% level of significance. These results suggest that TMT political affiliation diversity has a significant effect on acquisition quality and this significance results in the generation of positive abnormal returns. This means that political affiliation heterogeneity at the TMT level generate positive and significant abnormal returns to the acquirer shareholders. For the 10% and 5% samples, I find no significant relationship between TMT political affiliation diversity and acquisition quality on the basis that the regression coefficient in both

scenarios which are 0.04 and 0.03 with corresponding t-statistics of 1.65 and 1.40 respectively are not significant at the 10%, 5% and 1% levels of significance.

**Control variables** in the model are market capitalization, leverage, free cash flow and relative size of the acquiring firm. These control variables were measured at the end of the fiscal year end prior to the announcement of the acquisition. I find that acquirer size is positively correlated with cumulative abnormal return (CAR). This observation implies that TMT hubris as posited by Roll (1986) was not a factor in this case, meaning – on average, the acquiring firm paid just about the target firm is worth. This observation on the other hand contradicts the study conducted by Moeller, Schlingemann and Stulz (2004) in which they found acquirer size to be negatively correlated.

In line with Jensen's (1986) free cash flow hypothesis, I control for the acquirer's financial leverage and cash flow. A firm's financial leverage and in this instance the acquirer's financial leverage is an important governance framework and tool. This importance is premised on the fact that higher debt levels could potentially reduce the firm's future free cash flows and invariably limit TMT managerial discretion.<sup>3</sup> Additionally, the firm's leverage ratio also provides motivation for the TMT level managers to improve the firm's performance to avoid and prevent the firm from financial loss.<sup>4</sup> Following these existing literature, I include financial leverage as a control variable and it is positively correlated with CAR. This conclusion is evidence in the table 8 which

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<sup>3</sup> Stulz (1990) develops a leverage model that takes a look at the effect and advantages of leverage being the determining factor in discouraging firms from pursuing empire building (i.e. acquisition spree) when cash flows are high.

<sup>4</sup> Gilson and Vetsuypens (1994) and Baird and Rasmussen (2001) discuss how creditors are able to influence and exert control over firms that are experiencing financial losses. Gilson (1989 and 1990) presents proof of higher CEO and board level attrition when firms suffer heavy losses.

shows a positive regression coefficient of 0.09 and a t-statistic of 1.89 which is significant at the 10% level of significance.

Concerning cash flow, the free cash flow hypothesis suggests a negative correlation with CAR on the basis that TMT managers who run firms with excess free cash flow are incentivized and more inclined to pursue empire building through making not so prudent acquisitions. The counter argument against this position is that free cash flow could be an indication of good firm performance which in this case could positively correlate with CAR; meaning that TMT level managers are in a better position to make good acquisition choices and decisions. In line with this counter argument, the results support a positive and significant relationship between FCF and acquirer announcement returns (CAR). That is, the results show regression coefficient of 0.16 and t-statistic of 1.89 which is significant at the 10% level of significance.

Furthermore, I control for relative deal size since studies by Asquith, Bruner, and Mullins (1983) find that acquirer announcement returns increase in relative deal size. The 10% and 5% samples show similar trend and behavior as observed in the 20% sample.



## CHAPTER VI

### CONCLUSION

The literature in management, economic psychology, and finance is replete with studies on board diversity and top management team diversity (TMT) and its effect on firm performance. However, not much attention has been given to TMT diversity and its impact on acquisition quality and in the studies where TMT diversity was researched, it was not comprehensive from the standpoint that, in the few of the studies conducted, only one TMT diversity characteristics was the main focus of the study. In line with this and given the human and financial resources are expended on acquisitions, it is important to take a more robust and comprehensive approach by looking at all the contributing factors that could potentially impact and influence acquirer performance.

It is in this regard that my study examined the relationship between acquisition quality as reflected in the acquirer's cumulative abnormal returns and the TMT diversity. Overall, I find that TMT diversity has significant impact on acquisition quality as reflected in the announcement returns. I find that acquirer shareholders do in fact earn abnormal returns during the period surrounding the announcement of the transaction. These results further suggest that the value as reflected in the announcement returns of the acquirer depends on the size of the ratio of the deal value as a percentage of the acquiring firm's size.

I find that TMT diversity characteristics along the dimensions of age, political affiliation, current tenure, and cultural diversity have significant effect on acquisition quality as reflected in the announcement returns of the acquirer. This means that the shareholders of acquiring firms overall can expect to earn higher abnormal returns when these aforementioned diversity characteristics are present at the TMT level of the firm. Additionally, I find that the impact of these diversity characteristics on acquirer returns as reflected in the abnormal returns are more profound when the deal value of the acquisition is at least 20% of the acquiring firm's size. Furthermore, I also find that TMT diversity characteristics such as gender diversity and total tenure diversity do not have significant effect on acquisition quality as reflected in the announcement returns of the acquirer. Thus, not all diversity characteristics appear to enhance acquisition decision quality. In conclusion, TMT diversity overall promotes better decision making.

This study has limitations, which in turn, provide opportunities for future research. First, while cultural diversity is a sound empirical construct (Hambrick et al., 1998), it is not completely absolute given the fact that a person's institutional experiences could be

influenced by a myriad of other factors. In the case of this study where the country where the individual obtained his/her first degree is used as a proxy for nationality, there might be instances where their nationality may not correspond to the country where they obtained their first degree. There could be cultural differences within a country due to various ethnicities, religion, etc. which my simple specification for cultural diversity does not pickup. Given this limitation where I am unable to address these types of variations, future research could potentially benefit from developing a more precise measure of TMT's cultural diversity.

Second, I test my hypotheses on detailed dataset of the S&P 1,500 list of companies. Gathering detail data on TMT diversity characteristics on the top executives is very tedious and demanding. As such, I was able to obtain information on only 74 firms for the primary sample. Although this is a limitation for the study, the results of my research present a comprehensive first step in disclosing the extent to which TMT diversity characteristics at the firm impact and promote better decision making. Nevertheless, future research may seek to broaden the scope to include other indices. Third, the focus of my study was on publicly traded companies domiciled in the U.S. Although this approach limits the generalization of the research findings, I believe we can extrapolate the findings to cover the private sector, as well as international firms that engage in acquisitions strategy as one of the means of increasing shareholder value. Therefore, future research should consider expanding the scope of any potential study along these lines to include both domestic and international firms.

Finally, future research should also consider TMT diversity characteristics and its impact on acquisition quality as reflected in announcement returns from the perspective of

the target firm. TMT members of target firms serve as a vital resource to the acquirer firm (Bergh, 2001). Their unique role during the pre-acquisition decision phase through when the deal is announced has been determined to be critical in terms of increasing value creation to the shareholders (Graebner, 2004). Empirically examining and studying the diversity characteristics of the target's TMT and the specific roles they play in the decision making process leading up to the announcement of the acquisition could provide very useful insights into the overall effect on diversity corporate decision making.

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## APPENDICES

### VARIABLE DEFINITIONS

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#### **Dependent Variable**

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CAR (-2, +2) 5-day event window and 0 representing the announcement day. The specified event windows' cumulative abnormal return (%) were computed using the market model benchmark. The model parameters are estimated over the period -255, -46) with the CRSP equally weighted return as the market index.

#### **Independent Variables**

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Age Diversity TMT age (variation).

Political Diversity TMT political affiliation - Democrat, Republican or Other.

Gender Diversity TMT gender - variation of female members to male.

Total Tenure Diversity Total work experience - years diversity.

Current Tenure Diversity Work experience with current company - years diversity.

Cultural Diversity Nationality - place of 1st degree as proxy for nationality.

## VARIABLE DEFINITIONS

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### **Control Variables**

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Market Capitalization	Natural log of acquirer's market capitalization. The acquirer market capitalization is defined as the share price multiplied by the number of shares outstanding for the preceding year to the event date.
Relative Size	Deal value over bidder value of equity. Bidder value of equity is the market value of equity defined as the number of shares outstanding multiplied by the stock price at the end of year preceding the announcement year.
Book Leverage	Ratio of total debt to total assets of the acquirer.
Free Cash Flow	Operating income before depreciation less interest expense, less income taxes, less capital expenditures as a percentage of total assets.

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