ESSAYS ON CEO'S MARKETING EXPERIENCE AND FIRM VALUE

A Dissertation

by

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ABSTRACT

Establishing the importance of marketing at the corporate strategy level in enhancing firm strategic outcomes, in particular, firm value, is critical to the advancement of the marketing profession. In this research, I investigate the main effects of the CEO's marketing experience on firm strategic outcomes (marketing and R&D intensity, and firm value), as well as its moderating effect on these outcomes when activist investors intervene to influence management decisions in a firm.

The first essay focuses on how CEO's marketing experience impacts innovation, marketing intensity, and firm value and on how these relationships are moderated by the CEO's ownership of the firm and by industry competition. Using motivation and agency theories, I develop a conceptual framework and hypotheses related to these important research questions and test them using a uniquely assembled panel dataset of 152 U.S. publicly traded firms over 10 years. The results reveal that the CEO's marketing experience has both direct and indirect (through R&D intensity, marketing intensity, and the number of patents and trademarks) positive effects on firm value. These effects are weakened when the CEO's ownership of the firm is high and are strengthened when industry competition is intense.

The second essay focuses on the effects of activist investor intervention on marketing and R&D intensity, and firm value, and the moderating role of the CEO's marketing experience in these effects. I use a sample of 455 firms targeted by activist investors over 6 years (2010-2015) to examine the impact of activist investor

intervention on marketing intensity, R&D intensity, and firm value through a differences-in-differences (DIFF-IN-DIFF) approach. The results suggest that activist investor intervention has a detrimental effect on not just marketing spending but also on innovation and firm value, but importantly, CEOs with marketing experience can mitigate the deleterious effect.

DEDICATION

To my kind, supportive, and loving mother, Zahra, without whom none of my success would be possible.

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CHAPTER I

INTRODUCTION

Marketing academics and practitioners are increasingly concerned about marketing's diminishing influence on corporate strategy, the top management team, and the boardroom. Previous research has examined the impact of the Chief Marketing Officer's (CMO's) presence in the C-Suite, marketing department power, and board-level marketing experience on firm performance. However, the influence of the Chief Executive Officer's (CEO's) marketing experience on strategic firm outcomes (R&D spending, marketing spending, and firm value) has been underexplored. Examining the effects of the CEO's marketing experience on firm outcomes can address the critical role of marketing at the topmost level.

The CEO's functional background and experience come into play when CEOs face competing claims for their attention (e.g., Hambrick and Abrahamson 1995) or when some shareholders urge them to cut expenditures (Cohn and Rajan 2013). In recent years, the number of shareholder activism campaigns has increased hyperbolically. Critics of activist investors contend that activist investors pressure managers to make decisions that sacrifice long-term financial goals for short-term gains (e.g., Bebchuk et al. 2015). Cutting marketing and R&D expenditures of the firm can be one of the major topics in activist investors' agendas. According to prior research, marketing is treated as discretionary, and expenditures related to marketing are among the first set of expenses to be cut when managers fear they may not be able to meet their earning targets (Graham

et al. 2005). Therefore, activist investor intervention can further deteriorate the conditions for marketers. However, little is known about the effects of activist investor intervention on marketing spending of the firm and how the CEO's marketing experience might play a role in these effects.

In this dissertation, I study the role of the CEO's marketing experience on firm strategic outcomes. In particular, I investigate (1) the main effects of the CEO's marketing experience on firm marketing and R&D intensity, and firm value, and (2) the moderating role of the CEO's marketing experience on these outcomes, when activist investors intervene in a firm.

In the first essay, I focus on the main effects of the CEO's marketing experience and address the following research questions: (1) What are the effects of the CEO's marketing experience on innovation, marketing intensity, and firm value? (2) What are the roles of internal (CEO's ownership in the firm) and external (industry competition) motivators in these effects? Using motivation and agency theories, I develop a conceptual framework and hypotheses related to these important research questions and test them using a uniquely assembled panel dataset of 152 United States (U.S.) publicly traded firms over 10 years.

In the second essay, I investigate the effects of activist investor intervention on firm strategic outcomes, and the moderating role of the CEO's marketing experience in these effects. In particular, I try to address the following research questions: (1) What are the main effects of activist investor intervention on marketing intensity, innovation intensity, and firm value? (2) What is the role of the CEO's marketing experience in

these effects? To answer these questions, I analyze a uniquely assembled panel dataset comprising 455 firms that activist investors targeted during 2010-2015. I control for the effects of other relevant variables such as the CEO's tenure.

CHAPTER II

CEO'S MARKETING EXPERIENCE AND FIRM VALUE

Marketing academics and practitioners are increasingly concerned about marketing's diminishing influence on corporate strategy, the top management team, and the boardroom. While previous research has examined the impact of the Chief Marketing Officer's (CMO's) presence in the C-Suite, the marketing department's power, and board-level marketing experience on firm performance, the influence of the Chief Executive Officer's (CEO's) marketing experience on firm value has been underexplored.

I develop a conceptual model comprising both direct and indirect (through R&D intensity, marketing intensity, and the number of patents and trademarks) effects of the CEO's marketing experience on firm value. Using motivation and agency theories, I postulate that the CEO's marketing experience has a direct positive effect on firm value and that its positive effect on marketing intensity and R&D intensity is diminished with greater CEO ownership in the firm and enhanced under intense industry competition.

I test these hypotheses by estimating a system of equations on a uniquely assembled panel dataset of 152 U.S. publicly traded firms over 10 years, using a seemingly unrelated regression (SUR) approach. The results reveal that the CEO's marketing experience has both direct and indirect (through R&D intensity, marketing intensity, and the number of patents and trademarks) positive effects on firm value. The results provide new insights into the role of the CEO's marketing experience in shaping

firm strategies and outcomes. The findings suggest that firms should consider hiring and rewarding CEOs with marketing experience and enhancing the CEOs' marketing experience.

INTRODUCTION

The impact of a firm's top management on firm outcomes is a topic of considerable interest to scholars and practitioners (e.g., Hambrick and Quigley 2014: Moorman and Rust 1999; Quigley and Hambrick 2015; Shen and Cannella 2002). The effects of upper-echelon management characteristics such as education and functional background on firm outcomes are important to researchers and managers. Because the Chief Executive Officer (CEO) is the manager with the highest executive power, a growing body of research explores how CEOs' attributes shape their decisions and how these decisions impact stakeholder outcomes based on upper-echelon theory (e.g., Barker and Mueller 2002; Bertrand and Schoar 2003; Hambrick and Mason 1984; Rodenbach and Brettel 2012).

According to upper-echelon theory (Hambrick and Mason 1984), managers' functional background can influence their strategic choices. Nonetheless, literature focusing on the impact of the CEO's functional background, in particular, marketing background, on firm outcomes, in particular, firm value, is slim with substantial limitations (e.g., Barker and Mueller 2002; Pasa and Shugan 1996; Warren, Sorescu, and Srinivasan 2018; Zhang and Wiersema 2009). Studying the impact of the CEO's marketing experience on firm outcomes is critical for marketing scholars and

practitioners to enable them uncover the influence of marketing on corporate strategy and firm value.

Research on the status of marketing suggests that marketing's strategic role is unclear (e.g., Verhoef and Leeflang 2009). Marketing scholars have lamented the fading of marketing influence on corporate strategy (e.g., Anderson 1982; Kumar and Shah 2009; Moorman and Rust 1999; Webster, Malter, and Ganesan 2005; Wind and Robertson 1983). Uncertainty surrounds the role of the top marketing executives in firms and could lead some CEOs to conclude that marketing does not deserve a formal place at the corporate table (Boyd, Chandy, and Cunha 2010). Such a conclusion could potentially harm marketing's strategic influence within firms and make it difficult for managers to acquire the resources needed to carry out marketing activities. Indeed, marketing leaders hold less than one percent of the board seats of Fortune 1000 firms (Daum and Welch 2013). However, three of the top five challenges boards face are marketing-related: customer relationships, innovation, and corporate brand reputation (Burn-Murdoch, Bernard, and Hill 2014; Whitler, Krause, and Lehmann 2018).

Prior research on the strategic role of marketing in firms presents mixed results. The Chief Marketing Officer's (CMO's) presence in the top management team (TMT) and its impact on firm performance have been commonly studied to examine the strategic role of marketing. However, the findings from research are inconsistent (Germann, Ebbes, and Grewal 2015; Nath and Mahajan 2008; 2011). While Nath and Mahajan (2008) find no significant impact of the CMO's presence in TMT on firm financial performance, Germann, Ebbes, and Grewal (2015) show otherwise. A possible

reason for the inconsistent findings is the instability of CMOs in firms; the CMO is the most frequently fired C-level executive with an average tenure of less than 24 months (Welch 2004). Therefore, the CMO's long-term contribution to firm-level outcomes is difficult to study.

Examining the CEO' marketing experience can potentially resolve the conflicting findings from prior research. This is because attrition concerns are attenuated for CEOs relative to CMOs. On average, CEOs have longer tenure and greater executive power than CMOs and have an overarching strategic responsibility (McGovern et al. 2004). In addition, CEOs have a significant impact on firm-level outcomes (Hambrick and Quigley 2014; Mackey 2008; Quigley and Hambrick 2015).

The CEO's experience can significantly shape strategy. Professional experience influences a manager's cognitive base, which in turn, can drive organizational outcomes (Hambrick and Mason 1984). The experience that a manager brings to any administrative situation shapes his/her mental model and closely affects his/her perceptions, interpretations, and strategic choices (Kish-Gephart and Campbell 2015). Thus, experience is an important driver of a manager's actions (Perkins and Rao 1990). Little wonder, companies led by CEOs with strong marketing orientation tend to retain the responsibility for marketing strategy at the corporate level (Webster, Malter, and Ganesan 2003).

A firm's emphasis on marketing can manifest through expenditures on R&D (Research and Development) and marketing, and outcomes such as sales revenues, profit and firm value. However, the impact of the CEO's marketing experience on many of

these critical firm-level outcomes and their interrelationships has been underexplored. Furthermore, the effects of the CEO's marketing experience on innovation and marketing intensity could depend on internal motivators such as the CEO's financial stake in the firm, and external motivators such as industry competition.

In this research, I address the following critical questions: (1) What are the effects of the CEO's marketing experience on innovation, marketing intensity, and firm value? (2) What are the roles of internal (CEO's ownership of the firm) and external (industry competition) motivators in these effects? To answer these questions, I develop hypotheses using motivation and agency theories and assemble and analyze a unique panel data set comprising 152 United States (U.S.) publicly traded firms in the Fortune 1000 list with data on their CEOs' demographics and employment history from 2006 to 2015 and variables such as R&D spending, marketing spending, and firm value.

The results show that the CEO's marketing experience has a positive direct impact on firm value. Importantly, it has indirect effects through R&D and marketing intensities. These effects are muted when the CEO's ownership in the firm is high and amplified when industry competition is intense.

This essay makes three important contributions. First, by analyzing the impact of the CEO's marketing experience on firm outcomes, in particular, firm value, it addresses the critical role of marketing at the topmost level, extending Verhoef and Leeflang (2009). While most previous research focuses on the CMO's presence in TMT as representative of marketing at the corporate level (e.g., Boyd, Chandy, and Cunha 2010; Germann, Ebbes, and Grewal 2015; Nath and Mahajan 2008; 2011) or on marketing

department power (Feng, Morgan, and Rego 2015), my research directly addresses marketing's role at the level of the CEO, the most powerful strategic actor in the TMT.

Second, by studying both the direct and indirect effects of the CEO's marketing experience on different firm outcomes, this research addresses crucial budget allocation decisions. The CEO's marketing experience and its relationship with R&D and marketing intensities have received scant attention. My results show that the CEO's marketing experience has indirect effects on firm value through R&D and marketing intensities. My research complements Warren, Sorescu, and Srinivasan (2018) who study the effects of the appointment of CEOs with marketing experience on innovation.

Third, my research contributes to upper-echelon theory by proposing and testing contingencies (CEO ownership in the firm, industry competition) under which the impact of the CEO's marketing experience on strategic activities is affected. It extends prior research on the CEO's functional background and firm outcomes in general (e.g., Barker and Mueller 2002; Hambrick and Quigley 2014; Jensen and Zajac 2004) to the effects of the CEO's marketing experience on firm value.

THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

The issue of top executives' influence on organizational performance is important for academics and managers alike (Bertrand and Schoar 2003; Mackey 2008). Managers vary in their effectiveness that has key firm-level consequences (Hambrick and Quigley 2014). This premise is pronounced in the case of CEOs who are in a position of power to affect the entire enterprise (Deshpande and Webster 1989; Pasa and

Shugan 1996; Webster 1988). CEOs view business situations based on their functional background and experience that affect strategic firm activities and outcomes.

The CEO's functional background and experience come into play when CEOs face competing claims for their attention (Hambrick and Abrahamson 1995; Yadav, Prabhu, and Chandy 2007). In general, the functional experience of executives has important implications for their knowledge base, skills, and cognitive orientation (Rodenbach and Brettel 2012). Experience in a particular functional area causes managers to perceive and interpret information in ways suited to their functional area (Dearborn and Simon 1958). Furthermore, managers have their own "styles" when making investment, resource allocation, and other strategic decisions (Bertrand and Schoar 2003).

Of special interest is the CEO's marketing experience because it is directly related to firm growth (Whitler et al. 2018). CEOs with marketing and R&D/engineering experience favor innovation strategies to forge ahead and emphasize growth by launching new products and entering new markets (Barker and Mueller 2002; Finkelstein and Hambrick 1996; Warren et al. 2018).

The CEO's marketing experience is especially interesting to study given that the role of marketing is dwindling at the strategic level of firms (e.g., Moorman 2014; Schultz 2003), and proving the value of marketing at the corporate strategy level is a challenge (Boyd, Chandy, and Cunha 2010; Nath and Mahajan 2008; 2011). The CMO's presence in the TMT is a common measure to gauge marketing's influence at the top, but the findings on that have not been convergent. In many firms, CMOs have short

tenure (Welch 2004) and lack overarching strategic responsibilities (McGovern et al. 2004). Furthermore, even as companies are becoming more market-oriented, the CMO's power does not seem to be increasing (Lamberti and Noci 2009).

While the results about the CMO's power have been discouraging, the marketing department power (Feng, Morgan, and Rego 2015) and board-level marketing experience (Whitler, Krause, and Lehmann 2018) are positively associated with firm performance. However, we do not know much about the role of the CEO's marketing experience in creating and enhancing firm value. In management research, while one stream suggests that the CEO can have a significant impact on firm performance (e.g., Hambrick, and Quigley 2014), another stream does not consider the CEO to be able to significantly change firm behavior (e.g., Haveman 1993). Furthermore, the limited research on the role of the CEO's marketing experience does not examine its direct effects on firm value.

I integrate research from the marketing and management disciplines to explore both the direct and the indirect effects of the CEO's marketing experience on firm's strategic activities and firm value. Table 1 shows how my research extends related literature. I investigate how the CEO's marketing experience influences innovation, marketing intensity, and how it impacts firm value directly and indirectly through innovation and marketing intensity.

TABLE 1
Research Gaps and Contributions

Paper	Focus	Data	Direct Effect of CEO's Mktg. Exp.	CEO's Mktg. Exp./CMO/TMT/ Board Impact on Marketing Spending	CEO's Mktg. Exp./CMO/ TMT/ Board Impact on R&D Spending	CEO's Mktg. Exp./ CMO /TMT/ Board Impact on Innovation Output	CEO's Mktg. Exp./CMO/ TMT/Board Impact on Firm Value/ROS/ ROA	Controls for TMT-level Variables	Moderators of Impact of CEO Mktg. Exp. on Firm Activities & Value	Mechanism (Direct vs. Indirect Effect of CEO Mktg. Exp. on Firm Activities & Value)
Barker and Mueller (2002)	Impact of CEO functional background on R&D expenditures	172 firms (1990)	Mktg. background		✓					
Nath and Mahajan (2008)	Impact of CMO presence on firm performance	167 firms (2000-2004)					✓	✓		
Boyd, Chandy, and Cunha (2010)	Conditions under which CMO presence can improve financial performance.	88 CMO announcements (1996-2005)					✓			
Nath and Mahajan (2011)	When CMOs have more power and how CMO's power can affect firm's performance.	165 firms (2001-2005)					✓	✓		
Feng, Morgan, and Rego (2015)	Impact of marketing department power on firm performance	612 firms (1993-2008)					✓	✓		
Germann, Ebbes, and Grewal (2015)	Does the presence of CMO in TMT make a difference?	155 firms (2001-2012)					✓	✓		
Whitler, Krause, and Lehmann (2018)	Impact of board-level marketing experience on firm growth	1088 firms (2007-2012)	✓ (control variable)				✓			
Warren, Sorescu, and Srinivasan (2018)	Impact of CEO's marketing expertise on innovation output	652 new CEO appointments (2011-2014)	CEOs with mktg. expertise			✓			on innovation output	
This study (2018)	Impact of CEO's marketing experience on firm value, R&D, marketing & innovation	152 firms (2006-2015)	✓	✓	✓	✓	✓	✓	✓	✓

CEO's Marketing Experience, Innovation, Marketing Intensity, and Firm Value

Marketing expertise is important for firms (Pasa and Shugan 1996) and it contributes to innovation and strategic decisions (Houston 1986). The CEO plays a critical role in the success of a firm's marketing strategy (Webster 1988) and exemplifies the firm's orientation. The CEO's professional background is a measure of both the CEO's expertise and the firm's emphasis on areas of expertise (Pasa and Shugan 1996). Experience is a critical contributor to knowledge marked by expertise, supporting high-quality decision-making (McDonald, Westphal, and Graebner 2008; Perkins and Rao 1990). Professional experience influences executives' strategic decisions because executives tend to identify and define business problems and solutions in terms of their functional background (Dearborn and Simon 1958). Therefore, the CEO's marketing experience is likely to impact the firm's innovation and marketing activities, outputs, and firm value.

Innovation

Innovation plays a critical role in firm survival and success. R&D expenditures can be regarded as a key indicator of a firm's investment in innovation (Barker and Mueller 2002; Hall, Jaffe, and Trajtenberg 2005). A firm's R&D spending also reflects how much its corporate strategy embraces innovation. CEOs with different functional backgrounds and experiences may have different attitudes toward R&D investment. Engineers and marketers typically care deeply about innovation because engineers tend to make and manufacture new products and marketers view innovation as a solution to customers' problems and a significant driver of competitive advantage (Barker and

Mueller 2002). Therefore, firms with CEOs from marketing or engineering background will likely outspend CEOs with other functional backgrounds on R&D. CEOs with extensive marketing experience will likely focus more on spending on R&D and creating more patents and trademarks than CEOs with limited marketing experience. This reasoning leads to my first hypothesis.

> *H_1: The CEO's marketing experience is positively associated with firm innovation.*

Marketing Intensity

Spending on marketing-related activities has a positive effect on firm performance (e.g., McAlister, Srinivasan, and Kim 2007). Marketing spending in the form of advertising or sales expenditures has a direct effect on various firm performance metrics, including sales and profit (Erickson and Jacobson 1992), and firm value (Joshi and Hanssens 2004). Firms' advertising efforts create brand equity which helps differentiate a firm's products (Kirmani and Zeithaml 1993) and make them less easily substitutable (Mela, Gupta, and Lehmann 1997). Increased brand equity also raises price premiums (Ailawadi, Lehmann, and Neslin 2003) and lowers price sensitivities (Kaul and Wittink 1995). Therefore, the role of the CEO's marketing experience in marketing-related expenditures is important to study.

When formulating strategies for advertising, sales, and other marketing-related activities, a firm's utilization of its marketing expertise is critical (Pasa and Shugan 1996). I expect CEOs with higher marketing experience to pay greater attention to the marketing department and its expenditures as their experience can be very valuable in formulating and implementing marketing strategies. Therefore, I hypothesize that the

CEO's marketing experience has a positive impact on marketing intensity. Specifically, I propose the CEO's marketing experience positively affects both advertising intensity and sales intensity. These arguments lead to H_2.

> *H_2: The CEO's marketing experience is positively associated with the marketing intensity of the firm.*

Firm Value

The CEO's marketing experience can directly affect the value of the firm. Investors use observable background characteristics of top executives of firms as signals to infer the quality of the firms (Zhang and Wiersema 2009). The characteristics of TMT, the structure of the board, and the CEO's characteristics such as shareholding and external directorships provide signals of firm quality that influence the market valuation of the firms (Higgins and Gulati 2006; Lester et al. 2006; Zhang and Wiersema 2009). In addition to the direct influence they have on the processes and outcomes of the firm, top executives fulfill a symbolic role with the firm's external constituents such as shareholders, signaling their strategic intent (Lester et al. 2006). A key characteristic affecting the CEO's decisions and firm outcomes is the CEO's functional background and experience (Hambrick and Mason 1984).

The CEO's marketing experience can signal how the firm will create value for its customers and shareholders. Investors view the CEO's functional area experience as an indicator of how the CEO might go about creating value for customers and themselves. CEOs with marketing experience recognize the importance of the customer's voice in the development of new offerings (Webster, Malter, and Ganesan 2005). Understanding and utilizing market information to create value to the customers is a key driver of firm

profit (Perkins and Rao 1990). While market information is available to all firms, each firm uses the available information uniquely (Zaltman and Moorman 1989). A CEO with high marketing experience can utilize market information effectively to create high value for customers. Value creation is a cornerstone of marketing; the marketing concept identifies the customer as the primary focus, and without creating superior customer value, it is infeasible for organizations to create a competitive advantage (Mizik and Jacobson 2003). Marketing activities can drive growth only when they are aligned with corporate strategy (McGovern et al. 2004). CEOs with extensive marketing experience can better align marketing activities with corporate strategy than CEOs with limited marketing experience. In addition, CEOs with greater marketing experience may more appropriately allocate budgets to marketing-related expenditures than other CEOs. Indeed, board members with marketing experience significantly impact firm growth (Whitler, Krause, and Lehmann 2018). Therefore, I expect CEOs with greater marketing experience to enhance customer and firm values. Thus, I formulate the following hypothesis.

H_3: The CEO's marketing experience is positively associated with firm value.

Moderators and Interactions

The effects of the CEO's functional experience on firm activities and outcomes may depend on the CEO's motivation. The stronger the CEO's motivation to act in the firm's long-term interests, the more positive the firm's outcomes are. Motivation theory has long been used by organizational behavior and management scholars and practitioners to explain the effectiveness of managerial actions (e.g., Reeve, Olsen, and

Cole 1987). Like any manager, the CEO's motivation to apply his/her expertise can be internal or external to the firm. Internal motivation will likely be best triggered by the question: "What is in it for me?" The part of the CEO's financial compensation that is aligned with firm value best captures this internal motivation factor. In contrast, external motivation is likely driven by outside pressures to perform. Industry competition is an excellent indicator of this motivation factor. Indeed, the roles of compensation and competition in motivating employees and managers have attracted significant attention from scholars in management and organizational behavior (e.g., Mehran 1995).

CEO's Ownership in the Firm

Tying managers' compensation to firm performance can motivate managers to apply their expertise to make riskier decisions for shareholder value-maximizing decisions (Mehran 1995). When managers own a greater proportion of stocks in the firms they manage, they are more motivated to make decisions that help the firm in the long-term.

The CEO's ownership in the firm creates two roles for the CEO, namely, a stockholder and a manager. The relationship between the stockholders (principal) and the manager (agent) of a corporation can be viewed as an agency relationship (Jensen and Meckling 1976). Agency theory is concerned with resolving two problems that can occur in agency relationships. The first is the problem that arises when (a) the desires or goals of the principal and agent conflict and (b) it is difficult or expensive for the principal to verify what the agent is actually doing. The second is the problem of risk sharing that occurs when the principal and agent have different attitudes or preferences

toward risk and engage in different actions (Eisenhardt 1989). Shareholders want the CEO to take actions based on whether the expected return exceeds the expected costs for the firm. But the CEO primarily considers his/her private gain and the cost from pursuing a particular activity (Jensen and Murphy 1990). CEOs often face short-term earnings pressure, declining demand, suboptimal economic conditions, and the prospect of limited tenure (Currim, Lim, and Kim 2012).

In general, CEOs, like most managers, are risk-averse. To reduce their compensation risk, managers may apply their experience toward activities that reduce firm risk even when such activities can adversely affect shareholders' wealth in the long-run (Jensen and Meckling 1976).

R&D and advertising spending typically benefit the firm in the long-term and shareholders expect CEOs to allocate more of their budgets to these expenditures for long-term growth. However, because the long-term benefits of these expenditures are uncertain, CEOs may be reluctant to spend high amounts on R&D and advertising. As a manager, the CEO is risk-averse and may cut these expenditures to improve earnings in the short-term, even if such cuts may reduce stock return in the long-term (e.g., Currim, Lim, and Kim 2012; Mizik and Jacobson 2003).

However, CEOs are heterogeneous in risk aversion based on their marketing experience. CEOs with high levels of marketing experience can play a significant role in innovation and marketing expenditures (Barker and Mueller 2002; Pasa and Shugan 1996). For instance, in the computer industry, Thomas et al. (1991) observed that firms relying on innovative strategies characterized by high levels of R&D and advertising

spending, were often headed by CEOs with relevant functional expertise (i.e., marketing, sales, R&D). Because R&D investment and marketing expenditures are considered risky activities and because their results typically materialize in the long run, it can be argued that CEOs with greater marketing experience are more willing to take risks and are more long-term oriented than other CEOs.

Agency theorists have proposed several ways to align the CEO's interests with those of the shareholders. As Hall and Liebman (1998) observe "the most direct solution to the agency problem is to align the incentives of executives with the interests of shareholders by granting (or selling) stock and stock options to the CEO." Stock ownership is a compensation mechanism that aligns an executive's welfare directly with the firm's performance (Jensen and Murphy 1990). Stock grants are typically realized over a long horizon through vesting periods. Stock ownership links the agent's (the CEO's) financial outcomes with those of the principal (shareholders), motivating an agent to direct his/her attention, preferences, and efforts toward actions that benefit the principal in the long-term (Nyberg et al. 2010). Owning stocks in the firm makes the CEO more sensitive to stock value. The greater the sensitivity of CEOs to stock value, the harder they work to increase the long-term value of firms because they share the gains and losses of the shareholders (Currim, Lim, and Kim 2012). For instance, Rajgopal and Shevlin (2002) show that managers who receive more stock option compensation in the oil and gas industry invest more in risky projects, such as R&D projects.

Based on this reasoning, it can be argued that when the CEO's ownership in the firm is high, he/she will not be as risk averse as when the CEO's ownership is low. Moreover, with greater ownership, the CEO will be more willing to make decisions that impact the firm's future earnings rather than focusing on the firm's short-term earnings. Thus, enhanced ownership in the firm motivates even CEOs with limited marketing experience to spend on risky activities and projects, such as R&D and advertising, potentially influencing future earnings. Furthermore, ownership in the firm minimizes the differences in R&D and marketing spending among CEOs with varying levels of marketing experience. Therefore, when the CEO's ownership in the firm is higher, the positive effect of the CEO's marketing experience on innovation and marketing intensity would be weaker. Thus, I advance the following hypotheses.

> *H_{4a}: The CEO's ownership in the firm weakens the positive relationship between the CEO's marketing experience and innovation.*
> *H_{4b}: The CEO's ownership in the firm weakens the positive relationship between the CEO's marketing experience and marketing intensity.*

Industry Competition/Concentration

Industry competition can significantly influence the effect of the CEO's marketing experience on firm outcomes. The industry's structural characteristics can act as motivators in the utilization of a manager's experience toward firm outcomes (Hambrick and Finkelstein 1987). Markets with few competitors typically have strict rules or norms that can limit a manager's competitive pressure. In addition, when the fear of losing the market is low, managers are less motivated to apply their experience for desirable outcomes. In contrast, when competition is high, the motivation to outperform competitors propels CEOs to use their experience to enhance firm-level

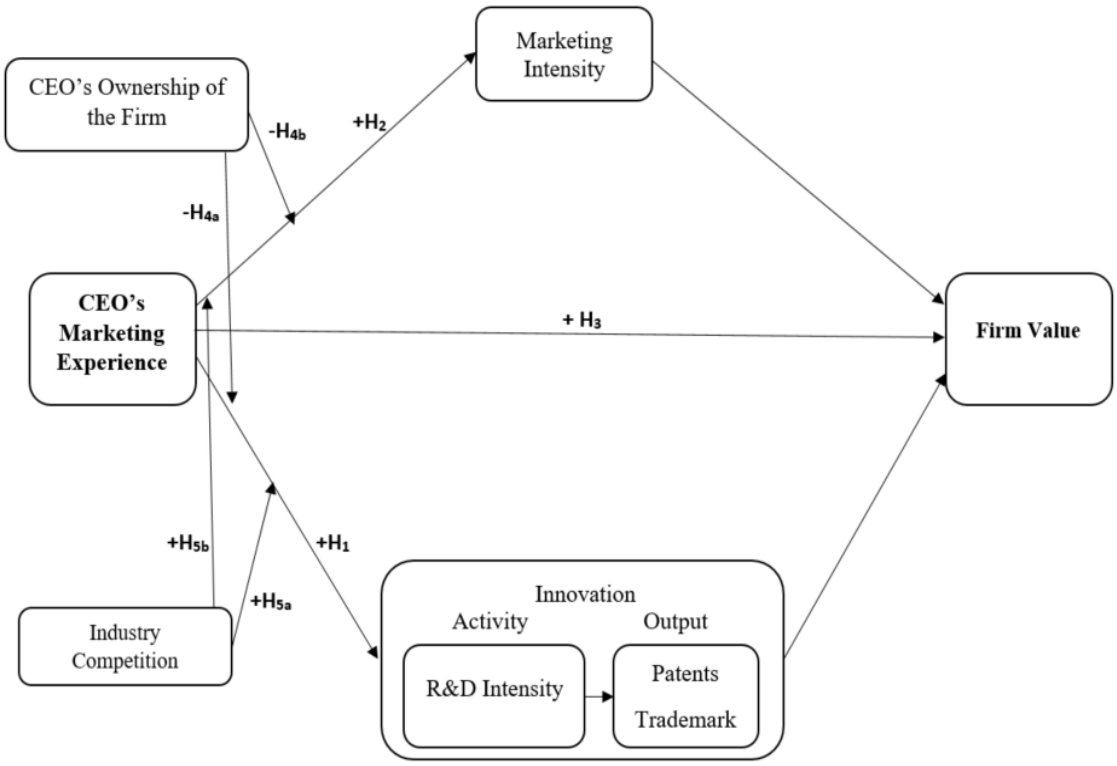
outcomes (Hambrick and Finkelstein 1987; Li and Tang 2010). Therefore, industry competition can work as an external motivator for the utilization of the CEO's marketing experience toward firm outcomes.

Industry concentration reflects industry competition. CEOs with greater marketing experience are inclined to spend more on innovation and marketing-related activities. In industries characterized by low concentration or intense competition, the CEO's marketing expertise can be applied to help the firm cope with competition (Homburg et al. 2014). In less-concentrated industries marked by fierce competition, CEOs might utilize their marketing experience to be aggressive with R&D investment and advertising. Industry competition can help amplify the use of marketing experience in functional areas, such as marketing, sales, merchandising, entrepreneurship, and product research and development (Chaganti and Sambyhara 1987; Thomas et al. 1991). Therefore, I expect that under more intense competition, CEOs with greater marketing experience will outspend those with lesser marketing experience on innovation and marketing-related activities. Thus, I hypothesize that:

> *H_{5a}: Industry concentration weakens the positive relationship between the CEO's marketing experience and innovation.*
> *H_{5b}: Industry concentration weakens the positive relationship between the CEO's marketing experience and marketing intensity.*

The conceptual model comprising the relationships among the constructs as well as the hypotheses appears in Figure 1. The CEO's marketing experience has both direct and indirect effects on innovation, marketing intensity, and firm value as postulated by the hypotheses.

FIGURE 1
Conceptual Model Linking CEO's Marketing Experience to Marketing Intensity, Innovation and Firm Value



DATA AND VARIABLE OPERATIONALIZATION

To test the hypotheses, I need panel data with firm-level, market-level, and CEO-level data. Because no single database contains all these data, I had to assemble a unique data set from multiple sources, such as BoardEx, Bloomberg Businessweek, LinkedIn, COMPUSTAT, EXECUCOMP, SEC EDGAR, Hoover's Premium, and company websites. An advantage of this approach is that I avoid common method bias by using separate data sources for different variables (Mithas, Krishnan, and Fornell 2005). I

analyzed Fortune 1000 firms for which data on R&D, advertising, and SG&A (Selling, General and Administrative) expenditures were available in COMPUSTAT for at least four consecutive years. My sample consists of 152 firms with 267 CEOs over a 10-year period (2006-2015). The size of the sample is comparable to those of recent research in the area (e.g., Germann, Ebbes, and Grewal 2015). Table 2 provides a list of variables, their operationalization, and related data sources.

CEO's Marketing Experience

I collected data on the CEO's marketing experience from several sources. The main source is Boardex database available from WRDS. I searched the profiles of the CEOs of Fortune 1000 firms from 2006 to 2015 for marketing positions they had held in their career. A list of titles that reflect marketing responsibilities appears in Appendix 2. I included different levels of positions, low, mid, and senior. Prior research operationalizes the CEO's marketing experience through a dummy variable representing marketing background (e.g., Barker and Mueller 2002; Pasa and Shugan 1996; Rodenbach and Brettel 2012; Whitler, Kraus, and Lehmann 2018). Such a measure does not account for the length of marketing experience. Nor does it account for marketing experience relative to experience in other functional areas.

TABLE 2
Variable Operationalization and Data Sources for Essay 1

Variable	Operationalization	Source
CEO's Marketing Experience	Years of CEO's experience in marketing positions + (Years of experience as CEO × Ratio of marketing experience to total experience prior to being appointed as CEO)	BoardEx, LinkedIn, Bloomberg, Equilar
R&D Intensity	Ratio of R&D expenditures to assets	COMPUSTAT
Patents	Number of patents	USPTO
Trademarks	Number of trademarks	USPTO
Advertising Intensity	Ratio of advertising expenditures to assets	COMPUSTAT
SG&A Intensity	Ratio of SG&A expenditures to assets	COMPUSTAT
CEO's Engineering Experience	Years of experience in engineering positions	BoardEx, LinkedIn, Bloomberg, Equilar
CEO's Other Experience	Years of experience in functional areas other than marketing or engineering	BoardEx, LinkedIn, Bloomberg, Equilar
CEO's Age	CEO's age	BoardEx
CEO's Tenure	Years as a CEO	BoardEx
CEO's Experience within Firm	Years of experience within the firm	BoardEx
CEO's Total Experience	Years of experience	BoardEx, Bloomberg, Equilar
CEO's Duality	Dummy variable that equals 1 if CEO is also the chairman; 0 otherwise	BoardEx
CEO's Ownership Share	Value of shares held by CEO at the end of the year in $	EXECUCOMP, SEC EDGAR
CEO's Compensation	CEO annual compensation in $	EXECUCOMP, SEC EDGAR
CEO's Compensation Ratio	Ratio of CEO compensation to TMT compensation	EXECUCOMP, SEC EDGAR
CEO's Gender	Dummy variable that equals 1 if CEO is male; 0 otherwise	BoardEx
CMO's Presence in TMT	Dummy variable that equals 1 if CMO is in TMT; 0 otherwise	EXECUCOMP, SEC EDGAR
COO's Presence in TMT	Dummy variable that equals 1 if COO is in TMT; 0 otherwise	EXECUCOMP, SEC EDGAR
Effort Intensity	Ratio of cost of goods sold to revenues	COMPUSTAT
Financial Leverage	Ratio of long-term debt to total assets	COMPUSTAT
Firm Age	No. of years the firm is in business	HOOVER
Market Size	Sales of all the firms in the same industry (SIC 2 digit) in $	COMPUSTAT
Market Share	Ratio of firm sales to market size (SIC 2 digit)	COMPUSTAT
Market Growth	Percentage of annual growth in market size	COMPUSTAT
Profit	Firm profit in $	COMPUSTAT
Revenue	Firm revenues in $	COMPUSTAT
Industry Concentration	Herfindahl Hirschman index of the industry (SIC 2 digit)	COMPUSTAT
Organizational Slack	Ratio of net cash flow from operational activities to total assets	COMPUSTAT
Marketing Department Power	An index in the 1-100 range created from a PCA (Principal Component Analysis) of ratio of marketing executives to all executives in TMT, ratio of their compensation to all TMT compensation, hierarchical level of the highest-level marketing TMT executive's job title, cumulative hierarchical level of all the marketing executives in the TMT, and number of responsibilities reflected in marketing TMT exec's titles.	EXECUCOMP- SEC EDGAR
Firm Value	Tobin's q	COMPUSTAT

I operationalize the CEO's marketing experience as the number of years of experience a CEO has had in marketing-related positions. These positions include CMO, VP of marketing, brand manager, advertising manager, chief merchandising officer, assistant to the advertising/brand manager, and VP of retail (see Appendix 2). The CEO's marketing experience works as a knowledge base for the CEO, and he/she builds on this experience while working as a CEO, adding to the marketing experience he/she had prior to being appointed as the CEO. Therefore, to obtain the CEO's marketing experience for the focal year, I add to the prior year's marketing experience, the ratio of years in marketing positions to the total years of career experience prior to being appointed as the CEO. I cross-referenced the data with CEOs' biographies available from other sources such as EQUILAR, Bloomberg Businessweek, LinkedIn, Boardroom insider, and company websites.

Innovation

For innovation or propensity to innovate, I use three different measures, R&D intensity, number of patents and number of trademarks, consistent with prior research (e.g., Hall, Jaffe, Trajtenberg 2005). I operationalize R&D intensity as the ratio of R&D expenditures to total assets (e.g., Dotzel, Shankar, and Berry 2013).

Marketing Intensity

For marketing intensity, I use two different variables, advertising intensity and SG&A intensity. Consistent with the literature, I operationalize advertising intensity as the ratio of advertising expenditures to total assets (e.g., Erickson and Jacobson 1992) and SG&A intensity as the ratio of SG&A expenditures to total assets (e.g., Fang, Lee, and Yang 2015).

Firm Value

Consistent with prior research (e.g., Dotzel, Shankar, and Berry 2013; Germann, Ebbes, and Grewal 2015; Grewal, Chandrashekaran, and Citrin 2010), I use the Tobin's q as a measure of firm value. It is a forward-looking measure based on stock price and captures long-term performance by comparing replacement and market values (Dotzel, Shankar, and Berry 2013). I compute Tobin's q for each firm using its stock price and common shares outstanding at the end of the fiscal year.

CEO's Ownership in the Firm and Industry Concentration

To measure the CEO's ownership in the firm, consistent with prior research (e.g., Barker and Mueller 2002), I use the market value of all the shares held by the CEO at the end of the financial year. For industry concentration, consistent with the literature (e.g., Feng, Morgan, and Rego 2015). I use the Herfindahl-Hirschman index.

Control Variables

I control for the effects of other variables on my dependent variables based on prior research. These variables include: the CMO's presence in TMT (Germann, Ebbes, and Grewal 2015), marketing department power (Feng, Morgan, and Rego 2015), the CEO's age (Barker and Mueller 2002), the CEO's total work experience (Brick, Palmon, and Wald 2006), the COO's presence in TMT (Germann, Ebbes, and Grewal 2015), the CEO's compensation ratio in TMT (Kashmiri and Mahajan 2017), market size (Dotzel, Shankar, and Berry 2013), market growth (Dotzel, Shankar, and Berry 2013), market share (Baker and Sinkula 2005), firm age, number of employees (Dotzel, Shankar, and Berry 2013), financial leverage, effort intensity, organizational slack (Dotzel, Shankar, and Berry 2013), firm profit (Dhaliwal, Subramanyam, and Trezevant 1999), firm

revenues (Mithas, Krishnan, and Fornell 2005), and industry dummies to control for industry heterogeneity.

The descriptive statistics and correlation matrix appear in Tables 3 and 4, respectively. The ranges of all the variables are reasonable. In addition, the correlations among the independent variables are low. Consistent with prior research (e.g., Kalaignanam, Shankar, and Varadarajan 2007), the variance inflation factors are below 10, so multicollinearity is not an issue.

TABLE 3
Descriptive Statistics for Essay 1

Variable	Mean	Median	Std. Dev.	Min	Max
CEO's Marketing Experience	1.06	1.09	1.08	0	3.60
R&D Intensity	.03	.01	.05	0	.29
Patents	2.41	1.79	2.41	0	8.92
Trademarks	2.15	2.30	1.42	0	6.39
Advertising Intensity	.03	0.02	.04	0	.41
SG&A Intensity	.30	0.26	.18	.02	1.02
Tobin's q	1.12	1.07	.32	.44	2.34
CEO's Engineering Experience	.44	0	.90	0	3.58
CEO's Other Experience	3.20	3.30	.46	.69	4.26
CEO's Age	4.03	4.04	.12	3.40	4.48
CEO's Tenure	1.70	1.79	.83	0	3.78
CEO's Experience within Firm	2.66	2.83	.81	0	3.87
CEO's Total Experience	3.43	3.46	.27	2.30	4.26
CEO's Duality	.54	1	.50	0	1
CEO's Ownership Share	10.48	10.39	2.21	0	17.84
CEO's Compensation	8.96	9.13	1.25	.00	17.09
CEO's Compensation Ratio	.38	.40	.13	0	.95
CEO's Gender	.94	1	.23	0	1
CMO's Presence in TMT	.38	0	.49	0	1
COO's Presence in TMT	.55	1	.50	0	1
Effort Intensity	.57	.60	.20	.03	.92
Financial Leverage	.21	.20	.15	0	.87
Firm Age	3.87	3.93	.87	0	5.34
Market Size	13.19	13.63	.99	10.05	14.52
Market Share	.05	.02	.08	.000	.55
Market Growth	.02	.03	.09	-.26	.40
Profit	5.99	6.33	2.37	0	10.88
Revenue	9.19	9.03	1.20	6.02	13.09
Industry Concentration	.11	.05	.13	.02	.55
Organizational Slack	.13	.12	.07	-.24	.39
Marketing Department Power	14.40	3.10	15.86	1.00	100.0

Notes: CEO's marketing experience, CEO's engineering experience, Patents, Trademarks, CEO's other experiences, CEO's age, CEO's tenure, CEO's experience within firm, CEO's total experience, CEO's ownership, CEO's compensation, Firm age, Market size, Profit, Revenue, and Tobin's q are measured in natural logarithm. Sample size = 1,031.

TABLE 4
Correlation Matrix for Essay 1

	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	CEO's Marketing Experience	1.00																														
2	R&D Intensity	.02	1.00																													
3	Patents	.11	.52	1.00																												
4	Trademarks	.21	.17	.40	1.00																											
5	Advertising Intensity	.18	-.11	-.18	.20	1.00																										
6	SG&A Intensity	.19	-.06	-.33	.05	.47	1.00																									
7	Tobin's q	.17	.28	.14	.14	.14	.15	1.00																								
8	CEO's Engineering Experience	-.20	.42	.43	.08	-.19	-.15	.07	1.00																							
9	CEO's Other Experience	-.30	-.36	-.28	-.07	-.03	-.01	-.21	-.43	1.00																						
10	CEO's Age	-.07	-.23	-.08	-.03	-.03	-.09	-.19	-.11	.61	1.00																					
11	CEO's Tenure	-.03	.00	-.06	-.02	-.10	-.06	.10	.05	.28	.32	1.00																				
12	CEO's Experience within Firm	-.02	.03	.12	.15	-.10	-.14	.08	.09	.13	.18	.48	1.00																			
13	CEO's Total Experience	.01	-.21	-.05	.05	-.02	-.01	-.16	-.04	.70	.76	.34	.19	1.00																		
14	CEO's Duality	.00	-.17	-.05	.05	-.05	-.08	.00	-.10	.24	.25	.29	.22	.26	1.00																	
15	CEO's Ownership Share	-.03	.20	.14	.20	-.09	-.07	.29	.16	-.03	.02	.41	.37	.04	.18	1.00																
16	CEO's Compensation	.18	.01	.05	.06	.03	-.04	-.03	-.17	.13	.16	-.05	.02	.12	.11	-.07	1.00															
17	CEO's Compensation Ratio	.13	-.04	-.06	-.06	.01	.03	.01	-.10	.00	.03	.02	.01	-.02	.13	-.14	.49	1.00														
18	CEO's Gender	-.28	.10	-.01	-.06	-.03	-.09	-.06	.00	.16	.01	.07	.04	.03	.00	.03	-.13	-.07	1.00													
19	CMO's Presence in TMT	-.10	-.04	-.19	-.05	-.01	.22	.04	.00	.01	-.17	.06	-.03	-.06	-.03	.03	-.05	.02	.02	1.00												
20	COO's Presence in TMT	-.01	.00	-.10	-.07	.07	.07	.05	.01	.07	.05	.11	-.01	.05	.04	.01	-.01	-.11	.10	.06	1.00											
21	Effort Intensity	-.14	-.52	-.41	-.27	-.11	-.11	-.38	-.23	.24	.17	-.01	.00	.11	.18	-.20	-.09	.07	.01	.06	-.04	1.00										
22	Financial Leverage	-.04	-.29	-.14	.00	.02	-.23	-.15	-.04	.16	.21	.06	.05	.15	.13	-.02	.18	.05	.00	-.04	.14	.13	1.00										
23	Firm Age	.18	-.12	.15	.15	.13	.13	-.08	-.15	.08	.12	-.09	.18	.09	.15	-.16	.18	.15	-.01	-.09	-.02	.10	.04	1.00									
24	Market Size	.09	.33	.36	.04	-.05	-.09	.03	.19	-.18	-.03	.01	.06	-.05	.02	-.03	.02	.01	-.02	-.22	-.03	-.22	-.07	.14	1.00							
25	Market Share	-.10	-.18	-.05	.05	-.05	.06	.00	-.10	.13	.05	-.12	.02	.06	.02	.13	.14	-.07	-.04	.07	-.01	.15	.08	.04	-.41	1.00						
26	Market Growth	-.02	-.03	-.08	-.03	-.01	.06	-.03	-.02	-.02	-.04	-.02	.00	-.04	-.01	.02	-.08	-.04	.02	.06	-.01	.05	-.07	-.08	.04	-.05	1.00					
27	Profit	.07	.03	.33	.25	-.04	-.20	.27	.07	-.02	.05	.04	.31	.07	.07	.26	.15	-.02	-.08	-.08	-.01	-.26	-.07	.16	.10	.30	-.02	1.00				
28	Revenue	.05	-.04	.28	.31	-.04	-.07	-.05	.07	.05	.09	-.08	.19	.13	.09	.22	.18	-.17	-.15	-.02	-.02	.02	.07	.20	.14	.57	-.03	.56	1.00			
29	Industry Concentration	-.20	-.35	-.47	-.25	-.02	.26	-.12	-.19	.23	.01	.01	.01	.08	.00	-.05	-.06	-.03	.10	.26	.11	.30	.10	-.09	-.26	.28	.16	-.03	.12	1.00		
30	Organizational Slack	.06	.14	.13	.14	.11	.20	.62	.08	-.09	-.07	.07	.16	-.06	-.06	.17	-.06	-.07	-.04	.03	.01	-.30	-.29	.00	-.12	.09	-.01	.38	.07	-.10	1.00	
31	Marketing Department Power	-.08	-.01	-.01	-.02	.00	-.01	.13	.02	-.08	-.17	-.02	-.13	-.15	-.01	.04	-.09	-.04	-.01	.42	-.01	-.09	-.03	-.13	.02	-.08	-.01	.01	-.06	.01	.08	1.00

The distribution of Tobin's q appears in Figure 2. As expected, it has a long flat right tail. The mean and the median Tobin's q are fairly close to each other, suggesting that for the most part, the distribution is somewhat balanced.

FIGURE 2
Distribution of Tobin's q across Firms

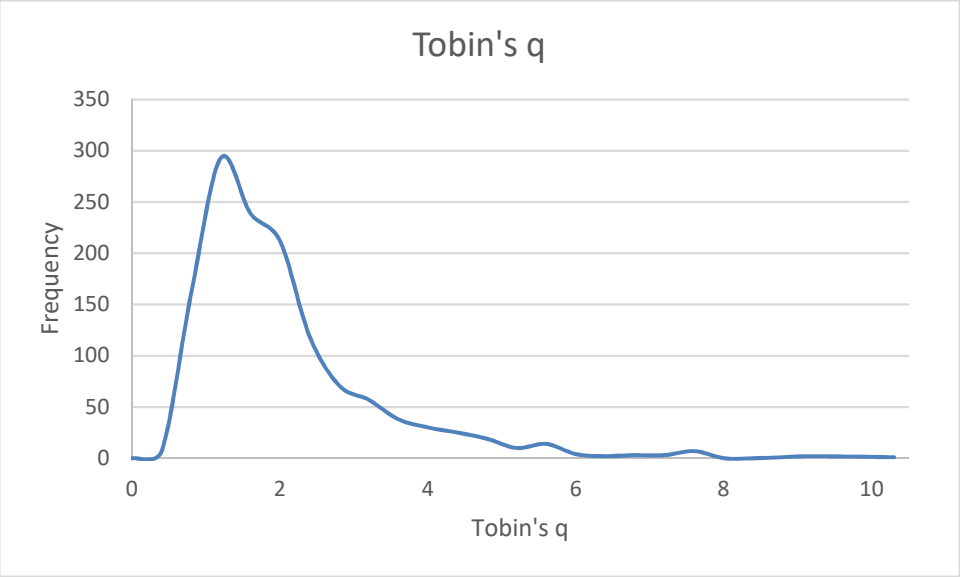
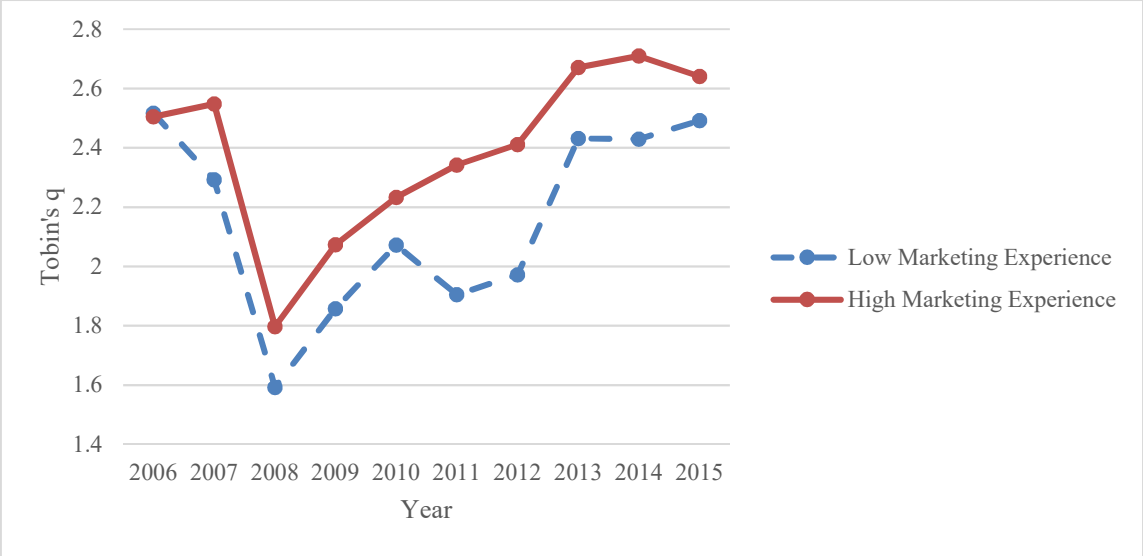


Table 5 presents the annual mean firm values (Tobin's q) of the firms in the data, split by companies whose CEOs have high vs. low marketing experience. The time series plots of the same data appear in Figure 3. The mean Tobin's q of firms, whose CEOs have high marketing experience are higher than those with low marketing experience in all but one year. I investigate the drivers of this difference by developing an appropriate model in the next section.

TABLE 5
Tobin's q for CEOs with High vs. Low Marketing Experience

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Tobin's q (High marketing)	2.51	2.54	1.79	2.07	2.23	2.34	2.41	2.67	2.71	2.64
Tobin's q (Low Marketing)	2.52	2.29	1.59	1.86	2.07	1.91	1.97	2.43	2.42	2.49

FIGURE 3
Tobin's q of Firms led by CEOs with High vs. Low Marketing Experience



MODEL DEVELOPMENT AND ESTIMATION

My model comprises six different equations with R&D intensity, patents, trademarks, advertising intensity, SG&A intensity, and Tobin's q as the dependent

variables. In each equation, subscript *i* represents the firm and subscript *t* represents the year.

Innovation Equations

1. $RND_{it} = \beta_0 + \beta_1 LMKTGEXP_{i(t-1)} + \beta_2 LMKTGEXP_{i(t-1)} \times LCEOOWN_{i(t-1)} + \beta_3 LMKTGEXP_{i(t-1)} \times INDCONC_{i(t-1)} + \sum_{k=1}^{K-1} \beta_{4k} IND_{ki} + \sum \beta_{5j} C_{it} + \alpha_t + \varepsilon_{it}$
2. $PAT_{it} = \xi_0 + \xi_1 LMKTGEXP_{i(t-1)} + \xi_2 RND_{i(t-1)} + \xi_3 LMKTGEXP_{i(t-1)} \times LCEOOWN_{i(t-1)} + \xi_4 LMKTGEXP_{i(t-1)} \times INDCONC_{i(t-1)} + \sum_{k=1}^{K-1} \xi_{5k} IND_{ki} + \sum \xi_{6j} C_{it} + \pi_t + \mu_{it}$
3. $TM_{it} = \rho_0 + \rho_1 LMKTGEXP_{i(t-1)} + \rho_2 RND_{i(t-1)} + \rho_3 LMKTGEXP_{i(t-1)} \times LCEOOWN_{i(t-1)} + \rho_4 LMKTGEXP_{i(t-1)} \times INDCONC_{i(t-1)} + \sum_{k=1}^{K-1} \rho_{5k} IND_{ki} + \sum \rho_{6j} C_{it} + \tau_t + \vartheta_{it}$

where RND is R&D intensity, PAT is the number of patents, and TM is the number of trademarks, LMKTGEXP is natural logarithm of the CEO's marketing experience, LCEOOWN is natural logarithm of the market value of shares held by the CEO, INDCONC is industry concentration, IND is a vector of K-1 dummy variables representing K different industries, and C is a vector of control variables, including engineering experience. β, ξ, and ρ are parameter vectors, α, π, and τ capture year fixed effects, and ε, μ, and ϑ are the error terms.

Marketing Intensity Equations

4. $AD_{it} = \gamma_0 + \gamma_1 LMKTGEXP_{i(t-1)} + \gamma_2 LMKTGEXP_{i(t-1)} \times LCEOOWN_{i(t-1)} + \gamma_3 LMKTGEXP_{i(t-1)} \times INDCONC_{i(t-1)} + \sum_{k=1}^{K-1} \gamma_{4k} IND_{ki} + \sum \gamma_{5j} C_{it} + \eta_t + u_{it}$

5. $SGA_{it} = \delta_0 + \delta_1 LMKTGEXP_{i(t-1)} + \delta_2 LMKTGEXP_{i(t-1)} \times LCEOOWN_{i(t-1)} + \delta_3 LMKTGEXP_{i(t-1)} \times INDCONC_{i(t-1)} + \sum_{k=1}^{K-1} \delta_{4k} IND_{ki} + \sum \delta_{5j} C_{it} + \theta_t + e_{it}$

where AD is advertising intensity, γ is a parameter vector, η captures the year fixed effect, u is the error term, SGA is SG&A intensity or the ratio of selling, general, and administrative expenses to total firm assets, δ is a parameter vector, θ captures the year fixed effect, e is the error term, and the other terms are as defined earlier. The control variables are the same as those in the R&D equation, except financial leverage because leverage, which involves long-term debt, may matter for a long-term high-level investment like R&D. The remaining variables are the same as those in the RND and advertising equations. In the advertising intensity, SG&A intensity, and firm value equations, I also include a variable to capture the CEO's experience in functional areas other than marketing and engineering. I do not include this variable in the innovation equations as I expect engineering experience to dominate all other experience.

Firm Value Equation

6. $LTQ_{it} = \lambda_0 + \lambda_1 LMKTGEXP_{i(t-1)} + \lambda_2 RND_{i(t-1)} + \lambda_3 SGA_{i(t-1)} + \lambda_4 AD_{i(t-1)} + \lambda_5 LPAT_{i(t-1)} + \lambda_6 LTM_{i(t-1)} + +\lambda_7 LMKTGEXP_{i(t-1)} \times LCEOOWN_{i(t-1)} + \lambda_8 LMKTGEXP_{i(t-1)} \times INDCONC_{i(t-1)} + \sum_{k=1}^{K-1} \lambda_{9k} IND_i + \sum \lambda_{10j} C_{it} + \omega_t + \varphi_{it}$

where LTQ is firm value measured by natural logarithm of Tobin's q, LPAT is natural logarithm of firm patents, LTM is the natural logarithm of number of trademarks, λ is a parameter vector, ω captures the year fixed effects, and φ is the error term. The control variables for this equation include all the control variables in the previous equations plus CEO compensation, firm profit, and firm revenues as these variables have been shown to affect Tobin's q (e.g., Grewal et al. 2010). I exclude financial leverage, effort intensity, and

organizational slack in this equation because these variables have accounting relationships with the dependent variable. In all the equations, consistent with prior research (Dotzel et al. 2013; Morgan and Rego 2006; Sorescu and Spanjol 2008), I lag some of the independent variables by one year to account for their potential endogeneity.

Endogeneity of CEO's Marketing Experience

The CEO's marketing experience is endogenous because it could be argued that firms may select CEOs based on their prior marketing experience and these CEOs' subsequent marketing experience could depend on this selection. To control for this potential endogeneity, I estimate the model using appropriate instruments and the two-stage least squares (2SLS) method. Consistent with Germann, Ebbes, and Grewal (2015), I use the average marketing experience of other CEOs in the industry as an instrument. While the average marketing experience of other CEOs is likely to be correlated with the focal CEO's marketing experience, it should not directly influence the value of the focal firm. Therefore, such an instrument has face validity. I also use the CEO's marketing educational background as an additional instrument because it would directly affect the length of the CEO's marketing experience but not the value of the firm that the CEO leads. An individual's educational background will contribute to the length of his/her experience in related functional areas. However, it will not have a direct bearing on the performance of the firm that he/she leads. Thus, these instruments provide strong exclusion restrictions.

I collect data on the CEO's marketing education from Bloomberg Businessweek and LinkedIn. I operationalize it as 1 if the CEO has an undergraduate, master's, or MBA in marketing, and 0 otherwise.

Model Estimation

I first estimate a regression model of the CEO's marketing experience as a function of the instruments and other exogenous variables in the system. I use the predicted values of the CEO's marketing experience in the subsequent models' estimation.

The six equations form a recursive system. The observations in each of the equations are not all the same because some of the variables are lagged in some equations. Cross-correlation analysis also shows that the error terms in the trademarks and patents equations are correlated and the error terms in the other four equations are correlated with one another. Therefore, I estimated each of the two sets of equations using a seemingly unrelated regression estimation approach (Zellner 1962).

Because patents and trademarks are count variables that are overdispersed, I use negative binomial regression for Equations (2) and (3). As there are many firm-year observations with no patents or no trademarks in a year, I use the zero-inflated negative binomial regression to account for excess zeros. For parsimony, I capture unobserved heterogeneity through industry fixed effects.

RESULTS

The results of the first-stage model appear in Table 6. Clearly, both the instruments are significant ($p < .01$), suggesting that the CEO's marketing experience is indeed endogenous. Furthermore, these instruments capture a substantial portion of the variance in the CEO's marketing experience.

TABLE 6
First Stage Model Results of Endogeneity of CEO's Marketing Experience

Parameter/Independent Variable	Marketing Experience Coefficient (SE)
Intercept	-3.009 (4.484)
Average Marketing Experience of Industry CEOs	-1.456 (.108)***
Marketing Education	.761 (.137)***
CEO's Age	-.692 (.242)***
Firm Age	.226 (.037)***
Market Size	.714 (.322)**
Market Growth	-.333 (.458)
Marketing Department Power	-.005 (.002)***
CEO's Gender	-.668 (.124)***
R-squared	.38

Notes: *$p < .10$. ** $p < .05$. *** $p < .01$. Sample size = 1,031.

The results for the patents and trademarks equations appear in Table 7. The results for the R&D intensity, SG&A intensity, advertising intensity, and firm value equations are presented in Table 8. From these tables, the CEO's marketing experience has a significant impact on R&D intensity ($p < .01$), supporting H_1. However, while the coefficient of the CEO's marketing experience in the trademarks equation is positive, it is insignificant ($p > .10$), and in the patents equation, it is negative and significant ($p < .01$). Marketing experience does not necessarily help create more patents or trademarks as firms led by CEOs with high engineering experience dominate the creation of patents. Industries in which firms are very active in patenting--such as the high-tech industry--usually have CEOs with engineering background. In addition, since most patents are in forms of new inventions, and inventions require technical abilities, it can be argued that CEOs with engineering experience can be more effective in these areas. Indeed, the effect of engineering experience on patents is high and significant ($p < .01$). In contrast,

when it comes to trademarks, which are associated with final products (e.g., new products, existing products with new packaging, new formula, or new logo), marketing experience can be more helpful for a better understanding of consumer's needs, which is critical to the success of trademarks. Interestingly, R&D intensity is an important positive driver of both the number of patents ($p < .01$) and trademarks ($p < .10$), the key innovation outcomes. Overall, because the CEO's marketing experience is positively associated with R&D intensity, it has an indirect positive effect on patents and trademarks.

From Table 8, the CEO's marketing experience is positively associated with advertising intensity ($p < .10$) and SG&A intensity ($p < .05$), consistent with H_2. The CEO's marketing experience also has a direct positive effect on firm value ($p < .01$), supporting H_3. The CEO's ownership in the firm weakens the relationship between the CEO's marketing experience and R&D intensity ($p < .01$), supporting H_{4a}. However, the CEO's ownership in the firm does not significantly moderate the relationship between the CEO's marketing experience and advertising intensity or SG&A intensity ($p > .10$). This result may have something to do with the measures I am using. As discussed earlier, some of marketing activities such as brand building and customer loyalty, may require resources and costs which are realized immediately but will benefit the firm in the long-term. Advertising and sales spending of the firm might not be categorized in those categories. In addition, SG&A includes some non-marketing expenses as well. Therefore, increasing the CEO's ownership in the firm does not necessarily affect firm expenditure towards these particular types of expenditures. Industry concentration weakens the relationship between the CEO's marketing experience and both R&D

intensity ($p < .05$) and SG&A ($p < .01$) and advertising intensities ($p < .01$), strongly supporting H_{5a} and H_{5b}, respectively. I can conclude that the positive effect of the CEO's marketing experience on R&D intensity and on marketing intensity is stronger in industries with greater competition.

TABLE 7
ZINB Estimation Results of Patent and Trademark Equations

Parameter/Independent Variable	PATENT Coefficient (SE)	TRADEMARK, Coefficient (SE)
	Focal Variables	
Intercept	5.053 (15.043)	.270 (.057)***
CEO's Marketing Experience	-2.228 (.468)***	.136 (.377)
R&D Intensity	7.639 (2.464)***	1.994 (1.092)*
	Interactions	
CEO's Marketing Experience × CEO's Ownership Share	.185 (.040)***	-.008 (.032)
CEO's Marketing Experience × Industry Concentration	1.905 (1.535)	-.488 (.924)
	CEO and Management Level Controls	
CEO's Age	1.265 (.693)*	-1.326 (.558)**
CEO's Duality	.383 (.146)***	-.235 (.110)**
CEO's Tenure	-.330 (.098)***	.036 (.070)
CEO's Total Experience	.069 (.367)	.891 (.249)***
CEO's Engineering Experience	.240 (.056)***	-.005 (.048)
CEO's Experience within Firm	.137 (.078)*	.086 (.066)
CEO's Ownership Share	-.130 (.051)**	.062 (.035)*
CEO's Compensation Ratio	-.164 (.501)	-.693 (.375)*
CEO's Gender	.226 (.275)	.548 (.210)***
CMO's Presence in TMT	-.232 (.164)	-.259 (.113)**
COO's Presence in TMT	-.142 (.114)	-.217 (.089)**
Marketing Department Power	.009 (.004)**	.001 (.003)
	Firm and Industry Level Controls	
Firm Age	-.179 (.103)*	-.133 (.068)*
Number of Employees	.573 (.075)***	.576 (.050)***
Market Size	-.657 (1.094)	-.271 (.679)
Market Growth	1.852 (1.083)*	.406 (.685)
Market Share	6.047 (1.385)***	-3.548 (.696)***
Industry Concentration	2.112 (7.204)	.603 (4.032)
Financial Leverage	.444 (.647)	-.635 (.375)*
Organizational Slack	1.676 (1.013)*	1.234 (.848)
Effort Intensity	.385 (.507)	-.818 (.467)*
Model Fit Statistic[a]	Log-likelihood = -3,342.98 χ^2 =1131.07; $p < .01$.	Log-likelihood = -3,165.11 χ^2 = 514.57; $p < .01$.

Notes: ZINB = Zero Inflated Negative Binomial. *$p < .10$. ** $p < .05$. *** $p < .01$. Sample size = 879.
[a] Model fit statistics are based on independent estimation.

TABLE 8
SUR Estimation Results of R&D, SG&A, Advertising, and Firm Value Equations

Parameter/ Independent Variable	R&D Intensity Coefficient (SE)	SG&A Intensity Coefficient (SE)	Advertising Intensity Coefficient (SE)	Firm Value Coefficient (SE)
		Focal Variables		
Intercept	-.178 (.229)	1.703 (.997)*	-.103 (.287)	1.204 (1.785)
CEO's Marketing Experience	.042 (.009)***	.100 (.040)**	.020 (.011)*	.200 (.071)***
R&D Intensity				1.409 (.259)***
Advertising Intensity				.364 (.238)
SG&A Intensity				.594 (.074)***
PATENT				.012 (.007)*
TRADEMARK				.015 (.007)**
		Interactions		
CEO's Marketing Experience × CEO's Ownership Share	-.004 (.001)***	-.004 (.004)	-.001 (.001)	-.011 (.006)*
CEO's Marketing Experience × Industry Concentration	-.038 (.019)**	-.260 (.082)***	-.081 (.024)***	-.106 (.148)
		CEO and Management Level Controls		
CEO's Age	.015 (.014)	-.099 (.052)*	-.004 (.015)	-.211 (.111)*
CEO's Duality	-.004 (.002)*	.001 (.011)	-.005 (.003)	.002 (.019)
CEO's Tenure	-.002 (.002)	.007 (.007)	.0002 (.002)	.022 (.013)*
CEO's Total Experience	-.019 (.006)***			-.007 (.058)
CEO's Experience within Firm	.003 (.002)*	-.027 (.007)***	-.003 (.002)*	.0003 (.012)
CEO's Ownership Share	.005 (.001)***	.001 (.004)	.0002 (.001)	.027 (.007)***
CEO's Engineering Experience	.008 (.001)***	-.005 (.006)	-.008 (.002)***	-.015 (.013)
CEO's Other Experience		-.004 (.015)	-.010 (.004)**	
CEO's Compensation Ratio	.008 (.008)	.010 (.035)	-.020 (.010)**	.187 (.075)**
CEO's Compensation				-.028 (.008)***
CEO's Gender	.012 (.005)**	-.038 (.023)	.005 (.007)	.039 (.042)
CMO's Presence in TMT	.011 (.003)***	.024 (.011)**	-.007 (.003)**	-.027 (.021)
Marketing Department Power	-.0004(.0001)***	-.001 (.0003)***	.000 (.000)	.003 (.001)***
COO's Presence in TMT	.003 (.002)	.012 (.009)	.004 (.002)*	.021 (.017)
		Firm and Industry Level Controls		
Firm Age	-.002 (.002)	.015 (.007)**	.003 (.002)	-.009 (.012)
Number of Employees	-.006 (.001)***	-.015 (.005)***	.001 (.001)	-.018 (.015)
Market Size	.015 (.017)	-.069 (.073)	.015 (.021)	.027 (.129)
Market Growth	-.013 (.017)	.011 (.075)	-.001 (.022)	.108 (.134)
Market Share	.055 (.018)***	-.111 (.080)	-.075 (.023)***	.437 (.153)***
Industry Concentration	.079 (.093)	.209 (.408)	-.016 (.117)	.119 (.727)
Effort Intensity	-.067 (.008)***	-.237 (.036)***	-.037 (.010)***	
Organizational Slack	.011 (.017)	.303 (.072)***	.038 (.021)*	
Financial Leverage	-.044 (.009)***			
Profit				.039 (.005)***
Revenue				-.052 (.018)***
R-Square	.60	.55	.30	.49

Notes: *$p < .10$. ** $p < .05$. *** $p < .01$. Sample size = 879.

From Table 7, the CEO's ownership in the firm positively moderates the negative relationship between the CEO's marketing experience and the number of patents ($p < .01$). A possible reason is that the CEO's ownership in the firm serves as a motivator to raise the number of patents by providing the mindset of cashing in on the future value of R&D output. The moderating effects of industry concentration on the number of patents and the number of trademarks are not significant ($p > .10$).

Although I did not have formal hypotheses, I also test for any effects of the moderators on the relationship between the CEO's marketing experience and firm value. From Table 8, the CEO's ownership in the firm weakens the positive relationship between the CEO's marketing experience and firm value ($p < .10$).

Among the control variables, the CEO's experience within the firm is positively associated with both patents ($p < .10$) and R&D intensity ($p < .10$) but negatively related to SG&A intensity ($p < .01$) and advertising intensity ($p < .10$). Marketing department power is positively associated with the number of patents ($p < .05$) and firm value ($p < .01$) but negatively related to R&D intensity ($p < .01$) and SG&A intensity ($p < .01$). The CEO's engineering experience has a positive effect on patents ($p < .01$) and R&D intensity ($p < .01$) but a negative effect on advertising intensity ($p < .01$).

Overall, the findings from the analysis largely support my hypotheses. The CEO's marketing experience is positively associated with R&D intensity, marketing intensity, and firm value. The CEO's ownership in the firm weakens the positive relationship between the CEO's marketing experience and R&D intensity. Industry concentration weakens the relationship between the CEO's marketing experience and

R&D intensity and between the CEO's marketing experience and marketing intensity. A summary of the findings appears in Table 9.

TABLE 9
Summary of Findings

Hypothesis	Expected Coefficient Sign	Result Coefficient Sign	Interpretation/Rationale
H_1: Positive association between the CEO's marketing experience and innovation	+	+ (R&D intensity) NS (Trademarks) - (Patents)	Firms led by CEOs with greater marketing experience boost innovation spending. However, they do not necessarily create more patents or trademarks as firms led by CEOs with high engineering experience dominate in the creation of patents.
H_2: Positive association between the CEO's marketing experience and marketing intensity	+	+ (Advertising intensity) + (SG&A intensity)	Firms led by CEOs with greater marketing experience invest more in marketing due to their greater exposure to and training in marketing.
H_3: Positive association between the CEO's marketing experience and firm value	+	+ (Tobin's q)	Firms led by CEOs with greater marketing experience directly create higher shareholder value as marketing experience signals alignment of customer value with shareholder value to investors.
H_{4a}: Negative moderating effect of the CEO's ownership on the relationship between the CEO's marketing experience and innovation	-	- (R&D intensity) NS (Trademarks) + (Patents)	The role of the CEO's marketing experience in enhancing innovation activity is diminished in firms where the CEO's ownership in the firm is high as high firm ownership acts an internal motivator for the CEO to make long-term risky investments, making the CEO's marketing experience somewhat redundant. Curiously, CEO's ownership serves as a motivator to raise the number of patents by providing the mindset of cashing in on future value of R&D output.
H_{4b}: Negative moderating effect of the CEO ownership on the relationship between the CEO's marketing experience and marketing intensity	-	NS (Advertising intensity) NS (SG&A intensity)	The role of the CEO's marketing experience in enhancing marketing investment is unaffected by the CEO's ownership in the firm.
H_{5a}: Negative moderating effect of industry concentration on the relationship between the CEO's marketing experience and innovation	-	- (R&D intensity) NS (Patents) NS (Trademarks)	The role of the CEO's marketing experience in bolstering innovation activity is enhanced in firms facing strong competition that acts an external motivator to deploy his/her marketing experience for greater R&D investment.
H_{5b}: Negative moderating effect of industry concentration on the relationship between the CEO's marketing experience and marketing intensity	-	- (Advertising intensity) - (SG&A intensity)	The role of the CEO's marketing experience in boosting marketing spending is enhanced in firms facing strong competition that acts an external motivator to deploy his/her marketing experience for greater marketing investment.

Note: NS – Not Significant at $p < .10$ or better.

Robustness Checks

I performed a number of additional analyses to ensure that my results are robust. First, I re-estimated the 2SLS models using the industry percentage of firms whose CEOs have a marketing background as the instrument in lieu of average marketing experience of other CEOs in the industry, but the results did not substantively change. Second, I re-estimated the models using firm fixed effects instead of industry fixed effects. Again, it produced the same substantive results for the focal variables. Third, I re-estimated the model using the generalized estimating equation (GEE) approach. The results did not materially change. Fourth, I replaced the CEO's marketing experience by a dummy variable representing whether the CEO had a marketing background, consistent with some prior studies (e.g., Barker and Mueller 2002). The main results did not substantively change. I report the results in APPENDIX I Tables 20 and 21.

Fifth, I re-estimated the patent and trademark models using a quasi-Poisson approach and obtained consistent results. Sixth, I re-estimated the models using stepwise regression by sequentially adding interactions to the main model. The results remained robust. Seventh, I estimated a model by adding sales experience as an additional control variable. The results (see APPENDIX I Tables 22 and 23) show that the effects of the focal variables remain the same.

Eighth, I re-estimated the models by controlling for the CEO's experience in additional functional areas (e.g., operations, finance, law) and found that the results on the main variables did not change. Ninth, I tested similar relationships using the CEO's experience in other functional areas as the focal variables in lieu of the CEO's marketing experience. These models did not produce the effects obtained in my proposed models

with marketing experience. Tenth, I performed an analysis of a subsample of the CEOs with at least some marketing experience to control for the recency of marketing experience and the origin of experience (inside the firm vs. outside the industry) and their potential moderating roles. I found that the CEO's outside industry marketing experience positively moderates the relationships. In all these different cases, the main results were substantively consistent, indicating the significance of the impact of the CEO's marketing experience on strategic firm-level outcomes.

Mediation Tests

I did not hypothesize mediation in my main model, but because the CEO's marketing experience is positively associated with R&D and marketing intensities and because these variables have a positive impact on firm value, partial mediation is likely. To test for this possibility, I performed a Sobel test (Sobel 1982) of mediation. The results support partial mediation for R&D intensity ($p < .01$) and SG&A intensity ($p < .05$). I conclude that R&D intensity and SG&A intensity partially mediate the effect of the CEO's marketing experience on firm value.

IMPLICATIONS

Findings of this research offer important implications for both theory and managerial practice. From a theoretical standpoint, this research contributes to the ongoing debate on the importance of marketing at the strategic level of the firm. My research addresses the movement toward corporate-level role of marketing by combining marketing's strategic role with upper-echelon and top management research. What the organization does and the way it carries out its functions and creates value for

shareholders could be explained, at least in part, by the profile of its upper echelon (Chaganti and Sambharya 1987). By studying and showing the impact of the CEO's marketing experience on measurable firm outcomes, in particular, firm value, this study provides a new perspective about the strategic role of marketing, extending previous research on the presence of the CMO in TMT as a representative of marketing at the corporate strategy level (e.g., Germann, Ebbes, and Grewal 2015; Nath and Mahajan 2008, 2011; Whitler, Krause, and Lehmann 2018). It also addresses some of the concerns raised by prior research (e.g., Boyd, Chandy, and Cunha 2010; Nath and Mahajan 2008; Moorman and Rust 1999) regarding the dwindling influence of marketing. My findings show that the presence of marketing at the corporate strategy level in form of the CEO's marketing experience has a positive impact on firm value. This means that the role of marketing in top management can help firms make long-term investments in R&D and marketing and improve shareholder value.

Prior findings on the direct effect of the CEO's marketing background on innovation are divergent and exhibit limitations. For instance, Barker and Mueller (2002) show that firms headed by CEOs with marketing and R&D/engineering background spend more on R&D than firms led by CEOs with non-marketing/R&D backgrounds. However, their limited sample is selective and contains only one year of data. In contrast, Rodenbach and Brettel (2012) find that the impact of the CEO's marketing/R&D background on R&D expenditures is insignificant. But their research does not control for many variables and is narrow in its operationalization of the CEO's experience in marketing or R&D/engineering. By analyzing a comprehensive dataset over multiple years, carefully operationalizing key variables, and controlling for

potentially influential variables, my research extends prior research, addresses the key limitations of previous studies, and pens new research avenues.

In addition to the main positive effect of the CEO's marketing experience on firm value, my findings suggest that firms led by CEOs with greater marketing experience spend more on R&D and marketing activities. By introducing the CEO's marketing experience as a key driver of innovation and marketing investments, this research extends the finding of Yadav, Prabhu, and Chandy (2009) that the CEO's attention can have an impact on firm innovativeness. I find that CEOs with higher marketing experience spend more on innovation and marketing and create more innovation outputs than CEOs with lower marketing experience.

This study also reveals new boundary conditions on the effect of the CEO's marketing experience on firm outcomes. By introducing the CEO's ownership in the firm as a moderator of the impact of the CEO marketing experience on firm outcomes, I extend the literature on the relationship between top management compensation structure and firm performance (e.g., Core, Holthausen, and Larcker 1999; Currim, Lim, and Kim 2012). The results show that while increasing the CEO's ownership in the firm may seem like the right decision to incentivize him/her to spend on riskier and long-term R&D and marketing activities, it may not be adequate to enhance desirable outcomes if the CEO already has more intensive marketing experience.

The findings also show that the effect of the CEO's marketing experience on firm outcomes is stronger in more competitive industries. By introducing the CEO's marketing experience as a factor that can help firms survive in intense competition, this study extends the broad literature on market competition (e.g., Anderson and Simester

2013; Gatignon 1984). The finding that CEOs with marketing experience spend more on marketing and innovation in general and that this effect is accentuated in more competitive industries, shines a spotlight on the role of external motivation in enhancing the impact of the CEO's marketing experience on firm activities and outcomes.

From a managerial perspective, this study helps firms with their CEO selection and succession plans. The selection of a CEO is a critical organizational decision because organizations are seen as a reflection of their top managers and the decisions they make (Rajagopalan and Datta 1996). My research shows that in general firms led by CEOs with greater marketing experience create greater shareholder value than other firms. This finding suggests that all things equal, a firm is better off selecting a CEO with a strong marketing experience than one with a weak marketing experience. Consistent with prior research (e.g., Dotzel, Shankar, and Berry 2013), I calculated the net effects of the CEO's marketing experience at the means for different industries. The results appear in Table 10. The CEO's marketing experience has a greater effect on firm value in some industries than others.

TABLE 10
Summary of the CEO's Marketing Experience and Its Effects on Firm Value (Tobin's q) by Industry

Industry	Average CEO Marketing Experience	Effect on Firm Value
Car manufacturing	0	0
Chemicals	1.08	.17
High-tech	1.02	.13
Consumer goods	1.41	.20
Hospitality	.438	.05
Industrial/Construction/Machinery	1.45	.21
Retailing	.87	.09

In addition, enhancing the CEO's marketing experience/mindset can also help the firm. Firms can train and expose their CEOs to more marketing issues so that he/she can develop a better grasp of marketing issues and better utilize the firm's marketing assets.

According to the findings, CEOs with marketing experience invest more in innovation and marketing. This finding is useful for firms in choosing their CEOs based on their strategic goals. Some firms may look to cut their costs, while others may want to increase their market share. Based on this study, if a firm wishes to encourage innovation or invest more in marketing activities such as advertising, it is better off appointing a CEO with a high level of marketing experience. By the same token, if a firm is in a temporary survival mode, seeking to reduce R&D and marketing expenditures, it may wish to choose a CEO with limited marketing experience.

Increasing the stock-based compensation of CEOs to enhance performance and risk appetite is a commonly adopted strategy of many big firms. In general, such a strategy may help when the CEO is risk-averse, encouraging him/her to make riskier decisions. My findings show that the CEO's ownership in the firm has a negative effect on the impact of the CEO's marketing experience on firm outcomes. Marketing CEOs are not risk-averse in general and increasing their ownership in the firm is not likely to impact their propensity to make riskier decisions. Therefore, to grow firm value, firms may want to look beyond stock ownership to incentivize CEOs with extensive marketing experience.

Firms competing in more competitive industries are better off having a CEO with high marketing experience. My results show that CEOs with greater marketing experience can have a stronger effect in more competitive industries. CEOs with

extensive marketing experience typically have a solid understanding of the market, know how to use market information to outwit competition, and may not be as risk-averse as other CEOs. This will likely lead to superior firm value.

Finally, my findings can help firms predict their competitors' moves based on the marketing experience of their competitor firms' CEOs. For instance, a firm can expect a rival firm headed by a CEO with high marketing experience to invest more in innovation and advertising. This expectation can better inform the firm's own marketing and innovation investment decisions.

LIMITATIONS AND FURTHER RESEARCH

This research has certain limitations that offer opportunities for further research. First, my sample contains only U.S. firms. The impact of the CEO on firm outcomes may differ across countries (Crossland and Hambrick 2007), so it would be interesting to extend the research to firms listed outside the U.S. Second, I did not explore how the different marketing positions a CEO may have held in her/his career might modify the effects of the CEO's marketing experience on firm outcomes. Future research can examine this issue. Third, I use patents and trademarks as innovation outputs that could be augmented using new products if relevant data are available. Fourth, while I focus on the CEO's marketing experience as a key driver of firm performance, I do not measure the marketing mindset of the CEO. Although marketing mindset may be highly correlated with marketing experience, some CEOs without much marketing experience may exhibit a high level of marketing mindset. Future research with richer data on marketing mindset can include this variable. Fifth, I do not control for the unique effects

of the firms or industries in which CEOs may have worked. Working in different industries or firms may have different effects on the CEO's mindset and may ultimately affect his/her decision-making. Future research can investigate the effects of experience in different industries on strategic outcomes.

This study is among the first to study the impact of the CEO's marketing experience on important firm-level outcomes, such as firm value. My results show that the CEO's marketing experience is a significant positive direct driver of marketing intensity, innovation, and firm value. The CEO's marketing experience's impact is weakened when the CEO's stockholding is higher and strengthened when the industry is more competitive. The results suggest that firms need to seriously consider the CEO's marketing experience as a profound factor in CEO selection and promotion if they want to nurture innovation, invest in marketing, and enhance shareholder value.

CHAPTER III

CEO'S MARKETING EXPERIENCE, ACTIVIST INVESTOR INTERVENTION, MARKETING SPENDING, AND FIRM VALUE

In recent years, activist investors and the firms they target have attracted considerable attention from media, academia, and the legal community. During the past 15 years, the number of activist investor campaigns has multiplied more than five-fold. While finance, accounting, and management scholars have examined the impact of activist investors on several financial and managerial outcomes such as stock price, corporate governance, and analysts' recommendations, the effects of activist investor intervention on marketing (advertising, and sales, general, and administrative [SG&A]) spending and marketing-related spending (e.g., R&D spending) have been unexplored. Furthermore, the roles of the CEO's marketing experience in these relationships are unknown.

In this research, using a sample of 455 firms targeted by activist investors over six years (2010-2015), I examine the impact of activist investor intervention on marketing intensity, R&D intensity, and firm value through a differences-in-differences (DIFF-IN-DIFF) approach. I further explore the moderating role of the CEO's marketing experience in the effects of activist investor intervention on these outcomes. After controlling for selection through a Heckman model and using propensity score matching (PSM), I show activist investor intervention lowers advertising intensity and R&D intensity and also has a negative indirect effect on firm value. Importantly, the CEO's marketing experience moderates these effects. These results suggest that activist investor

intervention has a detrimental effect on not just marketing spending but also on innovation and firm value, but importantly CEOs with marketing experience can mitigate the deleterious effects.

INTRODUCTION

Activist investors and the firms they target have attracted considerable attention from the media, academia, and the legal community. For the past 30 years, institutional investors, individuals, labor unions, and other groups have engaged in shareholder activism (Brav et al. 2018). In recent years, the number of activist campaigns has increased substantially. Activist investment firms (typically hedge funds) such as Icahn Enterprises (led by Carl Icahn), Third Point Partners (led by Daniel Loebb), Pershing Square Capital (led by Bill Ackman), and Trian Fund Management (led by Nelson Peltz) tend to intervene in a target firm's governance and management through shareholder campaigns that includes a significant hike in their shareholding of the target firm.

Through their heightened levels of shareholding, activist investors seek to redirect the firm by making strategic changes such as the induction of new board members, change of the chief executive officer (CEO), cost-cutting, downsizing, and pursuit of mergers and acquisitions (M&A). Activist investor intervention can directly signal impending changes to investors and their valuation of the target firm. If the intervention is successful, it can further significantly alter the target firm's strategic decisions and outcomes, including firm value. However, even if activist investors do not succeed in their campaigns, the target firms will undergo some changes to fend off and immunize themselves against potential future attacks by activist investors.

While finance, accounting, and management scholars have extensively examined the impact of activist investor intervention on different aspects such as corporate governance, stock returns, analysts' recommendations (e.g., Brav et al. 2008; Swanson and Young 2017), the impact of activist investor intervention on marketing spending has been unexplored. Furthermore, the effects of activist investor intervention on innovation outcomes has been underexplored. These issues are particularly important for marketers because activist investor intervention can significantly alter the allocation of resources to marketing activities, which can weaken or strengthen marketing's role in the firm's financial performance (Srinivasan and Hanssens 2009).

The strength or weakness of marketing's role in the firm's innovation and financial outcomes may depend on the CEO's marketing background and experience (Mirahmad and Shankar 2018; Warren et al. 2018). Thus, the CEO's marketing experience may also play a significant role in the effects of activist investor intervention on firm outcomes.

In this research, I study the impact of activist investor intervention on marketing and R&D intensities and firm value. In particular, I address the following critical questions: (1) What are the main effects of activist investor intervention on marketing intensity, innovation intensity, and firm value? (2) What is the role of the CEO's marketing experience in these effects? To answer these questions, I assemble and analyze a unique panel dataset comprising 455 firms that activist investors targeted during 2010-2015. I control for effects of other relevant variables such as the CEO's tenure.

The results show that activist investor intervention has a negative direct effect on firm advertising intensity and R&D intensity, and a negative indirect effect on firm value. Furthermore, the finding shows that the CEO's marketing experience mitigates the deleterious effects.

My research makes three important contributions. First, by investigating the impact of activist investor intervention on strategic firm-level outcomes, and in particular, marketing- related outcomes, I shed light on how activist investor intervention influences marketing spending and strategy that are critical to financial performance (e.g., Joshi and Hanssens 2009; Srinivasan and Hanssens 2009).

Second, by proposing and testing the boundary conditions under which the effects of activist investor intervention on firm level outcomes may be weakened or strengthened, my research contributes to the extensive literature on shareholder activism in finance, accounting, and management (e.g., Brav et al. 2018; David et al. 2001). My research also extends studies that suggest that the impact of activist investors on firm performance is context based (e.g., Bushee 1998).

Third, by showing the moderating role of the CEO's marketing experience in mitigating the potential detrimental effects of activist investor intervention on marketing activities and consequently on firm value, it offers fresh insights on the role of marketing at the corporate strategy level, extending Boyd, Chandy, and Cunha (2010) and Nath and Mahajan (2008). My findings show that the CEO's marketing experience can mitigate the negative effect of activist investor intervention on marketing spending.

THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

Prior research has viewed shareholder activism as a response to the agency conflict in publicly traded companies with absentee owners (Gillan and Starks 2007; Swanson and Young 2017). In recent years, the number of shareholder activism campaigns has increased hyperbolically (Coffee and Palia 2015). According to the activist investors report published by Harvard Law School, activist investors attacked more than 2,200 companies worldwide during 2013-2016 period. In these companies, activist investors demand changes in areas such as operations, capital structure, and corporate governance (Swanson and Young 2017). While some of these changes might lead to better returns for shareholders, activist investors have their share of criticisms. Critics contend that activist investors pressure managers to make decisions that sacrifice long-term financial goals for short-term gains (e.g., Bebchuk, Brav, and Jiang 2015). As Coffee and Palia (2015) put, the predominant criticism of shareholder activism is based on the belief that it amounts in substance to a "pump and dump" scheme under which activist investors create a short-term spike in the target stock's price, then exit, leaving the other shareholders to experience diminished profitability over the long-run. However, proponents of activist investors argue that firms have a tendency to overspend in several areas and activist investors can improve the efficiency of the firm by reallocating the resources of the firm (Brav et al. 2018).

The increased importance of investor activism and the widespread concern about activist investor intervention has created a growing stream of academic research in diverse fields such as law, finance, accounting, and management that examine the positive and the negative effects of activist investor interventions. Much research in this

area focuses on the impact of activist investors on firm value (e.g., Allaire and Dauphin 2016; Greenwood and Schor 2009). However, the effect of activist investors on marketing spending is underexplored.

There has been a flourishing stream of research in marketing about the role of marketing spending in firm performance (e.g., Joshi and Hanssens 2010; McAlister, Srinivasan, and Kim 2007). Some studies suggest that spending on marketing activities can enhance financial performance. Given that activist investor intervention is becoming a growing phenomenon, a better understanding of the effects of activist intervention on marketing and innovation expenditures is critically important to marketing researchers and practitioners.

In addition, marketing scholars have voiced their concern over the fading of marketing influence at the corporate strategy level (e.g., Anderson 1982; Kumar and Shah 2009; Moorman and Rust 1999). As Boyd, Chandy, and Cunha (2010) argue, with fading strategic role of marketing, it will be harder for managers to ask for resources to carry out marketing activities. If activist investors are as myopic as critics suggest, marketing spending might be in even greater danger (Mizik 2010). Activist investor intervention may further deteriorate the conditions for marketers if such investors end up cutting marketing costs in the target firms. Importantly, cuts in marketing and innovation spending may harm financial performance in the long-run.

Main/Direct Effects

Activist Investors and Marketing Intensity

Managers can pursue different strategies, each yielding different cash flow streams (Mizik 2010). They may prefer short-term earnings to long-term gains. Critics

have expressed concern over such myopic behavior by U.S. corporate managers (Bushee 1998). These critics describe activist investors as "hit-and-run" investors who care only about short-term earnings (e.g., Coffee and Palia 2015). In addition, the management literature categorizes hedge funds as short-term institutional owners who prefer short-term earnings to long-term gains (Neubaum and Zahra 2006). Hedge-fund activism is typically associated with three key changes at the target firm: increased financial leverage, greater shareholder payout, and reduced long-term investment (Coffee and Palia 2015). Because hedge funds constitute the majority of activist investors, most activist investors likely have a myopic approach.

In contrast, proponents of shareholder activism argue that investment-limiting interventions by activist investors can be good for firms as they move the target firms toward optimal investment levels because managers tend to overinvest (Bebchuk et al. 2015). They argue that while firms may become leaner in terms of expenses, they do not become weaker; furthermore, an efficient reallocation of financial resources will benefit the firm in the long-term (Brav et al. 2018). However, critics of this perspective declare that the assumption that managements typically engage in inefficient empire building is out of date and ignores the impact of major changes in executive compensation. The assertion that managements are systematically biased toward inefficient expansion and investment becomes critical as the scale and magnitude of "investment-limiting interventions" by activists call into question the ability of the American public corporations to engage in long-term investments (Coffee and Palia 2015).

Firms typically treat marketing as discretionary (Graham, Harvey, and Rajgopal 2005; Lamey et al. 2007). Expenditures related to marketing are typically among the first

set of expenses to be cut in an economic downturn or when managers fear they may not be able to meet their earning targets. Marketing activities create intangible assets with long-term effects on business performance (e.g., brand equity, customer loyalty) that often also require substantial immediate costs to support them (Mizik 2010). Therefore, managers or investors with a myopic view do not typically consider marketing spending critical. Such investors will likely cut marketing expenditures after intervention, leading to my first hypothesis.

> *H_1: Activist investor intervention is negatively associated with marketing intensity.*

Activist Investors and R&D Intensity

There is an ongoing debate among academics, practitioners, and policymakers about the consequences of stock market pressure on managerial incentives to engage in innovative activities with long-term value consequences that are not easily assessed by the market (e.g., Brav et al. 2018). The idea that stock market pressure leads to "managerial myopia" has been a recurring concern (Stein 1988; 1989) and has evolved into a heated debate in recent years as activist investors have increasingly come to dominate discussions of shareholder empowerment. The concern reached the peak in 2015 when Laurence Fink, the chairman and CEO of BlackRock, the world's largest institutional investor, argued that activist investors pressure corporate leaders to generate short-term gains at the expense of long-term value creation. However, proponents of activist investors remind critics of the firms that have benefited from activist investor intervention in the long-run. For instance, the changes that activist investor, Starboard

Value implemented at Darden Restaurants with promotions and online ordering, has substantially benefitted the company (Markman 2018).

Investment in R&D projects involve temporal trade-offs because these expenditures accrue in the near term with payoffs likely over the long term (David et al. 2001). In other words, the costs of R&D projects are realized immediately, while the future benefits can be uncertain. Therefore, if managers or investors have a myopic view, they may not favor R&D spending.

Prior research suggests that the owners who hold small stakes in numerous firms and trade in and out frequently create pressures for myopic investment behavior (Porter 1992). Activist investors, in particular, hedge funds which constitute the majority of activist investors, target many firms and trade in and out frequently. Activist investors might have a negative impact on innovation spending because as Holmstrom (1989) argues, innovative activities involve the exploration of untested and unknown approaches that have a high probability of failure with contingencies that are impossible to foresee (Brav et al. 2018). Even if one considers the changes implemented by activist investors as a reallocation of resources to make the firm more efficient, it is likely that these investors make the R&D spending more efficient by cutting it. Therefore, activist investors are unlikely fans of R&D projects and may cut R&D spending after intervention. However, the findings from prior research are inconclusive with data limitations. While David et al. (2001) find that shareholder activism is positively associated with R&D spending in both the short- and long-term, Brav et al. (2018) find the exact opposite. In addition, the time period of events studied by these scholars stops at 2007. As Coffee and Palia (2015) argue, activist hedge-funds, started growing after

2007, so prior studies do not capture the effects of these specific types of activist investors believed to be more radical in cutting firm's long-term investments. Based on these arguments about R&D myopia of activist investors, I hypothesize that:

H_2: Activist investor intervention is negatively associated with R&D intensity.

Activist Investors and Firm Value

Critics of shareholder activism contend that activists pressure managers to make decisions that may result in positive short-term stock performance at the expense of long-term enterprise value (Swanson and Young 2017). As argued earlier, activist investors potentially limit R&D and marketing expenditures that may have a positive impact on firm value in the short-term but a negative effect in the long-term. However, proponents of activist investors argue that activist investor intervention is positively associated with firm stock price (Becht et al. 2017). Moreover, the interventions are not on average followed by a decline in the stock price over the five-year window after the arrival of activists (Brav et al. 2008).

However, the results of prior research in finance and accounting of the effects of shareholder activism on firm value in the long-term are mixed. Brav et al. (2008) and Boyson and Mooradian (2011) find that shareholder activism is positively associated with firm value measured as ROA. By contrast, Allaire and Dauphin (2016) and Gantchev et al. (2017) do not find any positive effect of shareholder activism on firm value measured as Tobin's q.

Finance and accounting scholars conclude that studying the direct long-term effects of shareholder activism on firm value is indeed a difficult task, and that findings in most cases may not be reliable as they depend on the measure of firm value (Swanson

and Young 2017). In addition to the choice of the measure, the distribution of returns from shareholder activism may exhibit high variations among different firms. Some firms experience losses, while others gain value post intervention (Coffee and Palia 2015). It is also possible activist investor interventions do not cause long-term gains or losses in the value of target firms (Cremers et al. 2015). Nevertheless, I expect that the perceptions about activist investors will likely signal negative value over a longer period such as a year, so I hypothesize that activist investor intervention has a negative direct effect on firm value. In addition, because R&D and marketing spending are drivers of firm value in the long-run, cutting these expenditures can hurt the firm value in the long-run.

H_3: Activist investor intervention is negatively associated with firm value.

Moderating Effects of CEO's Marketing Experience

In most cases, activist investors do not have complete control over the target firms. They typically hold limited stakes (less than 11%) in each firm (Becht et al. 2017), so they must rely on persuasion of other shareholders and the firm's internal governance mechanisms to implement changes (Cohn and Rajan 2013). However, as Brav et al. (2008) show, activist hedge funds are often successful in influencing managers and boards. The unconditional probability of an activist being successful in achieving at least one engagement outcome is 53% (Becht et al. 2017). Nevertheless, sometimes activists face opposition from managers, in particular, the CEO, when they try to implement their desired changes. The CEO and corporate governance have a critical role to play when a firm is attacked by activist investors. As Becht et al. (2017) argue, three key factors can affect the success of activist investors' campaigns: size of

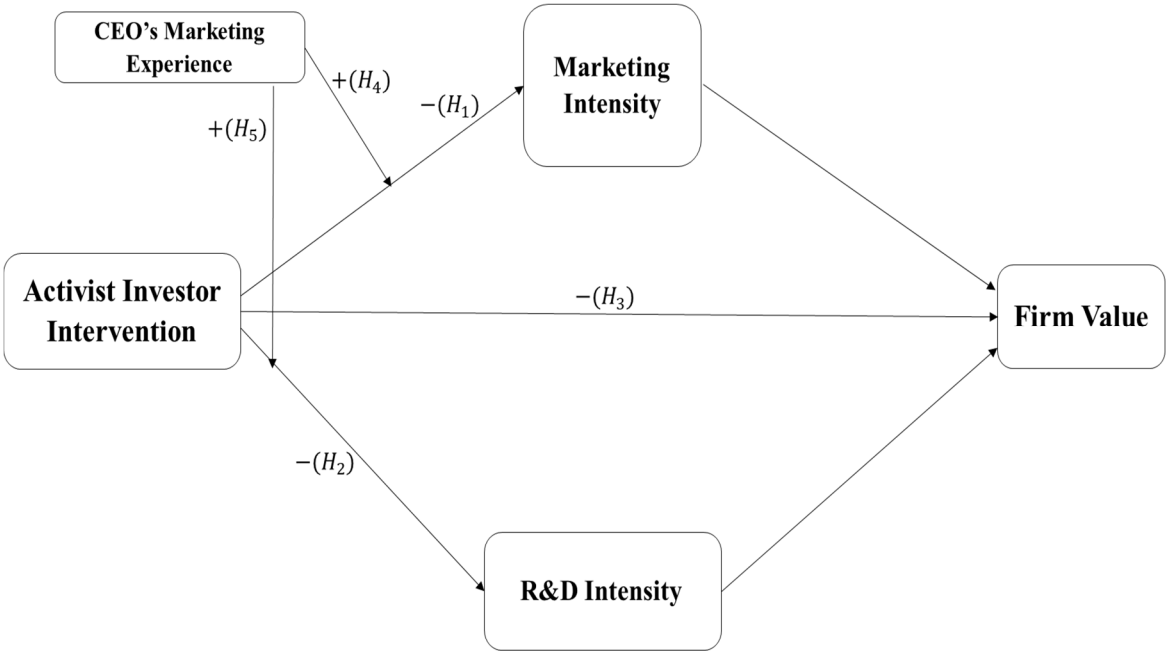
the activist investor's stake, support from governing body and other shareholders, and the institutional and legal framework. Block holders, such as families or founders and employee shareholders, generally support the incumbent directors. Therefore, the CEO of a target firm can have a significant impact on the success of an activist investor's campaign.

Firms utilize their marketing expertise when formulating strategies for advertising, sales, and other marketing-related activities (Pasa and Shugan 1996). CEOs with marketing experience pay greater attention to marketing spending and firms led by such CEOs exhibit higher marketing intensity (Mirahmad and Shankar 2018). CEOs with marketing experience have a better understanding and appreciation of the value that marketing spending can bring to the firm in the long run. CEOs with marketing experience are also more long-term oriented and tend to value R&D spending more than other CEOs (Barker and Mueller 2002; Mirahmad and Shankar 2018). Marketers view innovation as a solution to customers' problems and as a significant driver of competitive advantage (Barker and Mueller 2002). Therefore, CEOs with marketing experience will likely fight activist investors when they are asked to cut spending on marketing and innovation because they view marketing and R&D expenditures as strategic assets capable of enhancing firm value in the long-run. This reasoning leads to the following hypotheses.

> *H_4: The CEO's marketing experience mitigates the negative effect of activist investor intervention on marketing intensity.*
> *H_5: The CEO's marketing experience mitigates the negative effect of activist investor intervention on R&D intensity.*

The conceptual model linking the constructs together with the relevant hypotheses appears in Figure 4. Activist investor intervention has a direct effect on each of marketing intensity, R&D intensity and firm value. The CEO's marketing experience has a moderating effect on the effects of activist investor intervention on each of marketing intensity and R&D intensity.

FIGURE 4
Conceptual Model Linking Activist Investor Intervention to Marketing Intensity, R&D Intensity, Firm Value



DATA AND VARIABLE OPERATIONALIZATION

To test the hypotheses, I assembled a rich panel dataset consisting of firm-level financial data, CEO-level data, and activist investor campaign data from different

sources such as Thomson One, Thomson Reuters, COMPUSTAT, Boardex, Bloomberg Businessweek, and LinkedIn.

An advantage of this approach is that I avoid common method bias by using separate data sources for my variables (Mithas, Krishnan, and Fornell 2005). I examine firms targeted only once by activist investors in the 2010-2015 period and which report at least one of R&D, advertising, SG&A expenditures for two years before and after the intervention. In this research, I focus on cases where managers resisted activist requests in the first place and activist went public with their demands. My sample consists of 455 firms targeted by activist investors. I create a control group of matched firms. Table 11 provides a list of the variables, their operationalization, and data sources.

I collected data on activist shareholder interventions from the Thomson One database that covers all shareholder activism campaigns in the 2000-2019 period. It provides data on the start date of each campaign, the campaign status (win/loss/settled), activist demands, summary of activists' letters, and activist ownership level.

TABLE 11
Variable Operationalization and Data Sources for Essay 2

Variable	Operationalization	Data source
Activist investor intervention	A dummy which equals to 1 if the firm has been targeted by activist	Thomson One
Advertising intensity	Ratio of advertising spending to total assets	COMPUSTAT
SG&A intensity	Ratio of SG&A spending to total assets	COMPUSTAT
R&D intensity	Ratio of R&D spending to total assets	COMPUSTAT
Firm value	Tobin's Q calculated as : ((Asset - Common Value of Equity) + (Common Shares Outstanding * Fiscal year closing stock price))/Asset	COMPUSTAT
CEO's marketing experience	Ln of years of CEO's experience in marketing positions + (Years of experience as CEO × Ratio of marketing experience to total experience prior to being appointed as CEO)	Boardex, LikedIn, Bloomberg, NNDB, 10-K and 20-F filings.
CEO's marketing background	A dummy which equals to 1 if marketing is the functional area with maximum experience and 0 otherwise	Boardex, LikedIn, Bloomberg, NNDB, 10-K and 20-F filings.
CEO's tenure	Ln of years a person has served as the CEO of a firm	Boardex, LikedIn, Bloomberg, NNDB, 10-K and 20-F filings.
Revenue	Ln of firm total sales	COMPUSTAT
Profit	Ln of firm net income	COMPUSTAT
Number of employees	Ln of number of employees	COMPUSTAT
Institutional ownership	Percentage of shares owned by Institutional Investors	Thomson Reuters
ROA	Earnings before interest, taxes, depreciation, and amortization scaled by lagged total assets.	COMPUSTAT
Market value	Number of common shares outstanding times the share price	COMPUSTAT
Market to book ratio	The market value of the firm (sum of the market value of common equity, the debt in current liabilities, long-term debt, preferred stock liquidating value, and deferred taxes and investment tax) divided by the book value of the firm	COMPUSTAT

Marketing Intensity and R&D Intensity

For marketing intensity, I use two different variables: advertising intensity and selling, general and administrative (SG&A) intensity. Consistent with the literature (e.g., Morck et al. 1988), I operationalize advertising intensity as the ratio of advertising expenditures to firm total asset at the beginning of the financial year, and SG&A intensity as the ratio of firm SG&A expenditures to firm total asset at the beginning of the financial year. I use these two measures to capture how marketing-intensive firms are. Advertising spending is a key measure of marketing investment (e.g., Erickson and Jacobson 1992; Joshi and Hanssen 2004). SG&A is also a key measure of marketing stock (e.g., Fang, Lee, and Yang 2015). I operationalize R&D intensity as the ratio of R&D spending to total assets at the beginning of the financial year (e.g., Brav et al. 2018; Carpenter and Peterson 2002).

CEO's Marketing Experience

I collected data on the CEO's marketing experience from different data sources such as Boardex, Bloomberg Businessweek, SEC 10-K and 20-F filings, and LinkedIn. Consistent with prior research (Mirahmad and Shankar 2018), I operationalize the CEO's marketing experience as the number of years of experience that a CEO spent in marketing-related positions. The CEO's marketing experience works as a knowledge base, helping her/him build on the experience while working as a CEO, adding to the marketing experience she/he had prior to appointment as the CEO. Therefore, to obtain the CEO's marketing experience for the focal year, I add to the prior year's marketing experience, the ratio of years in marketing positions to the total years of career experience prior to being appointed as the CEO.

Firm Value

Consistent with prior research (e.g., Dotzel and Shankar 2019; Dotzel, Shankar, and Berry 2013; Germann, Ebbs, and Grewal 2015; Grewal, Chandrashekaran, and Citrin, and 2010), I use Tobin's q as a measure of firm value. It is a forward-looking measure that is based on stock price and captures long-term performance by comparing replacement and market values (Dotzel, Shankar, and Berry 2013). In addition, because accounting measures do not affect it, I can use it across different industries. I calculate Tobin's q using stock price and common share outstanding at the end of the fiscal year.

Table 12 and Table 13 show the descriptive statistics and correlation matrix, respectively. The values of the variables are in a reasonable range, consistent with prior research. The correlations among the focal variables, in particular, activist investor intervention and the CEO's marketing experience (.03) are under .30, so multicollinearity is not an issue.

TABLE 12
Descriptive Statistics for Essay 2

Variable	Obs.	Mean	Median	Std. Dev.	Min	Max
Advertising Intensity	2,218	0.348	0.343	0.234	0	1.316
SG&A Intensity	3,380	0.763	0.765	0.746	0	39.783
R&D Intensity	2,826	0.424	0.486	0.288	0	2.411
Tobin's q	1,060	1.971	1.555	1.456	0.38939	20.589
CEO's Marketing Experience	6,304	0.736	0	0.986	0	3.367
CEO's Marketing Background	6,304	0.156	0	0.363	0	1.000
CEO's Tenure	6,304	1.781	0.343	0.932	0	4.111
Revenue	6,304	6.184	6.337	2.576	0	13.089
Profit	6,304	2.767	2.330	2.762	0	10.885
Employee	6,170	1.580	1.140	1.500	0	7.741

TABLE 13
Correlation Matrix for Essay 2

	Variable	1	2	3	4	5	6	7	8	9	10	11	12
1	Activist Intervention	1.000											
2	Post	-0.009	1.000										
3	Advertising Intensity	0.011	-0.004	1.000									
4	SG&A Intensity	-0.014	-0.012	0.174	1.000								
5	R&D Intensity	0.058	0.007	-0.036	0.210	1.000							
6	Tobin's q	-0.013	0.030	-0.029	0.253	0.165	1.000						
7	CEO's Marketing Experience	0.032	0.024	0.226	0.167	0.081	0.094	1.000					
8	CEO's Marketing Background	0.047	0.020	0.182	0.116	-0.039	0.105	0.760	1.000				
9	CEO's Tenure	-0.043	-0.012	-0.043	-0.043	-0.005	-0.004	-0.168	-0.134	1.000			
10	Revenue	0.004	0.020	0.688	-0.042	0.166	-0.125	0.085	0.068	-0.045	1.000		
11	Profit	-0.116	-0.010	0.495	-0.043	0.222	0.050	0.189	0.163	0.050	0.772	1.000	
12	Employee	-0.047	0.019	0.656	-0.012	-0.020	-0.066	0.072	0.058	-0.046	0.855	0.721	1.000

MODEL DEVELOPMENT AND ESTIMATION

Selection Model

Before comparing the treated and control firms, I need to control for the selection of the treated firms. Activist investors target firms based on certain observable variables. I use a Heckman model to model selection (Heckman 1979). Some of the observable variables also influence the outcome variables of interest, namely, marketing spending, R&D spending, and firm value. To identify the model, I use the extent of institutional ownership of the firm as the instrument that satisfies the exclusion restriction. Activist investors are more likely to target firms with high institutional ownership (Carrothers 2017; Swanson and Young 2017). Activist investors believe they can establish a "mutually beneficial relationship" with institutional owners and obtain their support in implementing their agenda (Carrothers 2017). I also include other instruments such as past profit, past profit margin, change in profit, and change in profit margin in the selection model.

I estimate the following probit selection model. I calculate the Inverse Mills Ratio (IMR) and include it as a covariate in my subsequent DIFF-IN-DIFF models.

7. $$P\left(ACTIVIST_{it} = 1 | covariates, e_i\right) = \frac{1}{1+\exp(-\Upsilon\sigma_i)}$$

$$\begin{aligned}\Upsilon\sigma_i \; &= \sigma_0 + \sigma_1 INSTOWN_{i(t-1)} + \sigma_2 PROF_{i(t-1)} + \sigma_3 PROFMARG_{i(t-1)} \\ &\quad + \sigma_4 PROFCHANGE_{i(t-1)} + \sigma_5 PROFMARGCHANGE_{i(t-1)} \\ &\quad + \sum_{k=1}^{k-1} \sigma_{6k} IND_{ki} + \alpha_t + \varepsilon_{it}\end{aligned}$$

where ACTIVIST is a dummy that equals 1 if firm *i* is targeted by activist investors at time *t* and 0 otherwise, INSTOWN is the percentage of institutional ownership of the firm, PROF is net income, PROFMARG is the profit margin measured as the ratio of net income to total revenue, PROFCHANGE, is the percentage change in net income over the previous period, and PROFMARGCHANGE is the percentage change in profit margin over the previous period. IND is a vector of (k-1) dummy variables representing different industries (SIC 2 digit). α captures year fixed effects and ε is the error term. The results of the probit model appear in Table 14.

TABLE 14
Probit Selection Model Results

Variable	Coefficient
Institutional Ownership	.308 (.044)***
Profit Margin	.00007 (.00008)
Income	.0002 (.0070)
Profit Margin Change	-.0002 (.0002)
Income Change	.0004 (.0003)
Intercept	-2.575 (.352)***
Model Fit	Log Likelihood=-2,555.70
N	66,894

Propensity Score Matching

To create a control group comparable to the treatment group, consistent with the literature in finance and accounting (e.g., Brav et al. 2018; Swanson and Young 2017), I use a propensity score matching approach. I divide the target firms into four samples: firms that report R&D spending, firms that report advertising spending, firms that report SG&A spending, and firms that report all of R&D, advertising and SG&A expenditures

two years before and after intervention. I did the matching such that the treated and control firms are from the same time year. I estimated the following logistic regression models using variables from the year before activist intervention to predict activist intervention in the current year. I used the nearest neighbor algorithm for matching.

8. $ACTIVIST_{it} = \beta_0 + \beta_1 LSIZE_{i(t-1)} + \beta_2 MBRATIO_{i(t-1)} + \beta_3 ROA_{i(t-1)} + \beta_4 ROAGROWTH_{i(t-1)} + \sum_{k=1}^{k-1} \beta_{5k} IND_{ki} + \tau_t + \eta_{it}$

where ACTIVIST is a dummy that equals 1 if firm *i* is targeted by activist investors at time *t* and 0 otherwise, LSIZE represents firm market value. MBRATIO represents the market to book ratio of the firm. I operationalize it as the sum of the market value of common equity, the debt in current liabilities, long-term debt, preferred stock liquidating value, and deferred taxes and investment taxes, scaled by the book value of the firm. ROA is earnings before interest, taxes, depreciation, and amortization, scaled by beginning-of-year assets. ROAGROWTH is firm ROA growth from year (t-3) to year (t-1). IND is a vector of (k-1) dummy variables representing different industries (SIC 2 digit). τ captures year fixed effects and η is the error term. my final samples in total include 1,205 firms (treatment and control) and 1,733 CEOs.

Tables 15 and Table 16 show the results of logistic regression estimated in different samples, and the comparison between the treatment firms and matched control firms on observed covariates.

TABLE 15
PSM RESULTS

Variable	R&D Sample	SG&A Sample	Advertising Sample	Tobin's q Sample
ROA	.011 (.043)	.006 (.032)	-.004 (.021)	-.104 (.092)
ROA Growth	.003 (.008)	.001 (.008)	.001 (.003)	.007 (.028)
Market Value	.035 (.019)*	.059 (.016)***	.016 (.023)	.025 (.036)
Market to Book Ratio	-.157 (.034)***	-.266 (.039)***	-.408 (.063)***	-.265 (.083)***
Intercept	-4.261 (1.014)***	-4.417 (.718)***	-3.011 (.599)***	-2.411 (1.040)**
Number of Industries	50	64	50	31
Log-Likelihood	-2612.059	-4049.312	-1928.471	-814.754
Pseudo R2	.03	.05	.05	.04
N	46,102	59,280	33,639	13,957

TABLE 16
Covariate Balance for Target and Control Firms

	R&D sample			Advertising Sample			SG&A Sample			Tobin's q Sample		
Variable	Treat	Control	p>|t|	Treat	Control	p>|t|	Treat	Control	p>|t|	Treat	Control	p>|t|
ROA	-.03	-.05	.79	.08	.08	.74	.05	-.02	.41	.05	.05	.53
Market Value	6.33	6.40	.74	6.36	6.37	.99	6.38	6.37	.95	6.33	6.37	.46
M/B Ratio	1.87	1.98	.65	1.47	1.45	.84	1.43	1.58	.32	1.63	1.61	.55
ROA Growth	.002	.003	.84	.003	.004	.94	-.009	-.008	.47	-.01	-.04	.80
R&D	.45	.43	.21							.42	.38	.42
Advertising				.36	.35	.64				.34	.34	.89
SG&A							.75	.76	.73	.83	.84	.70
Tobin's q										1.83	1.97	.39
N	248	248		170	170		391	391		106	106	

Trends for R&D, SG&A, and advertising spending, and Tobin's q for my four samples appear in Figures 5 to 8. Figures 9 to 12 in the APPENDIX I show matching graphs.

FIGURE 5
R&D Spending Trends for Targets and Controls

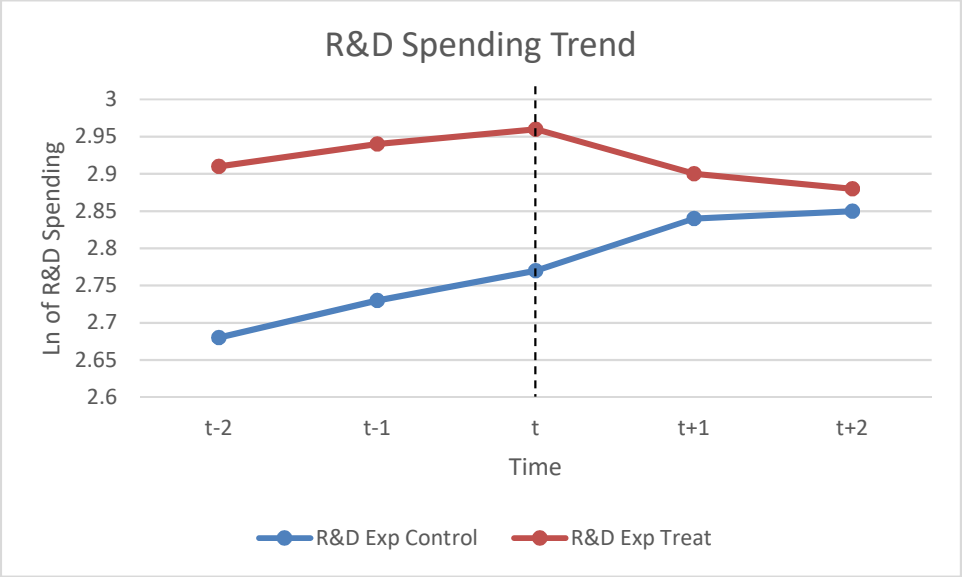


FIGURE 6
SG&A Spending Trends for Targets and Controls

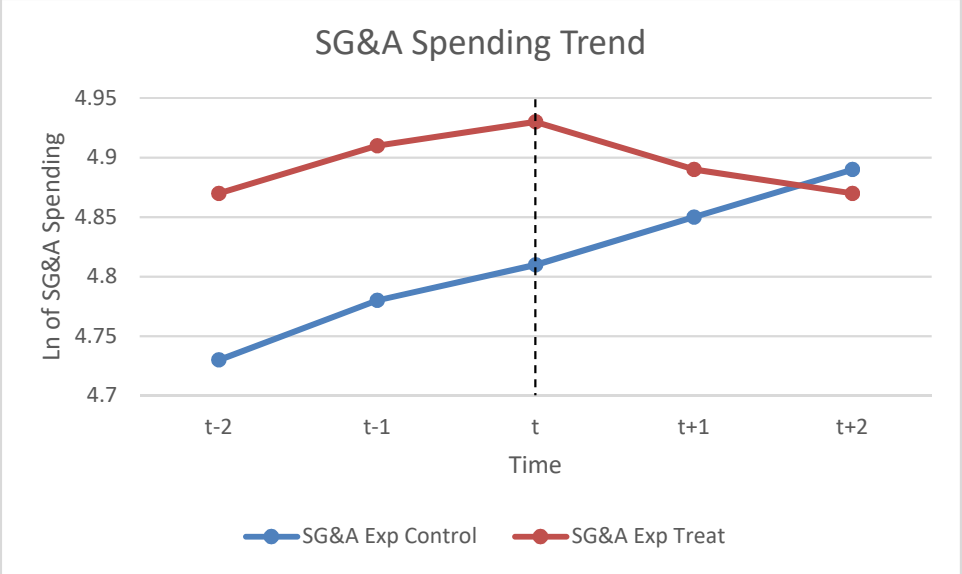


FIGURE 7
Advertising Spending Trends for Targets and Controls

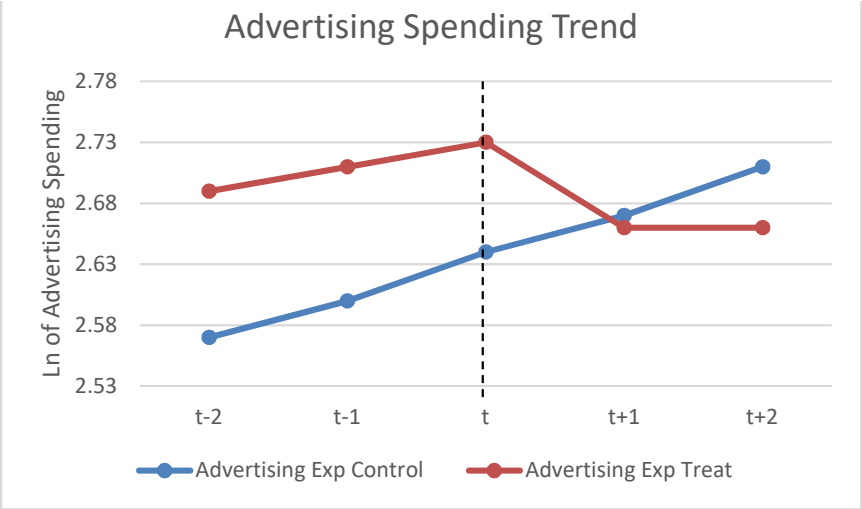
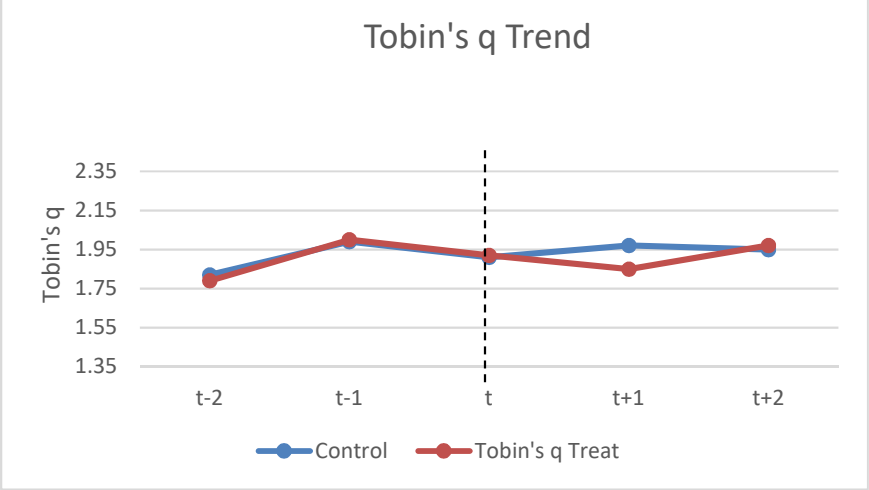


FIGURE 8
Tobin's q Trends for Targets and Controls



Difference-in-Difference Approach

I use a Difference-in-Difference (DIFF-IN-DIFF) approach to estimate the effects of activist investor intervention on the firm level outcomes. I consider the firms targeted by

activist investors as the treatment group and the matched firms (found by propensity score matching) as control group. I examine the effects of activist investor intervention during the time period of two years before and two years after intervention.

I estimate the following four equations:

9. $$AD_{it} = \alpha_0 + \alpha_1 ACTIVIST_i + \alpha_2 POST_{i(t-1)} + \alpha_3 ACTIVIST_i \times POST_{i(t-1)} + \alpha_4 ACTIVIST_i \times CEOMKTG_{i(t-1)} + \alpha_5 POST_{i(t-1)} \times CEOMKTG_{i(t-1)} + \alpha_6 ACTIVIST_i \times POST_{i(t-1)} \times CEOMKTG_{i(t-1)} + \alpha_7 IMR_i + \sum_{k=1}^{k-1} \alpha_{8k} IND_{ki} + \sum \alpha_j C_i + \theta_t + \epsilon_{it}$$

10. $$SGA_{it} = \lambda_0 + \lambda_1 ACTIVIST_i + \lambda_2 POST_{i(t-1)} + \lambda_3 ACTIVIST_i \times POST_{i(t-1)} + \lambda_4 ACTIVIST_i \times CEOMKTG_{i(t-1)} + \lambda_5 POST_{i(t-1)} \times CEOMKTG_{i(t-1)} + \lambda_6 ACTIVIST_i \times POST_{i(t-1)} \times CEOMKTG_{i(t-1)} + \lambda_7 IMR_i + \sum_{k=1}^{k-1} \lambda_{8k} IND_{ki} + \sum \lambda_j C_i + \pi_t + \mu_{it}$$

11. $$RD_{it} = \rho_0 + \rho_1 ACTIVIST_i + \rho_2 POST_{i(t-1)} + \rho_3 ACTIVIST_i \times POST_{i(t-1)} + \rho_4 ACTIVIST_i \times CEOMKTG_{i(t-1)} + \rho_5 POST_{i(t-1)} \times CEOMKTG_{i(t-1)} + \rho_6 ACTIVIST_i \times POST_{i(t-1)} \times CEOMKTG_{i(t-1)} + \rho_7 IMR_i + \sum_{k=1}^{k-1} \rho_{8k} IND_{ki} + \sum \rho_j C_i + \vartheta_t + \sigma_{it}$$

12. $$TQ_{it} = \gamma_0 + \gamma_1 ACTIVIST_i + \gamma_2 POST_{i(t-1)} + \gamma_3 ACTIVIST_i \times POST_{i(t-1)}$$
$$+\gamma_4 ACTIVIST_i \times CEOMKTG_{i(t-1)}$$
$$+\gamma_5 POST_{i(t-1)} \times CEOMKTG_{i(t-1)}$$
$$+ \gamma_6 ACTIVIST_i \times POST_{i(t-1)} \times CEOMKTG_{i(t-1)} +$$
$$\gamma_7 AD_{i(t-1)} + \gamma_8 SGA_{i(t-1)} + \gamma_9 RD_{i(t-1)} + \gamma_{10} IMR_i$$
$$+ \sum_{k=1}^{k-1} \gamma_{11k} IND_{ki} + \sum \gamma_j C_i + \tau_t + \omega_{it}$$

where AD is advertising intensity, SGA is SG&A intensity, RD is R&D intensity, and TQ is the Tobin's q of the firm. ACTIVIST is a dummy variable that denotes whether a firm has been a target of activist investors, or not. POST is a dummy variable which equals to one if the observation year is after the year which the activist intervention has happened (t+1 and t+2) and zero otherwise (For control group it depends on the activist intervention year in the matched target). CEOMKTG is CEO's marketing experience. IMR is inverse mills ratio calculated from the probit selection model (Equation 1).IND is a vector of k-1 dummy variables representing different industries (SIC 2-digit). C is a vector of control variables I include in the model which include the number of employees, the CEO's marketing experience, CEO tenure, revenue, and net income. θ, π, ϑ, and τ capture year fixed effects and ϵ, μ, σ, and ω are the error terms. Consistent with prior research (Dotzel and Shankar 2019; Dotzel, Shankar, and Berry 2013; Morgan and Rego 2006; Sorescu and Spanjol 2008), I lag some of the independent variables by a year to control for potential endogeneity. I include interactions in the TQ model as additional covariates.

RESULTS

The results of the analysis for marketing intensity, innovation intensity and Tobin's q appear in Table 17. Activist investor intervention has a significant negative impact ($p < .05$) on advertising intensity, supporting H_1. However, the effect on SG&A intensity is not significant ($p > .10$). Activist investor intervention has a negative effect on R&D intensity ($p < .01$), lending support to H_2. However, it does not have a significant direct effect on firm value ($p > .10$). Importantly, the CEO's marketing experience mitigates the negative effect of activist investor on advertising intensity ($p < .01$), supporting H_4. As in the case of advertising intensity, the CEO's marketing experience also mitigates the negative effect of activist investor on R&D intensity ($p < .01$), supporting H_5. It appears that activist investors view marketing and R&D intensity and spending as expenses and not as means to create valuable assets in the long-run. However, the CEO's marketing experience does dampen the negative effects of activist investor intervention on marketing and R&D intensities. Because SG&A expenditures and R&D intensity directly drive firm value and because activist investor intervention has a negative effect on these variables, I conclude that activist investor intervention has a negative indirect effect on firm value via R&D intensity and SG&A expenditures.

TABLE 17
Estimation Results for Intensity and Tobin's q

Dependent Variable	SG&A Intensity	Advertising Intensity	R&D Intensity	Tobin's q
Treat	.031 (.021)	.033 (.015)**	.044 (.017)**	-.011 (.151)
Post	.004 (.019)	.012 (.015)	.005 (.007)	-.099 (.159)
Treat × Post	-.017 (.024)	-.042 (.021)**	-.030 (.008)***	.004 (.214)
CEO's Marketing Experience	.053 (.012)***	.041 (.008)***	-.001 (.006)	.038 (.088)
Treat × CEO's Marketing Experience	-.041 (.017)**	-.028 (.011)**	-.009 (.008)	-.044 (.116)
Post × CEO's Marketing Experience	-.035 (.014)**	-.028 (.012)**	-.007 (.005)	.026 (.115)
Treat × Post × CEO's Marketing Experience	.032 (.021)	.044 (.015)***	.016 (.006)***	.076 (.161)
CEO's Tenure	-.004 (.007)	-.014 (.005)***	.004 (.003)	-.019 (.045)
Number of Employees	.008 (.005)	.083 (.003)***	.031 (.005)***	.255 (.087)***
IMR	.031 (.073)	-.097 (.044)**	-.144 (.061)	-.921 (.676)
R&D Intensity				.632 (.366)*
SG&A Intensity				1.902 (.302)***
Advertising Intensity				-.132 (.302)
Revenue				-.354 (.068)***
Profit				.141 (.025)***
Intercept	.395 (.254)	.593 (.144)***	.498 (.219)**	4.554 (2.063)**
R-squared	.14	.59	.61	.26
N	3,128	1,360	1,984	848

Notes: * p < .10; ** p < .05; *** p < .01.

The results for marketing and R&D expenditures appear in Table 18 and are similar to those in Table 17. Although activist investor intervention's effect on SG&A intensity is insignificant, its effect on SG&A spending is negative and significant ($p < .01$). As in Table 17, the CEO's marketing role ameliorates the negative effects of activist investor intervention on marketing and R&D spending. Thus, activist investor intervention has deleterious effects on marketing and R&D expenditures, but the CEO's marketing experience mitigates these effects.

TABLE 18
Estimation Results for Expenditures and Tobin's q

Dependent Variable	SG&A Expenditures	Advertising Expenditures	R&D Expenditures	Tobin's q
Treat	.220 (.075)***	.122 (.122)	.176 (.127)	-.028 (.152)
Post	.021 (.020)	.039 (.039)	.093 (.033)***	-.055 (.160)
Treat × Post	-.082 (.019)***	-.077 (.038)**	-.181 (.032)***	-.018 (.216)
CEO's marketing experience	.019 (.017)	.092 (.029)***	.015(.024)	.042 (.089)
Treat × CEO's marketing experience	-.035 (.022)	-.054 (.038)	-.078 (.033)**	-.054 (.117)
Post × CEO's marketing experience	-.003 (.011)	-.057 (.021)***	-.048 (.019)**	.030 (.117)
Treat × Post × CEO's marketing experience	.026 (.016)*	.074 (.029)**	.102 (.026)***	.072 (.163)
CEO's Tenure	.013 (.007)*	-.004 (.013)	.031 (.011)***	-.011 (.046)
Number of employees	.910 (.018)***	.941 (.032)***	.775 (.034)***	.148 (.092)
IMR	-.248 (.095)**	.014 (.146)	-.455 (.243)*	-1.096 (.703)
R&D expenditures				.014 (.054)
SG&A expenditures				.616 (.113)***
Advertising expenditures				.061 (.048)
Revenue				-.889 (.093)***
Profit				.148 (.025)***
Intercept	2.416 (.748)***	2.36 (.665)***	1.655 (1.19)	3.542 (.407)***
R-squared	.78	.78	.69	.24
N	3,128	1,360	1,984	848

Notes: * p < .10; ** p < .05; *** p < .01.

Robustness Checks

I conducted several robustness checks to ensure that my results are robust. First, I used additional variables in propensity score matching. These variables include the number of analysts following the stock of the firm, institutional ownership in the firm, buy-and-hold abnormal returns, and debt, consistent with Brav et al. (2008). The results remain consistent. Second, I used the CEO's marketing background instead of the CEO's marketing experience as a moderator. Again, the results are largely the same (the results appear in Tables 24 and 25 in the APPENDIX I). Third, I used firm fixed effects instead of industry fixed effects. It produced the same substantive results. Fourth, I re-

estimated the models using stepwise regression by sequentially adding interactions to the main model. The results are robust.

IMPLICATIONS

Findings of this research has important implications for both theory and managerial practice. From a theoretical perspective, this research contributes to the ongoing debates in finance, accounting, and management on the positive and negative effects of shareholder activism for firms. My findings shed light on how activist investor intervention can affect firm-level spending on marketing activities and innovation, and how it may ultimately affect firm value. While most of the literature in this area has been concerned with firm value and stock market returns (e.g., Brav et al. 2008), this research mainly focuses on how activist investor intervention may have an impact on marketing and innovation expenses. It also informs marketers about the dangers they may face after activist intervention. The findings indicate that activist investors are not the biggest fan of marketing activities of the firms and targeted firms experience a drop in marketing and R&D spending after activist intervention. Because advertising and R&D expenditures accrue immediately, unlike SG&A, they can be classified as strategic expenditures, so cutting these expenditures may boost firm value in the short-term but will likely hurt it in the long run. Therefore, it seems that activist investors prefer short term earnings to the long term ones. The period I have studied in this research also includes the growth and emergence of hedge funds. As argued by previous research (e.g., Coffee and Palia 2015), hedge funds may be more radical than other activist

investors and their effects may be more detrimental. By covering the period from 2010 to 2015, my research addresses the limitations of prior research in this area.

In addition to studying the main effects of activist investor intervention on firm-level outcomes, my finding suggest that the CEO's marketing experience can mitigate the negative effects of activist investor intervention on firm-level outcomes. As discussed earlier, activist investors may need the support of internal governance to implement their desired changes. They may get some pushback from internal governance, in particular, the CEO. Trian Fund's attack on Dupont in 2014 and how Ellen Kullman, the then CEO of Dupont fought against Trian, can serve as an example of such scenarios (Gandel 2015). CEOs with marketing experience can give activist investors a hard time when they wish to cut marketing and R&D costs of the firm. Since marketing spending can have a long-term effect on firm financial performance, presence of a CEO with marketing experience can help firms fight activist demands and therefore prevents firm from poor long-term financial performance. This finding is in line with the findings of the first essay (Mirahmad and Shankar 2018), indicating that presence of marketing at corporate strategy level can have a positive impact on firm financial performance. Consistent with prior research (e.g., Dotzel, Shankar, and Berry 2013), I calculated the net effect of the CEO's marketing experience at the mean for my dependent variables in the case of activist investor intervention. The results appear in Table 19.

TABLE 19
Summary of the Effects of the CEO's Marketing Experience on Different Outcomes in the Case of Activist Investor Intervention

Dependent Variable	Average CEO Marketing Experience	Net Effect of CEO Marketing Experience at Mean
Advertising intensity	.859	.014
R&D intensity	.800	.003
SG&A intensity	.711	.035
Firm value	.825	.080

I control for selection by activist investors through a Heckman model. Much previous research in finance and accounting do not control for selection. Thus, my research builds on prior research in this area.

The findings from this research have significant implications for managers and practitioners as well. The results show that activist investor intervention leads to reduced marketing and R&D spending by the target firm. This decision may hurt firm value in the long-term. To prevent erosion of long-run value, managers need to evaluate their firms like activist investors to avoid becoming an activist investor's target. While it might not be always feasible for firms to avoid being targeted by activist investors, their managers need not be easily persuaded by activist investors and accept their demands unconditionally.

The findings of this research indicate that the CEO's marketing experience can mitigate the negative effects of activist investors on firm-level outcomes. As Coffee and Palia (2015) suggest, few companies seem immune from the reach of hedge fund activism. Seemingly, if a credible scenario can be offered to the market that breaking up a company will yield shareholder gains, activist funds will assemble to attack even those

companies with a long record of profitability. Because shareholder activism is becoming a common phenomenon, firms may be better off hiring or promoting a CEO with marketing experience. Firms may also want to expose their CEOs to more marketing issues so that he/she can help firms improve firm value.

Finally, the results of this research have implications for public policy makers. There is an ongoing debate on how activist investors may positively or negatively affect firm performance and value. Some researchers have started asking how shareholder activism may have a negative effect on the future of different industries. Activist investor intervention may not only impact the expenditures of the target firm, but also those of their competitors (Coffee and Palia 2015). Firms may cut their R&D and marketing spending to avoid becoming a target for activist investors. This behavior may hurt not only the future value of the firm but also the future of the industry and eventually consumer welfare. The findings of this research suggest that activist investors cut R&D and marketing spending of firms. Because shareholder activism is growing, if too many firms are targeted by activists and if R&D spending levels are cut, there may not be many innovations in the market. Policy makers may want to consider making activist investor intervention harder and more costly so that innovativeness can survive and thrive in different industries.

LIMITATIONS AND FURTHER RESEARCH

My research has certain limitations that provide opportunities for further research. First, I examine activist interventions in the United States. The effects of activist investor intervention may differ in other geographical locations. For instance,

activist investor campaigns may have different success rates in different continents (Becht at al. 2017). Second, I do not know much about the role of activist groups' characteristics in the effects of intervention. Activist shareholder characteristics may have an impact on their choices of target firms and further actions. Third, to identify the causal effect, I excluded firms that were targeted by activists more than once during my period of data. It will be interesting to analyze the effects of multiple interventions on a target firm. Fourth, I did not analyze the differences in the effects of activist investor interventions between winning and losing campaigns. Future research can address this issue. Finally, other variables such as marketing capability, marketing department power, and board level marketing experience could be included in the framework.

CHAPTER IV

CONCLUSION

This dissertation makes important contributions to both theory and managerial practice. First, from a theoretical perspective, this dissertation contributes to the marketing literature by offering new insights on the role of marketing at the corporate strategy level. The essays highlight the critical role that the CEO's marketing experience plays, either as a main driver, or as a moderator when activist investors intervene, in firm strategic outcomes, including marketing and innovation intensity, and firm value. I find that the CEO's marketing experience is a driver of marketing and R&D spending as well as firm value, and that it can also work as a defense mechanism against activist investors' demands when these investors intervene in a firm. Second, from a managerial perspective, the findings from this dissertation help managers in their decisions regarding CEO selection and succession plans based on the firm strategy and industry competition, as well as their defense mechanisms when activist investors attack their firms. From a public policy standpoint, the findings shed light on the negative effects of activist investor intervention on innovation and marketing spending of the firms, and urge public policy makers to come up with stricter regulations and policies to protect innovation in the society from the potential detrimental effects of activist investors.

In my first essay, I find that the CEO's marketing experience has a positive effect on marketing and R&D intensity, and firm value. This finding suggest that all things equal, firms are better off selecting CEOs with a strong marketing experience. However, as the CEO's ownership in the firm increases, the effect of the CEO's marketing

experience is weakened. If firms are looking for ways to encourage CEOs with marketing experience, they need to go beyond stock-based compensation. I also find that industry competition strengthens the effects of the CEO's marketing experience on firm outcomes. This finding suggests that CEOs with marketing experience can be more effective in industries with fierce competition.

In my second essay, I find that activist investor intervention has a negative direct effect on marketing and innovation intensity, and a negative indirect effect through marketing and innovation intensity on firm value. These findings suggest that managers need to evaluate their firms like an activist investor to avoid becoming an activist investor's target. The results of the second essay also show that the CEO's marketing experience weakens the negative effects of activist investor intervention on firm outcomes. While avoiding activist investors may not always be an option, by hiring a CEO with marketing experience, the board of directors can mitigate the negative effects of activist investor intervention on firm outcomes.

Overall, the findings of the two essays shed light on how the role of marketing at the corporate strategy level, in particular, in form of the CEO's marketing experience, can benefit the firms. Firms led by CEOs with marketing experience are more innovative, spend more in marketing, and perform better financially than those led by CEOs without marketing experience. In addition, in case of activist investor intervention, the detrimental effects of the intervention on innovation, marketing intensity and firm value will be minimized when a CEO with marketing experience is at the helm of the firm.

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APPENDIX I

ADDITIONAL ANALYSIS

TABLE 20
Estimation Results of Patent and Trademark Equations Using Functional Background Dummies

Parameter/Independent Variable	$PATENT_{it}$ Coefficient (SE)	$TRADEMARK_{it}$ Coefficient (SE)
	Focal Variables	
Intercept	-.138 (14.968)	6.497 (9.158)
CEO's Marketing Background[a]	-1.348 (.485)***	.822 (.431)*
R&D Intensity	7.713 (2.470)***	.939 (1.076)
	CEO and Management Level Controls	
CEO's Age	1.914 (.677)***	-.905 (.540)*
CEO's Duality	.458 (.137)***	-.225 (.107)**
CEO's Tenure	-.355 (.097)***	.016 (.069)
CEO's Total Experience	-.373 (.374)	.808 (.247)***
CEO's Engineering Background[a]	.413 (.145)***	.294 (.137)**
CEO's Experience within Firm	.218 (.072)***	.058 (.064)
CEO's Ownership Share	.007 (.032)	.073 (.024)***
CEO's Compensation Ratio	-.529 (.495)	-.700 (.376)*
CEO's Gender	.551 (.238)**	.626 (.173)***
CMO's Presence in TMT	-.367 (.157)**	-.244 (.111)**
COO's Presence in TMT	-.172 (.112)	-.231 (.087)***
Marketing Department Power	.011 (.004)***	.001 (.003)
	Firm and Industry Level Controls	
Firm Age	-.282 (.091)***	-.153 (.065)**
Number of Employees	.573 (.073)***	.558 (.051)***
Market Size	-.484 (1.093)	-.343 (.655)
Market Growth	1.710 (1.101)	.471 (.676)
Market Share	6.171 (1.345)***	-3.707 (.703)***
Industry Concentration	.270 (6.985)	1.665 (3.912)
Financial Leverage	.589 (.624)	-.634 (.369)*
Effort Intensity	.247 (.482)	-.587 (.444)
Organizational Slack	1.421 (1.003)	1.226 (.825)
CEO's Marketing Background × CEO Ownership Share	.164 (.043)***	-.042 (.039)
CEO's Marketing Background × Industry Concentration	-.031 (1.783)	-2.516 (.821)***
Model Fit Statistics[b]	Log-likelihood = -3348.06 χ^2 =1120.90; $p < .01$.	Log-likelihood = -3158.84 χ^2 =527.11; $p < .01$.

Notes: *$p < .10$. ** $p < .05$. *** $p < .01$. Sample size = 879
[a] Background is operationalized as a dummy variable.
[b] Model fit statistics are based on independent estimation.

TABLE 21
Estimation Results of R&D Intensity, SG&A Intensity, Advertising Intensity, and Firm Value, Equations Using Functional Background Dummies

Parameter/ Independent Variable	R&D Intensity Coefficient (SE)	SG&A Intensity Coefficient (SE)	Advertising Intensity Coefficient (SE)	Firm Value Coefficient (SE)
Focal Variables				
Intercept	-.091 (.222)	2.559 (.962)***	.165 (.283)	1.445 (1.746)
CEO's Marketing Background[a]	.048 (.011)***	-.047 (.048)	.025 (.014)*	.237 (.090)***
R&D Intensity				1.170 (.265)***
Advertising Intensity				.262 (.236)
SGA Intensity				.647 (.074)***
PATENT				.011 (.006)*
TRADEMARK				.011 (.007)
CEO and Management Level Controls				
CEO's Age	.023 (.014)*	-.095 (.043)**	-.011 (.013)	-.256 (.111)**
CEO's Duality	-.003 (.002)	.005 (.010)	-.004 (.003)	-.003 (.019)
CEO's Tenure	-.003 (.002)*	.007 (.007)	-.001 (.002)	.023 (.013)*
CEO's Total Experience	-.022 (.006)***			-.068 (.049)
CEO's Engineering Background[a]	.029 (.004)***	.008 (.017)	-.009 (.005)*	-.014 (.034)
CEO's Finance Background[a]		.014 (.019)	-.003 (.006)	-.111 (.036)***
CEO's Operations Background[a]		.012 (.015)	-.006 (.005)	-.016 (.029)
CEO's Law Background[a]		-.085 (.026)***	-.016 (.008)**	.075 (.049)
CEO's Experience within Firm	.002 (.002)	-.028 (.007)***	-.003 (.002)*	.005 (.012)
CEO's Ownership Share	.003 (.001)***	-.006 (.003)**	-.0004 (.001)	.019 (.005)***
CEO's Compensation Ratio	.009 (.007)	.004 (.034)	-.022 (.010)**	.180 (.074)**
CEO's Compensation				-.025 (.008)***
CEO's Gender	.012 (.005)***	-.052 (.020)***	.005 (.006)	-.010 (.037)
CMO's Presence in TMT	.011 (.003)***	.020 (.011)*	-.007 (.003)**	-.035 (.020)*
Marketing Department Power	-.0003 (.0001)***	-.001 (.0003)***	.0000 (.0001)	.002 (.0005)***
COO's Presence in TMT	.004 (.002)*	.010 (.009)	.004 (.003)	.027 (.017)*
Firm and Industry Level Controls				
Firm Age	-.003 (.002)*	.019 (.007)***	.003 (.002)	.003 (.011)
Number of Employees	-.005 (.001)***	-.017 (.005)***	.001 (.002)	-.025 (.015)
Market Size	.008 (.016)	-.125 (.070)*	-.004 (.020)	.036 (.125)
Market Growth	-.013 (.017)	.044 (.074)	.005 (.022)	.116 (.132)
Market Share	.055 (.018)***	-.034 (.079)	-.060 (.023)**	.384 (.153)**
Industry Concentration	.082 (.092)	.134 (.398)	-.021 (.117)	-.061 (.716)
Financial Leverage	-.037 (.008)***			
Effort Intensity	-.059 (.008)***	-.217 (.036)***	-.034 (.010)***	
Organizational Slack	.004 (.017)	.321 (.071)***	.037 (.021)*	
Profit				.038 (.004)***
Revenue				-.039 (.018)**
CEO's Marketing Background × CEO Ownership Share	-.004 (.001)***	-.142 (.080)*	-.001 (.001)	-.015 (.008)*
CEO's Marketing Background × Industry Concentration	-.013 (.018)	.011 (.005)**	-.044 (.023)*	-.203 (.147)
R-Square	.61	.56	.29	.49

Notes: *$p < .10$. ** $p < .05$. *** $p < .01$. Notes: Sample size = 879

[a] Background is operationalized as a dummy variable

TABLE 22
Estimation Results of Patent and Trademark Equations with Sales Experience as an Additional Covariate

Parameter/Independent Variable	$PATENT_{it}$ Coefficient (SE)	$TRADEMARK_{it}$ Coefficient (SE)
	Focal Variables	
Intercept	5.653 (15.196)	7.660 (9.305)
CEO's Marketing Experience [a]	-2.194 (.475)***	.134 (.375)
CEO's Sales Experience [a]	-.054 (.088)	.004 (.061)
R&D Intensity	7.612 (2.467)***	2.002 (1.109)*
	CEO and Management Level Controls	
CEO's Age	1.183 (.720)	-1.323 (.563)**
CEO's Duality	.385 (.146)***	-.235 (.109)**
CEO's Tenure	-.340 (.100)***	.037 (.071)
CEO's Total Experience	.150 (.398)	.886 (.259)***
CEO's Experience within Firm	.142 (.078)*	.086 (.066)
CEO's Engineering Experience	.232 (.058)***	-.004 (.049)
CEO's Ownership Share	-.128 (.051)**	.062 (.035)*
CEO's Compensation Ratio	-.149 (.501)	-.694 (.376)*
CEO's Gender	.235 (.273)	.548 (.210)***
CMO's Presence in TMT	-.227 (.163)	-.260 (.115)**
COO's Presence in TMT	-.140 (.114)	-.218 (.088)**
Marketing Department Power	.009 (.004)**	.001 (.003)
	Firm and Industry Level Controls	
Firm Age	-.169 (.104)	-.133 (.069)*
Number of Employees	.572 (.075)***	.576 (.050)***
Market Size	-.703 (1.106)	-.273 (.680)
Market Growth	1.803 (1.088)*	.411 (.692)
Market Share	5.961 (1.407)***	-3.543 (.695)***
Industry Concentration	2.272 (7.228)	.586 (4.041)
Financial Leverage	.426 (.645)	-.633 (.374)*
Organizational Slack	1.722 (1.021)*	1.234 (.847)
Effort Intensity	.386 (.510)	-.815 (.472)*
	Interactions	
CEO's Marketing Experience × Industry Concentration	1.833 (1.543)	-.476 (.941)
CEO's Marketing Experience × CEO's Ownership Share	.183 (.040)***	-.008 (.032)
Model Fit Statistics	Log-likelihood = -3342.81 χ^2 =1131.41; $p < .01$.	Log-likelihood = -3165.11 χ^2 = 514.58; $p < .01$.

Notes: *$p < .10$. ** $p < .05$. *** $p < .01$. Sample size = 879.

TABLE 23
Estimation Results of R&D Intensity, SG&A Intensity, Advertising Intensity, and Firm Value Equations with Sales Experience as an Additional Covariate

Parameter/ Independent Variable	R&D Intensity Coefficient (SE)	SG&A Intensity Coefficient (SE)	Advertising Intensity Coefficient (SE)	Firm Value Coefficient (SE)
Focal Variables				
Intercept	-.183 (.229)	1.705 (.997)*	-.120 (.286)	1.308 (1.779)
CEO's Marketing Experience	.042 (.009)***	.100 (.039)**	.021 (.011)*	.191 (.071)***
CEO's Sales Experience	-.002 (.001)*	.0002 (.005)	-.003 (.002)**	.024 (.010)**
R&D Intensity				1.460 (.259)***
Advertising Intensity				.459 (.239)*
SGA Intensity				.570 (.074)***
PATENT				.012 (.007)*
TRADEMARK				.016 (.007)**
CEO and Management Level Controls				
CEO's Age	.013 (.014)	-.099 (.051)*	-.003 (.015)	-.198 (.111)*
CEO's Duality	-.004 (.002)*	.001 (.011)	-.006 (.003)*	.008 (.019)
CEO's Tenure	-.003 (.002)	.007 (.007)	-.0002 (.002)	.026 (.013)**
CEO's Total Experience	-.017 (.006)***			-.031 (.059)
CEO's Engineering Experience	.007 (.001)***	-.005 (.006)	-.008 (.002)***	-.010 (.013)
CEO's Other Experience		-.004 (.015)	-.009 (.005)*	-.025 (.034)
CEO's Experience within Firm	.003 (.002)*	-.027 (.007)***	-.003 (.002)*	.0003 (.012)
CEO's Ownership Share	.005 (.001)***	.001 (.004)	.0003 (.001)	.026 (.007)***
CEO's Compensation Ratio	.008 (.008)	.010 (.034)	-.020 (.010)**	.178 (.074)**
CEO's Compensation				-.0275 (.008)***
CEO's Gender	.011 (.005)**	-.038 (.023)	.005 (.007)	.040 (.042)
CMO's Presence in TMT	.011 (.003)***	.024 (.011)**	-.007 (.003)**	-.030 (.021)
Marketing Department Power	-.0004 (.0007)	-.001 (.0003)***	.0000 (.0000)	.003 (.001)***
COO's Presence in TMT	.003 (.002)	.012 (.009)	.004 (.003)*	.021 (.017)
Firm and Industry Level Controls				
Firm Age	-.002 (.002)	.015 (.007)	.004 (.002)*	-.012 (.012)
Number of Employees	-.006 (.001)***	-.015 (.005)***	.001 (.001)	-.014 (.015)
Market Size	.015 (.017)	-.069 (.073)	.015 (.021)	.024 (.129)
Market Growth	-.015 (.017)	.011 (.075)	-.004 (.022)	.128 (.133)
Market Share	.050 (.018)***	-.110 (.081)	-.083 (.023)***	.519 (.156)***
Industry Concentration	.081 (.093)	.209 (.408)	-.013 (.117)	.090 (.725)
Effort Intensity	-.066 (.008)***	-.237 (.035)***	-.036 (.010)***	
Organizational Slack	.014 (.017)	.301 (.072)***	.044 (.021)**	
Financial Leverage	-.044 (.009)***			
Profit				.038 (.005)***
Revenue				-.057 (.018)***
Interactions				
CEO's Marketing Experience × CEO's Ownership Share	-.004 (.001)***	-.004 (.004)	-.001 (.001)	-.011 (.006)*
CEO's Marketing Experience × Industry Concentration	-.044 (.019)**	-.259 (.083)***	-.090 (.024)***	-.041 (.150)
R-Square	.60	.55	.31	.49

Notes: *$p < .10$. ** $p < .05$. *** $p < .01$. Notes: Sample size = 879,

TABLE 24
Estimation Results for Intensities and Tobin's Q with CEO's Marketing Background

Dependent Variable	SG&A Intensity	Advertising Intensity	R&D Intensity	Tobin's q
Treat	.034 (.019)*	.029 (.012)**	.043 (.017)**	-.003 (.131)
Post	-.001 (.018)	.005 (.013)	.001 (.007)	-.061 (.141)
Treat × Post	-.015 (.022)	-.032 (.018)*	-.020 (.006)***	.007 (.184)
CEO's Marketing Background	.221 (.035)***	.135 (.024)***	.024 (.015)	.421 (.245)*
Treat × CEO's Marketing Background	-.208 (.047)***	-.127 (.031)***	-.035 (.020)*	-.326 (.318)
Post × CEO's Marketing Background	-.134 (.041)***	-.102 (.032)***	-.008 (.012)	-.165 (.321)
Treat × Post × CEO's Marketing Background	.136 (.055)**	.148 (.041)***	.021 (.016)	.400 (.428)
CEO's Tenure	-.004 (.007)	-.014 (.004)***	.005 (.003)*	-.013 (.045)
Number of Employees	.009 (.005)*	.083 (.003)***	.032 (.005)***	.259 (.087)***
IMR	.041 (.074)	-.101 (.044)**	-.145 (.061)**	-.839 (.675)
R&D Intensity				.653 (.362)*
SG&A Intensity				1.868 (.302)***
Advertising Intensity				-.124 (.300)
Revenue				-.356 (.067)***
Profit				.137 (.024)***
Intercept	.396 (.255)	.633 (.144)***	.495 (.220)**	4.287 (2.048)**
R-squared	.14	.59	.60	.27
N	3,128	1,360	1,984	848

Notes: * p < .10; ** p < .05; *** p < .01.

TABLE 25
Estimation Results for Expenditures and Tobin's q with CEO's Marketing Background

Dependent Variable	SG&A Expenditures	Advertising Expenditures	R&D Expenditures	Tobin's q
Treat	.205 (.073)***	.118 (.119)	.150 (.124)	-.007 (.131)
Post	.021 (.019)	.024 (036)	.066 (.031)**	-.008 (.142)
Treat × Post	-.075 (.017)***	-.057 (.032)*	-.126 (.027)***	-.023 (.185)
CEO's Marketing Background	.024 (.045)	.294 (.083)***	.138 (.065)**	.532 (.247)**
Treat × CEO's Marketing Background	-.063 (.061)	-.261 (.103)**	-.226 (.086)***	-.453 (.321)
Post × CEO's Marketing Background	-.009 (.031)	-.202 (.061)***	-.071 (.052)	-.218 (.323)
Treat × Post × CEO's Marketing Background	.068 (.042)*	.249 (.077)***	.166 (.069)**	.459 (.433)
CEO's Tenure	.012 (.007)*	-.005 (.014)	.036 (.011)***	-.004 (.045)
Number of Employees	.924 (.018)***	.939 (.032)***	.776 (.034)***	.150 (.092)
IMR	-.243 (.095)**	.016 (.146)	-.449 (.244)*	-.939 (.701)
R&D Expenditure				.009 (.053)
SG&A Expenditure				.629 (.113)***
Advertising Expenditure				.052 (.048)
Revenue				-.889 (.091)***
Profit				.146 (.025)***
Intercept	2.408 (.749)***	2.008 (.758)***	1.611 (1.193)	6.279 (2.119)***
R-squared	.78	.78	.69	.25
N	3,128	1,360	1,984	848

Notes: * p < .10; ** p < .05; *** p < .01.

FIGURE 9
Matching Graphs for R&D Sample

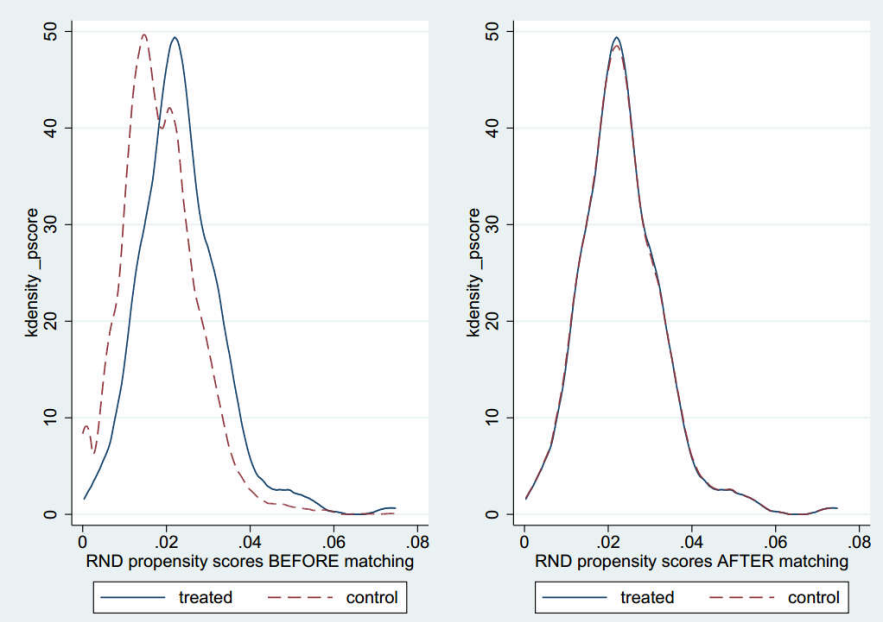


FIGURE 10
Matching Graphs for SG&A Sample

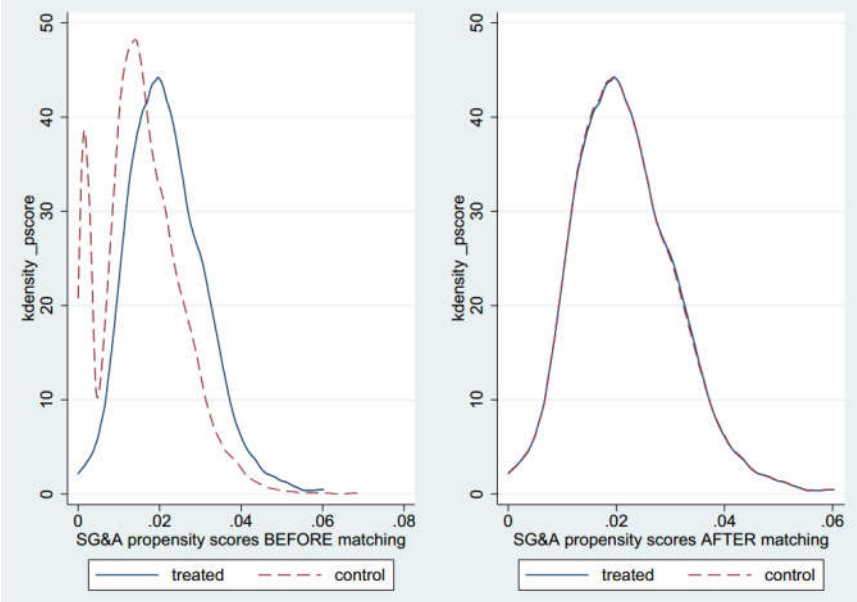


FIGURE 11
Matching Graphs for Advertising Sample

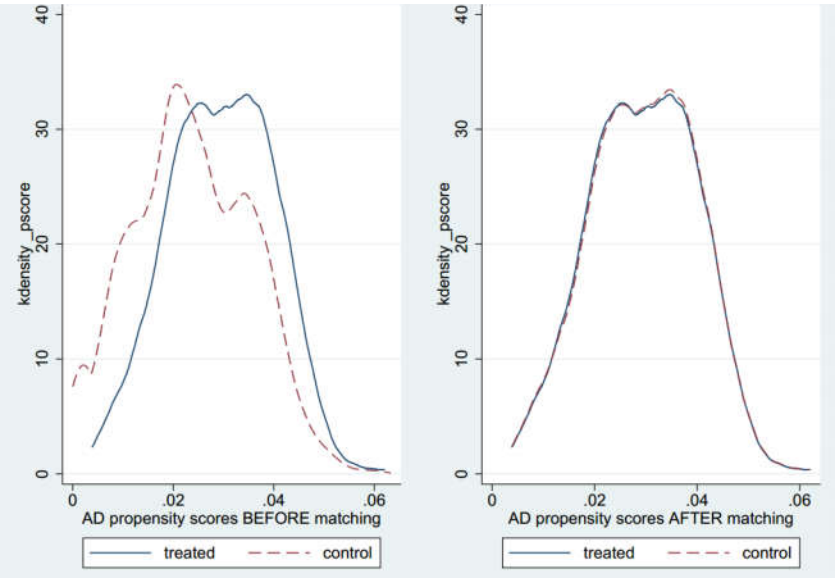
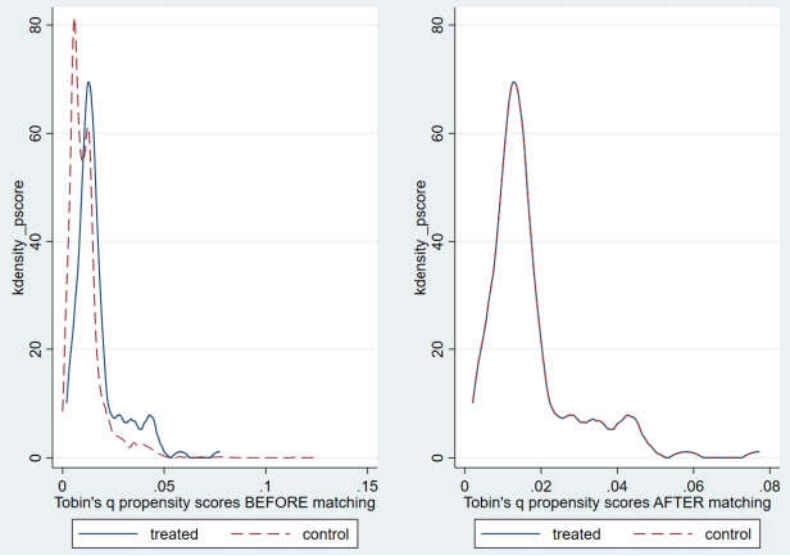


FIGURE 12
Matching Graphs for Tobin's q Sample



APPENDIX II

MARKETING JOB TITLES

Titles of Jobs/Positions Categorized as Marketing Positions

President

President of marketing, President of merchandising, Chief marketing officer, Chief merchandising officer, Chief customer officer, Chief communication officer, Chief commercial officer, Chief brand Officer, Chief growth officer, Chief development officer.

EVP, SVP, VP of

Marketing, merchandising, communication, corporate development, business development, customer experience, customer service, corporate marketing, worldwide marketing, display marketing, marketing operations, brand, branding operations, brand management, brand development, store brands, global brands, brand operations, advertising, public affairs, corporate affairs, public relations, corporate relations, customer insights, customer operations, customer relationship management, customer group, customer development, product/market development, product management, product operations, dealer relations, retail.

Mid and Low-level Positions

Brand manager, advertising manager, marketing manager, assistant to the advertising manager, advertising assistant, branding assistant, product manager, product development manager, regional marketing manager, marketing positions, manager of customer groups, customer service manager, customer experience manager, customer expert, marketing trainee, advertising trainee, service manager, merchandising manager, branded product packaging manager, branding trainee, marketing and advertising positions.

Some jobs include combined titles such as marketing and strategy, marketing and merchandising, and advertising and branding.