The impact of executive job demands on dismissals of newly appointed CEOs

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Abstract

Why are some newly appointed CEOs dismissed from their positions while others are not? Is it hard for newly appointed CEOs to survive in highly diversified firms? Drawing upon the concepts of executive job demands and information-processing theory, we argue that newly appointed CEOs face entirely different degrees of complexity and challenges in their role, and that firms' product diversification and international diversification predict dismissals of newly appointed CEOs after controlling for other possible explanatory variables. Additionally, we propose that appointment of a new outsider CEO makes newly appointed CEOs more vulnerable to dismissal and consequently strengthens the predicted relationships. The empirical results support our arguments. These results suggest that the demands faced by a high degree of (product or international) diversification are likely to present challenges that increase the likelihood of corporate disruption through the departures of newly appointed CEOs. Contributions to the CEO dismissal and succession literature are discussed.

Keywords: executive job demands, dismissal of newly appointed CEO, international diversification, product diversification

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INTRODUCTION

Recent research has increasingly shown that CEO dismissal is a growing phenomenon (Wiersema, 2002; Allgood & Farrell, 2003; Wiersema & Zhang, 2011). Particularly, the early departure of CEOs with declining tenure has occurred more frequently in recent years (Khurana, 2001; Wiersema, 2002; Zhang, 2008). The early departure of CEO, called dismissal of a newly appointed CEO in our study, refers to the situation in which a newly appointed CEO is dismissed by the board of directors shortly after holding the CEO position (Finkelstein & Hambrick, 1996; Zhang, 2008). The dismissal of newly appointed CEOs threatens the stability of the firms (Kesner & Sebora, 1994), firm performance, and firm strategies (Hambrick & Mason, 1984; O'Shannassy, 2010), leading to organizational disruption and lost opportunities (Kesner & Sebora, 1994; Khurana, 2001). As a matter of fact, dismissing newly appointed CEOs before they fully demonstrate their leadership may potentially result in a waste of executives' talents and impede the establishment of organizational routines that stakeholders highly regard (Shen, 2003). Therefore, it is imperative to know the drivers of newly appointed CEO dismissal to prevent unnecessary organizational disruption and wanton disposal of talent.

Previous studies have documented many antecedents of CEO turnover or CEO dismissal, such as poor performance (e.g., Weisbach, 1988), CEO's weak power (Shen & Cannella, 2002), unfavorable

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actions with urgency (Gabarro, 1987), the obsolescence of CEO's competence (Ocasio, 1994), information asymmetry (Zhang, 2008), and boards of directors' over-emphasis on the candidate celebrity status (Khurana, 2001). However, little attention is paid to the aspect of executive job demands (Hambrick, Finkelstein, & Mooney, 2005) which when taken into account is particularly critical for CEOs, because CEOs face more challenging managerial tasks (Egelhoff, 1991; Mintzberg, 1973) and their jobs are idiosyncratic and non-routine (Kesner & Sebora, 1994).

In this study, we examine the drivers of CEO dismissal in a particular setting: the CEO new appointment period. Prior research has suggested that the chance of fit or non-fit between the CEO's capabilities and his/her position is identical during the CEO's entire tenure (e.g., Holmstrom, 1982; Weisbach, 1988). Recently, scholars have begun to investigate the chance of fit/non-fit at the different stages of CEO tenure (e.g., Chen & Hambrick, 2012). However, the chance of fit/non-fit during the new appointment period is underexplored, though scholars have recognized that it is crucial to assess the quality of newly appointed CEOs (Zhang, 2008; Graffin, Boivie, & Carpenter, 2013). In this particular setting, we intend to explain the phenomenon of new CEO dismissal by factors that go beyond the traditionally recognized drivers of CEO dismissal which were studied without consideration of the different stages of CEO tenure.

Applying the aspect of executive job demands (Hambrick, Finkelstein, & Mooney, 2005) paired with information-processing theory (Galbraith, 1973; Tushman & Nadler, 1978; Egelhoff, 1991), we propose that the dismissal of a newly appointed CEO is the outcome of a mismatch between executive job demands and the new CEO's capabilities. Within this context, the board of directors is challenged to identify a capable CEO during the CEO selection process. We also examine the moderating effect of CEO origin that may help a newly appointed CEO avoid dismissal. Analyzed by logit regression models, our findings, based on an unbalanced panel data set including 436 US firms with 1,172 observations, support our hypotheses. We found newly appointed CEO in more diversified firms is more vulnerable to dismissal, while the possibility of dismissal decreases when the new CEO is an insider.

Our research contributes to the literature on CEO dismissal and succession in three ways. First, we add a new aspect of executive job demands into the research of the antecedents of CEO dismissal. It suggests and empirically shows that the mismatch of job demand and CEO capabilities contributes to new CEO dismissal at the time of succession. This argument broadens our understanding of the determinants of CEO dismissal. Second, our research enhances the understanding of the drivers of CEO dismissal during the new appointment period of a CEO. As such, we follow Graffin, Boivie, and Carpenter (2013) and Zhang's (2008) calls to better understand the phenomenon of CEO dismissal during the CEO's early appointment period. While prior research demonstrates that firm performance is consistently found as the most important contributing factor of CEO turnover or dismissal, our results show that matching job demands and CEO capabilities is a significant influencing factor of new CEO dismissal. Finally, this study fills a theoretical gap by probing the impacts of corporate diversification on individual performance, given that most past research has focused on firm-level outcomes of diversification.

In addition, our study provides several practical implications. It shows that new CEOs appointed by highly diversified firms are more vulnerable to dismissal. It also indicates that new insider CEOs tend to cause less corporate disruption resulting from frequent successions. Our study also sheds light on the importance of being cautious of large strategic moves before acquiring and digesting enough firm-specific information for newly appointed outsider CEOs, who are usually expected to undertake strategic transformative change after taking office.

THEORETICAL BACKGROUND AND HYPOTHESES

The concept of executive job demands is critical, but underexplored (Hambrick, Finkelstein, & Mooney, 2005). CEO job demands comprise substantial information-processing, which include

gathering, analyzing, communicating, and storing information (Galbraith, 1973; Tushman & Nadler, 1978). From the strategic decision-making process perspective, CEOs are required to scan external environments and examine internal resources and capabilities in order to make strategic choices (Andrews, 1981). In the circumstance of a firm operating in international markets, CEOs of firms with a higher degree of internationalization usually face more managerial complexity with the increasing dispersion of a firm's international operations (Sanders & Carpenters, 1998).

A greater diversity of cultural, political and economic environments with varied customers, competitors, and regulations across countries and regions will create a high level of complexity for a firm. Consequently, newly appointed CEOs need to have the capacity to recognize and abstract synergies across diverse geographic markets and products (Rumelt, 1974; Bartlett & Ghoshal, 1989; Roth & O'Donnell, 1996), coordinate among subsidiaries across markets, reconcile system and subsystem priorities, and build up a sense of community and a global mind set (Perlmutter, 1969) within the organization's global web of subsidiaries (Bartlett & Ghoshal, 1989; Kim & Mauborgne, 1996). All these demands enforce a newly appointed CEO to go through intensive information-processing before making any strategic decisions (Mintzberg, 1973; Ungson, Braunstein, & Hall, 1981). Accordingly, the information-processing aspect (Galbraith, 1973; Egelhoff, 1991) is important for studying newly appointed CEOs.

The information-processing aspect is based on bounded rationality (March & Simon, 1958; Cyert & March, 1963). The assumption of classic economics proposes that economic actors are rational, and thus their decisions are based on perfect information. That is, the alternatives for strategic choices and their consequences are all well-known before CEOs make decisions. Thus, CEOs can always select optimal choices. However, the assumption of classical economics is difficult to find in the real world. Consequently, bounded rationality modifies this assumption, and emphasizes the importance of information-processing.

Researchers have studied the drivers of firms' information-processing demands. For instance, firms with greater research and development (R&D) intensity have greater information-processing demands (Henderson & Fredrickson, 1996) placed upon CEOs. This is a result of greater technological uncertainty, the diversity of inputs, and extent of coordination that occurs with increased amount of R&D practices. In addition to internal drivers, information-processing demands may come from external environments and external drivers. For example, the extent of environmental uncertainty may largely affect firm performance and demand a greater intensity for CEO information-processing (Dess & Beard, 1984; Wiersema & Bantel, 1993).

The influences of information-processing demands have also been documented (Chandler, 1962; Johanson & Vahlne, 1977, 1990; Egelhoff, 1982, 1988; Henderson & Fredrickson, 1996; Sanders & Carpenter, 1998; Wolf & Egelhoff, 2002). For instance, information-processing considerations determine organizational structure (Chandler, 1962). Based on the information-processing theory, Egelhoff (1982) argued that a firm's strategy determines its structure, because the chosen strategy reflects the information-processing demands between the firm and its foreign subsidiaries or among subsidiaries. According to a similar rationale, Wolf and Egelhoff (2002) further proposed that foreign R&D activities influence the selection of the firm's organizational structure based upon a geographic region or worldwide functional division.

In addition to influencing organizational structure, information-processing considerations may affect the strategies of the firm. For instance, since the environments of foreign markets may be substantially different from those in home countries, Johanson and Vahlne (1977, 1990) proposed that the sequence of foreign market entry should be based on the psychic distance. In other words, firms enter foreign markets with proximate psychic distances closer to the home country in the early internationalization stages in order to avoid a substantial increase in the amount of information-processing. The information-processing demands not only have impacts on firms but also on top executives. For instance, past empirical

research found that information-processing demand is positively associated with executive compensation (Henderson & Fredrickson, 1996; Sanders & Carpenter, 1998).

Consequently, according to the information-processing theory and executive job demands perspective, we argue that firms with higher levels of information-processing or executive job demands create more challenging and difficult managerial tasks that tend to reach beyond newly appointed CEO capabilities. And this increased complexity will result in a higher likelihood of newly appointed CEO dismissal. In this study, we focus on newly appointed CEOs and investigate the relationships between product/international diversification and the likelihood of newly appointed CEO dismissal. The study predicts that the impact of product/international diversification on new CEO dismissal is positive, because diversification reflects a greater extent of executive job demands for newly appointed CEOs. During the CEO selection process, boards of directors face greater challenges to evaluate whether the capabilities of new CEO candidates fit the requirements of the firms. The boards also face the challenges of effectively acquiring and processing large amount of candidates' information before comparing, analyzing, and making decisions during the short CEO selection process. This task is more challenging when a firm is highly (product and international) diversified and requires a new CEO capable of executing higher levels of control, coordination, and integration (Bartlett & Ghoshal, 1989; Kobrin, 1991).

The impact of product diversification on newly appointed CEO dismissal

Product diversification is a critical dimension in increasing CEO information-processing demands (Chandler, 1962; Prahalad & Bettis, 1986; Henderson & Fredrickson, 1996; Jones & Hill, 1988). The main benefit of product diversification for firms is derived from the economy of scope (Grant, Jammine, & Thomas, 1988). This benefit may manifest itself through sharing operational activities such as R&D, procurement, production, or marketing activities among product lines. In addition to shared operational activities, product-diversified firms also benefit from shared core competencies or strategic assets (Wrigley, 1970; Prahalad & Hamel, 1990; Chi, 1994).

On the other hand, greater product diversification increases complexity, such as the challenges of managing strategic complexities and the integration of distant operations and markets (Prahalad & Doz, 1987; Prahalad, 1990; Kim & Mauborgne, 1996). Consequently, these activities demand greater integration, coordination, and control among product lines. Therefore, greater product diversification requires higher information-processing demands for CEOs, particularly for newly appointed CEOs who need to process additional information about both the firm and product lines.

Higher levels of product diversification are also associated with greater demands for handling more non-routine strategic decisions (Thompson, 1967). These non-routine strategic decisions are linked not only to the related diversification that CEOs need to communicate to multiple sub-units, but also to the unrelated diversification that facilitates the difficulties of allocating internal capital efficiently (Jones & Hill, 1988). Besides internal challenges, firms with greater product diversification face multiple markets and higher information-processing demands to scan environmental changes in multiple markets (Grant, Jammine, & Thomas, 1988). Consequently, this study predicts that possibilities of CEO job demands exceeding the capabilities of newly appointed CEOs are higher in firms that have higher level of CEO job demands in product diversified firms.

Additionally, the board of a highly diversified firm is challenged by selecting the proper new CEO since the position of CEO requires not only wider knowledge and capabilities but also better abilities to coordinate multiple markets. This task is difficult to identify during the CEO selection process because the board needs to obtain and process sufficient information about candidates in a short selection process. Moreover, information asymmetry (Zajac, 1990; Zhang, 2008) between the candidates and the board makes the task of selecting a proper CEO more challenging. Thus, there are more

possibilities for the board of a highly diversified firm to select a less proper CEO. Thereby, the new CEO of highly diversified firm is more likely to face dismissal. Therefore, we argue:

Hypothesis 1: Increased firm-level product diversification is positively associated with the likelihood of dismissal of a newly appointed CEO.

The impact of international diversification on newly appointed CEO dismissal

Although the relationship between internationalization and performance is inconclusive, most empirical studies support international diversification as beneficial to firm performance (e.g., Tallman & Li, 1996; Contractor, Kundu, & Hsu, 2003; Lu & Beamish, 2004). However, international diversification may make firms to become more complex organizations because there are greater necessities for information flows between headquarters and subsidiaries and among subsidiaries (Ghoshal & Nohria, 1989). Executives need to recognize the demands and opportunities that vary widely across countries (Ghoshal & Nohria, 1989; Kim & Mauborgne, 1996). As a result, internationalization tends to force executives to face more challenging managerial tasks and greater extents of information-processing demands (Sanders & Carpenter, 1998; Tihanyi & Thomas, 2005).

When a firm operates in a more diverse international market, the firm encounters a greater number of political, cultural, economic, technological, and institutional environments (Hofstede, 1980; Ghemawat, 2001; Goerzen & Beamish, 2003). Firms facing a higher degree of cultural complexity require executives to have more diverse cultural experiences, the willingness to discover and learn from different systems of meaning held by others (Levy, Beechler, Taylor, & Boyacigiller, 2007), and the ability to search contrasts rather than uniformity (Hannerz, 1996). A complex political environment places pressures on newly appointed CEOs to not only have high capabilities of processing information about political situations, but also possess quick sensitivity to the dynamic political complexity, and make accurate predictions of political changes, and handle non-routine strategic decisions (Thompson, 1967).

Furthermore, when a firm operates in a greater number of diverse foreign markets, the firm may confront different task environments (Dess & Beard, 1984) and market structures (Porter, 1980). In these circumstances, the newly appointed CEO may not be able to apply his/her existing capabilities to complete such large challenging tasks. As a result, the international diversification is associated with higher executive job demands or information-processing demands (Egelhoff, 1991; Hambrick, Finkelstein, & Mooney, 2005).

Additionally, firms must develop greater levels of tangible or intangible resources (Caves, 1974) or resources associated with legitimacy (Kostova & Roth, 2002) in order to survive and build competitive advantages in foreign markets (Barney, 1991). For these purposes, firms usually take different strategies in different foreign countries in order to fit local needs (Doz & Prahalad, 1984; Bartlett & Ghoshal, 1989). Furthermore, firms usually take more complex forms of organizational structures (Egelhoff, 1988; Wolf & Egelhoff, 2002). Finally, firms are viewed as an internal network (e.g., Anderson, Forsgren, & Holm, 2007) in which newly appointed CEOs have to be capable of executing higher levels of control, coordination, and integration (Bartlett & Ghoshal, 1989; Kobrin, 1991) when the firm operates in a large span of foreign countries. All of these issues will increase the demands of information-processing on newly appointed CEOs. Therefore, this study proposes that the chance that a new CEO's ability will not meet the executive job demands will be higher when facing greater international diversification.

Furthermore, as discussed above, the required mix of coordination and integration skills for increasing international diversification are not easy to evaluate and identify during the CEO selection process mainly due to the challenges of processing large amount of candidates' information and the

information asymmetry (Zajac, 1990; Zhang, 2008) between the candidates and the board. The more challenges the board faces, the less possibilities the board appoints a proper new CEO. Under this circumstance, the new CEO is more likely to face dismissal. Such a situation would be more observant when a firm is making an aggressive plan for international expansion. Therefore, we propose:

Hypothesis 2: Increased firm-level international diversification is positively associated with the likelihood of dismissal of a newly appointed CEO.

The moderating effect of new insider CEO

The impact of origin of a new CEO on firm performance has been widely explored (e.g., Zajac, 1990; Kesner & Dalton, 1994). The fundamental challenge for all new CEOs is to guarantee continuity while planning for change (Karaevli & Zajac, 2012). CEOs hired from inside the firm tend to possess better firm-specific knowledge ranging from daily operations, organizational culture, board composition and characteristics, to long-term and short-term strategies (Harris & Helfat, 1997; Zhang & Rajagopalan, 2003, 2004). Thus, from the perspective of information processing, new insider CEOs have already processed and obtained some firm-specific information before taking office, which enables the new insider CEOs to process more in-depth information related to diversified products and operations in different foreign markets.

On the other hand, despite of the fact that external hired CEOs are prized for their fresh knowledge, different perspectives, and the willingness to implement changes (e.g., Harris & Helfat, 1997), prior research (e.g., Karaevli & Zajac, 2012) found that outsider CEOs may typically fail to recognize the situational constraints facing them, or directly introduce premature strategic changes. The reason is that implementing changes must be on the basis of close and thorough analysis on the firm's current internal and external environments. In other words, the prerequisite for the successful implementation of strategic changes is the sufficient acquisition, processing, and absorption of information about the firm's existing situation. However, new outsider CEOs need more time to evaluate a firm's existing policies and strategies (Karaevli & Zajac, 2012).

Accordingly, the challenge of ensuring continuity while planning for change becomes more palpable for new outsider CEOs in a highly diversified firm. However, the new insider CEO has the luxury to at least partially bypass the challenge and move to higher level of information processing more quickly. Therefore, new insider CEOs are less likely to be burned out by the job demand of information processing than new outsider CEOs facing large amounts of unprocessed information with regard to diversified products and foreign markets.

Furthermore, during the CEO selection process, the board has more accurate ability estimates of the inside candidate than the outside candidate because the inside candidate and the board of directors have previous work experience and there tends to be a higher level of information asymmetry between the board of directors and the outside candidate (Zajac, 1990). In consequence, the odds of the board selecting CEOs that fit the position is higher in case of insider candidates than of outsider candidates.

In sum, the relationship between (product/international) diversification and newly appointed CEO dismissal will be weaker when the new CEO is an insider and stronger when the new CEO is an outsider. Thus, we argue:

Hypothesis 3a: The positive association between increased firm-level product diversification and the likelihood of dismissal of a newly appointed CEO is smaller when the newly appointed CEO is an insider.

Hypothesis 3b: The positive association between increased firm-level international diversification and the likelihood of dismissal of a newly appointed CEO is smaller when the newly appointed CEO is an insider.

METHODOLOGY

Sample and data sources

Publicly traded US firms constitute the population for this study. We drew our sample from the US firms listed in the Standard and Poors' *Execucomp* database which mainly includes executive information on Standard and Poors index member firms for the years between 2003 and 2009. Prior research on managerial turnover or dismissal frequently employed publicly traded US firms in their samples (e.g., Shen & Cannella, 2002; Allgood & Farrell, 2003; Zhang, 2008). Thus, our sample helps us to compare the findings of this study with others. Similar to prior research (e.g., Finkelstein & Hambrick, 1996; Zhang, 2008), we first identified CEO succession events for these sample firms during the 2003–2009 time period from the *Execucomp* database and firm proxy statements. We then excluded observations with missing data for our variables and gathered 561 CEO successions that occurred in 436 firms.

Data were collected from the following sources: (a) CEO- and top management team-level data were obtained from the *Execucomp* database, firm proxy statements, firms' 10-K filings, and news reports; (b) board-level data were acquired by the *Corporate Library* database; (c) firm-level financial and industry affiliation data were collected from the *Compustat* database; (d) product diversification data were gathered from the *Compustat's segment* database; And (e) international diversification data were collected from two sources, data for foreign sales were collected from *Compustat's segment database*, while data on subsidiaries and the countries in which subsidiaries located were acquired from the *Directory of Corporate Affiliations*.

Measures

Dismissal of newly appointed CEOs

Dismissal of a newly appointed CEO is the dependent variable of this study. Following Finkelstein and Hambrick (1996) and Zhang's (2008) research, we define a new CEO dismissal as the newly appointed CEO is dismissed by the board of directors within 3 years after holding the CEO position. Of these 561 newly appointed CEOs, 92 of them left their firms within 3 years after they took office. Adapting a commonly used approach (Shen & Cannella, 2002; Zhang, 2008), we considered the following five circumstances as voluntary turnovers of newly appointed CEO: (1) Newly appointed CEOs remained in other positions in the firm, such as chairpersons of the boards, after leaving their offices. (2) Newly appointed CEOs left the CEO positions because of health issues. (3) Newly appointed CEOs retired. (4) Newly appointed CEOs left due to merger or acquisition events occurred. (5) Newly appointed CEOs accepted executive positions at other firms. In addition, we viewed the situations in which newly appointed CEOs were fired, ousted, unexpectedly resigned, resigned, or retired early after being dismissed for poor firm performance as dismissals of newly appointed CEOs. We used news reports in the Lexis-Nexis database and other news reports to identify why these newly appointed CEOs left their offices. Among 92 CEOs who left their firms within 3 years after they succeeded, we identified 50 voluntary turnovers of newly appointed CEOs and 42 dismissals of newly appointed CEOs.

We operationalized the dependent variable, dismissal of newly appointed CEOs, as a dummy variable. We assigned the dismissal of newly appointed CEOs as 1 and 0 otherwise. We also treated another 50 newly appointed CEOs who voluntarily left CEO positions as censored cases and kept them in our sample until they left the firms (Hosmer & Lemeshow, 1999). Our sample contains all newly appointed CEO observations within 3 years after they took office or voluntary/involuntary leave within 3 years after appointment during the 2003–2009 time periods. Totally, we collected 1,172 firm-year observations as our final data set for data analysis.

Product diversification

This study applied Chatterjee and Wernerfelt's (1991) entropy method to measure product diversification. The entropy method has several advantages and has thus frequently been used in prior studies (e.g., Hitt, Hoskisson, & Kim 1997). The major advantage is that it accounts not only for the number of business segments a firm operates and the proportion of sales in each business segment, but also the industry relatedness among these segments, based upon the four-digit Standard Industrial Classification codes.

International diversification

Past studies have proposed various operationalizations to measure international diversification (Hitt, Hoskisson & Kim, 1997; Gomes & Ramaswamy, 1999; Goerzen & Beamish, 2003). Among them, the creation of an index measure is frequently used because it can better capture different dimensions of internationalization of a firm (Sullivan, 1994; Sanders & Carpenter, 1998). Consequently, we used the index approach to measure international diversification of a firm. Similar to Strike, Gao, and Bansal's (2006) measure, our index of international diversification has three firm-level dimensions: the ratio of foreign sales over total sales, the number of foreign subsidiaries, and the number of foreign countries the firm operates within.

We used the ratio of foreign sales over total sales and the ratio of the number of foreign subsidiaries over the highest number of foreign subsidiaries to reflect the depth component of the international involvement of a firm (Eden, Thomas, & Olibe, 2002). On the other hand, we employed the ratio of the number of foreign countries over the highest number of foreign countries in the sample to represent international dispersion or the breadth component of the firm's international involvement (Gomes & Ramaswamy, 1999; Eden, Thomas, & Olibe, 2002). Following Sanders and Carpenter's (1998) method, we then summed these three dimensions to construct the index measure of international diversification.

New insider CEO

New insider CEO is the moderating variable of this study. In the CEO succession research, how the origin of a CEO, insider or outsider, impacts organizational outcomes has been widely explored (Kesner & Dalton, 1994). This line of research has proposed that the new insider CEO rather than the new outsider CEO has accumulated better knowledge on the operations of the firm when a newly appointed CEO takes office (Harris & Helfat, 1997; Zhang & Rajagopalan, 2003, 2004). Thus, a new insider CEO was coded 1 when a newly appointed CEO was an executive of the firm before taking the CEO position. Otherwise, 0 was given.

Control variables

In order to limit alternative explanations, we included several control variables in this study. CEO duality has long been viewed as a critical political factor in the research of corporate governance (Finkelstein & D'Aveni, 1994; Shen & Cannella, 2002). Since the decision to dismiss a CEO is made by the board of directors, the CEO who simultaneously holds the position of chairperson of the board can exercise his/her power in the board or build better personal relationships with other board members. Thus, CEO duality may deter the occurrence of CEO dismissal. New CEO duality was coded 1 when a newly appointed CEO also holds the position of the chairperson of the board of directors. Otherwise, 0 was assigned. We also controlled for new CEO age, because the age of newly appointed CEOs may reflect their information-processing abilities or the abilities to handle complex situations (Hambrick & Mason, 1984). An interim CEO succession occurs when the board of directors appointed a temporary rather than a permanent successor and the title of CEO is vacated. Appointing an interim CEO may reflect the disruption at the top of the firm and interim CEOs may draw more attention on the immediate issues (Ballinger & Marcel, 2010). Thus, this study controlled

for new interim CEO. *New interim CEO* was coded 1 when a newly appointed CEO holds the title as 'interim CEO', 'acting CEO', or 'CEO until a permanent successor is named' and 0 otherwise.

The Proportion of outside directors reflects board vigilance and is widely proposed to affect the CEO dismissal based on agency theory (Fama & Jensen, 1983; Zajac & Westphal, 1996). Thus, this study used the proportion of outside directors to present the extent of board vigilance. We measured it as the percentage of the number of outside directors over the total number of directors. Board size is another critical corporate governance variable. It demonstrates the extent of monitoring function of the board and also reflects a part of pool for potential CEO candidates. It was calculated by the number of directors on a board following prior research (Zajac & Westphal, 1996). Similarly, the board may appoint and promote current executives to hold the CEO position. Thus, top management team size may indicate the pool for potential CEO candidates. This study used a count of the number of top executives to measure top management team size, similar to past research (Hambrick & D'Aveni, 1992).

Firm performance is the major factor that impacts the likelihood of CEO dismissal since CEOs are required to take the responsibility for poor firm performance (Fredrickson, Hambrick, & Baumrin, 1988). We thus used industry-adjusted return on equity, an accounting-based performance measure, to measure firm performance. We calculated it by the percentage of the net income over equity subtracting the industry median return on equity based on the two-digit Standard Industrial Classification codes. It is widely accepted that Firm size has impacts on information-processing or executive job demands of a firm (e.g., Henderson & Fredrickson, 1996; Sanders & Carpenter, 1998). Therefore, we included firm size as a control variable. We measured firm size as the natural logarithm of the total assets of a firm otherwise skewed. In order to control for time effects, we created 2-year dummy variables. We coded Year two as 1 when a newly appointed CEO held the CEO position for 2 years, and 0 otherwise. Similarly, we assigned number 1 to Year three if a newly appointed CEO held the CEO position for 3 years, and 0 otherwise.

Analysis

Table 1 reports means, standard deviations, and correlations for all variables. The aim of this study is to explore the impacts of (product or international) diversification on the probability of dismissal of newly appointed CEO. However, a concern with this empirical analysis is the potential endogeneity which other factors may influence (product or international) diversification as well as the probability of dismissal of newly appointed CEO. Particularly, firm performance is found to affect (product or international) diversification and CEO dismissal (e.g., Hitt, Hoskisson, & Kim. 1997; Wiersema & Zhang, 2011). Therefore, it is critical to ensure that (product or international) diversification has an independent effect on the dismissal of a newly appointed CEO.

To solve this issue, we employ Yu's (2008) approach and create a proxy for product and international diversification that is uncorrelated with firm performance. This approach has been used by prior research (e.g., Wiersema & Zhang, 2011). It can assist us to remove potential endogeneity between diversification and firm performance. We first use firm performance, firm size, and time period to predict both product diversification and international diversification. Table 2 reports the results of these regressions. We then employ the residuals from these regressions as proxies for product diversification and international diversification to test the hypotheses proposed.

The dependent variable of this study, dismissal of newly appointed CEOs, is dichotomous and includes only two values: one or zero. For analyzing a binary dependent variable, the use of logit regression as well as probit regression is appropriate (Greene, 2008). Thus, logit regression models have been used to test the hypotheses and probit regression models were used for robustness checks. To avoid the reverse causality occurring, we lagged the data of all independent and control

variables by 1 year with the exception that the average of 3 years before succession was used for firm performance.

Since our sample is pooled cross-sectional data and with 1,172 firm-year observations, unobserved heterogeneity is another potential issue. Either fixed-effects models or random-effects models can be used to address this issue. We thus followed commonly used statistical procedures and undertook the Hausman specification test to determine which models should be used. The results of the Hausman specification test suggest that the random-effects regression models are more suitable for this study. Additionally, if fixed-effects models were used, observations on which firms did not have any CEO dismissal in the sample period would be dropped from the models. This may generate biased estimation. We therefore select the random-effects models to test our hypotheses.

RESULTS

We present the results of the impacts of product diversification and international diversification on the likelihood of dismissal of newly appointed CEOs in Table 3. In Table 3, model 1 and model 2 contain the whole sample and are used to test Hypothesis 1 and 2. Model 1 is the baseline model which only includes control variables. The model is significant (Wald $\chi^2 = 25.93$, p < .01). The coefficients for top management team size, firm performance, and firm size are significant (b = 0.53, p < .001; b = -0.01, p < .05; b = -0.32, p < .05, respectively). However, other control variables are insignificant.

Model 2 is the full model. It simultaneously adds our independent variables, product diversification and international diversification, to test their direct impacts on the likelihood of dismissal of newly appointed CEOs. The overall model is significant (Wald $\chi^2 = 35.66$, p < .001). We examine the two direct effects of product/international diversification on dismissal of newly appointed CEOs. Hypothesis 1 proposes that greater product diversification leads to a higher likelihood of dismissal of newly appointed CEOs. This hypothesis is supported, since the coefficient for product diversification is significant in Model 2 (b = 0.57, p < .01). Hypothesis 2 suggests that greater international diversification results in a greater likelihood of dismissal of newly appointed CEOs. The empirical results also support this hypothesis, because in model 2 the coefficient for international diversification is significant (b = 0.88, p < .05).

In this study, we are also interested in investigating the moderating effects of new insider CEO on the above relationships. The moderating effects can be assessed by two generic techniques: observing the coefficients of the multiplicative interaction terms or comparing the coefficients between subgroups split by the moderating variable (Jaccard, Turrisi, & Wan, 1990). We employ the subgroup technique in this study because the logit models are nonlinear regressions and we cannot observe the marginal effect of a moderator directly through the coefficients of the multiplicative interaction terms. To test Hypothesis 3a and 3b, we split the sample into two groups, new insider CEO and new outsider CEO subgroups. We then compare the coefficients of the independent variables across the two subgroups to assess the moderating effects.

In Table 3, models 3–6 present the results of new insider/outsider CEO subgroups in order to examine the moderating effects of new insider CEO on (product/international) diversification – dismissal of newly appointed CEOs relationships. While models 3 and 4 demonstrate the results for the new insider CEO subgroup, models 5 and 6 show the results for the new outsider CEO subgroup. Models 3 and 5 present baseline models including control variables only, while models 4 and 6 are the full models for these two subgroups, respectively. In Hypothesis 3a, we posit that the impact of product diversification on the likelihood of dismissal of newly appointed CEOs is smaller when the newly appointed CEO is an insider. Comparing the coefficients of product diversification across new insider CEO and new outsider CEO subgroups in models 4 and 6, we found that the coefficient is

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TABLE 1. DESCRIPTIVE STATISTICS AND CORRELATIONS

		Frequency	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Dismissal of newly appointed CEO	42/1130	0.04	0.19	1.00													
2	Product diversification		0.40	0.65	0.10	1.00												
3	International diversification		0.64	0.40	0.04	0.00	1.00											
4	New insider CEO	502/670	0.43	0.50	-0.01	-0.03	0.03	1.00										
5	New CEO duality	511/661	0.44	0.50	0.03	0.15	0.09	0.04	1.00									
6	New CEO age		52.80	6.21	0.06	0.06	0.09	0.05	0.23	1.00								
7	New interim CEO	8/1164	0.01	0.08	-0.02	-0.05	0.04	-0.07	0.05	0.03	1.00							
8	Proportion of outside directors		74.16	14.09	0.03	0.05	0.16	-0.06	0.24	0.01	0.02	1.00						
9	Board size		9.68	2.30	0.02	0.11	0.12	0.24	0.13	0.14	-0.07	0.09	1.00					
10	TMT size		6.10	1.22	0.13	-0.01	0.01	-0.06	0.01	0.08	0.02	0.00	0.04	1.00				
11	Firm performance		7.39	36.19	-0.10	-0.01	0.10	0.18	0.09	-0.05	0.00	0.02	0.12	-0.14	1.00			
12	Firm size		14.95	1.68	-0.02	0.12	0.20	0.22	0.28	0.13	-0.01	0.12	0.65	0.07	0.08	1.00		
13	Year two		0.28	0.45	-0.01	0.00	0.01	-0.02	0.04	0.03	0.02	0.04	-0.01	-0.11	0.01	0.02	1.00	
14	Year three		0.25	0.44	0.05	0.05	0.02	-0.02	0.15	0.04	0.00	0.05	0.02	-0.12	0.02	0.01	-0.36	1.00

Notes: N = 1,172 firm-years; In the frequency column, the numerator is the value of one for the variable and the denominator is the value of zero for the variable; All correlations larger than 0.07 in absolute value are significant at the p = .05 level.TMT = top management team.

Table 2. Regressions that generate residuals to be used as proxies for diversification measures

	Dependent variables				
	Product diversification	International diversification			
Firm performance	0.00 [0.00]	0.00** [0.00]			
Firm size	0.05*** [0.01]	0.05*** [0.01]			
Year 2002	0.05 [0.09]	-0.05 [0.06]			
Year 2003	0.08 [0.09]	-0.01 [0.06]			
Year 2004	0.00 [0.09]	0.01 [0.06]			
Year 2005	-0.08 [0.09]	0.03 [0.05]			
Year 2006	-0.09 [0.09]	0.02 [0.05]			
Year 2007	-0.18* [0.08]	-0.03 [0.05]			
Year 2008	-0.13 [0.08]	0.00 [0.05]			
Constant	-0.21 [0.18]	-0.04 [0.11]			
R^2	0.03	0.05			
F-value	4.28***	6.79***			

Notes: N = 1,172 firm-years; Standard errors in square brackets; $\uparrow p < .10$; $\star p < .05$; $\star \star p < .01$; $\star \star \star p < .001$; t-test are all two-tailed tests.

significant for outsider CEO subgroup (b = 0.62, p < .05) but not for insider CEO subgroup (b = 0.37, p > .10). We further compute their marginal effects. The results shows that marginal effects for new insider CEO and new outsider CEO subgroups are 0.01 and 0.02, respectively, and new outsider CEO gains an additional 0.01 (0.02–0.01) from product diversification. Thus, Hypothesis 3a is supported.

Additionally, Hypothesis 3b proposes that the relationship between international diversification and the likelihood of dismissal of newly appointed CEOs will be smaller for new insider CEO. In models 4 and 6, the results show that the coefficient of international diversification is significant for outsider CEO subgroup (b = 1.07, p < .10) but not for insider CEO subgroup (b = 0.82, p > .10). Similarly, the marginal effects are computed. The results show that new outsider CEO gains an additional 0.02 from international diversification because the marginal effects for new insider CEO and new outsider CEO subgroups are 0.02 and 0.04, respectively. Overall, our empirical results support all the hypotheses.

In order to substantiate our results, we also conducted the following robustness checks. First, we use probit repression for the robustness check since it can also be used to analyze a binary dependent variable. Second, in addition to using an index to reflect the extent of international diversification of a firm, the number of foreign countries in which a firm operated is also frequently used by prior research (e.g., Gomes & Ramaswamy, 1999; Lu & Beamish, 2004). We thus used it as the robustness check for our measure of international diversification. The results of these robustness checks are consistent with our results.

Third, Shen and Cannella (2002) proposed that CEO age and continuity in serving the board can be two criteria to identify CEO dismissals. This approach thus is commonly used either to identify CEO dismissals or to be the robustness check for identifying CEO dismissals (e.g., Zhang, 2008; Fong, Misangyi, & Tosi, 2010). We took this approach as the robustness check for identifying dismissals of newly appointed CEO. Based on the above approach, we consider a succession event as dismissals of newly appointed CEOs when newly appointed CEOs are younger than 64 and had not held any board position at the firm. Based on this approach, the results of robustness check are similar to our previous results.

TABLE 3. RESULTS OF LOGISTIC REGRESSIONS FOR DISMISSAL OF NEWLY APPOINTED CEO

	Whole :	sample	New insider	CEO subgroup	New outsider CEO subgroup		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	
Predictors							
Product diversification		0.57** [0.22]		0.37 [0.38]		0.62* [0.31]	
International diversification		0.88* [0.40]		0.82 [0.66]		1.07† [0.56]	
Controls							
New insider CEO	0.27 [0.40]	0.34 [0.38]					
New CEO duality	0.30 [0.37]	0.26 [0.37]	0.00 [0.60]	0.09 [0.61]	0.73 [0.52]	0.56 [0.50]	
New CEO age	0.03 [0.03]	0.03 [0.03]	-0.02 [0.05]	-0.02 [0.05]	0.05 [0.04]	0.04 [0.04]	
New interim CEO	-16.18 [6820.64]	-16.90 [9813.91]			-17.21 [9716.18]	-16.58 [6872.84	
Proportion of outside directors	0.01 [0.01]	0.01 [0.01]	0.01 [0.02]	0.01 [0.02]	0.01 [0.02]	0.01 [0.02]	
Board size	0.15 [0.10]	0.14 [0.10]	0.17 [0.15]	0.19 [0.16]	0.15 [0.15]	0.08 [0.15]	
TMT size	0.53*** [0.13]	0.54*** [0.13]	0.63** [0.18]	0.68*** [0.19]	0.42* [0.19]	0.42* [0.18]	
Firm performance	-0.01* [0.00]	-0.01* [0.00]	-0.03** [0.01]	-0.03** [0.01]	-0.01 [0.00]	-0.01 [0.00]	
Firm size	-0.32* [0.16]	-0.33* [0.15]	-0.29 [0.22]	-0.33 [0.23]	-0.39† [0.23]	-0.35 [0.22]	
Year two	0.42 [0.44]	0.46 [0.43]	0.79 [0.63]	0.84 [0.64]	0.10 [0.63]	0.12 [0.61]	
Year three	0.87* [0.42]	0.84* [0.42]	0.63 [0.71]	0.57 [0.72]	1.01† [0.58]	0.98† [0.56]	
Constant	-6.92** [2.52]	-5.96* [2.45]	-4.84 [3.54]	-4.39 [3.65]	-6.92 [3.48]	-5.47 [3.39]	
No. of observations	1,172	1,172	502	502	670	670	
Log likelihood	-163.05	-158.09	-62.18	-60.99	-94.57	-91.36	
Wald χ^2	25.93**	35.66***	22.89**	24.20*	15.80	22.81*	

Notes: N = 1,172 firm-years for the whole sample; Standard errors in square brackets; $\uparrow p < .10$; $\uparrow p < .05$; $\uparrow p < .01$; $\uparrow p <$

DISCUSSION

Based on the information-processing theory (Galbraith, 1973; Tushman & Nadler, 1978) and executive job demand perspective (Hambrick, Finkelstein, & Mooney, 2005), we offer empirical evidence that both product diversification and international diversification predict the likelihood of dismissal of newly appointed CEOs. The underlying rationale we propose that greater (product and international) diversification is associated with greater executive job demands. Consequently, it is more likely that the CEO job demands would exceed the CEO's capabilities, leading to dismissal of newly appointed CEOs. We also demonstrate that the above relationships are partially contingent on the origin of CEO because insider CEOs tend to process information upfront and thus are less likelihood to be dismissed, while outsider CEOs are challenged to start from scratch and process large amounts of firm-specific information in highly diversified firms.

Our findings demonstrate that product diversification may trigger the dismissal of newly appointed CEOs. We first consider product diversification as an important indicator for CEO job demands. Facing greater product diversification, newly appointed CEOs are required to scan and monitor multiple external environments as well as coordinate multiple product lines internally in order to gather synergies. While previous studies have indicated that, generally, product diversification is associated with complexities and thus impacts organizational outcomes, such as organizational form (Chandler, 1962), we extend this line of research to an individual level by examining its influence on dismissal of newly appointed CEOs.

Similar to the above rationale, we view international diversification as another indicator of CEO job demands. Aligned with our prediction, the results also show that international diversification drives the likelihood of dismissal of newly appointed CEOs. Greater international diversification is associated with greater demands on newly appointed CEO's information-processing because the newly appointed CEO not only encounters various and diverse national environments (Hofstede, 1980; Ghemawat, 2001;Kostova & Roth, 2002), competitive environments (Porter, 1980), customer needs (Bartlett & Ghoshal, 1989) in external environments, but also faces great demands in coordination, integration and control in order to manage internal networks effectively and efficiently (Anderson, Forsgren, & Holm, 2007). Prior research has demonstrated that international diversification has an impact on organizational structure (Egelhoff, 1982) and chosen strategy (Johanson & Vahlne, 1977, 1990), but it has not been linked to the likelihood of CEO dismissal, particularly in the context of the new CEO appointment period. By filling this gap, this study enriches our understanding of the impact of international diversification on the likelihood of dismissal of new appointed CEOs.

In addition to the direct impacts, our empirical results highlight the moderating effect of origin of CEOs. Taking the information-processing theory, we propose that new insider CEOs have the advantage of processing firm-specific information upfront, which saves them valuable time to obtain in-depth information for strategic decision making. On the other hand, outsider CEOs face more challenges of processing information after taking his/her office. Consequently, the main effects of diversification on new CEO dismissal are stronger for outsider CEOs while weaker for insider CEOs.

Meanwhile, a new CEO taking the CEO position can be considered as a learning process based on the organizational learning theory. CEO skills and capabilities largely come from learning-by-doing processes (Mintzberg, 1973). This learning effect forms and shapes the cognition of top executives (Huber, 1991). Thereby, the new insider CEO possesses better firm-specific knowledge and skills (Castanias & Helfat, 1991, 2001). It also indicates a steeper learning curve to grasp the firm-specific knowledge for new outsider CEOs (Giambatista, Rowe, & Riaz, 2005). Thus, organizational learning theory provides supplementary support to our arguments for moderating effects.

CONTRIBUTIONS

This study makes several important research contributions. Our findings bring the aspects of executive job demands and information-processing into the research domain of CEO dismissal. Past research has not considered information-processing/executive job demands on the CEO dismissal; nevertheless the perspective of information-processing/executive job demands is critical. According to information-processing theory (Egelhoff, 1991; Tushman & Nadler, 1978), previous research has shown that information processing demands associated with firm R&D intensity or internationalization lead to higher executive compensation (Henderson & Fredrickson, 1996; Sanders & Carpenter, 1998). Our study extended this stream of research by bringing the concept of information-processing/executive job demands into the research of CEO dismissal.

This study also assists us to better understand how the demands of CEO tasks impact the fit/non-fit between CEO capabilities and CEO positions during the early stage of CEO tenure. Unlike prior research which holds that the chance of fit/non-fit between CEO capabilities and positions as constant during CEO tenure or more critical at the latter stage of CEO careers (Holmstrom, 1982; Weisbach, 1988; Chen & Hambrick, 2012), our findings demonstrate that the fit/non-fit between CEO capabilities and positions has a great impact on dismissal in the early stage of CEO tenure, and thus, enhance the understanding of the drivers of dismissal for newly appointed CEOs. Our results show that matching job demands and CEO capabilities significantly impacts new CEO dismissal.

Additionally, this study extends the research on the outcomes of (product and international) diversification. Prior research has reported that diversification has impacts on various outcomes, such as firm performance (Rumelt, 1974; Palepu, 1985; Hitt, Hoskisson & Kim, 1997; Gomes & Ramaswamy, 1999; Goerzen & Beamish, 2003), organizational learning (Pennings, Barkema, & Douma, 1994; Yeoh, 2004), and financial structure (Kwok & Reeb, 2000). Extending this stream of research, this study contributes by empirically showing that product and international diversification affects the occurrences of dismissal of newly appointed CEOs at the individual-level moving beyond firm-level variables frequently explored by prior research.

Current research is largely concerned with domestic contexts and has largely neglected the impacts of international components on executive dismissal, based on the review of executive succession research (Kesner & Sebora, 1994; Giambatista, Rowe, & Riaz, 2005). However, the impact of globalization and the increase of firms' international involvement bring more job demands and challenges to CEOs (Geringer, Beamish, & DaCosta, 1989). Therefore, our study contributes to the literature of CEO dismissal by unveiling the impact of international operations on newly appointed CEOs.

Furthermore, our study provides several practical implications. Our findings show that (product and international) diversification predicts the dismissal of newly appointed CEOs. During the CEO selection process of a diversified firm, the board of directors should develop an effective way to better assess the abilities of new CEO candidates, particularly their integration and coordination abilities, in order to choose a new CEO who can better fit the large executive job demands caused by (product and international) diversification.

Additionally, while a new CEO is vulnerable to dismissal in a (product or international) diversified firm, the likelihood of being dismissed is strengthened when the CEO is an outsider. Therefore, in order for a highly diversified firm to avoid the turmoil and corporate disruption due to frequent changes of CEOs, the board should select a new CEO either from inside or select an outsider CEO providing sufficient time to process large amounts of complex information or in-depth training before taking his/her office.

Our research sheds light on the necessity and importance for outsider CEOs who are expected to make strategic changes after taking office, perhaps a result of promises made during the job interview, that he/she must first stay patient and seize time to absorb enough firm information by connecting with the board and employees of the new firm before making any big strategic moves. This also

indicates that the board's role is not only supervising the new CEO, but also providing information acquainting the new outsider CEO with the firm in the beginning of his/her new job.

LIMITATIONS

This study has some limitations that could offer directions for future research. First, the (product and international) diversification measurements used by this study may not be able to fully present the underlying complexities or the executive job demands faced by newly appointed CEOs. As stated earlier, greater (product and international) diversification is associated with facing diverse external challenges and managing more complex organizations internally. However, our measurements of (product and international) diversification do not directly elaborate environmental and organizational complexities that the firms are facing (e.g., Verbeke, Li, & Goerzen, 2009). Thus, for a better understanding of the underlying drivers of executive job demands in firms, future research may examine the impact of external environments and internal organization forms on the dismissal of newly appointed CEO.

Second, this study does not address CEO responsibilities shift corresponding to (product and international) diversification. CEOs are more likely to get directly involved in (product and international) diversification strategies at lower (rather than higher) levels of diversification. As firms diversify, the CEOs may delegate their responsibilities and focus more on coordination and financial functions (e.g., Hitt & Ireland, 1986). However, our results cannot identify whether the complexities that come from diversification are due to direct involvement with diversification strategies, or the added job load of coordination. Consequently, another direction of future research is to directly examine CEO job responsibilities or demands. Finally, this study contains only 7 years of data. Analyzing a data set with a longer time window may strengthen the validity of empirical results in this study.

CONCLUSION

We hope our empirical study contributes to the current literature on dismissal of newly appointed CEOs, by linking executive job demands, or firm (product and international) diversification, to dismissal of newly appointed CEOs while applying the executive job demands aspect and information-processing theory. In addition, we found the positive impacts of (product and international) diversifications on the likelihood of dismissal of newly appointed CEOs is strengthened when the new CEO is from outside. Our findings demonstrate that, in addition to political factors, which have been frequently examined by prior research, diversification, or executive job demands, plays a critical role in the likelihood of dismissal of newly appointed CEOs. Different from the traditional finding on the important driver of CEO dismissal, namely firm performance, our study brings up a significant contributing factor of CEO dismissal in the early state of tenure, job demands fueled by firm diversification. This widens our understanding of CEO dismissal in different stages of tenure. We hope that our findings spur future research and ultimately contribute to the area of strategic leadership.

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