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Someone Old or Someone New? The Effects of CEO Change on Corporate Entrepreneurship

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Boards of directors often attempt to foster corporate entrepreneurship by replacing a firm's chief executive officer (CEO). Compelling theoretical arguments and anecdotal evidence suggest that when firm performance has suffered, a new CEO is best suited to lead the firm's creative endeavors. On the other hand, among firms that retain their existing CEO after a decline in performance, manipulating the CEO's compensation package is a common governance practice used by boards to encourage innovation. In these cases, some have argued that increasing the CEO's pay will encourage corporate entrepreneurship, because the CEO has been compensated for assuming additional risk. Counter to these propositions, this study develops theoretical arguments that a firm's existing *CEO is better equipped to foster corporate entrepreneurship and that this probability* increases *when the CEO's cash compensation is* decreased. *Results from a sample of 100 single-product manufacturing firms suggest firms that retain their current CEO and* decrease *the CEO's cash compensation are most likely to engage in corporate entrepreneurship. Implications that this research has for corporate entrepreneurship, corporate governance, and firm performance are discussed.*

The CEOs of profit-seeking organizations are charged with organizing the firm's resources to create value. This has prompted some researchers to theorize about the CEO's role in corporate entrepreneurship (Brazeal and Herbert 1999; Floyd and Wooldridge 1999; Greene, Brush, and Hart 1999; Stopford and Baden-Fuller 1994). While no published research has considered the impact of CEO succession on the process of corporate entrepreneurship, a large body of research has explored the relationship between CEO change and subsequent organizational change (Miller 1993; Tushman and Romanelli 1985; Virany, Tushman, and Romanelli 1992). Some of this research has focused on executive succession following a decline in firm performance (Barker and Duhaime 1997; Goodstein and Boeker 1991). The prevailing wisdom seems to be that when firms experience a period of declining performance, they should change their CEOs as a first step in bringing about strategic organizational change. In support of this argument, an abundance of literature suggests new CEOs are more likely to undertake new strategic initiatives than old CEOs (Ford and Baucus 1987; Starbuck, Greve, and Hedberg 1978; Tushman and Romanelli 1985). Many examples also exist in the popular press of new CEOs who have successfully brought about strategic organizational change (Iacocca 1984; Sager 1994). However, some research suggests that *existing* CEOs may be best suited to lead the organization's creative endeavors (Amburgey, Kelly, and Barnett 1993; Sutton, Eisenhardt, and Jucker 1986; Virany et al. 1992).

Consistent with research in organizational creativity (Woodman, Sawyer, and Griffin 1993), corporate entrepreneurship is the outcome of a complex interaction among individuals, groups, and the organization; and it seems clear that corporate entrepreneurship is affected by a large number of variables. However, it seems equally clear that the knowledge base and level of expertise possessed by individuals within the organization should also be a critical component necessary for corporate entrepreneurship. (Amabile 1979; Castanias and Helfat 1991; Greene et al. 1999; Penrose 1959). Indeed, Nonaka (1994: 21) argued that the individual is the "prime mover in the process of organizational knowledge creation" and that the quality of tacit knowledge possessed by individuals is critical to the creation of new strategies. Thus, firm-specific tacit knowledge may be used to formulate valuable organizational strategies, but such knowledge can only be developed by repeated experiences with an organization's routines (Nelson and Winter 1982).

The following quotation, attributed to Sir Joshua Reynolds (1732–1792), illustrates the important role that individuals play in the creation of value: "Invention is little more than a new combination of those images which have been previously gathered and deposited in the memory. Nothing can be made of nothing. He who has laid up no material can produce no combination" (quoted in Offner 1990). Reynolds was suggesting that the knowledge and information possessed by individuals, which may be viewed as the sum of one's life experiences, is a crucial element in creative behavior. However, the question addressed in this study is whether individuals who currently lead an organization, or individuals newly appointed to lead an organization, are most likely to have the greatest relevant stocks of knowledge and information that are useful for corporate entrepreneurship. Also examined is the question of what type of governance mechanism is most likely to provide the CEO with the proper incentive to lead and foster corporate entrepreneurship within the organization. In other words, it is not sufficient that new CEOs just bring about changes in the organization, but most importantly, these changes should create value that has the potential to be a source of sustained competitive advantage.

Firm Resources and Entrepreneurship

Schumpeter (1942) viewed *entrepreneurship* as the process of carrying out new combinations (e.g., new products, product markets, processes, technologies) by relying on the firm's existing stock of resources. He also suggested that the purpose of the firm is to seize competitive opportunities by creating or adopting innovations that make competitors' positions obsolete. Similarly, Penrose (1959) argued that the growth of the firm is limited not by the marketplace but instead by the creative capabilities of the firm's managers as they seek to take advantage of the firm's opportunities. Rumelt (1984) echoed the arguments made by Schumpeter and Penrose by suggesting that strategy should be viewed as entrepreneurship. If managers can create certain processes that are ambiguous, these processes have uncertain imitability and any benefits that accrue to the firm from these processes may be long lasting (Rumelt 1984). Schumpeter, Penrose, and Rumelt each stressed that entrepreneurship is the source of change and growth within a firm. Under this view, firms that seek to change should use externally generated information that is integrated with internal knowledge to develop new ways of exploiting the firm's existing resources.

Sharma and Chrisman defined *corporate entrepreneurship* as the "process whereby an individual or a group of individuals, in association with an existing organization . . . instigate renewal or innovation within that organization" (1999: 18). Thus, corporate entrepreneurship is the deployment of new resource combinations to renew an organization (Guth and Ginsberg 1990). Corporate entrepreneurship can occur internally, by exploiting the firm's existing stock of resources (Penrose 1959), or externally, by the acquisition of new resources (Hitt et al. 1996). However, because most attempts to create value in the external environment through mergers and acquisitions fail (Hoskisson and Hitt 1990), CEOs are increasingly looking inside the firm for new sources of value. The emphasis on creating value *within* the firm was noted by the CEO of one Fortune 500 company who said, "I think innovation, most of the time, is simply taking A, B, C, and D, which already exist, and putting them together in a form called E" (Marshall 1994: 270). This suggests that CEOs who understand a firm's existing set of resources may be in the best position to reconfigure those resources in ways that are newly valuable. Indeed, some have argued that managerial expertise is a key firm resource that, when developed and exploited, has the potential to be a source of sustained competitive advantage (Castanias and Helfat 1991). Castanias and Helfat (1991) used the phrase "managerial rents" to refer to the increase in firm value attributed to superior managerial skills.

CEOs and Corporate Entrepreneurship

Human and social capital have been suggested as the "fundamental building blocks" of corporate entrepreneurship (Greene et al., 1999: 107). Much of the research grounded in this view focuses on the role that individuals within an organization play in corporate entrepreneurship. These individuals are sometimes said to be *corporate venture champions* who are responsible for a particular entrepreneurial process with an organization (Burgelman 1983; Greene et al. 1999; Shane 1994; Venkataraman, MacMillan, and McGrath 1992). For example, the *champion of ideas* is an individual who seeks to convince organizational stakeholders that an idea has merit, whereas the *resource champion* presents the idea to those with the power to allocate the resources needed to complete the project (Venkataraman et al. 1992).

Clearly the CEO is intertwined among the firm's human and social capital that is crucial for fostering corporate entrepreneurship (Greene et al. 1999). While the firm's CEO may not serve as the corporate venture champion (although in some firms, particularly small firms [Miller 1983], the CEO may serve in this capacity), it seems reasonable to argue that the CEO may be a "central actor" in the eventual emergence of many entrepreneurial initiatives (Stopford and Baden-Fuller 1994). Floyd and Wooldridge (1999) defined central actors as key individuals in the firm's communication processes who are also likely to have a direct impact on entrepreneurial initiatives.

Brazeal and Herbert (1999) also suggested that top management plays a key role in corporate entrepreneurship. For example, the entrepreneurial process is enabled by the allocation of resources and the articulation of a strategic vision, roles that are traditionally reserved for top management. In addition, an organization's CEO may foster corporate entrepreneurship "through the building of an entrepreneurial organizational environment and human resource practices that actively promote entrepreneurial activities and thinking" (Brazeal and Herbert 1999: 41). By doing these things, the CEO enhances the firm's ability to produce innovative outcomes. In sum, the CEO may play a key role in corporate entrepreneurship in part, because of his or her knowledge of the firm's resources and his or her abilities to influence the social dynamics within the firm (Floyd and Wooldridge 1999).

CEO Change and Corporate Entrepreneurship

Research has found that firms often replace their CEOs and undertake new strategic initiatives following a decline in performance, although this research has largely ignored the question of whether these changes are valuable (Wiersema and Bantel 1993). The popular press also offers anecdotal evidence that organizations may hire new CEOs to foster corporate entrepreneurship (Iacocca 1984; Sager 1994). However, both empirical and theoretical research offer differing views on the effect that CEO change may have on corporate entrepreneurship.

New CEOs Are Needed

Theoretical arguments that support a change in CEOs as a prelude to corporate entrepreneurship are grounded largely in the organizational theory literature, which suggests that new CEOs are more likely than current CEOs to bring about change in organizations for two reasons. First, new CEOs bring to the firm "new causal knowledge" that allows them to develop "new interpretations" of how the firm should "interact with its environment" (Ford and Baucus 1987; Starbuck et al. 1978). Second, the new CEO is more likely to make changes in the organization because he or she is unencumbered from prior emotional involvement in the organization and is not tied to the organization's "dominant logic" that may lead to such counterproductive behavior as the escalation of commitment to a failing course of action (Brockner 1992; Ford and Baucus, 1987; Prahalad and Bettis 1986; Staw 1981; Tushman and Romanelli 1985).

These arguments suggest that executive succession changes the knowledge base and skill levels of the firm's CEO, which can lead to an improved ability to recognize and respond to the firm's changing environmental conditions. While the old knowledge base may have been suitable for the old environment, the firm's new environment suggests the need for a new knowledge base. Thus, executive succession may be especially important for improving or sustaining firm performance following periods of environmental turbulence (Virany et al. 1992).

While this view is theoretically grounded and intuitively appealing, the acquisition of a new knowledge base through a new CEO is not without cost. Some have argued that new managers incur "liabilities of newness" and need time to understand the firm and its problems (Virany et al. 1992; Sutton et al. 1986). This may prove especially problematic if the new CEO is from a different industry and unfamiliar with the types of resources used in his or her new firm, and if the resources that give the firm its distinctive competencies are difficult to understand or causally ambiguous. Under these conditions, the new CEO will not have the firm-specific skills or the tacit knowledge that the current CEO had, which may be valuable to the process of corporate entrepreneurship. Thus, while it may be obvious "that prior competencies have been rendered obsolete, it may not be clear what the new requisite competencies might be" (Virany et al. 1992: 76).

Current CEOs Are Valuable

Some organization theorists have argued that executive succession may actually have a negative impact on organizational outcomes. These researchers suggest that current CEOs may be a key element in any attempt to successfully change an organization (Amburgey et al 1993; Sutton et al. 1986; Virany et al. 1992). For example, Alchian and Demsetz (1972) argued that a firm's existing CEO has greater knowledge of the productive potential of the firm's resources, and thus a superior basis on which to make judgments about the potential valuable combinations of the firm's heterogeneous resources. Specifically, they argued that "superior combinations of inputs can be more economically identified and formed from resources already used in the organization than by obtaining new resources (and knowledge of them) from the outside" (Alchian and Demsetz 1972: 793). It seems clear that CEOs who have an understanding of the resources that a firm controls and the environment in which it competes should be more likely to pursue corporate entrepreneurship by organizing and combining a firm's resources in valuable new ways than CEOs who do not have this understanding. This suggests that CEOs may be valuable because they have acquired firm-specific knowledge of the firm's resources and its competitive environment (Castanias and Helfat 1991).

Those who assert that new CEOs may be best suited to lead a firm's value creation efforts have failed to recognize that there is a cost associated with replacing a CEO (or else they implicitly assume that new CEOs are always able to compensate for these costs). There are at least two costs associated with replacing a CEO. First is the loss of knowledge about the organization, its resources, and its competition (Castanias and Helfat 1991). CEOs possess three types of skills: generic, industry-related, and firm-specific (Castanias and Helfat 1991). Generic skills are those that can be easily transferred across firms. While these skills may be used to create value, this value is not likely to be long lasting because other firms can easily acquire CEOs who also have these skills. Industry-related skills are those that can be transferred among firms within an industry. Industry-related skills may also be used to create value but this value is also not likely to be long lasting because other firms in the industry may also acquire CEOs with these skills (although the pool of CEOs who possess these skills will not be as large as the pool of CEOs with generic managerial skills). Firm-specific CEO skills are those that are specific to a particular firm and are therefore only useful or potentially valuable within that firm. Thus, firm-specific CEO skills are a potentially valuable resource that may be useful in the process of corporate entrepreneurship.

The second cost associated with CEO change is the loss of valuable relationships or "social complexities" that the current CEO may have developed (Barney 1986). Besides individual differences among CEOs (e.g., stocks of knowledge, life experiences), corporate entrepreneurship is also influenced by complex social interactions among individuals and groups within an organization (Floyd and Wooldridge 1999). Group composition, leadership, cohesiveness, communication, longevity, and group structure have all been hypothesized to affect group creativity and innovation (King and Anderson 1990; Nystrom 1979; Woodman et al., 1993). Some of the subtle effects that groups may have on organizational creativity are through social information in the workplace (Griffin 1983). Social information includes verbal and nonverbal cues and signals that people in organizations provide each other. This information is used to evaluate, prioritize, and "make sense" of the various factors present in the workplace and how these factors may be organized and used to solve problems. In sum, the creative capabilities of groups is not equal to the aggregation of the creative capabilities of individual group members; instead there is a reciprocal relationship. Individual creative capabilities both effect, and are effected by, the creative capabilities within groups (Woodman et al. 1993).

At the individual level, CEOs may be valuable because of the unique stocks of knowledge and information that they possess. However, at the group level, CEOs may also be valuable for reasons that are socially complex (Barney 1986; Castanias and Helfat 1991; Wernerfelt 1989). For example, CEOs may be valuable because of their skills at leading, motivating, and inspiring others within the organization. This assumes that these "others" are then able to create value that would not have been created without the leadership, motivation, and/or inspiration provided by the CEO. CEOs may also be valuable because of relationships that have been developed with others in the organization. These socially complex relationships may involve such things as friendship, teamwork, and the ability to communicate (Wernerfelt 1989). Another possible benefit of this social capital is the development of trust, which can be used to foster creativity and the exchange of resources within the firm (Fukuyama 1996; Woodman et al. 1993). Others have noted that corporate entrepreneurship is dependent on the attitude of individuals within the firm (Stevenson and Jarillo 1990), determined in part of the attitude of the CEO. Finally, CEOs may be an integral part of the organization's culture, and this culture may also be a valuable organizational resource (Barney 1986).

Of course, boards of directors may decide to replace CEOs precisely because they do not have many of these valuable characteristics. Arguably, many CEOs are replaced in anticipation that the new CEO will be better suited to fostering corporate entrepreneurship because of his or her contributions to socially complex relationships within the firm. However, CEOs who are valuable for socially complex reasons are in a unique position (they have valuable firm-specific skills), and new CEOs are likely to need more time to have equal or similar effects within the organization.

Hypothesis 1: CEO change will have a negative effect on corporate entrepreneurship.

Corporate Governance and Corporate Entrepreneurship

Clearly there are contextual factors within an organization that may act to enhance or constrain corporate entrepreneurship and firms may need to alter these contextual factors to encourage innovation. The organization's reward system is one contextual factor that may influence the creative behavior of individuals and groups (Woodman et al. 1993). Changing the reward system to encourage corporate entrepreneurship is consistent with much of the strategy implementation literature that stresses the importance of managerial incentives as a means of controlling CEO actions (Baysinger and Hoskisson 1990; Goodstein and Boeker 1991; Hoskisson, Hitt, Turk, and Tyler 1989). This literature is grounded in agency theory, which suggests that the interests of the parties in an agency relationship may diverge over time and governance mechanisms (e.g., rewards) are needed to realign these interests (Fama and Jensen 1983; Jensen and Meckling 1976). Even if CEOs are capable of fostering corporate entrepreneurship, they may need incentives in the form of executive compensation to actually do so.

Gomez-Mejia and Wiseman (1997) noted that while researchers have a long history of seeking to identify a relationship between executive pay and firm performance, there is very little empirical evidence that this relationship actually exists (Jensen and Murphy 1990; Garen 1994). Henderson and Fredrickson (1996) also noted the nonexistent (or weak) relationship between CEO pay and firm performance and called for research that focuses on the relationship between the substantive nature of the CEO's job and his or her compensation. Carpenter (2000) argued that CEO pay may be a critical determinant of why some firms engage in strategic change and others do not. He argued that a modification of the CEO's pay is needed to encourage a CEO to pursue strategic change. Others have suggested that strategic change is risky from the CEO's perspective and that CEOs should be compensated for assuming this additional risk, along with the additional complexity that managing this change will bring (Henderson and Fredrickson 1996; Sanders and Carpenter 1998).

This study also placed the issue of CEO compensation in an action-based framework by focusing on the desired behavior of the CEO, specifically the quality of the actions taken by the firm. This is consistent with the view that one role of executive compensation is to encourage departures from the status quo (Gomez-Mejia and Wiseman 1997) and implies that changes in CEO compensation are reflected in some action taken in an effort to improve firm performance (in this case, corporate entrepreneurship). Gomez-Mejia and Wiseman (1997) suggested researchers should examine individual elements of the CEO's compensation package, rather than focusing on total compensation. However, which elements of the CEO's total compensation are most like to encourage corporate entrepreneurship? Top managers receive compensation in one or more of the following forms (Castanias and Helfat 1991): salary, bonuses, deferred compensation (e.g., stock options), and perquisites. Wiseman and Gomez-Mejia (1998) argued that managers distinguish between the cash component (salary plus bonuses) of their total compensation and the deferred compensation component.

Wiseman and Gomez-Mejia (1998) contend that because deferred compensation is an unreliable source of income, executives generally consider only their base pay when calculating their perceived wealth. This seems reasonable when one considers that executives make major purchase decisions (e.g., homes) "on the premise, by both the buyer and lender, that the buyer's current base pay will continue indefinitely into the future" (Wiseman and Gomez-Mejia 1998: 140). Thus, threats to the cash component of a CEO's pay would seem to be of greater concern to the CEO than threats to his or her deferred compensation (Wiseman and Gomez-Mejia 1998).

Decreasing the CEO's cash compensation may motivate the CEO to pursue corporate entrepreneurship because it signals that the board of directors recognizes the firm's decline in performance, holds the CEO responsible, and suggests that continued declines in firm performance will not be tolerated.[1] Unlike a change in deferred compensation, a reduction in cash compensation is immediate and real. It hits the CEO hard in his or her paycheck. A reduction in cash compensation following a period of declining performance also implies that an *increase* in cash compensation will follow a period of *improved* performance. This suggests that the CEO will realize personal benefits from the pursuit of corporate entrepreneurship immediately, rather than having to wait and receive a reward through deferred compensation.

The notion of reducing the CEO's cash compensation following a period of performance decline in an effort to induce desired managerial actions is also consistent with the long-held tenants of operant conditioning theory (Skinner 1969). Skinner argued that people will seek to perform tasks that lead to desired outcomes while avoiding behaviors that lead to undesired outcomes. By "linking the performance of *specific behaviors* to the attainment of *specific outcomes*," organizational members can be motivated to achieve desired organizational goals (Jones, George, and Hill 2000: 442, emphasis in the original). Negative reinforcement, which is the removal of an undesired outcome (the decrease in cash compensation) upon the performance of a specific behavior, may be useful in achieving desired organizational outcomes (e.g., corporate entrepreneurship). The use of financial reinforcers (money) as an outcome of desired behaviors has been found to be particularly effective because employees can exchange money for other desired outcomes (e.g., goods and services) (Komaki, Coombs, and Schepman 1996). In sum, a reduction in the CEO's cash compensation following a period of poor firm performance should provide the CEO with an incentive to improve the firm's performance (through corporate entrepreneurship) while an increase in cash compensation following a period of poor performance provides a disincentive for corporate entrepreneurship.

Hypothesis 2: Changes in the CEO's cash compensation will be inversely related to corporate entrepreneurship.

Methods

This section examines the outcomes from a sample of 100 single-product manufacturing firms. The results suggest that firms that retain their current CEO and decrease the CEO's cash compensation are most likely to engage in corporate entrepreneurship.

Sample

The population for this study included all single-product manufacturing companies from 1982 to 1994 identified in the COMPUSTAT database. A company was considered a single-product company if at least 95 percent of its sales came from one segment (Rumelt 1974). A total of 980 firms was identified that met this criterion. The focus of this study was on internal corporate entrepreneurship. Thus, single-product firms were chosen because diversified firms are likely to innovate by engaging in external innovation by changing the mix of businesses within their portfolio (Hitt et al. 1996). Using only single-product manufacturing firms also increased the homogeneity of the population and simplified some of the measurement issues.

Brazeal and Herbert (1999) argued that a change in environmental conditions, such as a decline in firm performance, can foster corporate entrepreneurship by creating an opportunity for innovation to occur. Thus, firms were identified that had suffered a decline in performance on the belief that these firms would be likely to engage in corporate entrepreneurship. Jensen's alpha (Jensen 1968, 1969) is a commonly used measure to assess a firm's performance relative to other firms in the stock market (Hoskisson, Johnson, and Moesel 1994). Specifically, it represents the average return for a particular firm's stock over (or under) that predicted by the capital asset pricing model (CAPM), given the firm's beta and the average market return. Thus, it indicates the extent to which a firm has met, failed to meet, or exceeded investors' expectations during the year, compared to a portfolio of firms having a similar risk profile (Lubatkin and Rogers 1989). To be selected for the sample, a firm needed at least two years of successful performance (exceeding or meeting investors' expectations) followed by a year of decline (failing to meet expectations). The year of decline was identified as time (t). Using these criteria, a sample of 200 firms was identified and no firm appeared in the sample more than once.[2]

Measures

No empirical studies were found that addressed the time period between the occurrence of lower than expected firm performance and action by management aimed at improving firm performance. However, some have suggested that this time period is relatively short (less than one year) (Hoskisson et al. 1994). Thus, for purposes of this study, the year following a decline in performance ($t+1$) was considered the time period during which firms would be most likely pursue corporate entrepreneurship as a means of improving firm performance.

Corporate Entrepreneurship. The *Wall Street Journal* index and the Lexis/Nexis database were used to identify announcements by firms of changes that they intended to make during the year ($t+1$). To be considered corporate entrepreneurship, the announcement had to involve changes to the firm's products, product markets, processes, or technologies. This is consistent with Brazeal and Herbert's definition of innovation as involving the "refinement or modification of existing policies, procedures, product lines, and services" (1999: 36). Operationalizing corporate entrepreneurship in this manner is also consistent with Venkataraman and his colleagues who viewed corporate entrepreneurship as a process "by which members of an existing firm bring into existence products and markets which do not currently exist within the repertoire of the firm" (1992: 488).

Of the 200 firms in the initial sample that had experienced a decline in performance, only 103 firms made some type of announcement regarding new products, product markets, processes, or technologies during the year that followed their year of decline. A summary of these announcements, along with a brief description of the firm and its competitive environment, were provided to an expert panel for coding. The use of a panel to subjectively rate the quality of managerial behaviors (e.g., corporate entrepreneurship) seems an appropriate methodology because "behavior criteria normally involve subjective assessments about executive behaviors" (Gomez-Mejia and Wiseman 1997: 321). The panel was instructed not to consult with each other or with outside sources when coding the announcements and to use only their professional judgment, education, and experiences (along with the information provided) in coding the announcements.

The panel consisted of four doctoral students, majoring in strategic management, who were at the dissertation stage. Each of the students held a master of business administration (MBA) degree before beginning their doctoral program and had an average of 6.5 years of industry work experience. Three of the four panelists worked in the area of asset valuations with Fortune 500 companies. The topics of the students' dissertation research closely paralleled the topics of the announcements they were asked to code (e.g., strategic management of innovations, international strategies, strategic alliances).

The panel was asked to identify those announcements most likely to be perceived by the firm's investors (or potential investors) as valuable new products, product markets, processes, or technologies. They were also asked to consider whether this value would be difficult for competing firms to imitate within one year. The dependent variable, corporate entrepreneurship (CE), was dummy coded (1,0) for the presence or absence of a valuable announcement regarding new products, product markets, processes, or technologies that should be difficult to imitate within one year. Cronbach's alpha was used to test for interrater reliability and it exceeded .70 in all cases.

Change in CEO. CEO change was operationalized as a change in the firm's chief executive officer (NEWCEO). This variable was dummy coded (1=change in CEO, 0=no change) during the year of decline (*t*) as disclosed in the company's 10-K report.

Change in CEO Cash Compensation. The percentage change in the CEO's cash compensation (salary plus bonuses) following the year of declining performance was used to operationalize this variable (cash compensation in *t+1* minus cash compensation in *t* divided by cash compensation in *t*). These data (CASHCOMP) were obtained from each firm's 10-K report.

Control Variables

Slack. Both too much and too little slack have been found to be detrimental to innovation (Nohria and Gulati 1996). Because it is difficult to predict the effect that slack may have on corporate entrepreneurship, slack was used as a control variable. Slack was operationalized as working capital adjusted for size (current assets minus current liabilities divided by total assets) in the year of decline (*t*). This operationalization captures a firm's ability to meet its immediate resource needs and is a measure of immediate slack. The source for these data was COMPUSTAT.

Firm Size. The natural log of a firm's total assets during the year of decline (*t*) was used to control for firm size because firm size has been argued to affect the ability of a firm to change (Thompson 1967). The source for these data was COMPUSTAT.

CEO Power. Power is the ability to get others to do what you would want them to do. If a single individual is powerful and creative, then CEO power should have a positive effect on corporate entrepreneurship (Mone, McKinley, and Barker 1998). However, if corporate entrepreneurship is viewed as the outcome of social interaction that occurs within groups, then a powerful CEO may actually stifle corporate entrepreneurship. Because it is easy to believe that CEO power could have an effect on corporate entrepreneurship, but difficult to predict the direction of that effect, CEO power is treated as a control variable (Gray and Ariss 1985).

Finkelstein (1992) defined *structural power* as power that arises from "the distribution of formal positions within an organization. The greater managers' structural power, the less their dependence on other members of the dominant coalition" (1992: 512). To operationalize structural power, Finkelstein (1992) created a structural power scale that included "cash compensation of an executive divided by the compensation of the highest paid manager in the same firm" and noted that "compensation can be considered an important indicator of formal power" (1992: 512). Others have found that powerful CEOs may use their power to "help them obtain higher levels of compensation" (David, Kochhar, and Levitas 1998: 204). In the research reported here, power was operationalized as the proportion of the CEO's salary relative to other members of the firm's top management team (vice president level and above) was operationalized. These data were obtained from each firm's proxy statement during the year *t+1*.

Statistical Analyses

Missing data reduced the sample size from 103 firms to 100 firms. While the reduction in sample size was very small, it was tested for differences between these two samples. There were not statistically significant differences (using t tests) between the reduced sample and the larger sample in terms of firm size or slack. The following logistic regression model was used to test the hypotheses:

$CE = b_0 + b_1 NEWCEO + b_2 CASHCOMP + b_3 SLACK + b_4 SIZE + b_5 POWER + e$ (equation 1)

Table 1
Means, Standard Deviations, and Pearson Correlation Coefficients

Variable	*N*	*Means*	*s.d*	*1*	*2*	*3*	*4*	*5*
1. Corporate entrepreneurship	100	0.17	0.377					
2. CEO change	100	0.110	0.314	.266[c]				
3. Cash compensation	100	0.114	0.358	.185[a]	-.085			
4. Power	100	0.393	0.129	.042	-.220[b]	-.199[b]		
5. Size	100	3.221	1.572	.079	.043	.398[d]	-.049	
6. Slack	100	0.405	0.269	.040	-.117	.179[a]	.171[a]	.092

a. $p < .10$
b. $p < .05$
c. $p < .01$
d. $p < .001$

Results

Table 1 presents the means, standard deviations, and correlations of the variables used in this study. The results of the logistic regression model used to test the hypotheses are presented in Table 2. The overall model had a chi-square statistic of 13.882 which was statistically significant ($p<.05$). CEO change ($p<.01$) and change in the CEO's cash compensation ($p<.05$) were statistically significant and both had negative signs. Among the control variables, CEO power ($p<.10$) was statistically significant and had a negative sign. Firm size and slack were not statistically significant.

These results support hypothesis 1, which stated that CEO change would have a negative effect on corporate entrepreneurship. The percentage change in the CEO's cash compensation also had an inverse relationship to corporate entrepreneurship, which supports hypothesis 2. Powerful CEOs have a negative effect on corporate entrepreneurship while entrepreneurship does not appear to be influenced by organizational size and slack.

Innovation is a rare event (Simon 1993). Thus, it seems reasonable to argue that corporate entrepreneurship among poorly performing firms would be a relatively rare occurrence. Only 17 percent of the firms in this sample exhibited corporate entrepreneurship, which is consistent with expectations and offers face validity for the measure that was used. A post-hoc analysis was also conducted to further test the validity of the coding methodology used to operationalize corporate entrepreneurship. If these announcements are truly indicative of corporate entrepreneurship, then they would be expected to have a positive effect on firm performance. Ordinary least squares regression was used to estimate a model to test the influence of these announcements on firm performance (operationalized as the firm's return on investment [ROI] in time *t+1*). ROI has been suggested as an appropriate performance measure to assess the success of corporate ventures (Elder and Shimanski 1987). After controlling for ROI in

Table 2
Results of Logistic Regression Analysis and Significance Tests: Corporate Entrepreneurship

	N	*Chi-Sq*
Model	100	13.882[b]
Independent Variable	Parameter Estimate	Chi-Sq
Intercept	3.524	8.604[c]
CEO change	-2.384	8.874[c]
Cash compensation	-1.853	4.719[b]
Slack	-0.106	0.008
Size	0.081	0.176
Power	-3.654	2.579[a]

a. $p < .10$
b. $p < .05$
c. $p < .01$

time *t*, the announcements that were coded by the panel had a positive effect on ROI in time *t+1* ($p<.05$), which suggests the announcements that were coded by the panel as entrepreneurial events had a positive effect on ROI. The finding from this post-hoc analysis provides additional evidence of construct validity for the coding methodology used in this study.

Finally, logistic regression allows the computation of probabilities for the presence of corporate entrepreneurship (CE=1). The coefficients are interpreted the same as in ordinary least squares regression except that they refer to the probability of the dependent variable being present, rather than to the level of the dependent variable (Aldrich and Nelson 1984). Using equation 2, values for the variables can be substituted and then multiplied by the coefficients from Table 2 to arrive at the probability of corporate entrepreneurship under various conditions (Mendenhall and Sincich 1989). This analysis provides a clearer picture of the effects of changes in the independent variables on the probability of CE=1.

$$\text{Probability CE=1} = \frac{b_0+b_1(\text{CASHCOMP})+b_2(\text{NEWCEO1})}{1+b_0+b_1(\text{CASHCOMP})+b_2(\text{NEWCEO1})} \quad \text{(equation 2)}$$

The mean change in cash compensation for CEOs in the sample was an increase of 11 percent with a standard deviation of 36. Table 3 presents the probabilities of corporate entrepreneurship under the conditions of CEO change and no CEO change, when the percentage change in cash compensation is zero, is decreased by one standard deviation from the mean (–25%), is at the mean (11%) and is increased by one standard deviation above the mean (+47%). With no CEO change, the probability of corporate entrepreneurship *increases* as cash compensation is *decreased*. This analysis provides additional support for hypothesis 2, which predicted that changes in a CEO's cash compensation will have an inverse relationship with corporate entrepreneurship. Also note from Table 3 that the probability of corporate entrepreneurship when there is no change in the CEO's cash compensation is 78 percent when the current CEO is left in place but only 53 percent if the firm hires a new CEO. This analysis provides additional support for hypothesis 1, which predicts that CEO change will have a negative effect on corporate entrepreneurship. Consistent with the theoretical arguments, the probability of corporate entrepreneurship following a decline in firm performance is maximized by retaining the current CEO and decreasing his or her cash compensation, while the probability of corporate entrepreneurship is minimized by hiring a new CEO.

Table 3
Probabilities of Corporate Entrepreneurship Under Conditions of CEO Change and No CEO Change at Four Different Levels of Cash Compensation

		CEO Change	
		Yes	*No*
Percentage change in the CEO's cash compensation	-25%	.61	.80
	-0-	.53	.78
	+11%	.48	.77
	+47%	.20	.72

Discussion

Most studies of CEO change have focused on the effect of executive change on subsequent firm performance (Kesner and Sebora 1994). However, these new CEOs must first "do something" before firm performance can be affected and relatively few studies have focused on the effect that CEO change has on these other "intermediate" organizational outcomes (Friedman and Saul 1991; Greiner and Bhambri 1989; Miller 1993; Welsh and Dechler 1988). If corporate entrepreneurship, such as innovation and creativity, is the basis for competition among organizations (Penrose 1959; Rumelt 1984; Schumpeter 1942), and if organizations often experience CEO change, then understanding the effect that CEO change has on corporate entrepreneurship has important implications for both research and practice.

The theoretical arguments offered in this article for the important role that existing CEOs play in corporate entrepreneurship are grounded in the belief that corporate entrepreneurship is the result of people working together in a social context and that disruptions to this social context (e.g., CEO change) will serve to constrain rather than foster corporate entrepreneurship. This view, and the supporting empirical results, are consistent with a narrow stream of research that has argued for the recognition that "old" CEOs may represent a potentially valuable organizational resource (Sutton et al. 1986; Virany et al. 1992; Castanias and Helfat 1991). New CEOs are less likely to be valuable because they incur liabilities of newness (Amburgey et al. 1993) and need time to understand the firm's resources, routines, and social relationships that are necessary for corporate entrepreneurship.

Firms that change CEOs might reduce their liabilities of newness by selecting an insider to succeed the current CEO. Insiders would possess firm-specific skills that could be useful in corporate entrepreneurship. However, even though an "insider CEO" would have presumably been a member of the old top management team, the social complexities developed by the old CEO are disrupted or destroyed. Selecting an insider to lead the firm does little to attenuate the loss of social complexities within the firm, particularly since many old members of the top management team may feel compelled to leave the firm to make way for a new team (Keck and Tushman 1993). CEO succession, even by insiders, is likely to disrupt organizational momentum and alter the context and conditions under which the top management team operates (Keck and Tushman 1993; Miller 1993). The data in this study also seem to support these arguments.

Among the 100 firms in the sample, 17 exhibited corporate entrepreneurship and only 5 of these changed CEOs. Of these 5 new CEOs, 4 where insiders and 1 was a related outsider. In all, 11 firms in the sample hired new CEOs and 5 of these demonstrated corporate entrepreneurship. Of the 6 firms with new CEOs that failed to demonstrate corporate entrepreneurship, 4 were insiders and 2 were related outsiders. Thus, even though almost all of the new CEOs possessed firm-specific knowledge, only about half of those new CEOs were able to use that knowledge to pursue corporate entrepreneurship. This seems to indicate that social complexities within the organization play an important role in corporate entrepreneurship (Floyd and Wooldridge 1999; Greene et al. 1999), perhaps a more important role than specific knowledge of the firm's resource base.

At least one qualification seems in order to the finding that CEO change has a negative effect on corporate entrepreneurship. The announcements were collected in the year following a decline in firm performance (*t+1*) and CEO turnover was measured at the end of the year of decline (*t*). It is possible that organizations that changed CEOs eventually exhibited corporate entrepreneurship and that CEO change delayed, rather than stifled, the creativity of those within the organization. Thus, to be more precise, changing CEOs had a negative effect on corporate entrepreneurship immediately following the year of succession (*t+1*). Whether this effect holds in subsequent years is an interesting question for future research.

The results of this study also support the arguments made by Woodman and his colleagues (1993) that contextual factors, such as the organization's reward system, may be used to foster, or inhibit, creativity by individuals working together in a complex social system. This argument, grounded in agency theory, suggests that an organization's incentive system may be used to align the actions of managers with the goals of the shareholders, and has received widespread support in other research studies (Baysinger and Hoskisson 1990; Goodstein and Boeker 1991; Hoskisson et al. 1989). The results presented in this study, point to the fact that cash compensation plays an important role in encouraging CEOs to pursue corporate entrepreneurship. Specifically, *reducing* a CEO's cash compensation following a period of performance decline appears to encourage corporate entrepreneurship. This argument is also supported by Carpenter (2000), who found a negative relationship between changes in the cash component of the CEO's salary package and subsequent strategic change (measured by deviation from industry strategy norms).

Interestingly, while all of the firms in the sample experienced a decline in firm performance, the average change in the CEO's cash compensation following this year of decline was an *increase* of 11 percent. At least two inferences can be drawn from this observation. First, much work remains to be accomplished by boards of directors in the areas of corporate governance in general, and CEO compensation incentives in particular. Second, it should not be surprising that only 17 percent of the firms in the sample exhibited corporate entrepreneurship following the year of decline if the average CEO enjoys cash compensation increases of 11 percent during this period regardless of any firm innovations. This also appears consistent with a proposition by Gomez-Mejia and Wiseman (1997: 359) that executive compensation designs similar to those of competitors (e.g., those that increase CEO pay despite a decline in performance) will serve to foster strategic conformity rather than strategic change.

Conclusions

This research has explored the effect of CEO change on corporate entrepreneurship following a year of poor firm performance. Given the frequency of CEO change within organizations and the role of corporate entrepreneurship in gaining and sustaining a competitive advantage, the findings from this study have interesting implications for both academic researchers and management practitioners. Conventional wisdom suggests that when firm performance suffers, firms often need new CEOs. However, this research found that CEO succession has a negative effect on corporate entrepreneurship, perhaps because of the loss of firm-specific skills and the disruption of social complexities within the firm. Clearly there are cases when new CEOs are needed to lead an organization. However, replacing a CEO simply because a firm has experienced a decline in performance may be analogous to replacing a bus driver just because he or she made once a wrong turn and became lost. By changing CEOs, firms may be eliminating the one person who not only may know where the firm took a wrong turn, but may also know how to lead the organization back on the road to recovery.

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Endnotes

1. The CEO's employment contract may be structured so that cash compensation is automatically reduced when performance suffers without any additional action by the firm's board of directors. This suggests that the board may be fulfilling its fiduciary oversight role on behalf of the firm's shareholders, in part, through the incentives provided in the CEO's employment contract.
2. For a detailed explanation on the calculation of Jensen's alpha, see Hoskisson et al., 1994, p. 1221.

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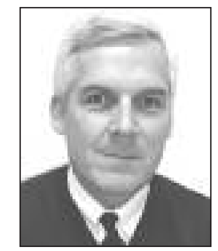

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